VILLAGE OF VERNON

FUTURE LAND USE PLAN

ADOPTED

OCTOBER 18, 2000

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INTRODUCTION

The Village of Vernon is a small community located in the southeastern quadrant of Shiawassee County in the Township of Vernon (Map 1). The Village is located along M-71 between the cities of Corunna and Durand. Both of these communities act as service centers for the Village, with both the Lansing and Flint Metropolitan Areas serving as its major centers for employment and durable goods.

This plan is an update of the mid-1980s land use plan. The Village has grown at a steady rate over the period 1930 to 1980, but recently growth has stagnated. The 1990 census indicated that the population within the Village has dropped by 95 people. This plan is designed to insure that the growth in the Village that does occur will enhance and not degrade the quality of life available to current Village residents by preventing development of incompatible uses next to one another, the premature expansion of community facilities and services and the degradation of natural resources. On the other hand, the plan attempts to encourage efficient use of public and private resources and orderly development of land in the Village.

Map 1 - Location Map

EXISTING LAND USE

The pattern of existing land use is important to analyze in development of a plan for several reasons. These include the fact that existing uses are often long term and will remain as the use of the property over the course of the planning period. Another reason is the fact that existing land uses often limit the use that surrounding property can be put to (i.e. normally it would be inappropriate to locate an industrial facility next to a residential area).

Village staff, using long term knowledge of the community and aerial photographs, identified the Village's land use patterns (Table 1). This information was then mapped using ROWE's AutoCAD computer drafting program (See Map 2). The following list illustrates the land use categories found within the Village.

A. Residential
B. Commercial
C. Public/Semi-Public (includes)
D. Right-of-Way (includes local streets, highway and railroad)
E. Agricultural
F. Open Space/Vacant

Table 1
Current Land Use

	1980		2000	
Use	Acreage	Percent	Acreage	Percent
Residential	122.5	29	154.6	36
Commercial	15.8	4	18.7	4
Public/Semi-Public	36.0	8	37.9	9
Right-of-way	72.8	17		
- Roads, Streets & Highways			59.4	14
- Railroad			21.1	5
Agricultural	178.4	42	91.5	21
Open Space/Vacant			46.8	11

It should be noted that some of the land uses listed in the earlier survey have been broken down into more specific uses in this plan. Previously, "Roads, Streets and Highways" and "Railroads" were incorporated into "Right-of-Way" and "Open Space/Vacant" and was incorporated into "Agricultural".

A. Residential

Residential land uses cover the largest area in the Village. The category includes single family, duplex, and multi-family residential structures, as well as the residential half of buildings used for residential and commercial purposes. The large percentage of developed land used for residential purposes is normal, especially since the Village could be classified as a "bedroom" community.

The heart of the residential district is in that portion of the original plat of the Village that is north of business district, as well as VanAkins first and second additions north of that. The area developed slowly over time on irregularly sized lots as the originally platted parcels were split and combined to fit the needs of the homeowner. In the early 1970's, the Village experienced a large increase in residential construction resulting from the platting of Sunnybrooke Farms Subdivision in the southeastern quadrant of the village. This development is characterized by lots slightly smaller than most of the earlier parcels and these new lots are of uniform size. Recent residential development has been confined to splits of existing parcels fronting major roadways.

Comparing the total acreage in the mid-1980s survey to the acreage identification in the 2000 land use survey reveals a 7 percent increase in residential land use. This is due to new residences being located on formerly vacant land or possibly changes in use of land to residential use.

B. Commercial

Commercial development centers on the central business district located on either side of Main Street between Walnut and Church Streets. The downtown district is compact and well defined with only one vacant lot interrupting the line of storefronts. Just outside of the well defined commercial center Is a bank and flower shop. Both are located at the southwest corner of Main and Walnut Street. The downtown area has a beautiful streetscape that consists of brick paved accents to the high quality sidewalks, benches and decorative lighting. These assets to the downtown area add to its sense of identity.

The major commercial land use in the Village in terms of size is the lumber yard south of Elm Street. There is some question as to whether or not this use should even be classified as commercial since the scale and intensity of use is more in keeping with an industrial use. It is, however, a commercial establishment and so it is classified as one in this survey.

There are several remaining commercial parcels on M-71. One is located at the corner of Vernon Road (Maple Street) and M-71. Along M-71 there is also one large parcel east of Maple Street in addition to Matthews Towing just east of the large parcel.

C. Public/Semi-Public

Public and semi-public lands are classified as those that are owned and/or operated by a unit of government or by an organization whose membership is open to the public, such as a church.

The largest single parcel of land under this classification is the cemetery north of Washington Avenue. The next two largest parcels are the Village parks, which are located at opposite ends of the Village, providing residents with easy access

to one facility or the other. The parks, with almost 8 acres combined, provide the Village with an abundance of recreational land.

Other public/semi-public land in the Village includes the Village Hall, the Township Fire Hall/Library and the three local churches.

D. Right-of-Way

Right-of-ways include local streets, state highways and railroads. Local streets and state highways make up 14% and railroads account for 5% of the total land area within the Village. Besides the local streets, M-71 bisects the Village across the northeast corner. More on the local streets is contained under the public facilities section. The Grand Trunk Railroad nearly parallels M-71 but is located in the southeastern/northeastern part of the Village.

E. Agricultural

This classification accounts for all the land currently being utilized for farming. It includes land that is currently actively farmed or has been in the recent past.

Most of the land currently under cultivation is located north of M-71, with some land south of the Holly Drain to the west of Maple Street and a parcel south of Parmenter Road and west of the railroad tracks, also classified as agricultural.

Some large undeveloped lots that hold development potential exist in the Village including one north and east of the Sunnybrooke Subdivision and a couple on West Main Street on the edge of town. The balance of the undeveloped land lies between a spur of the Grand Trunk/Western Railroad and the main line, west of Maple Street. Because of its location between two rail lines, the land does not appear suitable for residential, recreational or convenience-type commercial uses.

F. Open Space/Vacant

This land use category includes small vacant residential lots, large undeveloped parcels and waste land that, because of its site characteristics or location, may never be developed and buildings that have been vacant for a long period of time. Open space/vacant land was not identified separately in the previous land use plan. However, this plan update has identified almost 48 acres or 11% of the total land within the Village as being in this land use category. The majority of land in this category is located in the southern part of the Village near the Village boundaries. The largest tract of land is found in the southeastern part of the Village near the Holly Drain south of Water Street. This land is currently owned by the Village. The other areas of undeveloped land border Bennington Road south of the Shiawassee River, northwest of Railroad Avenue and

northeast of the Grand Trunk Railroad, east and south of Olive Street, and south of Sunnybrooke Drive (Map 2).

Map 2 - Current Land Use Map

NATURAL FEATURES

This section discusses the physical properties of the geology, soils, wetlands, floodplains and steep slopes that are located within the Village of Vernon. These characteristics are important when considering land use decisions and determining appropriate locations for a given land use type.

Geology

Michigan's topography has for the most part been shaped by glacial processes. The following is a list of glacial structures found in the Village:

Ground Moraines (Till Plains) – Usually develop between end moraines, consist of unsorted glacial till.[1]

Lake Beds – Deposits of ancestral lakes typically composed of clay and silt.[1]

Moraines – Ridges composed of glacial till material a mixture of clay, sand and boulders.[1]

Outwash and Glacial Channels – Channels composed of sand and gravel deposited by meltwater streams.[1]

In Vernon, upper glacial drift in the immediate Village limits is predominately clay. The top layer of bedrock (Middle Pennsylvanian Saginaw Formation) is characterized by a mixture of shales, sandstones and some coal. Below this layer is the Marshall Sandstone. Below the Marshal Sandstone, over 400 feet deep, is Coldwater Shale.

Soils

In order to minimize construction costs and risks to the environment, future development should occur upon sites with suitable soils. Poor soils present problems such as poor foundation stability and septic field failure. The three major soil characteristics considered in the analysis of soil conditions are drainage, foundation stability, and septic suitability characteristics.

Drainage is an important property of soils when considering development in rural areas that do not have a public sewer system because soils that have somewhat poor or poor drainage do not allow the "grey water" or effluent fluid that drains from drain fields to properly filter downward to the water table.

[1] Map of Surface Formations of Southern Peninsula of Michigan, Department of Conservation Geological Survey Division.

Foundation stability is governed by frost heave, depth to water table, compressibility, shrink-swell potential and shear strength. Frost heave occurs during the winter months when water, which expands by 9% when frozen, in the soil freezes causing the soil to expand when frozen and contract when thawing occurs. Depth to water table can cause problems with leakage in basements and can exacerbate a soil's potential for frost heave if the water table is close to the ground surface. Compressibility of soils can cause a downward progression of foundations when a soil is not properly compacted during the building process. Shrink-swell potential is the relative change in volume to be expected with changes in the moisture content of the soil material, that is, the extent to which the soil shrinks as it dries out and swells when it becomes wet. Shear strength is the ability of a soil to remain consolidated and in place. Typically, shear strength can be exceeded in areas where steep slopes are present and the soil is saturated.

The terms slight, moderate and severe are used to describe limitations of soils for construction of septic facilities and other developments. Slight limitations indicate that site features are generally favorable for the indicated use and limitations are minor and easily overcome. Moderate limitations indicate that planning, design, or maintenance is needed to overcome or minimize the limitations. Severe limitations indicate that site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs and possibly increased maintenance may be required. Severe limitations for septic systems are found in areas that have an 18 to 25 percent slope. Slope is important to consider for septic suitability because the "grey water" may have a tendency to drain laterally in the direction of the downward slope opposed to the preferred downward drainage of a septic drainfield. Any slope greater than 12% makes proper drainage of a septic system difficult. Other important characteristics of the soils that are important to consider for a drainfield are soil permeability, seep areas and wet depressions.

Conover-Brookston Soil Association

In general, the soils located in the Village of Vernon are members of the Conover-Brookston soil assoication. Soil associations are broad categories that contain many types of soils at various percentages.

This soil association is poorly drained and has a seasonally high water table of less than 1 foot from the ground surface. The soils have low to moderate shrink-swell potential. A low to moderate rating for shrink-swell indicates that a site should be looked at individually to determine if shrink-swell is a potential hazard. These soils have medium to high compressibility so prior to developing an area the soils should be well compacted. Brookston soils have poor to fair shear strength. Use of Conover-Brookston soils for sewage drain fields is difficult due to severe limitations including poor drainage, high water table and moderate to slow permeability.

Soil Series

Looking at the soil series reveals a more detailed description of the soils. These are the soils that have been located on the aerial photos, which were produced by the United States Department of Agriculture Soil Conservation Service and are found in the Shiawassee County Soil Survey.

The following is a list of soils and land altered by man located within the Village limits (Map 3).

Brookston, Bw
Cohoctah, Cn
Conover loam, CtA, CtB
Gilford Sandy Loam, Gg
Gravel Pit, Gp
Linwood Muck, Lo
Made Land, Md
Matherton Sandy Loam, MmA
Metamora Sandy Loam, MrA
Miami Loam, MuC2, MuD2
Sebewa Loam, Sd
Shoals Loam, Sh
Wasepi; WeA, WeB

Table 2 illustrates the various limitations of these soils for development:

Table 2
Limitations of Soils for Development

Soils Series Symbol and Name	Foundation for low buildings	Limitations for use as a sewage disposal field
Brookston, Bw	Poor drainage, high water table; low to moderate shrink-swell potential; medium to high compressibility; poor to fair shear strength.	Severe: poor drainage; high water table; moderately slow permeability.
Cohoctah, Cn	Poor drainage; high water table; slight compressibility; fair shear strength	Severe: poor drainage; high water table; flood hazard; moderately rapid permeability

Table 2 Limitations of Soils for Development		
Soils Series Symbol and Name	Foundation for low buildings	Limitations for use as a sewage disposal field
Conover loam, CtA CtB	Somewhat poor drainage; seasonal high water table; low to moderate shrink-swell potential; medium compressibility; low to moderate shear strength	Severe: somewhat poor drainage; seasonal high water table; moderately slow permeability.
Gilford Sandy Loam, Gg	Poor drainage; high water table; slight compressibility; good shear strength.	Severe: poor drainage; high water table; moderately rapid permeability.
Gravel Pit, Gp	Properties variable; onsite investigation needed.	
Linwood Muck, Lo	Very poor drainage; high water table; moderate shrink-swell potential; medium compressibility; fair shear strength	Severe: very poor drainage; high water table; moderately rapid permeability in organic material; moderate permeability in underlying material; unstable organic material.
Made Land, Md	Properties variable; on-sight investigation needed.	
Matherton Sandy Loam, MmA	Somewhat poor drainage; seasonal high water table; slight compressibility; good shear strength.	Severe: somewhat poor drainage; seasonal high water table; moderate permeability in subsoil; very rapid permeability in underlying material.
Metamora Sandy Loam, MrA	Somewhat poor drainage; seasonal high water table, low to moderate shrink-swell potential; medium compressibility; poor to fair shear strength.	Severe: somewhat poor drainage; seasonal high water table; moderately rapid permeability in upper subsoil; moderately slow permeability in lower part of subsoil and underlying material

Table 2
Limitations of Soils for Development

Soils Series Symbol and Name	Foundation for low buildings	Limitations for use as a sewage disposal field
Miami Loam, MuC2, MuD2	Good drainage; low to moderate shrink-swell potential; medium to high compressibility; poor to fair shear strength	Slight of 2 to 12 percent slope (MuC2), Moderate on 12 to 18 percent slopes (MuD2), installation and operation of disposal fields are difficult on slopes of more than 12 percent.
Sebewa Loam, Sd	Poor drainage; high water table; slight compressibility; good shear strength	Severe: poor drainage; high water table; moderate permeability in subsoil; very rapid permeability in the underlying material.
Shoals Loam, Sh	Somewhat poor drainage; seasonal high water table; medium compressibility; poor shear strength; high susceptibility to frost action.	Severe: somewhat poor drainage; seasonal high water table; flood hazard; moderately permeability.
Wasepi; WeA, WeB	Somewhat poor drainage; seasonal high water table; slight compressibility; fair to good shear strength.	Severe: somewhat poor drainage; seasonal high water table; moderately rapid permeability.

Source: US Department of Agriculture Soil Conservation Service, Soil Survey of Shiawassee County, Michigan, 1974.

The most suitable soil found within the Village for sewage disposal, building and foundation construction is the Miami loam soil series. The biggest concern when developing land where this series is located is slope. The MuD2 soil series has a slope of 12 to 18 percent, which may require engineering to assure that problems do not arise when development occurs. Both Miami loam soils are located in the northwestern portion of the Village. Other soils can be developed but the limitations in the table listed above should be taken into account. Before new development occurs the site-specific characteristics of the soils should be determined. Although some of the soils listed in the table present limitations for development, it is possible to overcome these limitations by sound engineering.

It should also be noted that data found within the Soil Survey of Shiawassee County was created by review of aerial photography, therefore possibility of error does exist. With the data being created in 1974, it is possible for even more error and this is the reason for determining site-specific characteristics of soil when development decisions are made.

Map 3 - Soils Map

Wetlands

Wetlands are areas of land where ground water is found on the surface or close to the surface, either permanently or seasonally. They serve many functions, including the preservation of ground water quality by trapping sediments, absorbing nutrients such as phosphorus and nitrogen, and trapping and/or detoxifying many heavy metals, pesticides, and hydrocarbons. Wetlands often serve as ground water recharge areas, replenishing ground water supplies. Wetlands within Michigan serve as a storage area for excess surface water, decreasing the severity of floods, and are the habitats for fish, fowl, and other wildlife, including several endangered species and wildlife associated with recreation hunting and fishing.[2] Also, many threatened and endangered species are typically found in and around wetlands.

In 1979, the State Legislature passed the Goemaere—Anderson Wetland Protection Act. The act was designed to provide for the "preservation, management, protection, and use of wetlands".[3] The act outlines what is considered a wetland, uses permitted in regulated wetlands, and uses requiring permits. The act also permits some local control of wetland regulations, but only in the case of communities with adopted wetland maps.

The act defines a wetland as:

"Wetland" means land characterized by the presence of water at frequency and duration sufficient to support and that under normal circumstances does support wetland vegetation or aquatic life and is commonly referred to as a bog, swamp, or marsh and which is any of the following:

- Contiguous to the Great Lakes or Lake St. Clair, an inland lake or pond, or a river or stream.

- Not contiguous to the Great Lakes, an inland lake or pond, or a river or stream; and more than 5 acres in size; except this subdivision shall not be of effect, except for the purpose of inventorying, in counties of less than 100,000 population until the department certifies to the commission of natural resources it has substantially completed its inventory of wetlands in that county.

- Not contiguous to the Great Lakes, an inland lake or pond, or a river or stream; and 5 acres or less in size if the department determines that protection of the area is essential to the preservation of the natural resources of the state from pollution, impairment, or destruction and the department has so notified the owner; except this subdivision may be

[2] Michigan Wetlands: Yours to Protect, Tip of the Mitt Watershed Council, Pg. 3
[3] Act 203 of the Public Acts of Michigan of 1979

> utilized regardless of wetland size in a county in which the paragraph above is of no effect; except for the purpose of inventorying at the time.[4]

There are no official state wetland map that will conclusively identify which areas are wetlands and those that are not. One of two types of maps that are commonly used as references in determining wetlands are the Michigan DNR's Michigan Resource Inventory System's (MIRIS) Land Use/Land Cover Maps, which show wetlands mapped using 1978 infra–red aerial photography. The program normally did not map land uses/cover under 5 acres in size, which means that small wetlands contiguous to a lake stream or pond, which are regulated, do not show up. The other program is the U.S. Fish and Wildlife Service (FWS), which also produces wetland maps. Although these maps are not based on Michigan's definition of a wetland, they do identify small wetlands that do not show up on the MIRIS maps. The wetlands map was prepared using the FWS maps.

The presence of wetlands places constraints on future land development within the Village. The wetlands create an environment unsuitable for septic drainfields, and if greater than five acres or contiguous to a body of water, regulatory concerns will factor in the decision to approve development of a site.

The Village should consider the location and extent of wetlands in establishing land use classifications as part of this plan and in reviewing site plans, special use permits, and rezoning requests. Generally, development of a site should occur in such a way that the wetlands and any land directly adjacent to them is not disturbed. Agricultural and very low density residential development in most cases is the best use. Clustering of residences is one approach that can be used to protect wetlands while allowing residential or commercial development.

In the Village of Vernon the wetlands are primarily located in the east and west sides (Map 4). The largest wetlands are located adjacent to the Shiawassee River. There is also a wetland bordering the Village, which is located within the railroad right-of-way. Wetlands are also located in the southeastern side of the Village. There is one large wetland located just southeast of Sunnybrooke Drive.

Before developing a parcel where these wetlands are located it may be advantageous to delineate the wetlands to determine the actual location and extent of the wetland.

[4] Ibid.

Map 4 - Wetlands

Floodplains

Floodplains are areas that can be regularly expected to be inundated with flood waters, and are normally associated with rivers, streams and lakes. The Federal Emergency Management Agencies (FEMA) defines a flood plain as an area with a 1% chance of flooding in any given year (i.e: the 100 year flood plain). In most areas the boundaries of this zone are delineated by relating discharge data and flow elevations to the topography of the stream valley. In the United States, most regulation of floodplains is directly or indirectly handled by FEMAs National Flood Insurance Program. In Michigan the Michigan Department of Environmental Quality (MDEQ) assists FEMA in determining if a community meets the requirements for participation in the National Flood Insurance Program (NFIP) program. Under the program, local communities must adopt regulations to limit development within FEMA identified floodplains. In return property owners in the community are eligible to purchase flood insurance through FEMA.

In the United States, flooding ranks near the top of the national environmental agenda. About 7 percent of the country lies within a 100-year floodplain. Floodplains have been favorite places for development throughout this century. In 1980 between 3.5 and 5.5 million acres of floodplain had been developed for urban land uses, including more than 6000 communities with populations of 2500 or more[5]. Avoiding these areas for development should be a priority for any community. The cost of flood damage warrants action to avoid building in an area that may flood destroying or damaging the building and its contents.

Besides FEMAs National Flood Insurance Program, other actions can be taken to restrict and avoid development in areas that are in danger of flooding. Zoning restrictions against vulnerable land uses and educational programs to inform prospective settlers of the hazards posed by river and stream valleys can be used. Flood-prone areas should be utilized as recreational areas or left alone all together. These approaches can avoid the high costs of rebuilding and/or repairing flood damaged buildings and the sociological problems associated with relocation of residences.

MDEQ records show that the Village of Vernon entered into the regular National Flood Insurance program on May 17, 1988 and adopted a map on the same date.

In the Village of Vernon the floodplain follows along the meanders of the Shiawassee River and the Holly Drain. See the map on the following page for the floodplain location.

[5] Marsh, W., Landscape Planning Environmental Applications, 1997, Pg. 194

Map 5 - Floodplains

Steep Slopes

Slope is an important development consideration associated with topographic features. Steep roadway grades, septic field failures, soil erosion and excavation costs are some of the difficulties associated with severe grades. See Map 6 for locations of steep slope within the village.

Areas that have severe slopes should remain undisturbed. These areas should be viewed as natural and aesthetic open space areas. If these areas are developed, sensitive site planning is required along these steep slopes to prevent soil erosion. Care must be taken to ensure that extensive grading is minimized and to ensure that other natural features such as vegetation and topsoil are retained.

Map 6 - Steep Slopes

POPULATION, HOUSEHOLDS AND HOUSING

An assessment of the community's population characteristics is a vital part of the land use planning process. Data from the 1990 Census supplemented by housing data will serve as the rational basis for making future population projections. From these population projections future land use needs for the Village will be determined.

It should be noted that ten years have passed since the data from the U.S. Census was last collected and considered current. During the last ten years changes in population may have occurred causing the population projections that follow to be incorrect. Therefore, it is recommended that once the 2000 census data is released the population projections should be reevaluated.

Population Change

Table 3 shows the change in total population of the Village of Vernon, Vernon Township, Shiawassee County and the State of Michigan from 1940 to 1990.

	Table 3 Population 1940 - 1990					
Census Year	1940	1950	1960	1970	1980	1990
Village of Vernon	507	678	754	818	1,008	913
Vernon Twp.	1,935	2,466	3,138	4,422	5,003	4,989
Shiawassee County	41,207	45,967	53,446	63,075	71,140	69,770
State of Michigan	5,256,106	6,371,766	7,823,194	8,881,826	9,262,078	9,295,297

Source: U.S. Census, 1940, 1950, 1960, 1970, 1980, 1990.

From 1940 to 1980, the Village has grown in population (Table 3). However, an estimate of the 1985 population performed by GLS Region V and based on recent housing construction and demolition indicated a drop of 12 persons to a population of 995. This estimate was accurate in depicting a drop in the population and was reconfirmed in 1990 by the Census, which indicated the population dropped by 9.4% to 913 (Table 4). This loss is greater than both the Township (-0.2%) and County (-.9%).

The decline in population between 1980 and 1990 is primarily due to two population trends. The first was an out migration of households from industrial regions in Michigan during the early 1980s because of the recession that slowed many industries, particularly the automotive industry. The second trend is an aging population and shrinking household size. The average household size has been steadily decreasing nationally since the turn of the century. As a result of these two population trends, many Michigan communities experienced population loss during the 1980s. Many will continue to experience population loss well into the next century as the average household size continues to shrink.

Table 4 Population Percent Change					
	1940 - 1950	1950 - 1960	1960 - 1970	1970 - 1980	1980 - 1990
Village of Vernon	33.7	11.2	8.4	23.2	-9.4
Vernon Township	27.4	27.3	40.9	13.1	-0.2
Shiawassee County	11.6	16.2	18.0	12.7	-1.9

Population Age

Table 5 shows the age breakdown for the Village, township and county populations and compares the figures from 1980 to 1990. This table illustrates the fact that the Village's population in 1980 was slightly younger than the county as a whole or the surrounding township. A younger population is the result of a higher percentage of children and young adults in the total population, and is reflected in the fact that the median age in the Village is 26.7 versus 27.4 in the township and 27.7 in the county. However, in 1990, the percentage of people who were in the 18 to 64 age group is above the county and just slightly below the township. This indicates a change in other parts of the county. The Villages population change from 1980 to 1990 indicates that the population is indeed aging with a 3% drop in the "less than 5" age group, 4% drop in the "5-17" age group, an increase of 7% in the "18-64" age group and remained the same in the "greater than 65" age group. The median age of the Village is 32.3 years of age with the township and county varying by only tenths of a percent.

Table 5 Age Breakdown												
	Village of Vernon				*Township of Vernon				County of Shiawassee			
	1980		1990		1980		1990		1980		1990	
	#	%	#	%	#	%	#	%	#	%	#	%
Less than 5	89	8.8	58	6.4	350	8.8	306	7.5	5995	8.4	5134	7.4
5-17	286	28.4	215	23.5	987	24.7	818	20.1	18,005	25.3	14,801	21.2
18-64	557	55.3	567	62.1	2,403	60.1	2,571	63.1	40,962	57.6	42,067	60.3
Greater than 65	76	7.5	73	8.0	255	6.4	381	9.3	6,178	8.7	7,768	11.1
TOTAL	1,008	100	913	100	3,995	100	4,076	100	71,140	100	69,770	100
Median Age	–	–	32.3		–	–	32.2		–	–	32.5	

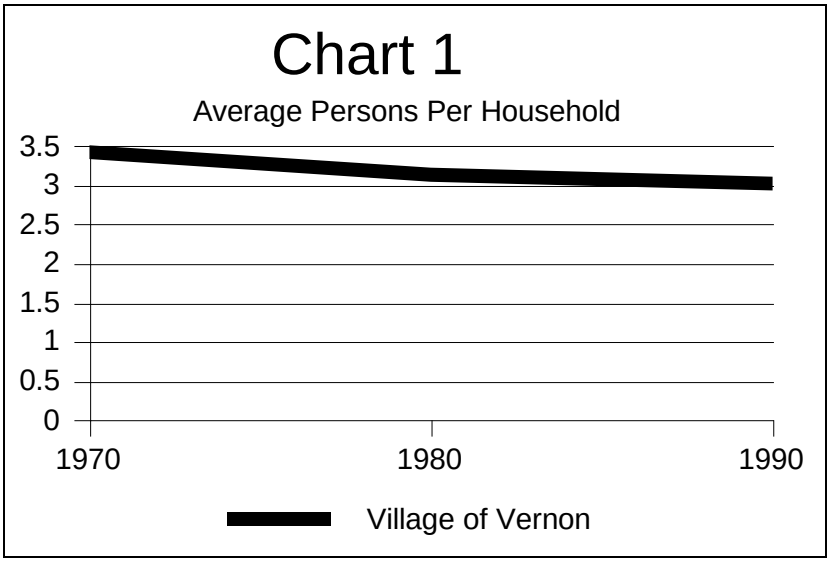
* Does not include Village population
Source: U.S. Census, 1980, 1990.

Table 6 indicates that the majority of the population is in the "school age" and "working years/support children" age category. A younger population has slightly different needs for community services, including a proportionately higher demand for recreational services. In the future if the current population remains within the Village there may be a need for services that cater to older populations. Services like "55 and older" communities and local services catering to needs of an aging population may be needed in the future.

Table 6 Age by 5 Year Increments for the Village of Vernon (1990)				
Age Category	Age	Number of People	Total in each age category	% in each age group
School Age	0-4	58	311	34%
	5-9	67		
	10-14	96		
	15-19	90		
Child Bearing	20-24	54	179	20%
	25-29	63		
	30-34	62		
Working Years/Support Children	35-39	96	350	38%
	40-44	80		
	45-49	57		
	50-54	43		
	55-59	43		
	60-64	31		
Retirement Years	65-69	24	73	8%
	70-74	20		
	75-79	14		
	80-84	9		
	85 and older	6		

Source: US Census, 1990.

Household Size



Source: U.S. Census, 1970, 1980, 1990

Several socio-economic factors influence the size of a household. The move as a society from agriculture to technology, and the increased economic pressure of raising and educating children, contribute to the decline in the average number of children per family. Another phenomenon affecting households is the break up of nuclear families. Causes of this trend include the increase in divorce and births out of wedlock. This has resulted in an increase in the number of single parent households. Another cause is the aging of our society. As a family of two parents and two children grows older, each of the children leaves home and establishes new households. This leaves one household of two people, and two new households of one person each. The result is a decrease in the number of people per household, a stable population, and an increase in demand for dwelling types, specifically differing types from the traditional single-family detached home.

Table 7
Average Persons Per Household

	1970	1980	1990
Village of Vernon	3.43	3.12	3.01

Source: U.S. Census, 1970, 1980, 1990

Table 7 and Chart 1 illustrates the change in average persons per household from 1970 to 1990. The Village seems to be experiencing the previously described trend of decreasing household size. The implication for the future is that even with little or no population growth, the Village could experience a demand for additional dwelling units. If population growth is significant, the impact on housing demand will be magnified.

Composition of Household

Table 8 Village of Vernon Composition of Households (1990)						
	Village of Vernon		Vernon Township		Shiawassee County	
	#	%	#	%	#	%
Married	212	70.0	985	66.8	15,859	63.8
Single Head	44	14.5	170	11.5	3,271	13.2
1 Person 65+	12	4	91	6.2	2,275	9.2
Other 1 Person	26	8.6	169	11.4	2,559	10.3
Other Non-Family	9	3	60	4.1	900	3.6
Total	303		1,475		24,864	

Source: U.S. Census, 1990

The vast majority of households in the Village are married and Single Head households. By far there are many more married households in the Village than Single Head households. For the most part, both the Township and County mirror household composition illustrated in Table 8.

Place of Residence

With a younger population you would anticipate having a more mobile population than the County average. This is not the case as can be seen in Table 9. In 1980, the population was substantially more stable than the Township or the County, with 69.8% of the residents living in the same house in 1980 than they did in 1975. However since 1990, the Village resembles both the Township and Village with only a little over 1% more people living in the “same house”. Although the percentage of residents living in the “same house” has decreased since 1980, the Village of Vernon still exhibits a relatively stable population in this category. This stability can result in an increased sense of community as Village residents have the same neighbors for a relative long time.

Table 9 Change in Place of Residence from 1975 - 1985												
	Village of Vernon				Township of Vernon				Shiawassee County			
	1980		1990		1980		1990		1980		1990	
	#	%	#	%	#	%	#	%	#	%	#	%
Same House	646	69.8	562	65.7	2,187	60.5	2,433	64.5	39,040	60.2	40,914	63.6
Same County	166	17.9	167	19.5	790	21.9	746	19.8	14,225	21.9	13,634	21.2
Same State	83	9.0	107	12.5	535	14.8	456	12.1	9,567	14.8	7,232	11.2
Different State	30	3.2	19	2.2	102	2.8	135	3.6	2,020	3.1	2,580	4.0

Source: U.S. Census, 1980, 1990

Commuting Characteristics

As can be seen by a review of Table 10, most of the Village's residents work outside the community and this is also supported by data in Table 11. This assumption can be made because only 7% of the Village's population travel less than 5 minutes to work in 1990. People traveling 5 -14 minutes to work totals 24% of the working population, which indicates employment near the Village but most likely just outside of the Village limits. The majority of the Village's working population travels 15 - 29 and 30 - 59 minutes to work. These travel times indicate that a great majority of the Village residents are probably working in Flint, Durand, Owosso and Lansing or some other area outside the Village, which employs a larger working population.

Table 10
Travel Time to Work

	1980		1990	
Minutes	#	%	#	%
Less than 5	20	6	29	7
5-14	106	31	100	24
15-29	103	30	161	38
30-59	103	30	108	25
	9	3	24	6

Source: U.S. Census, 1980, 1990.

Employment and Income

Table 1 illustrates that a great deal of the Village population works outside of Shiawassee County. This may be due to the Villages' close proximity to Genesee County and more specifically the Flint area. Flint has a demand for a larger number of jobs than any community in Shiawassee County. The tranquility and close proximity to Flint makes the Village an attractive alternative for living than the busy life of a city. Therefore, the Village is an ideal "bedroom community" for those wishing a slower pace of life away from their place of work.

Table 11
Place of Work - 1990

Worked in county of residence	227
Worked outside county of residence	207
Worked outside state of residence	3

Source: U.S. Census, 1990

Table 12 lists the income distribution for the Village, Township and Shiawassee County in 1990. The median household income in the Village of Vernon ($38,021) was higher than both the surrounding Township ($36,979) and County ($30,283). The County as a whole had the greatest percentages of people who make $34,999, and less than both the Village and Township. The percentage of households with incomes of $35,000 to $74,999 in both the Village and Township is higher than the County as a whole. The

$35,000 - $49,999 income bracket in the Village is 30% and this percentage correlates with the median income listed for the Village. The percentage of people who made $50,000- $74,999 per year for both the Village and Township is greater than the County. In the $75,000 or greater bracket the Village has 6% while both the County and Township were at 5%.

Table 12
Income Distribution (1990)

	Village of Vernon		Vernon Township		Shiawassee County	
	#	%	#	%	#	%
Less than $5,000	8	3	34	3	969	4
$5,000 - $9,999	29	9	53	5	2241	9
$10,000 - $14,999	20	7	86	8	2537	10
$15,000 - $24,999	40	13	211	18	4371	18
$25,000 - $34,999	40	13	159	14	4378	18
$35,000 - $49,999	90	30	314	27	5316	21
$50,000 - $74,999	58	19	223	20	3765	15
$75,000 +	18	6	63	5	1192	5
Median Household Income	$38,021		$36,979		$30,283	

Source: U.S. Census, 1990

Population Projections

Population projections are an inexact science, particularly when they involve a relatively small existing population base. In a community such as the Village of Vernon, the decisions of a few landowners to develop their property can have a significant effect on population growth. This change could occur in the northwest and north - northeast part of the Village where there is agricultural land. The tenuous nature of producing population projections makes it difficult to predict future populations accurately. Changes in population and housing are key indicators that should be examined as the plan is maintained. This is especially true because of the most recent 2000 Census count. Currently these data are not available for this projection so after these data are made available it may be in the best interest of the Village to recalculate the projections.

Past Population Projections

A quick review of Table 13 will demonstrate the tenuous nature of population projections. GLS Region V performed population projections, which were listed in the previous land use plan. This projection predicted a population slightly increasing from 1985 to 1990 and then slightly dropping in 1995. The year 2000 and 2005 again predicted an increase in population. This population projected that the Village would not have a population greater than 1,000 persons but in 1980 the Villages population was1,008 persons and the 1990 Census counted only 913 persons living in the Village. Although in 1995 a slight decrease in population was predicted, it is far from the

number actually counted by the Census Bureau. The population projections listed in Table 13 are the most current projections available by GLS Region V.

Table 13
Village of Vernon Population Projections
1985-2005

	1985	1990	1995	2000	2005
Population	995	976	971	977	981

Source: GLS Region V

As you can see, the population projections show a more or less stable population for the Village over the next 20 years. However, in that same study, GLS Region V predicted the following figures for Shiawassee County as a whole (Table 14). Once again, this is the most recent population project made available by the GLS Region V.

Table 14
Shiawassee County Population Projections
1985-2005

	1985	1990	1995	2000	2005
Population	72,500	75,900	79,000	81,800	84,000

Source: GLS Region V

Population Projection

The population projections listed in Table 15 were determined by taking the average annual housing starts that occurred in the Village from 1980 to June, 2000 (Table 16) and then multiplied it by ten (decade) and then added the product to the number of dwellings listed in the 1990 Census (table 21). This total projected number of dwelling units for the year 2000 was then reduced by a vacancy rate factor (Table 17) which projected the number of occupied dwelling units. The number of occupied dwelling units was then multiplied by the number of residents. This number was then multiplied by the projected number of persons per household (Table 18). This method then implies that the population decreases for the Village of Vernon between 1990 - 2020 would be -4.9%, losing an additional 45 people. Again, these projections are based on Census data from 1990 and should be reevaluated for validity once the data from the 2000 Census is released.

Table 15
Population Projections

	1990	2000	2010	2020
Population	913	892	878	868

Table 16 Average Housing Growth Per Year 1980 - June 2000		
	Total	Average
Village of Vernon	24	1.2

Source: Village of Vernon

Table 17 Vacancy Rate	
Vernon Township	0.05

Source: u.S. Census, 1990

Table 18 Projected Average Persons Per Household*				
	1980 - 1990	1990 - 2000	2000 - 2010	2010 - 2020
Village of Vernon	3.01	2.82	2.68	2.56

Assume the rate of change decreases by 15% per decade

Housing

There were 323 housing units in the Village of Vernon counted in the 1980 census. The 1990 Census data counted 303 single-family housing units. This is a 6% decrease in the number of available single-family residences. This drop may be due to the conversion of some single family homes to multi family residences or possibly change in use from single family to uses other than residential. Almost half of these homes were built prior to 1940. Recently the most active period for housing starts was from 1970 to 1974, when 57 homes were built. According to the US Census, since 1974, only 23 homes have been constructed. These data do not contain a count of demolitions, only new home construction. Table 20 lists the number of building permits issued since the 1990 Census count.

Table 19 Year Homes Were Built						
Pre 1940	1940-1949	1950-1959	1960-1969	1970-1974	1975-1980	1981 - 1990
152	37	49	16	57	12	11

Source: US Census 1990.

Of the 303 occupied units identified in the Shiawassee County Trends and Impact Report, only 43 were rental units. This decrease represents a 6% percent drop of the available housing in the Village. Of these, 260 or 86% were owner occupied, compared with 78% for the County, overall. Since 1980, only 11 housing units have been built in the Village and as noted previously, it can be assumed that the need for more residential units is limited at best for the next 20-year period.

Table 20 Building Permits Issued												
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	through June 6, 2000	Total 1990-06/06/00
Village of Vernon	2	0	0	0	0	1	3	3	1	2	1	13
Shiawassee County	179	203	216	235	246	—	—	—	—	—	—	n/a

Source: Village of Vernon

Table 20 Building Permits Issued shows that only 13 building permits for new homes were filed with the Village from 1990 through June 6, 2000. This is approximately 1.2 units per year and represents a very small increase in the housing stock. As mentioned before, this can be expected considering the small amount of property left that is suitable for residential development.

Table 21 Village of Vernon Housing Projects 1985 - 2005					
	1985	1990	1995	2000	2005
Housing	325	319	318	319	321

Source: GLS Region V

GLS Region V produced housing projections through 2005. Projections are an inexact science that cannot take into account all the factors causing changes in available housing. The year 2005 shows a projection of 321 units. In order for this projection to be correct there would have to be an increase of 5 units over the next 5 years. This will occur if an increase of 1.2 houses are built as projected by Table 16.

Table 22 % of Housing Types (1990)			
	Village of Vernon	Vernon Township	Shiawassee County
Single Family Detached	299	1,051	19,978
Single Family Attached	3	9	240
2 - 4 Units	6	51	1,918
5 - 9 Units	10	5	733
10+ Units	0	0	685
Mobile Home	0	384	2,033
Other	3	18	246
TOTAL	321	1,500	25,587

Source: United States Census, 1990.

Table 22 shows that most residential housing units within the Village are single family detached. Only three units were single family attached, six were 2-4 units, and ten were 5-9 units. With the exception of mobile home the Village mirrors the Township in terms of its housing types.

PUBLIC FACILITIES

The Village maintains two types of public facilities that effect land use in Vernon. They are the streets and the sanitary sewer system. In the past years the possibility of adding a public water system has also been investigated.

Streets

There are approximately 5.5 miles of streets in the Village, excluding M-71. The major streets within the Village are Washington between Maple and Walnut, Walnut between Washington and Elm, Elm between Walnut and Maple, Church Street between Main and Elm, Maple stretching from the north Village border to the south border, Main stretching from the eastern border of the Village to the western border and Chestnut between Main and Elm. All other roads in the Village are classified as local by the Michigan Department of Transportation (Map 7).

The street system is important to land use for two reasons. First of all, the existence of streets in one area will encourage development in that area while the lack of streets in another will often preclude development there. Street construction costs money and developers are going to try to reduce or eliminate that portion of their development costs by using the existing street network when possible. Secondly, commercial and industrial uses tend to develop on, or have access to, major streets because of the ease of movement along them. This is a tendency that should be encouraged in order to prevent thru traffic in residential areas.

Sanitary Sewer

The Village sewer system currently services an area of the Village bounded on the south and west by Holly Drain and the Shiawassee River on the north by M-71 and on the east by the Village boundary. The system's current design capacity is 1,380 persons, giving it a current capacity surplus of approximately 120 households based on the 1990 census average household size of 3.01 persons per household.

As with the street network, areas that are currently serviced by the sewer service have an advantage for development over those areas without if there is a need for sewer service. Based on the generally poor quality of soils in the Village for placement of a septic field system, availability of sewer service would have to be considered an advantage. This would indicate that any intensive residential development would probably occur in the vacant land in the service area prior to the land outside the current service area, all things being equal.

Map 7 - Village of Vernon Street Systems

Ground Water Quality and Quantity

In 1999, Gove Associates produced a test wells report for the Village of Vernon. They concluded that drinking water in Vernon is typically limited to poor quality water produced from low yielding bedrock wells. Although there are locally drift wells that produce good volumes of quality water, most of the wells are too shallow to develop into a municipal well field.

GOALS AND POLICIES

Introduction to Goals and Policies

One of the most important parts in a land use plan is the Goals and Policies section. This section will be referred to during the next 20 years to guide the Village of Vernon in decisions concerning the future development of the community. Understanding Goals and Policies is important in utilizing a land use plan. It should also be noted that although the approach toward attaining a goal may change over time, the goal itself should remain the same. The association between goals and policies is defined as:

A **goal** is a destination that has been established by community input. It is the vision established by the community of where we see the Village of Vernon in 20 years. Goals provide basis for future policies. Goals are only general statements that do not define how to specifically obtain the desired goal. Policies guide the community in its effort to reach a desired goal.

A **policy** statement is a guide that lays out the way in which a goal may be obtained. Policy statement serve the governing body as a guide that will direct their decision making to obtain the goal selected by the community.

Data collected during the land use planning process (population, housing, natural features, agriculture, etc.) have been analyzed and discussed. The Village Council has determined that the following are appropriate categories for the Goals and Policies section of this plan:

A. Residential
B. Commercial
C. Natural Resources
D. Community Facilities
E. Industrial

The policy statements formed in these categories can be used to:

1. Update the current land use map
2. Coordinate Government Programs
3. Support public relations for community programs
4. Make area-wide programs consistent and stable

Therefore, as a representative of the “will of the people”, the Village Council is taking the stance that it is not in the business of providing every resident that which the resident demands. In other words, there is no such thing as total gratification for every Village citizen or development interest in all areas of the Village. In summary, this land use plan is an effort to outline a development scheme that is at least reasonable to the individuals’ preferences, yet very attentive to the maintenance of the health, safety, general welfare and morals of the total community.

THEREFORE, the Village Council of Vernon offers the following list of goals and policies for community consideration.

A. Residential

1. Goals

Provide a range of housing types to meet the housing needs of village residents of all economic and social groups.

Protect residential neighborhoods from the intrusion of noncompatible uses.

Promote the orderly growth of residential areas to maximize the effectiveness of municipal services.

Prevent the premature decay of the residential housing stock.

2. Policies

Medium and high density development will be permitted only in those areas provided with public sewer.

Medium and high density development will provide water and sewer services where they are not provided. Prior to development it must be proven that these needs will be adequately met without negatively impacting surrounding development

Ground water availability and quality must be determined prior to all residential development, especially multi-family developments, to assure that there are no negative impacts to preexisting developments

All non-residential development adjacent to a residential area will be buffered to reduce noise, dirt, odor and other nuisances to a level acceptable with residential areas.

Access to all medium and high density developments will be via major streets.

Thru traffic in residential areas will be kept to a minimum.

The village will assist in providing residents with information regarding programs available for housing rehabilitation assistance.

Residential development will be encouraged in areas where public sewer is available.

B. Commercial

1. Goals

Promote commercial development as part of an overall balanced land use pattern.

Promote continued development of a compact, pedestrian-oriented downtown as the village commercial core.

Prevent the development of traffic hazards and unnecessary traffic conflict points along M-71.

Provide neighborhood convenience commercial developments where necessary.

Promote the reestablishment of the Downtown Development Authority (DDA)

2. Policies

Excess speculation in commercial development resulting in the abandonment of commercial buildings will be discouraged.

General business-type development will be limited to the current downtown area.

Expansion of the downtown area will be contiguous with existing area.

Incompatible primary uses in the downtown area will be eliminated where possible.

Commercial development along M-71 should be designed so that they will not alter the ease of thru traffic.

The strip development of convenience-level facilities will be discouraged.

Commercial developments adjacent to residential areas should be designed to mitigate any negative impacts on the residential area.

An investigation will be conducted to determine the interest in reestablishing the DDA, if it is determined that interest exist in its reestablishment then further steps will be taken to do so.

All resources will be invested and where appropriate used to stimulate the revitalization of the downtown area

C. Natural Resources

1. Goals

Prevent degradation of the area∗s natural resources.

Preserve existing natural features where possible.

Encourage development that is sensitive to existing environmental conditions.

2. Policies

Development in identified floodplains will be in accordance with the national Flood Insurance Program.

Flexibility in development regulations will be provided when possible to permit development sensitive to existing natural features provided compliance with all other goals and policies can be maintained.

Developments which adversely affect surrounding area∗s supply of ground water will be prevented when possible.

All developments will be required to provide adequate drainage facilities. Where developments will result in run-off greater than the amount the existing drain facilities can handle, on-site retention facilities will be required when possible.

D. Community Facilities

1. Goals

Provide public facilities and services that respond to the needs of the village residents.

Insure the maximum effectiveness possible of those public facilities and services provided.

Expand sewer system to provide those with service who do not currently have public sewer

Insure the maximum useful life and highest quality of all public facilities.

2. Policies

Review proposed developments for their effect on the cost and efficiency of providing public facilities and services.

Discourage development that would require the premature extension or expansion of public facilities and services.

E. Industrial

1. Goals

Encourage industrial development and operations compatible with existing land uses and the surrounding environment.

Exploit potential for high-tech industrial development within the Village that will not negatively impact surrounding areas.

2. Policies

Industrial development adjacent to residential areas will be discouraged.

Industrial development adjacent to railroads will be encouraged as long as no negative impacts are experienced by the surrounding residences or preexisting businesses.

Buffering between industrial and non-industrial areas will be encouraged to reduce noise, dust, odors and other nuisances to a level compatible with the adjacent non-industrial area.

Industrial development will be designed to insure that off-site impacts such as truck traffic will not negatively affect other areas of the village.

FUTURE LAND USE

If the future need for land for development were based solely on the population projections contained in the Population section of this plan, then there would not be much difference between the future land use plan and the current land use map. After all, it is not hard to plan for a decrease in population and housing. However, the fact remains that some growth in the Vernon Township area is anticipated over the next twenty (20) years and even if the village hasn't grown recently, there is a possibility that it could capture some of that area-wide growth.

Some factors that favor growth for the village over the next twenty (20) years:

- The village has sewer service available to some of the currently vacant land, making it the only land outside of the City of Durand that can offer sewer service. This is especially important because of the severe limitations most of the soils in the area pose for the development of on-site septic systems.

- The village has an attractive, functioning business district with convenience-level commercial businesses.

- The village provides community services such as police, recreation and maintenance departments.

- The close proximity to the Flint area and the charming setting of the Village makes the village an attractive place to live outside of the fast paced life of the city.

Based on these factors, there is a possibility of the village experiencing some growth during the planning period. This growth is taken into account in Map 8**.**

A**.** High Density or Multiple Family Residential

The areas identified as high density residential is currently undeveloped vacant land within the sewer service area, and is adjacent to a major street. The area has already been proposed to be developed as a high density residential complex.

B**.** Medium Density Residential

The areas identified as medium density residential are those areas currently developed at that density as well as the vacant areas in the Village sewer service area already platted and/or adjacent to current medium density development.

C. One Family Low Density Residential

The areas identified as low density residential are those areas already developed at that density and undeveloped areas along M-71 that are surrounded by such low density residential homes and appear ripe for similar development.

D. Commercial or General Business

The areas identified as commercial include those areas currently used as commercial property, as well as the balance of the block of Main Street, from Walnut to Church, that is not currently commercial (excluding the Post Office). This provides for any commercial expansion needed due to additional growth in the Village of the surrounding trade area. It should be noted that no additional development is anticipated along M-71. While there may be pressure to develop along the highway, only highway service-type development should be permitted in order to prevent competition that could weaken the general business district. New businesses are encouraged to locate in the already established downtown commercial area.

E. Highway Service

This land use classification is located along M-71. Typically these businesses are similar to convenience stores, fast food restaurants, gas stations or automobile parts stores. By no means is this a complete list of land uses found in this category. It will be up to the Village Council to ultimately determine what is considered to be highway service.

F. Agricultural

Agricultural land uses are to be located in already established farming areas. This land use will remain agricultural when possible to maintain the rural character of the Village of Vernon.

G Public/Semi-Public/Park

This classification is given to land which is currently used for a public or semi-public purpose and is expected to continue in that location.

H Industrial

The area identified as industrial is classified as such because much of it is not usable for much else. This is because of its location between two rail lines. Development in this area should be closely controlled because much of it is in the floodplain.

Map 8 - Future Land Use