

**VASSAR
TOWNSHIP
MASTER
PLAN**

**VASSAR TOWNSHIP
TUSCOLA COUNTY, MICHIGAN**

VASSAR TOWNSHIP MASTER PLAN

Adopted January 12, 1995
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Prepared By The
**VASSAR TOWNSHIP
PLANNING COMMISSION**

With The Assistance Of
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The credibility and validity of this document was assured through the invaluable work and input by the Vassar Township Planning Commission, Vassar Township Board, and other residents of Vassar Township.

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Chapter One

OVERVIEW

INTRODUCTION

Vassar Township is a small rural community situated in the south westerly area of Tuscola County in the "thumb area" of Michigan's Lower Peninsula (see Figure 1-1). The Township covers approximately 23,660 acres and its political boundaries are slightly irregularly shaped as compared to the traditional six mile by six mile civil township area. This is due to the City of Vassar's incorporated limits extending into the civil boundaries of Vassar Township in the northwest corner of the Township, and Vassar Township's political boundaries extending one half mile into the civil boundaries of Tuscola Township just north of the City of Vassar. The City of Vassar is a small urban community of approximately 2,600 persons.

Vassar Township is dedicated to assuring a desirable future Township character and quality of life. Part of this dedication is embodied in this Plan. Master plans are too often misunderstood as to what they consist of and what they are intended to do. This is particularly true in geographic areas where master plans are not necessarily common place, or where a community is undertaking the preparation of a master plan for the first time, or where a planning commission is updating a master plan prepared many years previously.

Understanding the fundamentals of what the Vassar Township Master Plan is all about will assist the residents and officials of the Township in appreciating the role it plays in assuring the future welfare of the Township, its residents, and its resources. The public's embracing of this Plan as a vital tool in preserving and enhancing the public health, safety, and welfare of the Township is

essential if this Plan is to be effective. This Chapter provides an overview of the Master Plan including its role, its importance, how it should be used, and the process followed during its preparation.

WHAT IS THE VASSAR TOWNSHIP MASTER PLAN

Purpose

Just as individuals and families undertake projects in an effort to plan for their future well being, so must municipalities. Whereas individuals may open savings accounts in order to purchase new farm equipment five years into the future, or develop plans for a larger home to house a growing family, municipalities must look to the future and take actions to address the current and future needs of the community. Such actions may involve improvements to the roadway network, improvements to the level of emergency services, and the pursuit of new local employment opportunities.

With the ease of access afforded by M-15, M-46, and I-75, and its comparatively close proximity to several major urban centers (Saginaw, 25 miles; Bay City, 30 miles; Flint, 40 miles, Detroit Metropolitan Area, 70 miles) makes the Township a particularly attractive place to live. One of the most significant and comprehensive actions Vassar Township can take in planning for its future is the development of a master plan. The Vassar Township Master Plan is a policy document which identifies how growth within a community, and associated land development and public services, should best be guided to better assure the future welfare of the community.

The Master Plan can generally be described by the following key words and phrases:

FUTURE ORIENTED: The plan concerns itself with long-range planning in guiding growth and land use needs. The plan is not only a picture of the community today, but a guide to how the community should evolve over the next ten to twenty years in response to growth.

Figure 1-1
REGIONAL CONTEXT

GENERAL: The plan does not focus upon details and specifics but establishes broad principles and policies to address future growth and land use needs.

COMPREHENSIVE: The plan is comprehensive in that it addresses all types of land uses and the practical geographic boundaries of each.

A PLAN: The master plan is a specific tangible document which consists of both text and maps, with one of the maps illustrating the policies set forth within the text.

The Vassar Township Master Plan was prepared by the Vassar Township Planning Commission, under the authority of the Michigan Township Planning Act, P.A. 168 of 1959. The Planning Commission is an advisory and administrative body that works in the public interest. The Planning Commission works with governmental departments, community, neighborhood and business organizations, and other public and private agencies and school districts. The Planning Commission is neither an operating agency like the public works department or a service agency like the a police and fire department. The Commission's functions include the collection and evaluation of information and the subsequent recommendation of a plan for the future growth and development of the Township, and the preparation of zoning regulations and their administration.

The Michigan Township Planning Act provides for the development of plans by a planning commission for the purposes of, in part:

"to promote public health, safety, and general welfare; to encourage the use of resources in accordance with their character and adaptability; to avoid the overcrowding of land by buildings or people; to lessen congestion on public roads and streets...and to consider the character of each Township and its suitability for particular uses judged in terms of such factors as the trend in land and population development."

The Act stipulates that such plans shall address the following issues where they are considered pertinent to the community:

- the allocation of land for agricultural, residential, commercial, industrial, recreational, and other land uses;
- the general location of roads, waterways, flood prevention structures, utilities, and other physical elements;
- recommendations for rehabilitation of blighted areas and changes to ways, open spaces, buildings, utilities, and other facilities; and
- recommendations for implementation of such programs.

This Master Plan is not a regulatory document, but a "policy plan" which serves as a foundation upon which the Township will adopt regulations to implement the policies embodied in the Plan. For example, though the Master Plan is not a zoning ordinance, the Master Plan will serve as the basis for new provisions in the Vassar Township Zoning Ordinance. The Rural Township Zoning Act requires that the Township's Zoning Ordinance be based upon a "plan", and this Master Plan is intended to provide, in part, the foundation for a new zoning ordinance for the Township.

Elements Of The Master Plan

The Vassar Township Master Plan is composed of a number of key components. Chapters Two, Three, and Four provide a review of the important conditions and trends in the Township as they relate to the development of a strategy for future land use and public services in the Township. Chapter Five reviews the critical issues facing Vassar Township today as the Township strives to assure the future welfare of the Township residents, and is based upon the data presented in Chapters Two through Four.

Chapter Six presents goals and objectives prepared in response to the issues uncovered and discussed in the previous chapters and crystallizes the aspirations of Township residents and the foundation for subsequent policies addressing a future land use pattern and public services.

Chapter Seven presents the Township's proposed strategy for future land use and public services in the Township over the next 10 to 20 years. This chapter identifies the planned future land use pattern in the Township and supporting public services, and is based largely upon the issues identified in Chapter Five and the goals and objectives presented in Chapter Six.

IMPORTANCE & APPLICATION OF THE MASTER PLAN

The importance and application of the Vassar Township Master Plan is reflected in both the long term interests of the Township and the day-to-day administration of the Township's planning and zoning program.

Long Term Interests: There are a number of interests shared by residents and officials of Vassar Township that can be expected to continue for years to come and be similarly shared by new future residents and Township officials. Some of these key interests include:

- minimizing increased tax burdens
- protecting open spaces, natural resources, and rural character
- assuring adequate services to protect the public health, safety, and welfare of Township residents and visitors

The Vassar Township Master Plan supports these long term interests of the local residents and officials through the provision of a future-oriented strategy which aggressively seeks to protect these interests. Chapter Seven establishes a specific future land use and public services strategy intended to secure these long term interests and others.

Day-To-Day Administration: The Vassar Township Master Plan plays an equally important role in the day-to-day planning and zoning efforts of the Township:

- Advisory Policies: The Vassar Township Master Plan is an official advisory policy statement which should be readily shared with existing and prospective landowners and developers to inform such persons and bodies about the long term intentions of the Township regarding land use and

public services and, thus, encourages development proposals more closely integrated with the policies of this Plan.

- Zoning Ordinance Basis: The Plan establishes a practical basis for the Township to revise, update, or otherwise prepare regulatory programs to better assure the policies of the Plan are implemented, including zoning, lot split, and subdivision regulations.
- Review of Rezoning Requests: Chapter Six includes a list of Township goals and objectives which should be reviewed in light of future proposed developments and rezoning requests to further establish a record upon which the proposals and/or requests can be evaluated. Just as important, Chapter Seven provides policies regarding the planned future land use pattern and public services in the Township and provides an equally important reference upon which such proposals and requests should be evaluated.
- Public Services Improvements: The cost-effective use of Vassar Township's tax dollars requires the identification of a planned future land use pattern in order to then pinpoint future population centers in the Township and areas planned for commercial and/or industrial growth. While many areas in the Township may require future improvements to public services and infrastructure, such as roads and fire protection, population centers and commercial/industrial areas typically require higher levels of public services. This Plan provides the Township with the ability to plan ahead and better pinpoint areas of future need, rather than always playing "catch-up" while the Township's health, safety, and welfare may be at risk. Again, chapters Six and Seven are invaluable in this regard.
- Intergovernmental Coordination: This Plan provides the basis for Vassar Township to communicate effectively with its neighbors regarding both the impact of neighboring planning and zoning issues and opportunities for mutual gains through coordinated efforts in the areas of land use and public services.

HOW THE PLAN WAS PREPARED

In 1989, the Vassar Township Board directed the Planning Commission to begin the process of developing the Township's Master Plan. The development of the new Vassar Township Master Plan followed a purposeful sequential process which covered approximately three years. Throughout the process of preparing the updated Master Plan, it was the intent of the process to:

- provide opportunities for public participation in the planning process;
- develop an understanding of citizen desires and community conditions and establish long term development goals and objectives; and
- identify potentially innovative and sound ways for improving the environment of the Township.

The Planning Commission's initial efforts were directed at establishing a data base about the Township for use during the planning process. In 1993, the Vassar Township Planning Commission surveyed the residents of the Township to establish an understanding of the local desires and aspirations regarding future land use in the Township.

After the surveys were returned, the Planning Commission directed its efforts at the development of goals and objectives statements upon which the policies of the Plan could be founded. Based upon the results of the survey, the data collected to date, and the goals and objectives statements, the Planning Commission then prepared a draft outline of the Master Plan. The Planning Commission sought the services of a consultant to assist them in the exploration of alternative future land use patterns for the Township, the identification of a preferred alternative, and the preparation of the Master Plan document.

The Planning Commission held a public hearing on the draft Plan on January 12, of 1994 and, based upon the comments expressed at the public hearing and the comments of the Planning Commission and Township Board, the draft Plan was finalized and adopted on January 12, 1995

The Plan was revised by the Planning Commission, Township Board, the adjacent municipalities, and comments expressed at the public hearing on the draft of the revised Plan held on -----,2003.The draft of the revised Plan was finalized and adopted on ----, 2003.



Chapter Two

MAN - MADE PHYSICAL FEATURES

TRANSPORTATION NETWORK

Overall Roadway Network & Classification

Vassar Township's roadway network is comprised of a traditional grid-like layout characteristic of many rural communities where there are no major natural features or public holdings to disturb the evolution of this pattern (see Figure 2-1). Except for the few roads associated with platted subdivisions, nearly all of the roads in the Township follow Section lines. The two principal exceptions to this pattern are the backbones of the Township's transportation network -- state route M-15 and Saginaw Road.

M-15 cuts through the Township in a generally north-south orientation and links the Vassar Township community to I-75 and Bay City to the north and I-69 and the Flint and Detroit urban areas to the south. M-15 is the only state trunkline in the Township. Other important north-south thoroughfares include Vassar, Caine, and Sheridan Roads.

Saginaw Road is the second most traveled road in the Township, crossing the entire Township in an east-west orientation and connecting the communities of Mayville to the east and the City of Vassar to the west. Other important east-west thoroughfares include Brown Road, Swaffer Road and Ormes Road.

The Michigan Department of Transportation classifies roads in Townships as either principal arteries, minor arteries, collector roads, or local roads. These classifications, and their application to the roads of Vassar Township, can generally be described as follows:

- **Principal arteries** accommodate major traffic movements for trips typically over long local or regional distances. There are no roads in the Township currently classified as principal arteries.
- **Minor arteries** interconnect with and provide access to principal arteries, accommodating more modest trip lengths and placing a higher emphasis upon access to land uses than do principal arteries. Within Vassar Township, this classification applies only to M-15.
- **Collector roads** emphasize access to abutting land areas and the collection of traffic for distribution to the larger arterial systems. Within the Township, this classification applies to Sheridan, Saginaw, Vassar, and Ormes Roads.
- **Local roads** emphasize access to abutting properties and the collection of traffic for distribution to collector and arterial corridors. This classification applies to the balance, and vast majority, of the roads in the Township.

Roads designated as "collectors roads" and "local roads" are not eligible for federal funding.

In compliance with the requirements of Michigan Act 51 of 1951, the Tuscola County Road Commission classifies all roads under its jurisdiction as either primary roads or local roads. Generally, the federal designations of *collector roads* in the Township includes those corridors similarly classified by the Road Commission as *primary roads*, while those roads federally designated as *local roads* similarly fall within the Road Commission's *local roads* classification.

INSERT:

Figure 2-1

ROADWAY NETWORK

Roadway Administration & Condition

The Tuscola County Road Commission is responsible for maintaining and, where necessary, improving all county primary and county local roads. Complete funding for improvements to county primary roads is provided for by the Road Commission whereas the Township must fund a portion of the costs associated with improving county local roads. The portion of the funding which the Township has been responsible for has historically varied considerably from project to project.

The majority of the roads in the Township are paved. This is particularly true in the southern two thirds of the Township where approximately 75% of the road miles are paved. However, paved roads are less predominant in the northern third of the Township, accounting for approximately 50% of the road miles.

Traffic counts along the paved roads in the Township can be considered generally reasonable. Well constructed two-lane paved roads can generally be expected to accommodate 6,000 to 8,000 vehicles per day before the need for widening of the road becomes critical. The vast majority of the Road Commission's recently recorded traffic counts for paved road segments in the Township are well below capacity levels and generally do not exceed more than 2,500 vehicles trips per day.

The principle exceptions to these comparatively low traffic counts are along M-15 and Saginaw Road. The Michigan Department of Transportation's average daily traffic volumes along M-15 in 1992 (between Millington and Vassar) was 5,100. The Road Commission's recorded counts along Saginaw Road have ranged from approximately 4,200 trips per day in the western half of the Township to 5,700 trips per day near the City of Vassar.

It should be noted however that many of the Township's paved roads have witnessed comparatively high rates of traffic increases over a relatively short period of time. For example Caine Road in the northern half of the Township has experienced a 50% or higher increase in traffic counts during the past five years.

Traffic counts along the Township's gravel roads suggest a very different demand/capacity condition. While there are no established standards regarding the maximum level of traffic a gravel road can accommodate before maintenance requirements and costs become particularly problematic, the Tuscola County Road Commission generally recommends the paving of gravel roads where traffic counts exceed 100 trips per day. This is important to note considering that all of the Township's gravel roads have surpassed that level by at least 200% where traffic counts have been recorded. In fact, many of the Township's gravel roads are experiencing traffic counts approaching 700 or more car trips per day including gravel surface sections of Hanes Road and Brown Road.

Aside from the Road Commission's general concern regarding the need to pave gravel roads showing excess demand, the Road Commission presently has not identified any particular road segments in the Township in need of major improvements and has no major improvement projects planned.

Non Roadway Circulation

Two railroad lines traverse Vassar Township. The Huron & Eastern Railroad lies to the east of M-15. The Chesapeake & Ohio Railroad operates a line just north of Saginaw Road. There are no public transportation services in the Township. The nearest general aviation airport is west of Caro on M-81 and the nearest passenger airports are the Tri-City Airport near Freeland, northwest of Saginaw, and the Flint Bishop Airport in Flint. There is also a small public air strip located on Gene Tanke's property on Hess Road

LAND USE & DEVELOPMENT

As Table 2-1 and Figure 2-2 illustrate, Vassar Township's overall land use pattern reflects a comparatively low level of development and substantial areas of open spaces. Though the level of development is comparatively low, it is extremely visible since the vast majority of development in the Township is of a strip development pattern -- land uses are stripped along the frontage of the roadway corridors.

Figure 2-2
GENERAL LAND USE

(TO BE FORTHCOMING)

Accordingly, the existing character of the Township appears to be of a more urban character to the motorist than the substantial amounts of open spaces would otherwise lead someone to believe.

Approximately 90% of the Township is characterized by open space which can be broadly divided into natural areas consisting of woodlands, wetlands, and shrub/herbaceous areas (comprising approximately 63% of Township area), and agricultural lands (comprising approximately 27% of Township area). The balance of the Township is characterized by predominantly residential development although there exists substantial areas along M-15 and Saginaw Road characterized by commercial and industrial land uses in addition to several mineral extraction operations. A review of some of the more significant aspects of land use within Vassar Township follows:

Agriculture More than 98% of the agricultural lands within the Township are used as cropland, the most commonly harvested crops being corn and potatoes. The agricultural lands in the Township are not particularly consolidated but are located throughout most areas of the Township in a fairly random pattern. Those areas of the Township reflecting a stronger agricultural character than the balance of the Township are along the Township's northwest fringe and areas south of the City of Vassar along M-15 and the Tuscola & Saginaw Bay Railroad.

Residential/Housing Residential development in Vassar Township is almost entirely composed of single family dwellings. The majority of these dwellings are striped along the county road network frontage comprising of lots ranging from 1 to 10 acres in size. As rural Townships have grown over the years and permitted this form of strip residential development to expand, the resulting impact has often been the loss of rural character, premature consumption of farmland, increased congestion and traffic hazards along the County roadway network, increased travel times, increased public services costs, and decreased quality of public services.

The only residential areas in the Township not characterized by development of a strip development pattern are those few areas where platted subdivisions or mobile home

parks exist. There are several platted subdivisions in the Township south and to the east of the City of Vassar. A licensed mobile home park of approximately 150 units is located on Hasco Road at M-15 and another licensed park of approximately 20 units is located on Freewald Road near M-15.

There were 1586 housing units in the Township according to the 2000 U.S. Census, of which approximately 64% were single family homes of conventional construction while an additional 35% were classified as mobile homes. Of the approximately 561 mobile homes in the Township, approximately one-third are located in the licensed mobile home park on Hasco Road. The balance are situated throughout the Township on individual lots.

Commercial/Industrial Commercial and industrial development within the Township is generally limited to the M-15 and Saginaw Road corridors. The greatest density of commercial uses is located along M-15 just south of the City of Vassar's limits where numerous small and varied commercial uses are situated including several insurance agencies, a dry cleaning establishment, a recreational vehicle and outdoor supplies store, a medical office, an attorney's office, a credit union, and several other commercial uses. There are a number of other commercial uses randomly located along M-15 in the southern third of the Township including a gas station, convenience store, automobile dealership, kennel, archery shop, and an auto repair shop.

Commercial facilities along Saginaw Road are situated in the central and eastern areas of the Township and include a bait and tackle shop, a mini storage facility, and a small market. Industrial uses are generally limited to several small manufacturing and welding facilities on Saginaw Road in the center of the Township, and several mineral extraction operations. Sargent Minerals Company owns approximately 300 acres in the west-central area of the Township and Great Lakes Minerals Company owns approximately 200 acres in the northwest quadrant of the Township. Both companies own land abutting Saginaw Road approximately 1/4 to 1/2 mile west of Caine Road. Prior to terminating operations due to bankruptcy, the Voplex Fabricating and Metalizing Company

**TABLE 2-1
General Land Use/Land Cover**

LAND USE & LAND COVER	APPROXIMATE ACREAGE	APPROXIMATE PERCENT OF TOWNSHIP AREA
Agriculture	6445	27.4%
Natural Areas	14,950	63.2%
Residential Areas	1,160	4.9%
Industrial/Commercial Areas (including extractive)	860	3.6%
Water Bodies	115	0.5%

operated the largest industrial facility in the Township, aside from the mineral extraction operations, and was located at Hanes and Oak Roads. The facility's buildings, storage areas, and vehicle circulation and access areas covered several acres, much of which are still in place today.

Except for those commercial uses just south of the City of Vassar, there is no compact area of commercial and/or industrial development in the Township. Nearly all of the commercial and industrial uses along M-15 and Saginaw Road are a 1/4 mile to a mile or more apart from one another.

Public Lands: There are several land areas in the Township under public ownership. The largest of these is the Vassar State Game Area. The Vassar State Game Area is administered by the Michigan Department of Natural Resources for the purpose of managing wildlife resources and providing public hunting recreation opportunities. The Game Area covers approximately 3,200 acres, the vast majority of which is located to the north in Juniata Township. Approximately 400 acres of the Game Area extends south into Vassar Township, the majority of which is situated just north of the Cass River between Caine and Van Waggen Roads.

The City of Vassar owns approximately 40 acres along Saginaw Road, one half mile east of the City limits. This parcel was previously used as a public landfill but is no longer certified nor operational. This facility is not expected to be re-activated in the future due to the increased regulations of such operations by the State and related costs. The site is now used for City police training operations. Aside from the parcel on which the Township's town hall rests upon, Vassar

Township owns two other parcels in the Township. Its larger holding consists of a 40 acre site on Washburn Road which was previously used as a transfer station and now lies vacant except for gravel extraction by the Tuscola County Road Commission. The Township's smaller holding is a 20 acre vacant parcel at the northeast corner of Saginaw and Caine Roads, across from the town hall.

LOT SPLITS

In 1956, Vassar Township was composed of parcels of land rarely less than 40 acres in size and, more often than not, parcel sizes typically approximated 80 acres or more in size. During the 1970's and 1980's, as the Township grew, far more individual lot splits (unplatted lots) were created than the number during the previous 50 years. The early 1970's saw many of the larger farmland parcels of 80 acres or more in size split into smaller 40 and 20 acre parcels. Also, 1 to 10 acre lots splits began to line many of the Township's roadway corridors. By the late 1980's, the agricultural lot split pattern evident in the Township during the first half of the 1900's had largely disappeared in most areas of the Township. An example of this phenomenon is illustrated by the lot split evolution which has occurred in the south half of Section 28 of the Township. In 1956, The south half of Section 28 was comprised of 7 separate parcels ranging in size from 20 to 120 acres. Today, this same area is comprised of more than 20 parcels ranging from 1 to 40 acres in size.

COMMUNITY FACILITIES & SERVICES

The availability of public services, facilities, and infrastructure is limited within the Township and as such, the Township relies upon its neighboring communities and other agencies for many of its community services. The Township is part of the Vassar, Millington and Mayville School Districts and the Tuscola Intermediate School District in Caro, though there are no operating school buildings in Vassar Township. Vassar Area Ambulance Services, Inc. provides ambulatory services for the Township and has headquarters on Saginaw Road in the Township just east of the City limits. Seven area municipalities jointly own and operate this service. Though there are medical offices in both the City and Township of Vassar, the nearest hospitals are located in Bay City, Caro, Flint, and Saginaw.

Police protection is provided by both the Tuscola County Sheriff Department and the Michigan State Police. Fire protection is provided by the cities of Vassar, Mayville, and Millington.

The Vassar Township Hall was constructed in 1949 and is located at the southwest corner of Saginaw and Caine Roads. The Hall is approximately 36' by 26' and includes an office, meeting room, and bathroom.

There are several church and fraternal organizations including the Holiness Missionary Church, Chapel Hill Assembly of God, Vassar Fraternal Order of Eagles, and the Wesleyan Church Camp of Eastern Michigan.

Recreation facilities in the Township are limited to the Vassar State Game Area, the small roadside Clark Park along M-15 at Rupprecht Road, and the private Willow Springs Golf and Country Club at Swaffer and Oak Roads.

There are no library facilities in Vassar Township, the Township has arranged to provide library services through the Bullard-Stanford Memorial library in Vassar, and through the Millington Township Library for those residents in the Millington Community School District.

There is no public sewer or water in the Township, the closest public sewer and water being situated in the City of Vassar.

EARLY TOWNSHIP HISTORY

On the morning of March 1, 1849, four men, Townsend North, James M. Edmunds, James Saunders, and Joseph Grovenor chose a site for a saw mill on the banks of the Cass River and dedicated it to civilization and industry. In 1850, streets were laid out in the settlement and both the village and township took the name from the founder of Vassar Female College, Mathew Vassar, an uncle of Mrs. Edmunds. On March 2, 1851, part of Tuscola Township was organized into the Township of Vassar. Two years later, Tuscola Township was again reorganized and in 1865, two half sections were annexed from the Township of Tuscola so the whole Village of Vassar would be in Vassar Township.

The Village of Vassar became a city in 1945 and Vassar Township began holding meetings and voting in the Chadwick School until a hall could be built. On March 2, 1951, one hundred years after the founding of Vassar, the present Township Hall was dedicated. The Hall had been constructed by the then Township Clerk and carpenter, Fred V. Welsh.

Early logging took place along the Cass River and several creeks, and an early name associated with logging was Simon Murphy. The fires of 1871 and 1881 contributed by the timber slashings ravaged the Thumb Area of Michigan, including portions of Vassar Township (though not as severe as in other townships). Several cemeteries were located in the Township, though only the Disbrow Cemetery off of Ash Road, is currently maintained. The other previously maintained cemeteries were located at Caine and Sheridan Roads.

Lumbering and dairy, grain, and potato farming were early major occupations in the Township. Sand, which comprises much of Vassar Township, was extracted beginning in the 1930's for supplying foundry operations, and several extraction operations continue today.

Chapter Three

HISTORICAL & DEMOGRAPHIC PROFILE

POPULATION GROWTH: TRENDS & PROJECTIONS

Since 1940, Vassar Township has experienced positive growth during each decade, growing from a population of 1,154 in 1940 to a population of 3,917 in 1990 (see Table 3-1). While this growth in the Township has been continuous, the rate of growth has been variable. The 1950's and 1970's witnessed particularly rapid growth, averaging 38% during those two decades. Even the Township's more modest growth rate of 5.3% between 1980 and 1990 was more than 12 times the rate of growth experienced by the State during the same time period. In fact, Vassar Township has grown at a far more rapid rate since 1960 than Tuscola County or the State (see Table 3-1). While the Township comprised only 3.2% of the entire county population in 1940, it comprised nearly 7.1% of the county's population in 1990. Unlike Vassar Township, the majority of municipalities in Tuscola County experienced a decrease in population between 1980 and 1990, and the majority of those which did show positive growth fell short of Vassar Township's growth rate for the same period. Millington Township's past growth trends are included in Table 3-1 for comparison.

Estimating future population counts in the Township is critical in order to better determine the future land use and public services needs of the community should growth be permitted to continue at a rate reflective of its past. Projecting the growth of a community's population over a prescribed period of time is not an exact science. The multitude of unpredictable variables which can affect growth make any set of projections somewhat

TABLE 3-1
Population Trends & Growth Rates
(growth rates in parenthesis)

Gov't Unit & Year	VASSAR TWP.	TUSCOLA COUNTY	STATE of MICHIGAN	MILLINGTON TWP.
1930	1,183	32,934	4,842,325	1,507
1940	1,154 (-2.5%)	35,694 (7.7%)	5,256,106 (7.9%)	1,808 (16.6%)
1950	1,174 (1.7%)	38,258 (6.7%)	6,371,766 (17.6%)	2,228 (18.9%)
1960	1,652 (28.9%)	43,305 (11.7%)	7,823,194 (18.6%)	2,844 (21.7%)
1970	1,960 (15.7%)	48,603 (10.9%)	8,881,826 (11.9%)	3,471 (18.1%)
1980	3,709 (47.2%)	56,961 (14.7%)	9,262,078 (4.1%)	4,429 (21.6%)
1990	3,917 [5.3%]	55,498 [-2.6%]	9,295,297 [0.4%]	4,199 [-5.2%]
2000	4,356 [11.2%]	58,266 [4.9%]	9,938,444 [6.9%]	4,459 [6.1%]

Source: U.S. Census Bureau

speculative. On the other hand, projections do provide valuable planning guidelines when based upon sound demographic principles. By using several projection techniques, a range of growth estimates can be generated and this is most useful. The current trend approach assumes that the Township will continue to grow at a rate similar to that of the past ten years (11.2% every ten years). The historical trend approach assumes the Township will grow at a rate reflective of the Township's average growth rate during the past 30 years (21.2% every ten years). The ratio trend projection assumes the Township will continue to capture that portion of the county population which it has captured, on average, during the past 30 years (9.3%), and assumes the county population will grow at a rate reflective of its average growth rate during the past 30 years (5.6%).

These three projection techniques result in a range in Township population from 4,455 to 4,805 in year 2010 and a range from 4,445 to 5,895 in year 2020 (see Table 3-2). The average of these projections yield a projected population of 4,941 in year 2010 and 5,584 in year 2020.

TABLE 3-2
Population Projections

Projection Method	Year 2010	Year 2020
Current Trend	4805	5468
Historical Trend	4804	5930
Ratio Trend	5215	5354

SOCIAL CHARACTERISTICS

According to the 2000 U. S. Census, Vassar Township included 1,532 households and a total of 1,586 housing units. There were approximately 2.8 persons per household in the Township, a higher ratio than the County and State. Nearly 98% of the housing units in the Township were occupied, and the median year which the housing units in the Township were built was 1972. The housing stock in the Township is considerable younger in age than that of the County and State. While Vassar Township has a comparatively younger housing stock, the median housing value in the Township is identical to that of the County and substantially lower than the State's as a whole. This is largely due to the comparatively high number of mobile homes in the Township. 54.4% of the Township's housing stock fell within a value range of \$199,999 to \$49,999.

Vassar Township's population is a comparatively young population. Nearly 32% of the Township's population is less than 18 years of age, compared to the state's 26.5%. Similarly, Vassar Township's population of age 65 and older comprises only 8.1% of the Township's total population, compared with the State's 12.3% and County's 13.4%.

The manufacturing industry was the largest single sector employer of employed Township persons in 2000, accounting for 30.1% of the Township work force. The retail trade industry followed, accounting for 22.7% of the Township work force. Median family income in 2000 was \$45,529, while median household income was \$42,152. Per capita income for

the same year was \$18,697. These income levels are somewhat lower than those of the County and State as a whole.

Table 3-3 provides an overview of selected demographic characteristics for Vassar Township and other governmental units.

TABLE 3-3
Selected Demographic Characteristics

Governmental Unit & Demographic Variable	VASSAR TOWNSHIP	TUSCOLA COUNTY	STATE of MICHIGAN	MILLINGTON TWP.
Households				
Total Number	1,586	21,454	3,785,661	1617
Persons Per Household	2.84	2.65	2.56	2.75
Housing Units				
Total Number	1,532	23,378	4,234,279	1,720
% Occupied	94.7%	91.8%	87.8%	94.3%
Median Year Built	1972	1963	1962	1973
% Built Before 1939	6.4%	28.0%	20.8%	23.5%
Median Value	89,600	87,100	115,600	96,700
Population Age				
% Less Than 18	32.6%	26.8%	26.1%	29.8%
% 65 and Older	8.1%	12.8 %	12.3%	10.8 %
Income				
Median Household	\$42,152	\$40,174	\$44,667	\$48,365
Median Family	\$45,529	\$46,729	\$53,457	\$55,379
Per Capita	\$18,697	\$17,985	\$22,168	\$19,698

Chapter Four

NATURAL FEATURES

GEOLOGY & TOPOGRAPHY

The entire area of Vassar Township rests upon bedrock of the Saginaw Formation, created during the Paleozoic period of geological history. Approximate depths to the bedrock are generally less than 100 feet throughout the Township except along the Township's eastern periphery and in its southeast corner, where depths increase to between 100 and 150 feet.

The vast majority of the Township is quite flat and reflects surface grades of less than 3%. Those areas which reflect grades of greater steepness are comparatively small in individual size and often associated with the Township's water channels and extraction operations. The Township's topography does not represent a serious constraint to land development provided adequate measures are taken to assure drainage.

Elevations in the Township generally drop as one moves in a northerly or westwardly direction from the Township's southeast corner. The Township's highest elevation is approximately 780 feet above sea level and is located atop a small hill on Washburn Road one third of a mile south of Brown Road in the far southeast corner of the Township. In contrast, the lowest elevations in the Township are along the Cass River where its surface elevation at Waterman Road along the Township's northern perimeter is the lowest point in the Township at approximately 610 feet above sea level.

DRAINAGE & WATER COURSES

Nearly the entire area of Vassar Township drains into the Cass River which traverses the Township in its northwest corner. Drainage by the Cass River is assisted through several key drains and creeks (See Figure 4-1). Goodings Creek collects the majority of the runoff in the Township's southern half and flows into the Cass River in neighboring Tuscola Township to the west. Goodings Creek is also fed by the Shurtz, Maples, and Donigan Drains in the southern half of the Township. The majority of the Township's northeast quarter drains to the Cass River by way of the Vassar Fremont and H-M Drains. Portions of the far northwest corner of the Township drain to the Cass River via the Moore Drain.

Aside from the Cass River, there are no major water bodies in the Township. There are a number of small ponds in the Township, and two comparatively large man-made lakes in Section 36.

VEGETATION

Approximately 38% of the land area in Vassar Township is classified by the Department of Natural Resources as wetlands (see Figure 4-2). The vast majority of these wetland areas consist of lowland hardwoods. These wetland areas serve vital roles in the Township including flood control, runoff purification, ground water recharge, and wildlife habitats. Of particular significance is the fact that expansive areas of the Township's wetlands are interconnected with one another. For instance, the wetland areas in Section 31 at the Township's southwest corner are directly linked to wetland areas in the Township more than five miles away. This is significant due to both the extensive wildlife habitat network that such a wetland system provides and the fact that, as wetlands are environmentally sensitive resources, degradation or pollution of a wetland area can have a destructive impact upon wetlands and related resources further distances away.

The second most common vegetative cover in the Township is agricultural cropland consisting principally of corn and potatoes, and accounts for nearly 28% of the Township area.

INSERT:

Figure 4-1
PRINCIPAL DRAINAGE COURSES

INSERT:

Figure 4-2
WETLANDS

The balance of the Township's vegetative cover is characterized by herbaceous and shrub fields which cover approximately 12% of the Township area, and upland woodland areas, which cover approximately 10% of the Township area (see Figure 4-3).

SOILS

The character of soils can have a profound impact upon the suitability of land for development. To avoid problems such as ground water contamination, buckling and shifting of foundations and roads, erosion, and loss of important agricultural lands, the suitability of soils for development and farming should be considered.

The U.S. Department of Agriculture, Soil Conservation Service, has divided Tuscola County into ten general soil types. While five of these soil types can be found in Vassar Township, the vast majority of the Township is included in the Pipestone-Granby-Chelsea association. The five soil associations can be generally described as follows:

- **Pipestone-Granby-Chelsea:** Poorly to excessively drained sandy soils.
- **Tappan-Londo-Avooca:** Somewhat poorly and poorly drained loamy and sandy soils.
- **Wixom-Wolcott-Pipestone:** Somewhat poorly and poorly drained loamy and sandy soils.
- **Guelph-Londo-Tappan:** Poorly drained to well drained loamy soils.
- **Marlette-Capac-Spinks:** Somewhat poorly drained to well drained loamy and sandy soils.

These descriptions are very general and it is important to identify with more specificity those soils which appear to present the greatest constraints to development and offer the greatest opportunities for economically viable farming. The Soil Conservation Service has identified more specific individual soil units throughout the County based on the characteristics of the surficial soils (upper five feet) and this provides a more reliable basis for Township planning purposes. Still, on-site investigation and tests of soil conditions is necessary prior to any construction.

The most prevalent soil unit in the Township, by area, is Pipestone fine sand on slopes of 0-4%. Also particularly common are the soil units of Granby loamy fine sand and Chelsea fine sand on 0-6% slopes. Except for the northwest quadrant of the Township, these soil units characterize more than 50% of the Township area. According to the Soil Conservation Service, these soils and nearly all others in the Township present severe limitations to sewage disposal via septic systems due to wetness, slow permeability, and/or ponding. Less than 400 acres (approximately 1.7%) of the entire township present only slight or moderate limitations to septic systems. Many of the soils in the Township present equally severe limitations to buildings due to ponding, low strength, shrink-swell potential, and/or wetness.

Though nearly all the soils in the Township present difficult conditions for on-site sewage disposal, some of the soils provide excellent opportunities for farming. Approximately one fifth of the Township is characterized by soils which the Soil Conservation Service has categorized as having the *"best combination of physical and chemical characteristics for producing food, forage, fiber, and oilseed crops"* (see Figure 4-4). These areas are generally referred to as *"prime farmland."* The most consolidated area of the Township characterized by prime farmland is that area extending one mile east of Vassar Road, between Hasco Road and the C & O Railroad. A small portion of this area has already been developed for intensive residential use. A second and smaller consolidated area of *"prime farmland"* lies directly north and northeast of the City of Vassar.

CLIMATE

Unlike many of the communities within the Thumb area of Michigan, Vassar Township is far enough from the Great Lakes water bodies that their influence upon the Township is fairly mild. The Township's climate reflects wider temperature ranges than experienced in areas of closer proximity to the Great Lakes. The closest location to Vassar Township where regular weather readings are recorded by the National Oceanic and Atmospheric Administration is the City of Caro, approximately 8 miles northeast of the Township. Based upon the Administration's data assimilation

INSERT:

Figure 4-3
WOODLANDS

INSERT:

Figure 4-4
SOIL CONDITIONS FOR FARMING

lated by the Michigan Department of Agriculture, Climatology Division, the following provides an overview of the climatic conditions of Vassar Township and surrounding areas:

- **TEMPERATURES**

- Average Winter Temperature:

- 26.7degrees F.

- Average Daily Min. Winter Temperature:

- 18.5Deg. F.

- Lowest Recorded Temperature:

- 30.0 degrees F. (February 9, 1934)

- Average Summer Temperature:

- 66.7degrees F.

- Average Daily Max. Summer Temperature:

- 79.5degrees F.

- Highest Recorded Temperature:

- 108 degrees F. (July 13, 1936)

- **PRECIPITATION**

- Total Annual Rain:

- 31.88inches.

- Wettest Month:

- June (average of 3.09 inches)

- Driest Month:

- February (average of 1.23inches)

- Average Seasonal Snowfall:

- 34.3 inches.

- Heaviest Snow Month:

- January (average of 10.4 inches)

The area's climate provides for a growing season of approximately 120 to 140 days. Prevailing winds are from the southwest with the average highest wind speeds of 12.1 miles per hour occurring in March.

Chapter Five

PLANNING ISSUES

INTRODUCTION

Based upon the conditions and trends reviewed in the previous chapters, and the attitudes of local residents as uncovered by the Land Use Goals Survey (see Appendix), a number of key and pressing planning issues are apparent today in Vassar Township and are particularly relevant to the Township's master planning efforts. These issues vary in scope but are clearly not independent of one another. The future quality of life in the Township and the future character of the Township will be largely shaped by the manner which the Township chooses to address these issues. This chapter highlights those issues facing Vassar Township deemed most critical in the development of a strategy for future land use and public services in the Township, and important initiatives of the Plan associated with these planning issues.

PLANNING ISSUES

Accommodating Future Growth & Development

Future growth and development in Vassar Township is inevitable. A number of factors contribute to this future, including the facts that the Township's population has continued to grow (though at varying rates) since 1940 and this trend is expected to continue, and a significant portion of the Township residents support additional commercial and light industrial development in the Township.

Accordingly then, the Plan's strategy for future land use and public services must squarely address the growth and development issues

facing the Township and provide a strategy for effectively shaping and guiding future growth and development in a legally defensible manner and consistent with both the aspirations of the Township's citizenry and the opportunities and constraints presented by the Township's natural and cultural characteristics.

Future Pattern of Residential Development

Residential development is the most predominant land use in the Township and is expected to continue so in the future. Because it is the most dominant land use in the Township, and will continue to be, the form that it takes will have a dramatic impact upon the future character of the Township.

Current residential development within the Township is largely of a strip development character -- residences are "stripped" along the County road network. This pattern of lot splits and development can be debilitating to the Township because: 1) the increasing number of driveways directly accessing the county roads increases the level of congestion and safety hazards along these corridors; 2) travel times are increased; 3) the dispersed population pattern increases the cost of public services and decreases the quality of public services; and 4) the Township's previously rich rural panoramic views, as experienced from the roadway, can be reduced to images of never ending driveways, parked cars, garages, and front yards.

The future pattern of residential lot splits and subdivisions within Vassar Township will have a tremendous impact upon the future quality of life within the Township. This Plan recommends a future residential development pattern which places far more emphasis upon the preservation of important open spaces, natural resources and rural character and the preservation of the functional role of the county road network.

Equally important however is an emphasis upon the visual character of residential structures themselves in the Township and the understanding that the visual character and stability of the Township's housing stock has an impact upon the quality of life in the Township, area-wide property values, and the Township's image among prospective home buyers, developers, and commercial/industrial facilities.

Commercial & Industrial Development Pattern

Commercial and industrial development is fairly scattered throughout the Township along M-15 and Saginaw Road. The current pattern is one generally characterized by strip development intermixed with residential uses. Little attention has been directed at assuring adequate buffers between commercial and industrial land uses and adjacent residential areas nor has attention been directed at the long term detrimental impacts of randomly scattered commercial/industrial development. Left to continue in its current course, M-15 and Saginaw Road can be expected to evolve as long continuous strip development corridors which will drastically alter the rural character of the Township, encourage excessive traffic congestion and hazards along these corridors, and require new public services at comparatively high costs.

Local residents support increased commercial and industrial development. This Plan supports the long term development of commercial/industrial areas provided they have access to the services necessary to meet their daily needs, evolve in a compact manner, provide a more visually pleasing and unique character, minimize hazardous vehicular turning patterns and access points, and provide landscape and buffer elements which both soften the impact of such uses upon adjacent land uses and provide a special identity to these commercial/industrial areas. The lack of public sewer and water in the Township strongly suggests the appropriateness of "light" industrial uses only.

Protection Of Agricultural Lands

While farming dominates much of the Tuscola County landscape, this is not the case within Vassar Township. Conditions in Vassar are not particularly supportive of long term economically viable farming due to a number of factors including: 1) residential encroachment throughout nearly all areas of the Township; 2) comparatively limited areas of "prime farmland" soils; 3) comparatively small farm acreages; and 4) comparatively limited areas of expansive and contiguous farmland. All of these conditions decrease the long term economic viability of farming in the Township.

Vassar Township supports the aspirations of local residents to protect existing farmland while, at the same time, recognizes the limited long term economic viability of such uses in the Township. Accordingly, this Plan recommends providing the local farming community with the opportunity to continue farming operations while, at the same time, providing opportunities to convert farmland to residential use in a manner which encourages the protection of the Township's rural character.

Protection Of Natural Resources & Rural Character

Protection of the Township's rural character is extremely important to the residents of Vassar Township. "Rural character" is a subjective quality -- an issue of personal perception. What one family considers to be "rural" may not be the same as their neighbor, and this Plan does not attempt to define "rural character." However, the Plan does recognize that people typically associate "rural character" with an overall perception of limited urban development and expansive open spaces of farmland and/or natural landscapes, including woodlands, wetlands, and fields. Not only are these elements important in shaping the character of the Township, but also provide vital environmental roles including wildlife habitats, flood control, water purification, ground water recharge, and air quality.

This Plan does not propose that protecting the Township's "rural character" and natural resources is synonymous with attempting to prohibit future growth and development. Managed growth and development does not have to jeopardize the Township's overall rural character, and such an "anti-growth" position will not stand in a judicial courtroom. This Plan must, rather, constructively guide growth and development to better assure its compatibility with the Township's existing natural resources and rural character. The Plan recognizes that large minimum lot size requirements in support of the protection of "rural character" are not nearly as effective as site development provisions which minimize the visibility of the new development from the Township's roadways and preserve the Township's existing open spaces and natural resources. This Plan fully supports the planning wisdom that it is not growth itself that is so destructive to a community's rural character, but it is the form

which such growth takes that can be so destructive.

Limited Tax Base & Public Services

The future land use pattern and public services planned for the Township must recognize the comparatively limited current tax base in the Township, the lack of current support among area residents for increases in taxes, and the current limited level of public services available throughout the Township. Development which places excessive demands upon the limited public services and financial resources of the Township, prior to the time when the Township is better able to address such public services issues or has taken specific steps to improve or expand the scope of available public services, should be strongly discouraged. The planned character and location of new future development must recognize the current financial and public services constraints in the Township. Though any new development can be expected to increase the Township's tax base, the new development will nevertheless place new demands upon current public services available to Township residents and businesses.

In light of the comparatively recent research (and contrary to traditional planning wisdom and thought) which has shown that new development does not necessarily "pay its way," and the strong lack of local support of tax increases, development patterns which minimize new public costs are critical. To this end, it is advantageous to maintain a strong degree of compactness regarding higher density and intensity growth and development and, to the extent it is possible, locate higher density and intensity development near or adjacent to areas currently being served with higher levels of public services or anticipated to be served by such services in the future.

Protection Of Health, Safety, & Welfare

Vassar Township government functions to provide for the health, safety, and welfare of the residents within the municipality. The development of a new Master Plan is an extension of that function and as such, the Plan should provide for a foundation upon which the future health, safety, and welfare of the township and its residents can be assured. The Plan should take steps to satisfy fundamental health, safety, and welfare concerns including the avoidance of intensive development in environmentally sensitive and/or structurally unsound areas, the assurance of adequate public facilities (including sewage disposal, water, storm water management, and emergency services) to serve new land uses and developments at the time they become functional, and the protection of property values and the economic stability of the Township.

Chapter Six

GOALS & OBJECTIVES

INTRODUCTION

The "goals" of this Plan serve to identify the Township-wide conditions the Township is striving for regarding future land use and public services, such as the protection of natural resources. The "objectives" serve to identify ways by which the goals or "conditions" can be realized. Together, this Plan's goals and objectives attempt to establish the fundamental principles and intentions for accommodating future growth and development and establishing the planned future land use pattern and public services in the Township.

Based upon the data collected during the Master Plan's planning process, including the identification of local attitudes toward land use in the Township and the assessment of conditions, needs and issues presented in the previous chapters, the Vassar Township Planning Commission established a set of goals and objectives to guide future land use and public services in the Township.

Determining the attitudes and concerns of Vassar Township's residents was one of the most important parts of this planning process. If this Plan is to be successful, and embraced and implemented by the community, then it must reflect the current desires of the Township's citizens. Vassar Township chose both the use of a mail questionnaire and public meetings to give everyone in the Township an opportunity to participate in the planning process. Each property owner in the Township received a Land Use Goals Survey, of which approximately 350 surveys (nearly 30%) were returned. In general, the responses showed that residents support controlled growth and development.

The goals and objectives presented in this chapter are important for several reasons:

- The goals and objectives provide current and potential future residents of Vassar Township with a overview of the intended future character of the Township.
- The goals and objectives identify and outline the basic parameters which should be used in the development of a strategy for future land use and public services in the Township.
- The goals and objectives serves as references upon which future rezonings and land development decisions can be evaluated.

GOALS & OBJECTIVES

Land Use/Growth Management

GOAL: Plan for and guide new growth and development in a manner which stresses the protection of the public health safety, and general welfare, the Township's economic stability, and the rural character and natural resources of the Township.

OBJECTIVES:

1. Prevent the fragmentation of open spaces through a coordinated land use plan and related regulations.
2. Future growth and development should be regulated according to its type, location, rate, and intensity through specific districts, consistent with predetermined, desired characteristics.
3. The location and intensity of future development should respond to the natural and cultural constraints present, including the availability of public sewer and water facilities.
4. Any targeting of particular growth and development areas in the Township should be based upon an increased level of public services (including roads) in those areas, or anticipated improvements to the public services in such areas.
5. Growth should be managed as a function of the overall carrying capacity of both the

Township's physical (land) resources and the financial resources available for the provision of public roads, services and utilities.

6. Wherever legally permissible, and other public interests are not of greater significance, local regulations should require new development pay for both the direct and indirect costs associated therewith, rather than having those costs imposed on existing residents.
7. Coordinate proposed future plan and zoning changes with adjoining municipalities with mutual review and comment opportunities before changes are made on lands near the borders.
8. Update and maintain current zoning and other regulatory programs to implement the policies of this Plan.
9. No new land uses should become operational until all services are available to meet the demands of such new land uses, including potable water, sewage disposal, access, and emergency services.

Agriculture

GOAL: Provide opportunities for the continuation of farming within the Township while, at the same time, recognize the overall limited long term economic viability of farming in the Township and the appropriateness of providing alternative land uses for existing farmland areas.

OBJECTIVES

1. Direct farmland protection efforts toward those lands in the Township that reflect one or more characteristics associated with long term agricultural economic viability, including lands characterized by good farming soils, large parcel acreages, enrollment in P.A. 116, limited residential encroachment, and adjacency to other farm parcels with similar characteristics.
2. To the extent that new residential development is permitted in planned agricultural areas, such lots should be limited in size so as not to consume any agricultural lands beyond what is necessary to accommodate the residences and associated yard areas.

3. To the extent that new residential development is permitted in planned agricultural areas, the placement of such lots on a parcel should be on those lands less economically viable for long term farming, where feasible.
5. Limit the extension of utilities or other public improvements that would prematurely jeopardize the integrity of these agricultural areas.

Community Character & Natural Environment

GOAL: Protect the rural character and environmental integrity of the Township.

OBJECTIVES

1. Develop and maintain a record of the Township's rich natural environment, including its woodlands, wetlands, and water resources.
2. Adopt regulations aimed at protecting the integrity of the Township's natural environment.
3. Encourage a pattern of future land use which protects those open spaces which so dramatically shape the rural character of the Township, including farmlands, woodlands, and wetlands.
4. Encourage new development be sited and designed to reflect the existing predominant character of the Township through standards regarding building heights, sizes, setbacks, and other site plan considerations.
5. Identify and maintain a record, for reference, planning, and regulations purposes, of existing and potentially environmentally hazardous areas based on known hazards or conditions which heighten the potential for such hazards.
6. Enhance the Township character and image through encouraging appropriate disposal methods for refuse materials and promote the reuse and recycling of materials wherever practical.
7. Enhance the Township character and image through encouraging the

maintenance of yard areas and structures in an attractive and clean fashion.

8. Ensure through responsible and innovative development, incentives, and site planning regulations, that new development minimizes disturbance and destruction of open spaces and preserves the landscape's natural assets and important open spaces.

Residential Development

GOAL: Provide varied residential lifestyle opportunities to meet the differing personal, economic, and age-based housing needs of the Township's current and future persons and families, while assuring quality housing and the continuance of a rural character in association with future new residential land uses.

OBJECTIVES

1. Encourage the protection of important open spaces and sensitive environmental features during the site planning and construction of new residential land uses.
2. Provide opportunities for residential development which do not have the effect of encouraging growth at an excessive rate whereby the Township cannot assure public health, safety, general welfare, and the protection of rural character.
3. Encourage single-family housing as the predominant residential land use in the Township while similarly recognizing the appropriateness of two-family housing units in appropriate areas of the Township.
4. Discourage high-density residential development in the Township due to the current and anticipated lack of public facilities and services to address the demands of such land uses. To the extent that such high-density housing is permitted, be it as mobile home parks, multiple family developments or even single family subdivisions, such developments should be carefully regulated so as to assure adequate potable water and sewage disposal, and the blending of such uses with the existing low intensity character of the Township or the character of a given area.
5. Encourage all residential structures, whether it be single family homes, duplexes, mobile homes, and multiple-family structures, to be visually attractive and

structurally sound, and establish a sense of neighborhood cohesiveness and stability.

6. Discourage "strip" residential development along the township's county road network.
7. Protect residential areas from activities that produce excessive noise, dirt, odors, traffic, or other nuisances which detract from a safe and enjoyable residential environment.
8. Future residential development should be guided so as to minimize new public services costs and maximize existing and anticipated public services and infrastructure.
9. The density of future residential development throughout the areas of the Township should be based upon, in part, the density of development which existing and/or planned public services and infrastructure are able to accommodate.
10. Ensure that public facilities and services are adequate to accommodate the demands of new residential land uses prior to permitting such uses becoming operational, including potable water and sewage disposal, roadway infrastructure, storm water management, and emergency services.

Commercial & Industrial Development

GOAL: Provide opportunities for new small scale commercial and industrial establishments which meet the needs of both local and regional populations and support the Township's commitment to economic stability and rural character and natural resources protection.

OBJECTIVES

1. Identify locations in the Township which offer the greatest potential for successful commercial and industrial land uses, compatible with the planned surrounding land use pattern, and guide such uses to these areas.
2. Encourage industrial development of a "clean" character, in regards to both the materials used in the industrial processes and the resulting wastes and finished products.

3. Recognize that "strip" commercial development (commercial facilities that may evolve in a narrow configuration along major roadways) threatens the public health, safety and welfare, and discourage such land use patterns.
 4. Ensure through site design and building standards that development of new commercial and industrial land uses adequately buffer adjacent properties through setbacks, landscaping, and other techniques, protect important open spaces, and preserve the Township's rural character as experienced from roadway corridors.
 5. Ensure that public facilities and services are adequate to accommodate the demands of new or expanded commercial and industrial land uses prior to permitting such uses becoming operational, including potable water and sewage disposal, roadway infrastructure, storm water management, and emergency services.
3. Develop and maintain a regular meaningful communications program whereby Vassar Township and all adjoining municipalities regularly convene to discuss public facilities and services needs, identify common needs, and investigate alternative strategies to address those needs in a mutually beneficial manner.
 4. Adopt regulations which minimize the potential for a dysfunctional roadway network, including access controls, the limitation of the number, size, and shape of new land divisions along county roads, the prevention of strip development patterns, and the control of land use intensity along major roads.
 5. Continually monitor and examine the feasibility and local support for the development of park and associated recreational facilities which are compatible with the Township's natural resources and community lifestyles. If such feasibility and support is apparent, prepare a strategic plan to develop such facilities.

Public Services & Facilities

GOAL: Maintain and expand public services and facilities based upon priority needs, cost-effectiveness, technical feasibility, and the land use policies and planned future land use pattern in this Plan.

OBJECTIVES

1. Identify areas in the Township which, due to either existing conditions or anticipated conditions in light of expected growth, are in greatest need of public services improvements.
2. Develop and maintain a capital improvements program which incorporates plans for new or expanded public facilities and services improvements, including road improvements and emergency services.

**Chapter
Seven**

**FUTURE
LAND USE
STRATEGY**

INTRODUCTION

The Vassar Township Master Plan consists of two principle policy components -- the Future Land Use Strategy and the Future Public Services Strategy. These strategies were developed based upon the data, planning issues, and goals and objectives established during the planning process, and are intended to work hand-in-hand with one another to assure that the Township evolves in the most desired and beneficial fashion. This chapter presents the planned future land use pattern for Vassar Township.

**OVERVIEW OF THE PLANNED
FUTURE LAND USE
STRATEGY**

The overall direction of the planned future land use pattern is to provide opportunities for residential and non-residential growth while preserving the Township's rural character and its important open spaces. The Township's rural character and open spaces are elements which comprise the principle existing and desired future character of the Township. The proposed future land use pattern provides for the continued and stable presence of these elements while acknowledging the need to adequately integrate opportunities for increased development within the community.

The vast majority of the Township is planned to remain in open spaces and low density resi-

dential development. Much of the Township is characterized by wetlands and these open spaces are planned to remain in a generally undeveloped state. Moderate density residential growth will be guided to one of several areas in the Township which have increased access to emergency services (police and fire protection) and are served by major thoroughfares to accommodate the increased traffic demands. The lack of public sewer and water in the Township greatly limits the appropriateness of high density residential uses in the Township and the Plan generally discourages such development intensities.

The Plan does not encourage the conversion of existing farmlands to nonfarm uses, but recognizes both the limited long-term economic viability of agriculture in the Township and the appropriateness of the availability of alternative land uses.

Future commercial development is encouraged to locate away from the City of Vassar in order to avoid the potential of losing significant Township tax dollars should new commercial development in the Township, but near the City, be subsequently lost due to future growth and expansion of the City. Rather, new commercial development is encouraged to locate along sections of Saginaw Road and M-15 in recognition of the heightened access necessary for such development, limited extent of existing residential development, and the comparatively limited potential for wetlands degradation. Heavy industrial uses, which typically require public sewer and water facilities, are encouraged to locate adjacent to the City of Vassar where such services are available and where similar industrial development is planned. However, the planned location of such heavy industrial uses near the City of Vassar is not intended to suggest the Township supports future annexation by the City should such industrial development occur.

The Plan calls for the preservation of the Township's natural resources through conservation policies linked to all of the designated land use areas. The Township's natural resources includes its ground water, surface water, air, wetlands, soils, and woodlands. These natural resources should not be so exploited as to reduce their long-term integrity and availability, or contaminated so as to present health hazards to Township residents. Some of these resources are particularly sen-

sitive to degradation from unsound land use and development activities and present constraints to land development.

These natural resources are scattered throughout the Township and provide important environmental benefits including habitats for wildlife, flood control, ground water recharge and discharge, and surface water and air purification. In addition, they provide special opportunities for passive recreation and play a critical role as elements of the Township's rural character so strongly desired to be retained by residents.

The planned future land use pattern is generally very compatible with surrounding land use conditions in the Township's neighboring municipalities. All of Vassar Township's neighboring municipalities have master plan policies and/or zoning regulations in place which generally limit land use adjacent to Vassar Township to agricultural and residential land uses. The City of Vassar provides for more urban development adjacent to the Township, including industrial development along portions of the City's eastern and southeastern borders. The Vassar Township Master Plan generally recommends a similar industrial land use pattern in these areas or a low density residential pattern with buffer measures to minimize the negative impacts of such industrial areas.

Rural Clustering: The planned future land use pattern strongly supports the concept of "rural clustering." The Plan recognizes that the traditional approach of protecting natural resources and rural character through large lot residential zoning (typically associated with minimum residential lot size requirements of between one and ten acres) has proven to be ineffective due to the resulting strip residential development pattern and the negative impacts of such a development pattern. A more effective approach in preserving rural character is to provide landowners with the opportunity to cluster and screen smaller residential lots on a portion of a parcel to be developed, while reserving the balance and more visible portion of the parcel in a permanent open space status through deed restrictions (or similar tool) on future development.

A landowner might be afforded a higher development potential (more lots per acre) as an incentive to pursue such a development op-

tion. The emphasis in this development pattern is the provision of permanently designated open space acreage (ideally the most environmentally and visually significant) in lieu of smaller lot areas. The minimum lot sizes must ultimately be in accord with sewage disposal requirements and other natural resource constraints.

INDIVIDUAL COMPONENTS OF THE PLANNED FUTURE LAND USE STRATEGY

The Future Land Use Strategy involves the establishment of five principal geographic land use areas within which the Township is divided -- the Conservation Area, Rural Residential Areas, Suburban Residential Areas, Commercial Corridor Areas, and the Industrial Area. Each land use area delineates the primary land use or uses intended to occupy that geographic area of the Township and associated policies addressing the introduction of new land uses in these areas. Figure 7-1, Future Land Use, presents the location of these designated land use areas.

The five principal geographic land use areas and associated policies are discussed in the following pages, as are other related land use issues.

Conservation Area

Intent and Rational: The Conservation Area includes that area of the Township within the boundaries of the Vassar State Game Area. Both publicly and privately owned lands within the Vassar State Game Area are classified within the Conservation Area in order to preserve the wildlife and environmental integrity of this resource, and preserve the Game Area's long term viability.

The Vassar State Game Area is administered by the Michigan Department of Natural Resources for the purpose of managing wildlife resources and providing public hunting recreation opportunities. Increasing residential development within the boundaries of the

Figure 7-1
Future Land Use

Game Area will decrease land for wildlife habitats, increase public safety concerns between hunting and residential land uses, and limit the area available for hunting due to expanding buffer zones required between designated hunting areas and residences. If because of land development hunting no longer remains feasible in the Vassar State Game Area, the Area could be closed and the public lands sold. The Township would then lose a tremendous open space and wildlife habitat "jewel."

In order to protect the integrity of the Vassar State Game Area in Vassar Township, lands within the Conservation Area should only be used for residential and passive recreation land uses and development densities should not exceed one dwelling unit per 10 acres. Whenever possible, alteration of the natural landscape and development of new roads and structures in the Conservation Area should be avoided.

Principal Policies: The following policies shall guide the use and development of land in the Conservation Area:

- 1) Development densities for development within the limits of the Conservation Area should not exceed one dwelling unit per 10 acres.
- 2) Alteration of the natural landscape and development of new roads should be avoided where reasonably practical.
- 3) Land development in the Conservation Area should proceed only after receipt of appropriate Township and/or state or federal permits, and where applicable, according to mitigation measures required through the administration of federal, state, county or Township ordinances.
- 4) Land uses requiring state and/or federal permits (especially for wetland or floodplain alterations) should not receive final Township approval until satisfactory evidence has been submitted verifying the acquisition of all other necessary permits.

Rural Residential Area

Intent and Rationale: The Rural Residential Area is intended to provide opportunities for varying rural residential lifestyles of compara-

tively low development density while still providing for the continuation of much of the Township's rural character, open spaces and natural resources, and existing farming activities. Lands within the Rural Residential Area are generally characterized by scattered residential development on both small and large lots, strip residential development, farmlands, and extensive wetland areas.

While it is not the intent of this Plan to outright encourage the conversion of these farmlands to residential uses, this Plan recognizes that those agricultural lands within the Rural Residential Area should not be considered economically viable on a long term basis and, as such, alternative land uses should be planned provided adequate sewage disposal and potable water is available.

Future land uses in the Rural Residential Area are intended to be generally limited to agricultural operations and comparatively low density residential uses, with an emphasis upon protecting the natural resources and open spaces, the usefulness and safety of the county roadway network, and rural character of the area. The Rural Residential Area is intended to provide a number of alternative residential development options available to landowners with a range of development densities. The higher development densities within the range should be provided where the proposed development provides for rural clustering measures including the designation of extensive permanent open spaces, the screening of residences from the county road network, and the use of interior roads as opposed to direct lot access onto County roads.

Development densities within the Rural Residential Area are generally not expected to exceed 1 dwelling unit per 2 acres.

It should be noted that there are a number of residential areas within the Rural Residential Area which have already been developed at densities in excess of those recommended by this Plan and/or in a lot split scheme not recommended by this Plan. The Plan supports the continuation of these uses but discourages the expansion of such densities and development schemes into new locations of the Rural Residential Area.

It should also be noted that extensive areas of the Rural Residential Area are characterized

by wetlands, including lowland woodlands. Future land use decisions and development in the Rural Residential Area must recognize the significance of these resources to the Township. Any loss in the quantity or quality of these resources must be considered permanent and, as such, sound and practical land use and site development practices aimed at preservation of these resources must prevail.

In many cases there are significant portions of a parcel which are upland, or otherwise outside of these wetland areas and future development should be limited to those portions of the property outside the wetland areas whenever the option exists. Where rural clustering is pursued, the number of dwelling units permitted on a parcel which includes wetland areas should be based upon the parcels entire acreage and not merely the upland portion of the parcel.

Development in wetland areas is acceptable only when no other practical alternative exists and the public benefits of the new land use are great enough. Mitigation measures may be authorized where such development is authorized.

Figure 4-2 identifies the general and larger wetland areas in the Township. Specific site investigations will be necessary as new land uses are proposed to determine the particular wetland characteristics of a parcel.

Principal Policies: Policies established to guide land use and development in the Rural Residential Area include:

- 1) Crop farming and single family residences are considered to be the principally desired uses in the Rural Residential Area.
- 2) New or expanded livestock operations shall be based upon specific measures to minimize negative impacts with adjacent nonfarm residences..
- 3) All existing farming operations, activities, and structures associated with crop farming will be protected land uses within the Rural Residential Area.
- 4) Residential development densities are not intended to exceed approximately one dwelling unit per two acres. Opportunities for developments approaching this maxi-

um density will be conditioned upon the provision of rural clustering measures.

- 5) Land uses requiring state and/or federal permits (especially for wetland or floodplain alterations) should not receive final Township approval until satisfactory evidence has been submitted verifying the acquisition of all other necessary permits.

Suburban Residential Areas

Intent and Rationale: The Suburban Residential Areas are intended to accommodate primarily residential development at densities greater than permitted elsewhere in the Township and in a manner more closely associated with traditional neighborhood patterns. The Suburban Residential Area is characterized by a number of elements which makes it particularly suitable for higher density residential development, including direct access to major thoroughfares, ease of access for emergency services, absence of wetland environments, and the existence of residential development of similar intensity.

The intent of this Area is to accommodate residential development at approximate densities of 1 dwelling unit per acre or greater. Development densities greater than 1 dwelling unit per acre may be permitted where the necessary public services are present to meet the demands of such higher density developments and provisions are made for the preservation of open spaces. Future new strip residential development is discouraged in the Suburban Residential Area

Two locations have been designated as Suburban Residential Areas. The larger Area is located south of the City of Vassar along portions of the M-15 corridor. This Area has been purposely delineated to encompass a smaller geographic area than existing conditions might otherwise suggest. This delineation reflects the Township's intent to minimize sprawl and the potential for the Township's growth to surpass its ability to financially or otherwise responsibly deliver necessary public services, assure the public health, safety, and welfare, and maintain or enhance the quality of life. For this reason, this Suburban Residential Area has been purposely established so as not to extend along the full length of M-15 nor to extend in an east or west direction beyond the general limits illustrated in Figure 7-1.

The approximate limits of the second Suburban Residential Area, near the intersection of Saginaw and Sheridan Roads, correlate with extensive wetland areas and the township's intent to minimize disturbance of wetland areas.

As both of these Suburban Residential Areas approach full development, the Township will amend the Plan to expand the boundaries in a purposeful, practical, and coordinated fashion to support a responsible growth management program.

Though there are considerable undeveloped land areas directly east and north of the City of Vassar, this Plan discourages the designation of these areas as a Suburban Residential Area due to the comparatively limited access to these areas, the Township's intent to provide for residential growth areas beyond the immediately adjacent lands along the potentially expanding City of Vassar, and the intent of the Township to limit the rate and amount of new development by limiting the areas designated for such development densities.

Principal Policies: Principal policies established to guide land use and development in the Suburban Residential Area include:

- 1) Single-family and two-family dwellings are considered to be the principally desired uses in the Suburban Residential Area.
- 2) New or expanded livestock operations will be discouraged in the Suburban Residential Area.
- 3) Residential development densities are generally not intended to exceed approximately one dwelling unit per acre. Opportunities for developments exceeding this approximate density, including multiple family dwellings, will be conditioned upon the provision of necessary public services and preservation of open spaces.
- 4) Land uses requiring state and/or federal permits (especially for wetland or floodplain alterations) should not receive final Township approval until satisfactory evidence has been submitted verifying the acquisition of all other necessary permits.

Commercial Corridor Areas

Intent and Rationale: There is considerable support within the Vassar Township community for expanded commercial land uses. The intent of the Commercial Corridor Area is to provide opportunities for the continuation of existing commercial, light industrial and office land uses and the introduction of similar new uses. The Commercial Corridor Area provides the basis for accommodating these more intensive land uses while minimizing the expenditure of public funds for capital improvements to accommodate such uses and minimizing the potential negative impacts often associated with such uses.

This Plan establishes three separate Commercial Corridor Areas. The smallest of the Commercial Corridor Areas encompasses the area generally composed of those existing commercial land uses along M-15 directly south of the City of Vassar. The Plan supports the continuation of this business district but discourages the expansion of this business district beyond its general limits in response to a potentially expanding City of Vassar and the resulting loss in tax dollars. Rather, the Plan encourages new future commercial and light industrial uses to locate in either of the other two Commercial Corridor Areas situated along sections of both M-15 and Saginaw Road.

There are a number of factors which strongly contribute to the appropriateness of accommodating future new commercial and light industrial uses in these locations. These uses typically generate substantial traffic and place considerable demands upon roadway infrastructure. M-15 and Saginaw Road provide excellent access within the local and regional thoroughfare network. The particular sections along Saginaw Road and M-15 identified as Commercial Corridor Areas are areas along these thoroughfares characterized by lesser amounts of wetlands and existing residential development.

It is the intent of the Vassar Township Master Plan to accommodate these more intensive land uses in the Commercial Corridor Area in a manner which is sensitive to the overall rural character of the Township and minimizes the increased potential for congestion and safety hazards along these corridors.

Principal Policies: Principal policies established to guide land use and development in the Commercial Corridor Area include:

- 1) New land uses and development should be based upon, at a minimum, the following development guidelines:
 - Adequate lot size and road frontage length based upon standards intended to minimize congestion and traffic safety hazards associated with driveways, turning patterns, and associated concerns.
 - Parking areas should be sited in the rear and/or side yards of buildings and screened.
 - Limitations on signage, building heights, size, and bulk, and related architectural qualities should be established to better assure compatibility of new land uses with the character of the Township.
 - The use of service drives where feasible and practical.
- 2) No new land uses should be permitted within the Commercial Corridor Area unless adequate provisions for storm water management, sewage disposal, and potable water, and other basic services are established prior to the new land uses becoming operational.
- 3) Landscape and screening buffers should be established between uses to minimize the negative impacts of uses upon one another and surrounding properties.
- 4) Land uses requiring state and/or federal permits (especially for wetland or floodplain alterations) should not receive final Township approval until satisfactory evidence has been submitted verifying the acquisition of all other necessary permits.
- 5) No commercial land uses should be permitted except within commercially zoned districts unless it qualifies as a special land use and meets all requirements of the zoning ordinance.

Industrial Area

Intent and Rationale: The Industrial Area established in the Plan is intended to accommodate future "heavy" industrial land uses. Such uses are often characterized by one or more of the following: 1) involve operations which typically place high demands upon public sewer and water utilities; 2) involve large scale manufacturing and processing operations; 3) consume comparatively large amounts of land area; 4) generate considerable amounts of waste products of which a large portion may require special disposal methods; and 5) require comparatively large buildings to house operations including special venting and air pollution control measures, equipment, and/or structures.

The Industrial Area, situated directly south of the City of Vassar in the area of Scotch Road and the Tuscola and Saginaw Bay Railroad, is particularly appropriate for accommodating future heavy industrial uses. The Area provides excellent access for industrial facilities including M-15, Saginaw Road and the railroad. The lack of extensive wetland areas and the Area's adjacency to industrially zoned land in the City of Vassar further supports the Area's location. Also, the establishment of heavy industrial uses typically requires public sewer and water facilities and at this time, the most likely place for such services to be introduced into the Township will likely originate from the City.

Principal Policies: Principal policies established to guide land use and development in the Industrial Area include:

- 1) Buffer areas should be established to minimize the negative impacts of such industrial uses upon nearby residential development and other non-industrial land uses.
- 2) New land uses should be based upon, at a minimum, the following development guidelines:
 - Parking areas should be sited and screened from adjacent residential property.
 - Limitations on signage, building heights, size, and bulk, and related architectural qualities should be established to better assure compatibility of new land uses with the character of the Township.

- The location of driveways should minimize negative impacts upon surrounding land uses.
- 3) No new land uses should be permitted within the Industrial Area unless adequate provisions for storm water management, sewage disposal, and potable water, and other basic services are established prior to the new land uses becoming operational.
 - 4) Land uses requiring state and/or federal permits (especially for wetland or floodplain alterations) should not receive final Township approval until satisfactory evidence has been submitted verifying the acquisition of all other necessary permits.
 - 5) No commercial land uses should be permitted except within commercially zoned districts unless it qualifies as a special land use and meets all requirements of the zoning ordinance.

Special Land Uses

The five land use areas discussed previously identify the planned land use pattern for the Township and the principal intended land uses to be accommodated within each of the five land use areas. There are certain land uses which, because of their particular character, should be permitted in a particular land use area only after a special review and approval process is followed to assure the special use is appropriate at the proposed location and negative impacts upon adjacent and nearby land uses are minimized. These special land uses may generally be considered compatible with other uses permitted in the area but, because of their unique character, necessitate the need for a more rigorous review and approval process. Such special uses typically include group foster care facilities, multiple family developments, mobile home parks, extraction operations, junkyards, and many other uses.

Principal Policy: It shall be the policy of the Township to identify special land uses, the proper location for such uses, the review and approval process for such uses, and the standards which must be met for the approval of such special land uses. The standards established to minimize the negative impacts of such special land uses on surrounding proper-

ties should strive to assure compatibility with surrounding land uses, maintenance of the predominantly desired character of the area, adequate public services to meet the demands of the land use and Township as a whole, and compliance with the intent and spirit of the Township's Zoning Ordinance and Master Plan.

Public Lands

While the vast majority of land development to occur in the Township will involve privately owned land, it may become necessary for the acquisition an/or development of publicly owned land. While the Township currently owns several parcels of land in the Township, it provides only limited public services to the residents of the Township. As the Township continues to grow and develop, the time may come when the acquisition of additional land and/or the development of existing parcels by the Township for public purposes may become beneficial to meet the increased public service needs of the community. The Township recognizes that development of public lands can negatively impact surrounding land uses and measures should be followed in the acquisition and development of future public lands to minimize such negative impacts.

Principal Policies: The Township should acquire and/or develop land for public use only where the proposed acquisition and/or development addresses the maintenance or enhancement of the public health, safety, and welfare based upon a demonstrated need, the site characteristics are compatible with the proposed use, the use will not unreasonably impact adjacent properties, and measures will be taken to minimize potential negative impacts.

**Chapter
Eight**

**FUTURE
PUBLIC
SERVICES
STRATEGY**

INTRODUCTION

The provision of future public services is as much a fundamental element of Vassar Township's planning endeavors as is its planned future land use pattern discussed in the previous chapter. Public service includes such services as roads, sewage disposal, potable water, and emergency services. The availability of public services will have as much of an impact upon the future character of the Township as will its future land use pattern. In fact, the Township's planned future land use pattern and its plan for future public services are virtually inseparable. This is because these two elements are intended and designed to work hand in hand with one another. The feasibility of any proposed land use pattern is largely dependent upon the availability (or lack of availability) of public services to support the intended land use pattern. Accordingly, it is the intent of the Future Public Services Strategy to establish policies regarding future public services in the Township which will support the planned future land use pattern in the Township including the protection of the Township's rural character.

Public services are comparatively limited in Vassar Township. There is no public sewer or water provided in the Township and, except for the jointly area owned and operated ambulance service, the Township provides no public services itself.

It is not the intent of the Vassar Township Master Plan to encourage the provision of new and/or expanded public services throughout the Township, but to generally limit the introduction or expansion of such services to those areas of the Township planned to accommodate growth and development of such intensities that such services are highly desirable and/or necessary. Accordingly, the Township should monitor growth and development trends and assure that no new land uses are introduced prior to the provision of public services to the project site to meet the new public service demands of that land use.

Where new public services are introduced or expanded, they should be done so in a manner mutually beneficial to, and coordinated with neighboring municipal services where applicable. The provisions of new and/or expanded public services in the Township should not occur in a "band aid" type fashion nor be contingent upon revelations of emergency conditions. The provision of certain public services, such as public sewer and water, requires substantial time and financial resources including feasibility studies, design, and construction, and planning ahead for such services prior to near emergency conditions is critical.

TRANSPORTATION

Land use is intrinsically related to circulation and, in particular, vehicular access. Industrial and commercial facilities require adequate roadways to accommodate the relatively high volumes of traffic requiring access to such facilities, and residential neighborhoods require adequate roadways to facilitate the day-to-day patterns of area households. In addition, all land parcels require adequate roadways to facilitate emergency services. With this in mind, it becomes imperative that the Township's circulation system meet the land use needs of the community today, tomorrow, and into the future. Similarly, it is imperative that land uses are not introduced within the Township unless an adequate circulation system exists (or is anticipated, depending upon the circumstance) to meet the apparent land use needs.

The proper balance between roadway infrastructures and land use needs can come about

only through a purposeful plan of action. The following policies are established to guide future transportation improvements in the Township.

Roadway Monitoring

The Township should continually monitor traffic flows and roadway conditions to identify existing and potential conflict areas. The intent of this policy is to enable the Township to identify existing and anticipated circulation conflicts so as to plan for their solution before circumstances become extreme, hazardous, or generally in conflict with the health, safety and welfare of the community.

Principal Policies: Principal policies regarding roadway monitoring in the Township include:

- 1) Regular correspondence should be maintained with the Tuscola County Road Commission to review road conditions and indications of potential and necessary improvements.
- 2) Regular correspondence should be maintained with neighboring municipalities and the East Central Michigan Planning & Development Regional Commission to stay abreast of regional transportation issues which may impact Vassar Township.
- 3) Intergovernmental coordination should be encouraged with area municipalities to encourage and coordinate roadway improvements, maximize tax dollars, and minimize negative impacts between municipalities as a result of non-coordinated improvement projects.

Prioritized Improvements

Improvements to the roadway network should be based upon an orderly and prioritized approach. Improvements should be based upon substantiated data highlighting the need for such improvements and priority should be given to those improvements addressing immediate hazardous conditions and/or increasingly hazardous circumstances where high or increasing traffic flows are present.

Except where hazardous conditions may be present and need immediate attention, all planned road improvements should be critically linked to the planned future land use pattern of

the Township as presented in Chapter 6 of this plan. Special attention should be directed toward assuring the roadway infrastructure associated with the Township's planned growth and development areas is adequate to accommodate the anticipated increase in demand.

The planned future land use pattern presented in Chapter 6 focuses the vast majority of planned growth and development areas in proximity to paved thoroughfares including M-15, Saginaw Road, Vassar Road, and Sheridan Road. Traffic counts within the past five years suggest that all of the paved roads in the Township are well within recommended maximum levels.

Considering that the average household generates approximately 10 car trips per day, much of the planned growth and development in the Township is not expected to increase traffic counts to the point where major improvements might be required. The principal exceptions to this condition include impacts on gravel roads and some of the Township's local roads (see Figure 2-1) in association with the planned Suburban Residential Areas, including Oak, Maple, and Scotch Roads near Saginaw Road, and Birch, Rupprecht, and Hanes Roads near M-15. The extent and rate at which improvements may be needed to any of these road segments will be dependent upon the rate and intensity of growth in the Suburban Residential Areas and areas adjacent to gravel road corridors.

The need for improvements to these road segments should be closely monitored so that, should improvements be necessary, the improvements can be implemented in a timely fashion and prior to severe congestion, safety, and disrepair problems.

Principal Policies: Principal policies regarding the relative priority of transportation improvements in the Township include:

- 1) Future improvements to the Township's transportation network will be based upon a number of considerations including roadway infrastructure conditions, existing levels of service, the planned future land use pattern in the Township, and projected decreases in levels of service.
- 2) Future roadway improvements will be considered of greatest priority where there

exists immediate emergency conditions, including unpassable roads and bridges. Priority will then be directed toward improvements aimed at increasing the level of service along road segments which are currently experiencing excessive levels of service or expected to experience excessive levels of service in the near future due to existing and/or planned land use patterns.

- 3) Vassar Township will maintain close contact with the Tuscola County Road Commission in identifying priority road improvements. Special attention will be placed upon county network roadways within and adjacent to the planned Suburban Residential Areas.

Site Improvements

As land is developed for commercial, industrial, and residential purposes, traffic flows in the area increases as do the demands on the local roadway network. The increased traffic flows and demands upon the roadway network can create localized hazardous and congested conditions due to vehicles accessing and exiting facilities and neighborhoods. The introduction of new land uses should be conditioned, in part, upon the provision of safe and efficient access between adjoining public roads and the project site, as well as within the project site. These considerations should include minimizing conflicting traffic patterns and sources of congestion.

Principal Policies: Principal policies regarding the provision of site improvements include, at a minimum, the following:

- 1) The Township will prepare and adopt regulations to minimize conflicts between traffic movement and access to adjoining properties. Minimum measures to be addressed should include:
 - Minimum distances between driveways in commercial and industrial areas.
 - Minimum distances between a road intersection and driveways near the intersection.
 - Acceleration and deceleration lanes where anticipated traffic generation deems appropriate.

- 2) Provisions for the requirement of a traffic study in association with large single development projects, in order to provide the Township with the necessary data to make responsible decisions regarding proposed land uses and site plans.
- 3) The discouragement of residential land use patterns resulting in individual lots directly accessing onto the county road network within a short distance of one another.

Public Sewer and Water

The general soil characteristics in Vassar Township are not particularly supportive of on-site sewage disposal (septic fields). Many would consider this feature to be an asset of the community. The soil characteristics and lack of public services act, to a degree, to limit intensive development. However, it is this same feature which puts Vassar Township in a potentially vulnerable position in terms of adequate sewage disposal and potable water supply. Improperly designed and constructed septic systems, over-intensive development of residential areas, and unmonitored and mismanaged earth moving and excavation operations can have potentially disastrous effects upon a community's potable water supply and general health, safety and welfare.

Unmonitored trends and conditions can place the Township in an extremely difficult position where the introduction of public sewer and/or water is required by necessity in areas of the Township which are not planned for such services and which undermine the long range planned future land use pattern and character of the Township.

There is no pressing need or wide support at this time to introduce public sewer or water into the Township. The lack of such need and support may continue provided future residential and nonresidential land uses are supported by approved on-site potable water and sewage disposal facilities which meet all applicable local, county, state, and federal standards and requirements, and continuous monitoring does not begin to identify a growing need for such services. Accordingly, while it is not the intent of the Township at this time to pursue the development of its own independent public sewer and/or water system, it is the intent of the

Township to continually maintain communication lines with neighboring municipalities to explore options for extending such services into the Township in a manner mutually beneficial to all parties involved. Any introduction of public sewer and water in Vassar Township should be directly linked to the planned Suburban Residential Area south of the City of Vassar. It is this specific area of the Township that is planned to accommodate the majority of the more intensive future residential land uses in the Township and where access to sewer and water would be particularly beneficial.

Principal Policies: Principal policies regarding the provision of future public sewer and water in the Township include:

- 1) Any efforts of the Township to encourage the extension of public sewer and/or water into the Township will be limited to only those areas intended to accommodate commercial, industrial and higher density residential uses, as designated by the Suburban Residential Area and Commercial Corridor Area south of the City. The exception to this will be situations where the Township has no choice but to extend such services into other areas of the Township due to unanticipated emergency conditions. Should such an emergency condition occur, the Township will reevaluate and amend this Plan as may be necessary
- 2) The Township will maintain regular and close correspondence with the county public health department to monitor critical trends and conditions regarding on-site sewage disposal and potential contamination areas.
- 3) No new land uses will be permitted absent of public sewer and water facilities unless all state, county, and local regulations have been complied with for on-site sewage disposal and potable water facilities.
- 4) Community or package sewer systems will be permitted by the Township provided all state, county, and local regulations have been complied with for such systems.

Land uses of an urban character tend to greatly reduce the area of pervious ground surfaces which allow rain waters to percolate through the soils. As a result of the size and density of buildings, expansive parking areas, and roadways, runoff is increased substantially. These increases in runoff heighten the potential for localized and regional flood conditions. Also, as land is developed and the natural landscape is altered, the land surface is exposed much more to the potential of soil erosion. This erosion takes place during construction operations as well as after construction is completed where steep slopes have been poorly stabilized. The resulting erosion leads to the sedimentation of the Township's water courses, decreasing the environmental integrity of these resources and increasing the potential for flooding. At present, there is no storm water management program in the Township to protect the Township from the hazards of flooding and sedimentation.

Principal Policies: Principal policies regarding the provision of storm water management in the Township include:

- 1) No new land uses will be permitted which will have the effect of increasing the rate of runoff from the site, alter the runoff characteristics of adjacent properties, or otherwise increase the potential for flooding.
- 2) All future land uses must comply with all state, county, and local regulations regarding storm water management and soil erosion, including applicable regulations of the Tuscola County Drain Commissioner.
- 3) All construction activities will incorporate measures to minimize soil erosion and sedimentation of the Township's water courses.

Storm Water Management

Emergency Services

Vassar Township's reliance upon the joint operated area fire department, the county sheriff's department, and the state police for emergency services provides a level of service which is generally considered adequate by area residents. Depending upon the degree of growth experienced by the Township during the coming years, this level of service may decline unless specific actions are taken to maintain or improve the level of service.

Principal Policies: Principal policies regarding the future provision of emergency services in the Township include:

- 1) Vassar Township will continue to be an integral element of the area-wide fire department and strive to improve the level of fire protection in Vassar Township in a manner mutually beneficial to all area municipalities.
- 2) Vassar Township will continue its reliance upon the county sheriff's department and state police department for police protection. Should the time come when, due to the degree of growth and/or development in the Township, or other contributing factors, it becomes apparent that an improved police protection program is needed, the Township will consider all feasible options in establishing such a program. Options which will be considered at such a time will include, at a minimum, area-wide programs with neighboring municipalities as well as an independently operated Vassar Township program.

Recreation Services & Facilities

Vassar Township maintains no recreation facilities. Public schools, which generally provide communities with the most basic of recreational opportunities including tot lots and playgrounds, are not present in the Township. Since the Township does not operate any recreational facilities within its borders, it would appear that the residents of the Township must largely rely upon the facilities of its neighboring municipalities and more distant locations to meet their daily recreational facility needs. The

extent to which this is true, and can be perceived as a problem, is not clear. Without any public recreational acreage within its limits (aside from the Vassar State Game Area), the Township clearly falls short of the commonly recommended standard of 10 acres of local park land for every 1,000 population. On the other hand, the Township itself is very rural with an abundance of open spaces which may serve to address many of the local residents' recreation needs as may the facilities of neighboring communities. A comprehensive survey of the residents' perception of local recreation needs has not been undertaken by the Township to date. The identification of local recreation attitudes should play a fundamental component of the Township's recreation future.

Principal Policies: Principal policies which will guide the Township in meeting the present and future recreation needs of its residents include:

- 1) Vassar Township will continue to rely upon the recreational facilities and programs of neighboring and regional municipalities to meet the immediate day-to-day recreational needs of its residents.
- 2) Vassar Township will periodically monitor local support for the development of one or more Township operated recreational facilities and proceed in the development and maintenance of such facilities if and when such initiatives are generally supported by the Township residents and the financial resources are available to adequately develop and maintain such facilities.
- 3) Prior to the development of any recreational facilities, the Township will prepare a community recreation plan, meeting the requirements of the Department of Natural Resources, in order to become eligible to compete for recreation grant dollars.
- 4) The Township will encourage the development of recreation areas as integral components of new residential areas through zoning provisions.

**Chapter
Nine**

**MAKING THE
PLAN WORK**

INTRODUCTION

The Vassar Township Master Plan has the potential to provide tangible benefits to the Township including an improved quality of life, more efficient use of financial and other resources, a cleaner environment, and economic health.

In order to successfully implement this plan, it is essential that the Plan itself realistically reflect the character and aspirations of the Township, along with available resources. If a plan has these characteristics, then it has the potential to provide invaluable guidance to the Township regarding future land use and public services decisions. For this potential to be reached however, the Plan must be put into effect. Without the implementation of the Plan's policies, the Plan becomes nothing more than a document upon a shelf. This master plan is a statement of policy and is ineffective unless acted upon.

**IMPLEMENTATION
TECHNIQUES**

There are a number of avenues which the Township can follow to implement this master plan, and are discussed in the following pages.

**Education, Commitment,
& Citizen Involvement**

It is essential that the Planning Commission, Township Board, Zoning Board of Appeals, Zoning Administrator, and the public understand the purpose of this Plan and its value to the Township. Plan implementation requires

the continuous efforts of the Township's decision-makers and the support of the public. Toward this end, the Planning Commission should take the initiative for assuring that both Township officials and residents are continuously apprised of important planning issues facing the Township and that a mechanism be established to encourage and solicit public input on such issues.

For example, the Solid Waste Management Act (P.A. 641) does not require negotiations between the facility operator and the community, but it also does not prohibit negotiations from taking place. At a minimum, the Township leaders should strive to educate residents on solid waste management issues in Vassar Township. In addition, the Township should review the solid waste facility siting criteria now under consideration by the Tuscola County Department of Public Works. These steps will help assure that any existing or proposed solid waste facility will not create adverse community impacts.

The participation of Township residents in local planning efforts is critical and should always be encouraged. Accordingly, all pertinent planning data available to the Planning Commission and Township Board should be available to the general public as well so that they may be well informed and capable of providing valuable input into the planning process. Similarly, the Township should utilize alternative avenues of communications including newspapers and mailings to notify residents of particular issues and provide factual insight into these issues.

Local Government Programs

Constant references to this plan by Township officials and staff when making land use and public services decisions is fundamental for effective implementation the Plan. The Plan must be used as a tool of reference and valued for the insight it provides. Realizing the Plan's value and its utilitarian quality for local planning efforts is the easiest method of implementation.

On a local and more active level is the development and utilization of a Capital Improvements Program. In essence, the program is a budget for municipal expenditures extending five years or so into the future. Using this document and the Master Plan, the Township Board may gain insight into its fi-

nancial needs over the coming years and areas where public funds for capital improvements might best be spent.

Land Use Controls

There are a variety of regulatory techniques available to assist in implementing an adopted master plan. The most important of these techniques involves zoning regulations.

Zoning: Zoning provisions regulate the use of land and are certainly the most effective means of implementing the Plan. In 1943, the State of Michigan passed the Township Rural Zoning Act (P.A. 184 of 1943, as amended) which vests the legislative authority to enact or amend a zoning ordinance with the Township Board.

The Michigan Acts include a statement defining the purpose of zoning, a portion of which reads as follows:

"...to meet the needs...for food, fiber, energy, and other natural resources, places of residence, recreation, trade, and service...to assure that the use of land (is) situated in appropriate locations and relationships; to limit the inappropriate overcrowding of land and congestion of population...to facilitate adequate and efficient provision for transportation systems, sewage disposal, water, energy, education, recreation, and other public service and facility requirements..."

The Township Rural Zoning Act stipulates that a township's zoning ordinance must be based upon a "plan," part of the basis for the preparation of the Vassar Township Master Plan. A zoning ordinance typically prescribes and controls the use of land through the establishment of land use zones or districts. Each zone is based upon various land development characteristics including lot sizes, development intensity, use of buildings and lots, and building locations, heights, and bulk.

Though Vassar Township currently has a zoning ordinance in effect, this ordinance should be revised and updated to reflect the policies of the Plan. In fact, it is generally recommended that zoning ordinances be completely reviewed at least every five years to determine any minor or major amendments which may be

needed to address changing trends and conditions in the community. Portions of the zoning ordinance can be revised at any time based upon legally prescribed procedures.

Specific portions of the current Vassar Township Zoning Ordinance which should be reviewed and amended include, at a minimum: 1) district regulations; 2) term definitions; 3) permitted uses in each zoning district; 4) special land use and site plan review provisions; 5) minimum standard for dwellings, including mobile homes; 6) zoning map; and 7) administrative procedures.

Farmland & Open Space Preservation Program:

Another local method of land use control with an emphasis on the environment is the Farmland and Open Space Preservation Program established by Act 116 of 1976. Some parcels in the Township have been enrolled in this program for many years. The Act under which this program is administered was originally designed to alleviate the rapid conversion of agricultural land within the state to more intensive uses which were taking place at the time. The Act also provides for the preservation of privately owned open space land.

Act 116 enables individual land owners of eligible open space land to enter into a development rights easement with the unit of government in whose jurisdiction the property is located. The easement is designed to ensure that the land remains in a particular use for an agreed-upon minimum period of ten years. The easement may be perpetual. In return for the restrictive covenant, the land owner is entitled to certain property tax benefits.

To enroll in the program, the property owner must file an application with the township. Upon approval, the township prepares an appropriate easement which, after signing by the land owner, is subsequently recorded with the register of deeds of the county. Property owners should become familiar with all conditions associated with such an easement before entering into an agreement. The Township has an opportunity to support or oppose such agreements and can thus play an important role in this regard.

Michigan Wetlands Protection Act: The Michigan Wetland Protection Act (Act 203 of 1979) was passed to regulate activities in

Michigan wetlands. No dredging, filling or construction can take place in wetland areas without a permit from the Michigan Department of Natural Resources. "Wetland" under the Act is land "characterized by the presence of water of a frequency and duration sufficient to support and that, under normal conditions, does support wetland vegetation."

The Michigan statute applies to all wetlands contiguous to inland lakes, ponds, streams and rivers. They also include the wetlands of five acres or more in size that are not contiguous to surface water bodies and located in counties with populations of 100,000 or more. Noncontiguous wetlands cannot be regulated in a county of less than 100,000 population unless a wetland inventory is completed.

Act 203 was designed to protect wetlands, and controls provided for by the Act serve to regulate wetland alteration. Regulatory objectives of the Michigan statute include the protection of wildlife habitats, duck nesting areas, aquifer recharge areas, and the function of wetlands as nutrient and sediment traps for the protection of lakes and streams. The Act's regulatory program is designed to prohibit or control by permit all fill, excavation and structural development in wetlands.

Land Division Regulations

Subdivision Control Ordinance: A township may enact a subdivision ordinance through the authority of the Subdivision Control Act, [Land Division Act]. The Subdivision Control Act permits townships and other municipalities to enact ordinances with the intent of controlling the properness and degree of land subdividing and improvements to the land, including sanitary sewer, water supply, utilities and streets. Such ordinances apply to land divisions where five or more parcels of land, each of which is ten acres or less in area, are created within a ten year period.

Lot Split Ordinance: Lot split ordinances apply to divisions of land which fall outside of the jurisdiction of the Subdivision Control Act and, as such, result in lots not part of a recorded plat. Lot split ordinances are intended to better assure that the proposed lot splits create lots which do not violate local zoning regulations (minimum lot width, area, etc.) or result in irregularly and/or undesirably shaped lots.

Purchase Of Property

The greatest single action a township can take to guide land use is through the purchase of private property. In this fashion, the township can control the type of development to occur should the township sell a given parcel and, in the same fashion, preserve areas for open space and nondevelopment. Unfortunately, this option can be quite expensive and cost prohibitive.

APPENDIX

Land Use Goals Survey

General Comments Included in the Returned Surveys

Issue	Number of Respondents "For"	Number of Respondents "Against"
Clean up junk homes, etc.	84	8
More shopping	40	4
More business (heavy)	65	5
More business (light)	26	0
Landfill	12	0
Road repair	16	0
Ditching	5	0
Taxes	2	0
Increase square footage of dwelling	8	23
No more mobile homes	32	4
Building codes and inspections	4	7
Environmental and pollution (protect)	11	0
recreation (more)	55	11
Agriculture (protect)	38	4