Lenawee County Comprehensive Land Use Plan

Prepared for the

Lenawee County Planning Commission

Adopted by:

Lenawee County Planning Commission
May 15, 2002
Lenawee County Board of Commissioners
July 10, 2002

Lenawee County

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Lenawee County Comprehensive Land Use Plan

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Introduction

Lenawee County, located in southeast Michigan, is predominantly a rural agricultural area dotted with small towns and rural residential development (see area maps). Significant growth has occurred in recent years creating increased pressures on farmland and the environment.

Population increased rapidly in the 1950's and 60's resulting in the adoption of the first land use plan in 1972 by the Lenawee County Planning Commission. This was Lenawee County's projection into the future and looked ahead to 1990.

In 1998, the Lenawee County Board of Commissioners approved the update of the Plan by the Planning Commission. The need for the update was indicated by a number of pressing concerns including:

- Overall population growth
- Resultant urban sprawl
- Loss of farmland and open space
- Lack of infrastructure and services
- Environmental degradation

The document is divided into three parts generally following the various stages of plan development. The three parts are the Inventory of Existing Conditions, Citizen Participation, and Issues, Goals, Policies and Implementation Strategy.

Part I of the Plan is the Inventory of Existing Conditions. It contains background information on growth trends in Lenawee County. This constitutes the Plan's first nine chapters.

Chapter 1provides a summary history of Lenawee County and is based on information supplied by Dr. Charles Lindquist, Director of the Lenawee County Historical Museum. Chapter 1 describes the known history of Lenawee County from original settlement through the early part of the 20th Century.

Chapter 2 describes population trends from the point Chapter 1 leaves off to the present. This section considers such topics as population projections and school enrollment. A study of regional growth patterns is presented in which four distinct growth areas of the county are identified.

Chapter 3 provides data on the housing stock in Lenawee County including the number of housing units, persons per household, occupancy rates, tenure, and building permit activity. Special consideration is given to seasonal housing units and affordability.

The economy of Lenawee County is the subject of Chapter 4. Topics related to wages, employment, and commuting are discussed. This chapter is based on information from various sources including special presentations to the LCPC by David Munson, Executive Director of the Lenawee Chamber.

Chapter 5 presents the findings of an extensive land use study that was conducted as part of this Plan. Data and maps on land use trends are presented during the study period from 1978 to 1998. Regional land use trends are also discussed.

The natural features of the county are discussed in Chapter 6. For the most part, the effects of glaciation are emphasized because this process had a great influence on the shaping of Lenawee County's landscape. Special consideration is give to topography, drainage and soils. This chapter is partially based on discussions with representatives of the Lenawee County Health Department, Lenawee County Drain Commissioner, and the Michigan Department of Environmental Quality.

Chapter 7 describes the parks and recreation opportunities available to county residents. State and county parks are listed as well as the goals listed in the Lenawee County Parks and Recreation Plan.

Chapter 8 details the public infrastructure facilities available in Lenawee County. The areas of the county that are served by central sewer and water facilities are listed and mapped.

Transportation facilities are discussed in Chapter 9. In addition to roads, other modes of transportation are also discussed including airports and rail. Transportation information is partially based on discussions with officials from the Lenawee County Road Commission and the Michigan Department of Transportation.

Part II consists of chapters 10 through 12. Part II describes the extensive citizen participation program that was undertaken as part of plan development. The input and involvement of citizens and local officials was a vital component of the Plan.

Chapter 10 summarizes the citizen survey that was conducted in the Summer of 1999. The purpose of the survey was to solicit valuable citizen input on land use issues facing Lenawee County.

In a further attempt to ascertain local perceptions on land use issues, a series of workshops were held in March, 2001. A summary of findings regarding the workshops is included in Chapter 11.

Chapter 12 provides the minutes to the two public hearings that were held regarding the Plan. The public hearings were held in January and March of 2002.

Part III presents the issues, goals, policies and implementation strategies of the Plan. These topics make up chapters 13 through 15.

Following the findings of fact of the Inventory, the Lenawee County Planning Commission held an issue identification workshop in July, 2001. The results of the workshop are provided in Chapter 13.

Chapter 14 includes the goals and policies. These goals and policies represent the means to attempt to address the identified issues and concerns presented in Part II and Chapter 13.

Finally, Chapter 15 presents recommended implementation measures to carry out the Plan. These implementation measures include action steps that are needed if the goals of the Plan are to be realized.

Following adoption by the Lenawee County Planning Commission, individual units of government are requested to implement applicable segments of the plan. Activities should then be directed toward codification, updating of current zoning ordinances and land use plans, and consideration of special ordinances related to such topics as open space, community design, cellular towers, and other pertinent topics.

Participating Agencies and Individuals

Development of this comprehensive plan was not solely the undertaking of the County Planning Commission. It involved the cooperation of many agencies and individuals. The efforts of the following plan participants are sincerely appreciated.

- Lenawee County Road Commission
- Citizens for Land Stewardship
- Lenawee County Drain Commissioner
- Michigan Department of Environmental Quality
- Lenawee County Board of Commissioners
- MSU Extension - Lenawee
- Lenawee NRCS
- Lenawee County Health Dept.
- Lenawee County Historical Museum
- Lenawee Chamber
- MTA - Lenawee
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Part 1 - Inventory of Existing Conditions

- history
- population
- housing
- economy
- land use
- natural features
- parks and recreation
- public facilities
- transportation

Chapter 1
History of Lenawee County

The following is a brief history of Lenawee County. It was written by Roger L. Rosentreter and Dr. Charles Lindquist, Director, Lenawee County Historical Society.

In June 1832, John Fisher, a young English emigrant, wrote to England detailing his year-long effort at farming in Lenawee County. An owner of eighty acres, two yoke of cattle, one cow and two calves, Fisher declared

> "I have left England and its gloomy climes for one of brilliant sunshine and inspiring purity...I have left this country and am in a Country where all is life and animation, where I hear on every side the sound of the past with triumph, the present with delight, the future with growing confidence and anticipation."

Fisher was only one of many pioneers who enthusiastically participated in the rapid growth of Lenawee during the antebellum period. Located in the southeastern Lower Peninsula, Lenawee County was first settled in May 1824 by Musgrove Evans, Joseph Brown (later a general who led Michigan troops in the Toledo War) and twenty-eight other New Yorkers. They founded Tecumseh on the River Raisin in northeastern Lenawee. The following year, twenty-three year old Addison J. Comstock purchased 480 acres of land in central Lenawee. Comstock first named his settlement Logan. But at the urging of his wife, Sarah, who believed that Comstock and second century A.D. Roman Emperor Hadrian held in common "the improvement of roads, cities and waterways," Comstock changed Logan's name to Adrian.

Comstock's accomplishments may not have seriously rivaled those of the Roman emperor, but he was the catalyst for Adrian's antebellum growth and dominance in Lenawee County. The county was organized in 1826 (Lenawee is said to be derived from the Shawnee Indian word for "the man"). Tecumseh, its largest settlement in 1826, became its county seat. But in 1838, the Michigan State Legislature designated the smaller Adrian as the governmental center. Comstock who built Adrian's first sawmill and gristmill, served as its first postmaster and provided the land for the new courthouse at no cost - is credited with prompting the legislature's action.

Comstock promoted the building of the Erie and Kalamazoo Railroad from Toledo to Adrian. At a time when there were scarcely two hundred miles of railroad in the eastern United States, the Erie and Kalamazoo was the first railroad in the Northwest Territory north of the Ohio River. The thirty-three-mile road consisted of oak rails topped with iron ribbons two inches wide and one-half inch thick. The rails were grooved, and company stockholders could run their wagons on the tracks. The train -

unheated wagons pulled by horses - first reached Adrian on 3 October 1836. In January 1837, the first steam locomotive used west of the Allegheny Mountains replaced the horses.

In mid-1837, the Erie and Kalamazoo introduced a passenger car called the Gothic car because its roofline resembled a medieval cathedral. The car was divided into four sections - three compartments that accommodated eight passengers each and a small space under the center compartment for baggage. Ladies were assigned the high center compartment. Although upholstered in sheepskin, this section was above the center of gravity and provided a rocky ride.

Travel on the Erie and Kalamazoo was hazardous. Engineers were not to exceed ten miles per hour because snakeheads, the ends of iron rails that worked themselves loose, sometimes flew up through the cars' bottoms endangering the passengers. If the train exceeded fifteen miles per hour on a curve, passengers might find themselves tipped over in a ditch. When the locomotive ran out of wood or water, the passengers scoured the countryside for both. At other times riders had to push the train up hills. If there were no interruptions, the round trip between Toledo and Adrian took one day.

In 1840 the arrival of the Michigan Southern Railroad, pushing westward from Monroe, gave Adrian a second rail line. And in 1849, the bankrupt Erie and Kalamazoo Railroad, which had never reached the headwaters of the Kalamazoo River as originally planned, became part of the Michigan Southern.

The railroads accelerated Lenawee's growth. By 1840, with 17,889 people, it was Michigan's fourth most populous county. Described by the 1838 *Michigan Gazetteer* as "one of the most flourishing villages in Michigan," Adrian boasted two thousand residents. The *Gazetteer* added that a hundred new buildings were erected in Adrian in 1836 and 1837.

During the 1850's, Lenawee County continued to grow. By the eve of the Civil War only Wayne County had a larger population. Lenawee was also an agricultural leader. In 1850, the cash value of Lenawee's farms placed it third among the state's forty-three counties. In 1853, Adrian became a city and elected its founder, A.J. Comstock, as its first mayor. By 1860, Adrian's over 6,100 residents made it Michigan's third largest city.

Anxious to augment Adrian's status with an institute of higher learning, city leaders convinced a small, impoverished Methodist college in Leoni, near Jackson, to relocate. (Local opposition to this decision caused the school to move its library secretly.) In 1859, Adrian College opened. The school started slowly with only three graduates in 1861. But in an era when Michigan's public universities did not admit women, Adrian College graduated twenty-five women in its first five years of operation.

Nineteenth-century Lenawee residents who served Michigan and the nation in various capacities included William L. Greenly, Michigan governor in 1847; Charles M. Croswell, Michigan governor from 1877 to 1881; Thomas M. Cooley, Michigan Supreme Court justice from 1863 to 1885; and Will Carleton, one of the nation's most popular verse writers.

During the decades immediately following the Civil War, Lenawee's population growth slowed. By 1904, it was the tenth most populous Michigan county, and its population of fifty thousand represented only a 25 percent increase since 1860. Nevertheless, Lenawee remained an agricultural leader. According to 1904 Michigan census figures, it ranked first among all eight-three Michigan counties in value of farm property ($28.3 million), annual sales of livestock ($1.5 million), corn production (2.6 million bushels) and egg production (2 million laid by 363,000 chickens).

Adrian's population growth slackened, too, but its economy remained resilient, though at least twenty other Michigan communities had greater populations than Adrian in 1904. The city's sixty-five manufacturers and $3.2 million in total capital invested placed it second and third respectively among Michigan communities with populations under twenty thousand.

During the second half of the nineteenth century, Adrian's industries included railroad repair shops and auxiliary factories, such as the Peninsular Car Works, which manufactured railway cars. By the time the railroad industries closed in the 1890's, Lenawee inventor J. Wallace Page had introduced a process for weaving wire into fence. In 1903, Page's two plants (the other one was in Pennsylvania) employed 1,300 people, and his company's annual sales exceeded $3 million. To advertise the strength and versatility of his wire fence, Page used it to create cages in which he transported wild animals to fairs across the country. By 1911, Page's firm and eight other wire fence companies made Adrian the self-proclaimed "wire fence capital of the world". The closing of Page's operation after World War I signaled the end of Adrian's fence industry.

Automobiles, too, were made in Adrian. In the fall of 1901, Willis G. Murray, an automotive inventor and engineer who had worked for Ransom E. Olds, collaborated with Walter Clement, president of the Church Manufacturing Company, to build a car. It was called the Murray.

During the 1930's and 40's, good rail connections, an ample labor supply and proximity to Detroit drew manufacturers to Adrian. But Tecumseh also became a manufacturing center. Begun in the mid-1930's by Ray Herrick, Tecumseh Products makes refrigerator and air-conditioning compressors. In 1956, after the firm had posted a 500 percent increase in sales in only ten years, *Fortune Magazine* declared, "Herrick is apparently capable of using an extremely small amount of plant to produce an astonishing amount of product." Herrick's success caused Tecumseh Products to be listed in *Fortune*'s top ten in 1956.

The Lenawee County Historical Museum's many exhibits include an original Murray which is located in Adrian's 1908 Carnegie Public Library Building. Lenawee is also the home of the Walker Tavern Historic Complex, which was once a stop along the Chicago Road. Administered by the Michigan Historical Museum, the tavern is located at the intersection of US-12 and M-50.

Besides museums, Lenawee County boasts dozens of well-preserved nineteenth-century houses. Adrian, Tecumseh and Hudson all have historic districts listed on the National Register of Historic Places. Equally impressive are Adrian's restored Croswell Theater and the Raisin Valley Friends Church. Built in 1834-35, the church shares with the Webster Congregational Church in Washtenaw County the distinction of being Michigan's second oldest church. (Mackinac Island's Old Mission Church is the oldest.) Located in Adrian Township, the Raisin Valley Church is still used today.

Though Lenawee County has seen many changes throughout its history, it remains primarily a rural agricultural area. Time will tell if the county is able to retain a sense of history and rural nature.

Chapter 2
Population

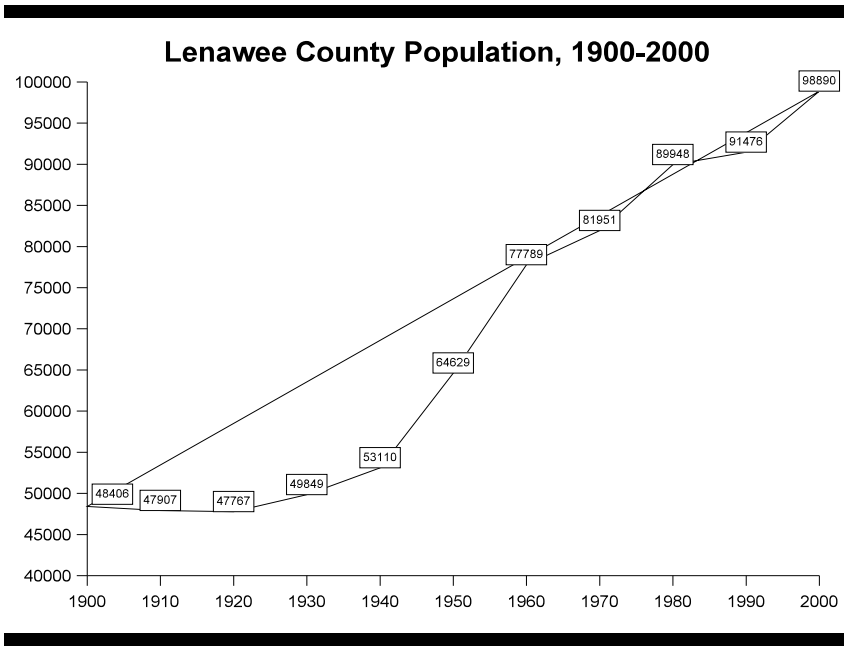
Population analysis and projection is an important component of a land use plan. This information makes it possible to prepare for the impact of future growth by determining the needs for community facilities and services. Coupled with the needs of the community and the ability of the local government to provide services, these data will assist in determining how and where growth should take place. In addition, many state and federal grant programs for which the county may apply are based upon demographic information.

Historic Overview

Lenawee County grew significantly during the 20th Century. As seen in Figure 2.1, the population of the county grew from 48,406 in 1900 to 98,890 in 2000 - an increase of 104%, or slightly more than 1% annually. Table 2.1 indicates that the greatest growth occurred during the 1940's and1950's but significant population growth rate also occurred during the 1970's and 1990's.

As was pointed out in Chapter 1, Lenawee County was the tenth most populated county in Michigan in 1904. While it has grown significantly since that time, it has not grown as quickly as some of the suburban counties in metro Detroit and other portions of the state. Its population currently ranks 21st among Michigan's 83 counties.

Figure 2.1



Source: US Census

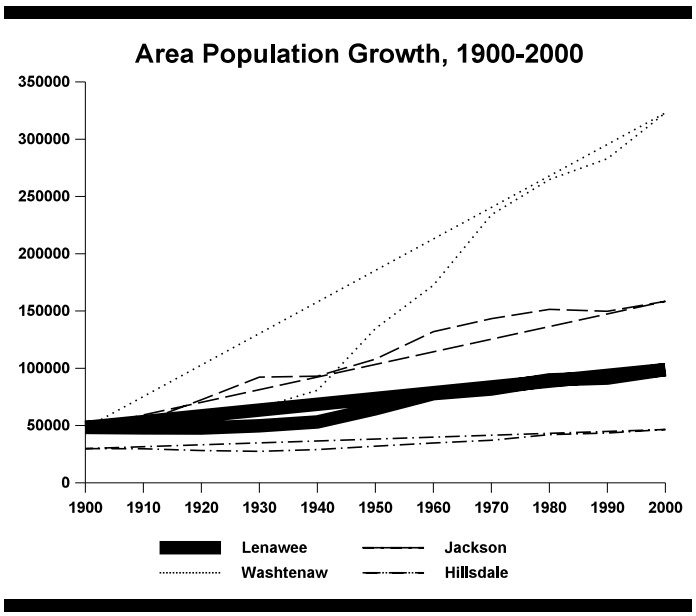
Table 2.1
Lenawee County Population Trend, 1900-2000

Population		Growth Trends	
Year	**Population**	**Period**	**Percentage Population Growth**
1900	48,406	-	-
1910	47,907	1900-1910	-1.0
1920	47,767	1910-1920	-0.1
1930	49,849	1920-1930	4.4
1940	53,110	1930-1940	6.5
1950	64,629	1940-1950	21.7
1960	77,789	1950-1960	20.4
1970	81.951	1960-1970	5.4
1980	89,948	1970-1980	9.8
1990	91,476	1980-1990	1.7
2000	98,890	1990-2000	8.1
		Change, 1900-2000	104.3

Source: U.S. Census Bureau

Figure 2.2 and Table 2.2 show the comparative population growth for Lenawee, Jackson, Hillsdale and Washtenaw counties during the 20th Century. While the four counties began the century with similar populations, Jackson and Washtenaw counties grew at higher rates than Lenawee and Hillsdale counties. There are several reasons for the relatively low growth rate in Lenawee County including the following:

Figure 2.2



Source: U.S. Census Bureau

Table 2.2
Comparative County Population Growth, 1900-2000

County	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	% Change 1900-2000
Hillsdale	29,865	29,673	28,161	27,417	29,092	31,916	34,742	37,171	42,071	43,431	46,527	56
Jackson	48,222	53,426	72,539	92,304	93,108	107,925	131,994	143,274	151,495	149,756	158,422	229
LENAWEE	48,406	47,907	47,767	49,849	53,110	64,629	77,789	81,951	89,948	91,476	98,890	104
Washtenaw	47,761	44,714	49,520	65,530	80,810	134,606	172,440	234,103	264,740	282,937	322,895	576

Source: U.S. Census Bureau

– Lack of Accessibility - there are no freeways in Lenawee County and it is not easily accessible from neighboring areas in Michigan and Ohio. US-12 is the only direct route from the Detroit area to Lenawee County.

– Lack of Jobs - Detroit and other areas grew at a much higher rate during the 20th Century because auto industry growth resulted in enormous job creation. For the most part, Lenawee County did not directly benefit from this job growth.

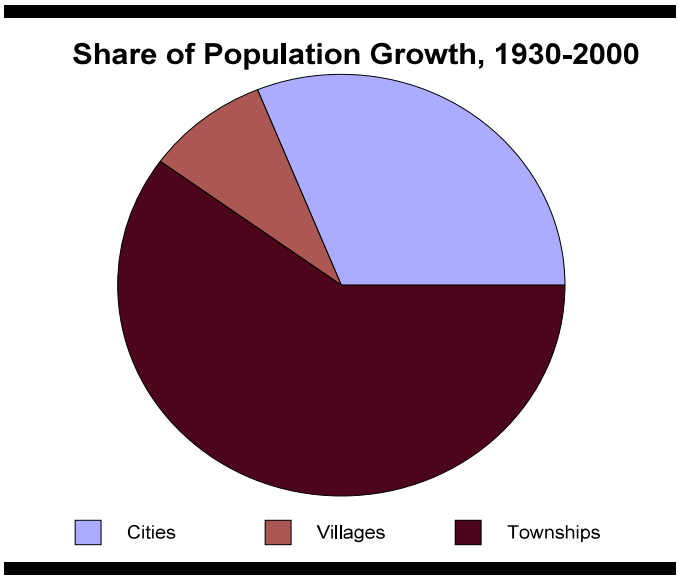
– Lack of Central Sewer and Water - there are several parts of Lenawee County that have not grown due to a lack of central sewer and water facilities. Poor soils for septic tank absorption fields have limited population growth in these parts of the county. In fact, several rural townships *lost* population from 1930-2000.

– Remoteness - in the past, Lenawee County was viewed as remote from population centers such as Detroit, Ann Arbor and Toledo. However, as commuters become willing to travel farther to work, this is becoming less of a factor.

Population by Community

As the population of the county changed, individual cities, villages and townships also underwent population changes of their own. From 1930-2000, the population of the county increased by 49,041 people. Of this total growth, cities absorbed 15,391 of the increase, villages added 4,290 residents, and township population grew by 28,820 (see Figure 2.3).

Figure 2.3



Source: U.S. Census Bureau

Table 2.3 shows the population trend by community from 1930-2000.

Table 2.3
Lenawee County Population by Local Unit of Government, 1930-2000

Unit of Government	Population								Pct. Growth, 1930-2000
	1930	1940	1950	1960	1970	1980	1990	2000	
Cities									
Adrian	13,064	14,230	18,393	20,347	20,382	21,276	22,097	21,574	65.1
Hudson	2,361	2,426	2,773	2,546	2,618	2,545	2,580	2,499	5.8
Morenci	1,773	1,845	1,983	2,053	2,132	2,110	2,342	2,398	35.3
Tecumseh	2,456	2,921	4,020	7,045	7,120	7,320	7,462	8,574	249.1
Villages									
Addison	452	465	488	575	595	655	632	627	38.7
Blissfield	2,013	2,144	2,365	2,653	2,753	3,107	3,172	3,223	60.1
Britton	368	409	517	622	697	693	694	699	89.9
Cement City *	n/a	n/a	n/a	429	489	501	465	422	n/a
Clayton	372	375	467	470	505	396	384	326	(12.4)
Clinton	1,026	1,126	1,344	1,481	1,677	2,342	2,475	2,293	123.5
Deerfield	512	569	725	866	834	957	922	1,005	96.3
Onsted	375	414	486	526	555	670	801	813	116.8
Townships									
Adrian	1,759	2,728	2,600	3,341	3,725	4,522	4,336	5,749	226.8
Blissfield	725	715	803	805	722	637	677	692	(4.6)
Cambridge	695	794	1,081	1,617	2,092	3,130	3,628	4,486	545.5
Clinton	432	437	525	817	863	1,071	1,082	1,331	208.1
Deerfield	833	776	822	790	755	772	737	765	(8.2)
Dover	964	1,007	1,082	1,259	1,325	1,703	1,608	1,634	69.5
Fairfield	1,739	1,790	2,025	2,117	2,047	1,986	1,883	1,756	1.0
Franklin	1,108	1,107	1,499	1,813	1,768	2,463	2,473	2,939	165.3
Hudson	910	911	966	1,145	1,180	1,384	1,300	1,403	54.2
Macon	905	862	1,000	1,262	1,316	1,480	1,421	1,448	60.0
Madison	1,655	1,773	2,990	5,226	5,494	5,035	5,351	8,200	395.5
Medina	1,359	1,215	1,345	1,301	1,227	1,455	1,368	1,227	(9.7)
Ogden	1,399	1,372	1,249	1,305	1,553	1,224	1,146	1,063	(24.0)
Palmyra	1,551	1,652	1,767	2,418	2,424	2,476	2,602	2,366	52.5
Raisin	1,196	1,258	1,767	3,061	4,322	5,499	5,648	6,507	444.1
Ridgeway	936	897	953	983	1,059	1,053	878	881	(5.9)
Riga	1,781	1,607	1,646	1,863	1,675	1,671	1,471	1,439	(19.2)
Rollin	1,151	1,228	1,977	2,361	2,620	3,012	2,891	2,721	136.4
Rome	971	1,017	1,111	1,219	1,330	1,681	1,632	1,772	82.5
Seneca	1,170	1,185	1,262	1,297	1,337	1,377	1,289	1,303	11.4
Tecumseh	435	469	1,032	775	1,048	1,480	1,539	1,881	332.4
Woodstock	1,313	1,386	1,566	1,401	1,712	2,265	2,490	2,874	118.9
TOTAL	**49,849**	**53,110**	**64,629**	**77,789**	**81,951**	**89,948**	**91,476**	**98,890**	**98.4**

Source: US Census Bureau

* The Village of Cement City, incorporated during the 1950's, includes Lenawee County portion only.

The total population of Lenawee County grew 98% from 1930-2000. Among local units of government, the largest percentage growth occurred in the townships of Cambridge, Adrian, Clinton, Madison, Raisin and Tecumseh, and the City of Tecumseh. During the same period, population losses occurred in the townships of Blissfield, Deerfield, Medina, Ogden, Ridgeway and Riga, and the Village of Clayton.

Regional Growth

Growth tends to occur at varying times, rates and places. Therefore, four Lenawee County regions are identified herein to evaluate regional growth patterns. The four regions are the *Urban Core*, the *US-12/Irish Hills area*, the *Other Cities and Villages,* and the *Rural Townships*. Table 2.4 provides the regional groupings. The growth pattern of the four regions is described in the subsequent paragraphs. Figure

Table 2.4
Lenawee County Regional Groupings

Region	Townships	Cities	Villages
Urban Core	Adrian Clinton Madison Raisin Tecumseh	Adrian Tecumseh	Clinton
US-12/Irish Hills	Cambridge Franklin Woodstock	None	Cement City Onsted
Other Cities and Villages	None	Hudson Morenci	Addison Blissfield Britton Clayton Deerfield
Rural Townships	Blissfield Deerfield Dover Fairfield Hudson Macon Medina Ogden Palmyra Ridgeway Riga Rollin Rome Seneca	None	None

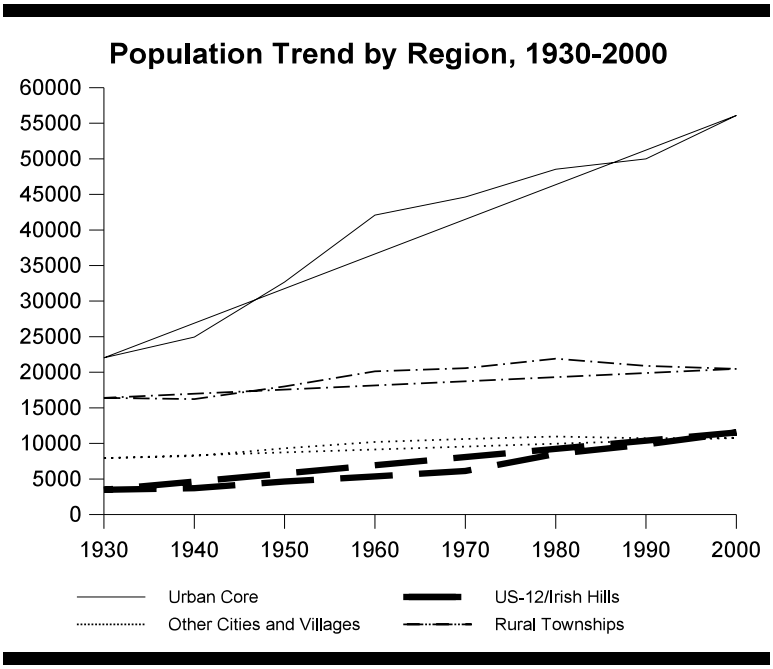
2.4 provides a graphical display of regional population growth. Table 2.5 breaks out population growth by community by region.

The *Urban Core* is defined as the grouping of communities along the M-52/ Occidental/Clinton-Tecumseh corridor from Madison Township in the south to the Village of Clinton in the north. This core area contained 56,109 people in 2000, or 57% of the total county population. While each region of the county has increased, the urban core region has gained an increasing proportion of the total population. From 1930-2000, this area increased in proportion from 44% of the county population to 57%.

The urban core nearly doubled in population in the 30-year period from 1930-1960. However, during the subsequent 30 years, growth slowed considerably to 19%. From 1990-2000, the growth rate in the urban core was 12%. This population increase is typical in the vicinity of Michigan's mid-sized cities with minimal urban growth and rapid fringe development.

As the name implies, the communities in the *US-12/Irish Hills* share the characteristics of being located along US-12 and in the Irish Hills area. This region displays moderate to high growth rates when compared to the Rural Townships area. Though still relatively small in population, this region grew at a higher rate than any other from 1930-2000.

Figure 2.4



Source: U.S. Census Bureau

In 1930, the US-12/Irish Hills region was the county's smallest in terms of population with 3,491 people. Significant growth began in this region during the 1940's and continued through the 1960's with growth rates ranging from 1.4 to 2.5 percent per year. The 1970's saw the greatest growth in this region with growth at an annual rate of nearly 4%. Though the 1980's was a decade of recession and slow growth in Michigan, the US-12/Irish Hills area still grew at an annual rate of 1.6%. The region grew 17% during the 1990's thereby surpassing the Other Cities and Villages region.

There are several reasons for the growth seen in the urban core, and more recently in the US-12/Irish Hills regions including the following:

- favorable soils for septic tanks and wells
- good access to transportation routes
- proximity to larger cities
- scenic views
- presence of central sewer and water

Not strictly a region but rather a collection of several communities, the *Other Cities and Villages* region includes those incorporated villages and cities that are not located within the urban core or the US-12/Irish Hills area. With total growth of about 36% from 1930-2000, the other cities and villages experienced relatively little population increase. This slow growth could be expected because most of the communities are nearly built out and cannot expand significantly without large capital expenditures for upgrade of public infrastructure. Though there was some growth in these communities from 1930-1960, there has been very little growth since that time. This region has maintained a stable population since 1960.

The *Rural Township* region comprises the townships outside the urban core and US-12/Irish Hills area. They are predominately located in the eastern and southern portions of the county. Of the four regions, the smallest population increases occurred in rural townships.

Even though the rural townships saw a total population growth of 25% from 1930-2000, growth in this region has stabilized over the last 40 years. Though the population of this region increased 23% from 1930-1960, it has increased only 2% since 1960. In fact, the townships of Blissfield, Deerfield, Medina, Palmyra, Ridgeway, and Riga have lost population since 1960. Some of the reasons for this slow growth and population decline include the following:

- a lack of the young people choosing to follow in their parents' footsteps in farming
- the existence of poor soils for septic systems
- lack of central sewer and water systems
- annexation of township land by cities and village boundary changes
- zoning ordinances which restrict dense residential development.

Table 2.5
Population Growth by County Region, 1930-2000

	1930	1940	1950	1960	1970	1980	1990	2000	% Change, 1930-2000
Urban Core	**22,023**	**24,942**	**32,671**	**42,093**	**44,631**	**48,545**	**49,990**	**56,109**	**154.8**
-Adrian City	13,064	14,230	18,393	20,347	20,382	21,276	22,097	21,574	65.1
-Adrian Township	1,759	2,728	2,600	3,341	3,725	4,522	4,336	5,749	226.8
-Clinton Township	432	437	525	817	863	1,071	1,082	1,331	208.1
-Clinton Village	1,026	1,126	1,344	1,481	1,677	2,342	2,475	2,293	123.5
-Madison Township	1,655	1,773	2,990	5,226	5,494	5,035	5,351	8,200	395.5
-Raisin Township	1,196	1,258	1,767	3,061	4,322	5,499	5,648	6,507	444.1
-Tecumseh City	2,456	2,921	4,020	7,045	7,120	7,320	7,462	8,574	249.1
-Tecumseh Township	435	469	1,032	775	1,048	1,480	1,539	1,881	332.4
US-12/Irish Hills Area	**3,491**	**3,701**	**4,632**	**5,357**	**6,127**	**8,528**	**9,857**	**11,534**	**230.4**
-Cambridge Township	695	794	1,081	1,617	2,092	3,130	3,628	4,486	545.5
-Cement City Village	n/a	n/a	n/a	429	489	501	465	699	n/a
-Franklin Township	1,108	1,107	1,499	1,813	1,768	2,463	2.473	2,939	165.3
-Onsted Village	375	414	486	526	555	670	801	813	116.8
-Woodstock Township	1,313	1,386	1,566	1,401	1,712	2,265	2,490	2,874	118.9
Balance of Cities and Villages	**7,941**	**8,233**	**9,318**	**10,214**	**10,623**	**10,964**	**10,726**	**10,777**	**35.7**
-Addison Village	452	465	488	575	595	655	632	627	38.7
-Blissfield Village	2,013	2,144	2,365	2,653	2,753	3,107	3,172	3,223	60.1
-Britton Village	368	409	517	622	697	693	694	699	89.9
-Clayton Village	372	375	467	470	505	396	384	326	-12.4
-Deerfield Village	512	569	725	866	834	957	922	1,005	96.3
-Hudson City	2,361	2,426	2,773	2,546	2,618	2,545	2,580	2,499	5.8
-Morenci City	1,773	1,845	1,983	2,053	2,132	2,110	2,342	2,398	35.3

	1930	1940	1950	1960	1970	1980	1990	2000	% Change, 1930-2000
Rural Townships	**16,394**	**16,234**	**18,008**	**20,125**	**20,570**	**21,911**	**20,903**	**20,470**	**24.9**
-Blissfield Township	725	715	803	805	722	637	677	692	-4.6
-Deerfield Township	833	776	822	790	755	772	737	765	-8.2
-Dover Township	964	1,007	1,082	1,259	1,325	1,703	1,608	1,634	69.5
-Fairfield Township	1,739	1,790	2,025	2,117	2,047	1,986	1,883	1,756	1.0
-Hudson Township	910	911	966	1,145	1,180	1,384	1,300	1,403	54.2
-Macon Township	905	862	1,000	1,262	1,316	1,480	1,421	1,448	60.0
-Medina Township	1,359	1,215	1,345	1,301	1,227	1,455	1,368	1,227	-9.7
-Ogden Township	1,399	1,372	1,249	1,305	1,553	1,224	1,146	1,063	-24.0
-Palmyra Township	1,551	1,652	1,767	2,418	2,424	2,476	2,602	2,366	52.5
-Ridgeway Township	936	897	953	983	1,059	1,053	878	881	-5.9
-Riga Township	1,781	1,607	1,646	1,863	1,675	1,671	1,471	1,439	-19.2
-Rollin Township	1,151	1,228	1,977	2,361	2,620	3,012	2,891	2,721	136.4
-Rome Township	971	1,017	1,111	1,219	1,330	1,681	1,632	1,772	82.5
-Seneca Township	1,170	1,185	1,262	1,297	1,337	1,377	1,289	1,303	11.4
Total	**49,849**	**53,110**	**64,629**	**77,789**	**81,951**	**89,948**	**91,476**	**98,890**	**98.4**

Source: US Census Bureau

Population Density

Population density provides an indication of the degree of the clustering of development. This provides information on the efficiency of public infrastructure, or how much "bang for the buck" can be gotten per dollar of capital expenditure.

Lenawee County has a total area of 761.4 square miles. With a population of 98,890 in 2000, the overall population density of the county is 130 people per square mile. Regionally, densities range from a high of 1,078 people per square mile in other cities and villages to a low of 39 persons per square mile in the rural townships.

Table 2.6
Population Density by Community and Region, 2000

	Area (Square Miles)	Population (2000)	Population Density (per square mile)
Urban Core	**145.1**	**56,109**	**386.7**
-Adrian City	7.1	21,574	3,023.5
-Adrian Township	34.6	5,749	166.4
-Clinton Township	16.6	1,331	80.2
-Clinton Village	1.5	2,293	1,533.8
-Madison Township	30.7	8,200	267.1
-Raisin Township	36.3	6,507	179.3
-Tecumseh City	5.2	8,574	1,659.4
-Tecumseh Township	13.1	1,881	143.6
US-12/Irish Hills Area	**105.1**	**11,534**	**109.7**
-Cambridge Township	31.0	4,486	144.7
-Cement City Village	0.7	422	606.7
-Franklin Township	38.5	2,939	76.3
-Onsted Village	1.0	813	849.7
-Woodstock Township	33.9	2,874	84.8
Other Cities and Villages	**10.0**	**10,777**	**1,077.7**
-Addison Village	1.0	627	642.6
-Blissfield Village	2.1	3,223	1,520.7
-Britton Village	0.9	699	799.6
-Clayton Village	0.8	326	428.2
-Deerfield Village	0.9	1,005	1,073.2
-Hudson City	2.2	2,499	1,155.4
-Morenci City	2.1	2,398	1,134.1

	Area (Square Miles)	Population (2000)	Population Density (per square mile)
Rural Townships	**489.9**	**19,075**	**38.9**
-Blissfield Township	21.1	698	36.8
-Deerfield Township	25.1	765	31.6
-Dover Township	34.7	1,634	47.2
-Fairfield Township	42.0	1,756	41.8
-Hudson Township	35.4	1,403	44.4
-Macon Township	32.6	1,448	44.4
-Medina Township	47.6	1,227	25.8
-Ogden Township	42.0	1,063	25.3
-Palmyra Township	36.7	2,366	64.5
-Ridgeway Township	27.8	881	31.7
-Riga Township	40.9	1,439	35.2
-Rollin Township	28.1	1,320	47.3
-Rome Township	35.9	1,772	49.4
-Seneca Township	40.0	1,303	32.6
TOTAL	**761.3**	**98,890**	**131.8**

Source: U.S. Census Bureau

Not surprisingly, densities are greatest in cities and villages where more services are provided. All the cities and villages have population densities greater than 500 people per square mile except Clayton. Densities in Adrian, which are approximately twice as great as any other local unit in the county, reflect the influence of the group quarters population and relatively small parcel size. The townships of Adrian, Madison and Raisin reflect the desire of many people to be just outside of town on acreage properties. This is the area of rapid growth and residential sprawl. The rural townships are away from services and employment opportunities which is reflected in the fact that none of these townships exceed 50 people per square mile.

Population Projections

The analysis of population projections is an important component of the land use plan. It provides information that allows communities to prepare for the impact of growth and potential need for community facilities and services. The needs of the community and the ability of the local government to provide services will assist in determining how and where growth should occur.

Projecting population is a difficult matter. Growth fluctuates according to age trends, migration patterns, and fertility and death rates. Generally, the larger the population, the more predictable will be the population forecast. Most methods for projecting population make use of current trends and assume they will continue in the future.

Three methods were used to project Lenawee County's population to the year 2020. The methods used are known as constant-share, linear regression, and the cohort-survival method. Because projecting population is an uncertain proposition, all methods have their strengths and weaknesses. The projection methods are described as follows:

- The *constant-share method* assumes that the county will maintain a consistent percentage of the State of Michigan's population. It gains accuracy from the fact that population projections are more accurate when larger populations are used. However, the constant-share method is generally inaccurate on the low side for Lenawee County because the county has grown at a faster rate than the State.

- *Linear regression* assumes that the Township will continue to grow at the same rate as it did between 1990 and 2000. The annual growth rate for that period was about 0.8%. This is generally more accurate than the constant-share method because the Township grows more rapidly in number with an increasing population.

- The *cohort-survival* method uses census information regarding age and sex and advances age groups through time. It makes assumptions regarding fertility, mortality and migration patterns and applies these assumption to the advancing age groups. This is the most sophisticated method used in this plan to project the population of the county. The source of the cohort-survival projections was the Michigan Department of Management and Budget .

Figure 2.5 and Table 2.7 present the results of the three methods.

Figure 2.5

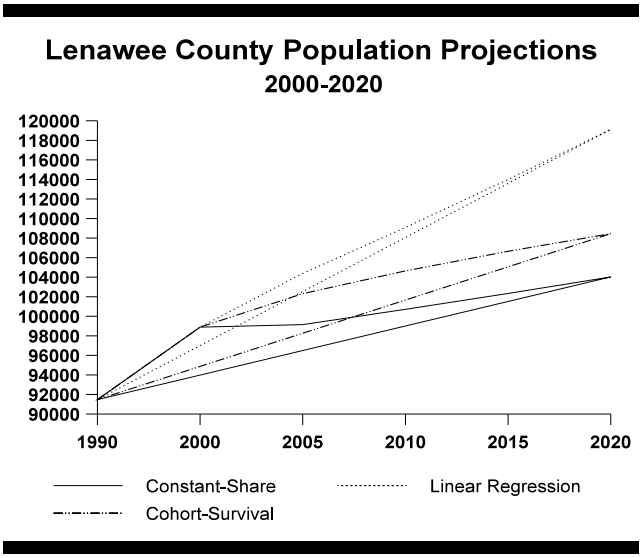


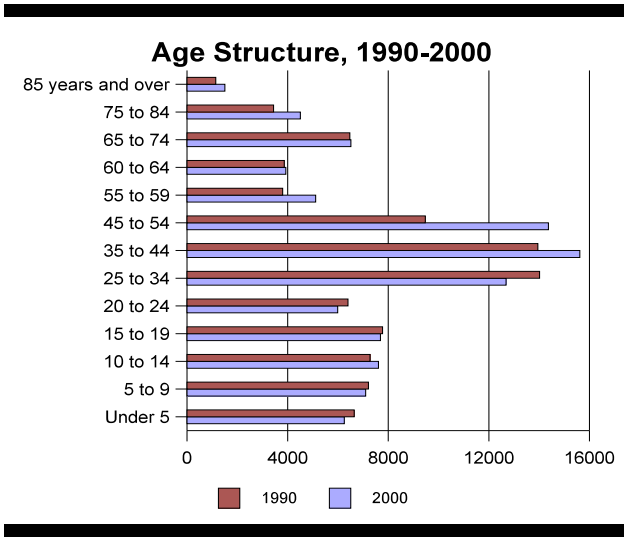
Table 2.7
Population Projections by Method, 2000-2020

Method	1990 actual	2000 actual	2005 projected	2010 projected	2015 projected	2020 projected	Numerical Increase, 2000-2020
Constant-Share	91,476	98,890	98,055	99,605	101,215	102,886	3,996
Linear Regression	91,476	98,890	102,897	107,067	111,406	115,921	17,031
Cohort-Survival	91,476	98,890	102,309	104,640	106,653	108,452	9,562

As was pointed out previously, the constant-share method tends to yield projections that are low. The other two methods tend to be more accurate with the most scientific method being the cohort-survival. Future county growth is likely to be along the lines of the linear regression or cohort-survival methods which implies that Lenawee County's population will be between 109,000 and 116,000 in 2020 if current trends continue. Therefore, Lenawee County will add from 10,000 to 17,000 people between the year 2000 and 2020. In the meantime, population trends can be monitored using census and building permit data.

Age Trends, 1990, 2000 and 2020

Figure 2.6



Source: U.S. Census Bureau

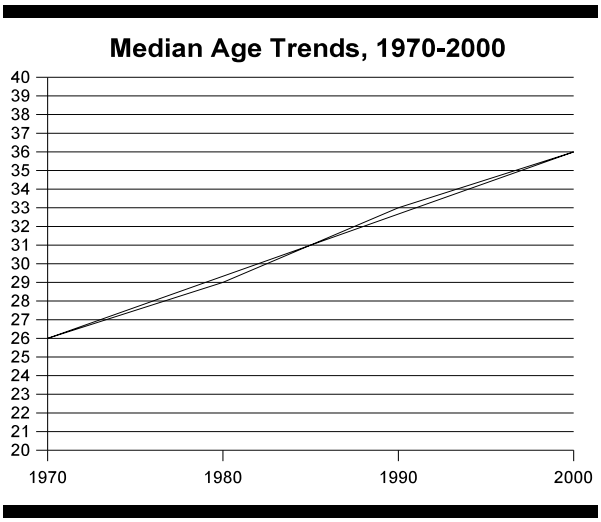
Population trends in the United States are influenced greatly by the "Baby Boom " which began with the return of servicemen after World War II and continued through the 1950's. According to the 2000 Census, the median age of the people of the United States is higher than it has ever been. Figure 2.6 shows the effect of the baby boom on the age structure of Lenawee County.

The figure shows increases in all age groups above the age of 35 and decreases in nearly all age brackets less than age 35. Therefore, the population growth that the county experienced in the 1990's was primarily felt in the higher age groups. Obviously, an aging population shows the need for more senior services.

The median age is another indicator of the age of a population. The median age is the point at which half of the population is older and half is younger. The trend in median age provides a convenient measurement of whether a population is getting younger or younger.

Figure 2.7 shows the trend in median age for Lenawee County from 1970 to 2000. The figure shows that the median age of the county increased 10 years during that period. The median age will continue to increase with the baby boom generation. In the future, more community resources will need to be devoted to an older population. However, there will be less school enrollment growth per unit growth in population therefore less need for growth in school infrastructure.

Figure 2.7



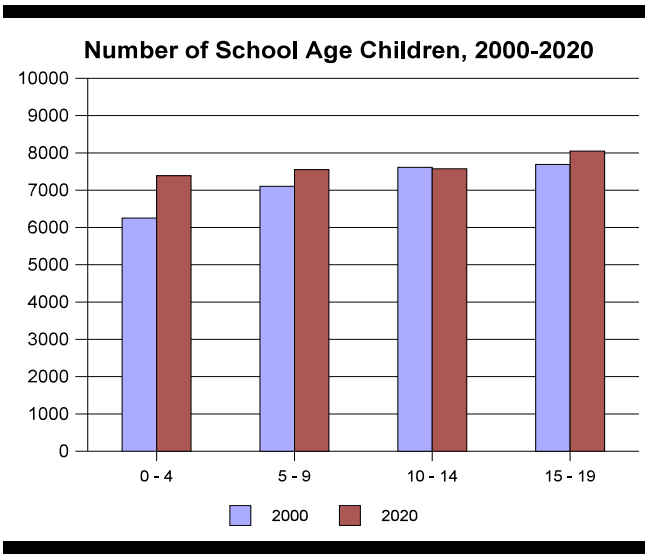
Source: U.S. Census Bureau

School Enrollment, 1990,1995 and 2000

Lenawee County's increasing median age is reflected in school enrollment trends. While the population of the county increased 8% during the 1990's, total school enrollment increased only 1%. Therefore, much of the population increase has been in age groups that are not of school age (see Table 2.8).

In spite of the increasing overall county population the number of students at elementary, middle and high school levels is either stable or is declining.

Figure 2.8



Source: U.S. Census Bureau

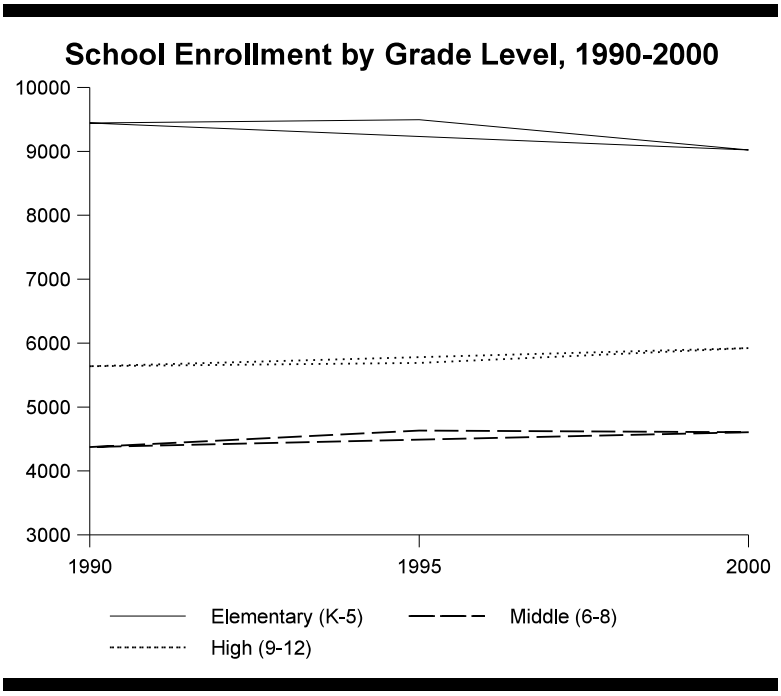
Michigan Department of Management and Budget projections for year 2020 indicate that minimal growth is expected in the school age population through the year 2020. Figure 2.8 shows that small gains or declines are projected in each of the school age brackets. In addition, the largest population gains are likely to occur in the job force and retirement age brackets above the age of 20.

Higher Education

According to the 2000 Census, the county, state and nation showed significant increases in the number of people who achieved higher levels of higher levels of education. More and more people are choosing to advance beyond a high school education to develop specialized skills.

Lenawee County contains three schools of higher education, all of which are located in the City of Adrian. These are Adrian College, Siena Heights University, and the Adrian branch of Jackson Community College.

Figure 2.9



Source: U.S. Census Bureau

Adrian College evolved from a theological institute founded by the Wesleyan Methodist at Leoni, Michigan in 1845, and in 1868, became affiliated with the United Methodist Church. The college has an enrollment of 1,100 students. The college features twenty-one academic departments organized according to traditional academic disciplines. The college offers a Baccalaureate degree program, an Associate of Arts degree, and six types of bachelor degree including Science, Arts, Fine Arts, Music, Education and Business Administration.

Siena Heights University is a private, liberal arts, Catholic university founded and sponsored by the Adrian Dominican Sisters. The university is headquartered in Adrian but also has degree completion centers in Southfield, Monroe, Jackson, Battle Creek, Kalamazoo, Benton Harbor, and Port Huron. The university offers associates, bachelors and masters degrees in five academic divisions: Business and Management, Computing, Humanities, Social and Behavior Science, and Visual and Performing Arts, and Education. The 2000-2001 enrollment /for the university was 1,972 students including 259 graduate students.

Jackson Community College was founded as a Jackson Junior College in 1928. In 1962, Jackson County voters created Jackson Community College as a distinct entity. Rapid enrollment in the 1960's forced JCC to build new campuses. Today, the

public college owns more than 500 acres and sits on a scenic site six miles south of the City of Jackson, with extension centers in several locations including the City of Adrian. JCC offers six certificate of completion programs and three associate degrees including Arts, Science and General Studies. The Lenawee Campus of JCC is located in the City of Adrian. Similar to the main campus of JCC, the Adrian campus features a variety of degree programs.

Disabled Population

The 2000 Census indicates that there are 16,912 people in Lenawee County with some form of mobility or work disability representing 17% of the population. The highest percentage of the disabled population is found among senior citizens. Among the 53,918 people aged 21 to 64, census figures indicated that 9,489 people had a disability of which 55% are employed.

Mobility

As with the remainder of the nation, Lenawee County residents are becoming increasingly mobile. In 2000, nearly 42% of county residents lived in a different house in 1995 than they did in 2000. Of the proportion that relocated, 58% moved from somewhere else within Lenawee County and 42% relocated from an area outside the County. Of those who moved into Lenawee County from outside the County, 61% relocated from another location in Michigan, 36% came from another state, and 4% moved to Lenawee County from outside the United States.

Table 2.8
School Enrollment by Lenawee County School District, 1990, 1995 and 2000

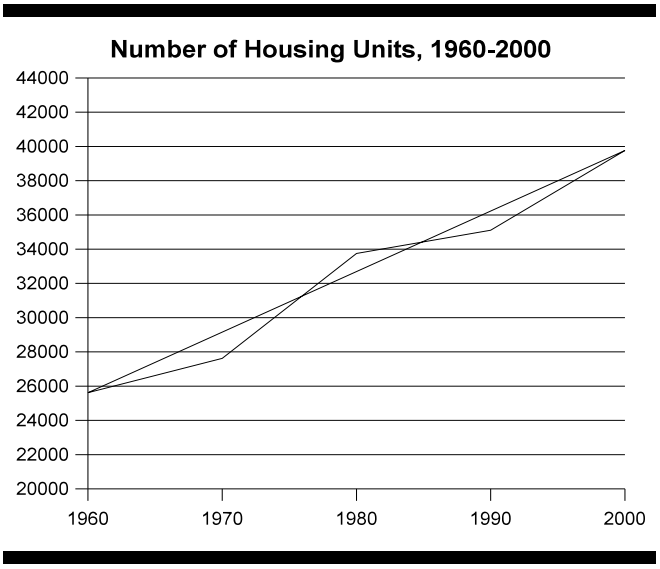
School District	1990-1991 Enrollment	1995-1996 Enrollment	2000-2001 Enrollment	Numerical Change, 1990-2000	Percentage Change, 1990-2000
Public Schools					
Addison	1,209	1,259	1,342	133	11.0
Adrian	5,057	4,801	4,184	(873)	(17.3)
Blissfield	1,526	1,603	1,410	(116)	(7.6)
Britton	405	452	530	125	30.9
Clinton	1,115	1,225	1,230	115	10.3
Deerfield	401	421	404	3	0.7
Hudson	1,251	1,221	1,097	(154)	(12.3)
Madison	644	683	1,156	512	79.5
Morenci	1,054	997	910	(144)	(13.7)
Onsted	1,600	1,698	1,835	235	14.7
Sand Creek	849	940	984	135	15.9
Tecumseh	3,113	3,120	3,280	167	5.4
Total Public Schools	18,224	18,420	18,362	138	0.8
Non-Public Schools					
Benedict Memorial	11	15	18	7	63.6
Berean Baptist	125	116	115	(10)	(8.0)

School District	1990-1991 Enrollment	1995-1996 Enrollment	2000-2001 Enrollment	Numerical Change, 1990-2000	Percentage Change, 1990-2000
Lenawee Christian	619	667	664	45	7.3
Manitou Baptist (approximate)	13	20	0	(13)	(100.0)
Sacred Heart	78	62	74	(4)	(5.1)
St. John's	58	68	65	7	12.1
St. Joseph	136	217	248	112	82.4
St. Stephen's	80	77	62	(18)	(22.5)
Total Private Schools	1,120	1,242	1,246	126	11.3
TOTAL	19,344	19,662	19,608	264	1.4

Source: Lenawee ISD

Chapter 3
Housing

Figure 3.1



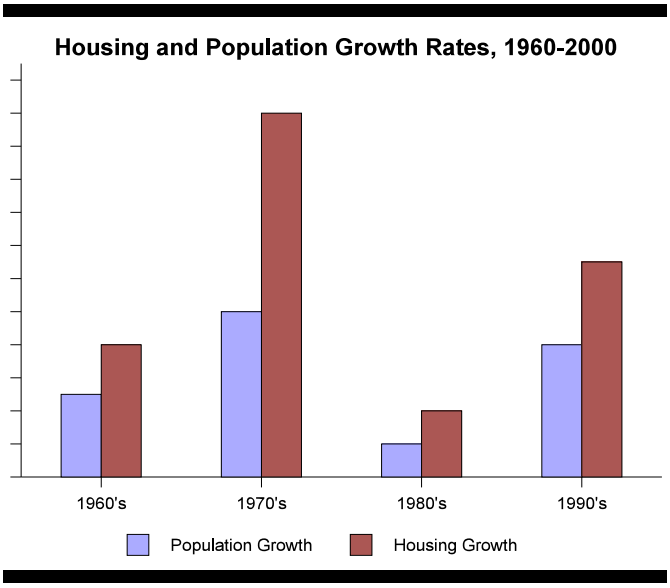
Source: U.S. Census Bureau

Number of Housing Units

As shown in Figure 3.1, the total number of Lenawee County housing units has increased each decade since 1960 with the greatest increase occurring in the 1970's. The number of housing units in Lenawee County has been increasing at a higher rate than the population. This results from many factors including a long-term trend of fewer persons per household.

Figure 3.2 is a comparison of the growth rate of housing units and population growth from 1960-2000. The figure shows that the rate of growth of housing units parallels the growth of population. However, housing growth is always higher than the population growth. The 1970's contained the greatest contrast with the number of dwelling units increasing 22% from 1990, while the population grew only 10% during the same period.

Figure 3.2



Source: U.S. Census Bureau

There are several reasons for the gap between housing and population growth rates. The most significant reason is the decreasing ratio of persons per household. This is due to the decreasing family size and the tendency for more single person households.

Persons Per Household

A nearly universal trend in the United States for the last five decades has been a decreasing persons per household (PPH) ratio.[2]

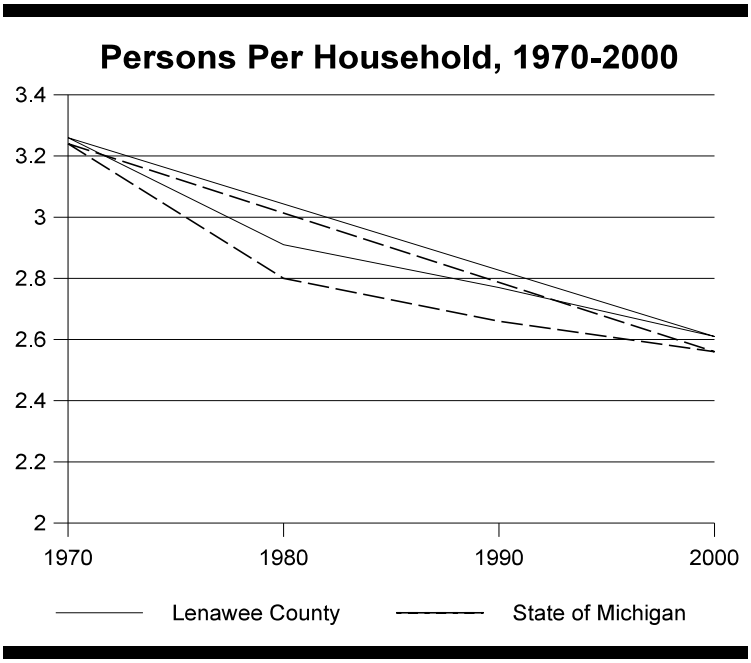
[2] The persons per household ratio is defined as the number of people living in occupied housing units divided by the total number of occupied housing units.

Lenawee County followed this trend as the PPH ratio declined from 3.24 to 2.56 over the thirty year period from 1970-2000.

The following demographic factors have created the decline in the PPH ratio:

- later marriage age
- higher percent of people never married
- the delaying of having children or not to have children at an
- increased divorce rate
- increasing number of senior citizens living with spouse or alone.

Figure 3.3



Source: U.S. Census Bureau

The result of the decreased PPH is that more housing is needed to house an equivalent number of people. For example, on average, in 2000 it took 80 additional dwelling units to house 1,000 people in Lenawee County than it did in 1970.

The decline in persons per household trend for Lenawee County and the State of Michigan is shown in Figure 3.3. Though the county has remained higher than the state, the decline has followed a similar path.

Lenawee County exhibited the greatest decline during the 1970's when PPH declined from 3.26 to 2.91. Significantly, the 1970's was the decade with the largest gap between the increase in housing units and population.

During the 1990's, the PPH ratio continued its decline in Lenawee County from 2.77 in 1990 to 2.56 in 2000. In the future, this trend will probably continue at a slower rate as the trends leading to the reduction may have already reached their peak. However, there will be a large increase in the number of senior citizens as the baby boom generation reaches retirement age beginning in approximately 2010.

Owner units tend to feature a higher PPH than renter units. In 2000 in Lenawee County, the PPH ratio for owner units was 2.69 while for rental units the ratio was 2.33.

Characteristics of Living Quarters

There are two classifications of living quarters - households and group quarters. The entire population of a community resides in one of these living arrangements (Table 3.1).

Households include the people who reside housing units that are occupied as separate living quarters. Examples include single-family homes, duplexes, mobile homes, and apartments. Households are made up of families and non-families.

Group quarters is a general classification that is intended to include those people who do not reside in a household. Examples include jails, halfway houses, nursing homes, mental hospitals, group homes, maternity homes for unwed mothers, college dormitories, and emergency shelters.

The following table shows a comparison of living quarters for Lenawee County from 1990 to 2000.

Table 3.1
Lenawee County Households and Group Quarters, 1990-2000

	1990	2000	Percent Change, 1990-2000
Households	**31,635**	**35,930**	**13.6**
Total Families	24,160	26,052	7.8
Married couples	20,032	21,074	5.2
Female headed	3,138	3,594	14.5
Male headed (no spouse)	990	1,384	39.8
Total Non-Families	7,475	9,878	32.1
Living alone	6,382	8,244	29.2
Other non-family	1,093	1,634	49.5
Group Quarters Population	**3,943**	**5,146**	**30.5**
Institutionalized	2,249	3,194	42.0
Other Group Quarters	1,694	1,952	15.2

Source: US Census Bureau

Generally, the largest percentage increases were in non-families and group quarters population.

Occupancy and Tenure

In 2000, the total number of housing units in Lenawee County was 39,769. Of this total, 35,930 were occupied and 3,839 were vacant. Of the occupied units, 28,102 were owner units and 7,828 were renter units. Table 3.2 and Figure 3.4 show the county trend in housing tenure from 1970-2000.

Table 3.2
Lenawee County Housing Tenure, 1970-2000

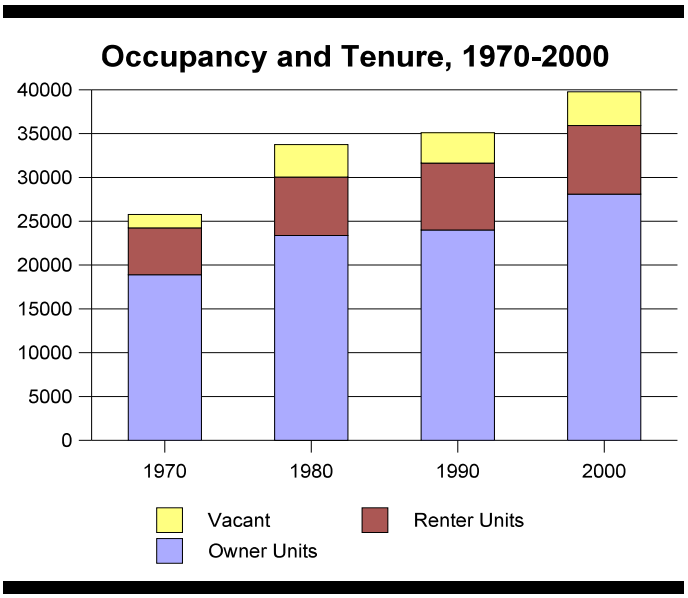
	1970	1980	1990	2000	Numerical Change, 1980-2000	Percentage Change, 1980-2000
Owner Units	18,891	23,374	23,996	28,102	9,211	48.8
Renter Units	5,348	6,670	7,639	7,828	2,480	46.4
Vacant Units	1,541	3,706	3,469	3,839	2,298	149.1
Total Units	**25,780**	**33,750**	**35,104**	**39,769**	**13,989**	**54.3**

Source: US Census Bureau

The total number of housing units increased 13,989 from 1970-2000 in Lenawee County. This is an increase of approximately 54% while the population grew about 21%. Again, this is reflected in the decreasing persons per household ratio.

The number of owner units increased substantially from 1970-2000. However, over time, the growth rate of owner units was not uniform as it was high during the 1970's and 1990's, but low during the 1980's. In 2000, the number of owner units stood at 28,102, or 71% or the total housing stock whereas in 1970, owner units made up 73% of the supply.

Figure 3.4



Source: U.S. Census Bureau

The number of rental units increased at a rapid rate during the 1970's and 1980's, but slowly during the 1990's. The explanation for this decrease is likely related to the improved economy in Lenawee County in the 1990's, compared to the recession period of the 1980's. The standard of living in Michigan improved during the last decade to a point of unprecedented prosperity. The prosperity was reflected in an improved housing market.

There has been no trend in the housing vacancy rate over the last 20 years. The total number of vacant housing units was 3,839 in 2000 which is 10% of the county's housing units. In 1970, the percentage was 6% of the total but it has made up about 10% of the housing stock in each successive census. Several subcategories make up the vacant housing total. Among these is the category of seasonal housing units.

Seasonal Housing Units

Seasonal housing units consist of those units that are used only in certain seasons or for weekend or other occasional use throughout the year. Seasonal units include such structures as beach cottages, hunting cabins, and time-share condominiums. In Lenawee County, most seasonal units can often be found in communities with lakes.

The perception exists that there are a number of seasonal housing units being converted to full-time residences. Due to the fact that some of these units are located in areas without central sewer systems, and because of the fact that they exist in lake areas, the potential for surface and ground water contamination is a concern.

In 2000, the number of seasonal housing units in Lenawee County was 1,911 which is a decrease from the 1990 total of 2,177. Ninety-three percent of the County's seasonal units can be found in the Townships of Cambridge, Franklin, Hudson, Rollin and Woodstock (Table 3.3).

Table 3.3
Lenawee County Trends in Seasonal Housing, 1990-2000

Community	1990 Seasonal Housing Units	2000 Seasonal Housing Units	Numerical Difference, 1990-2000	Percentage Difference, 1990-2000
Cambridge Township	707	610	(97)	(14)
Franklin Township	176	158	(18)	(10)
Hudson Township	120	70	(50)	(42)
Rollin Township	668	578	(90)	(13)
Woodstock Township	390	359	(31)	(8)
Subarea Total	**2,061**	**1,775**	**(286)**	**(14)**

Source: U.S. Census Bureau

The reduction of 286 seasonal housing units from 1990-2000 suggests that the conversion in lake areas remains in progress. The largest numerical reductions occurred in both Cambridge and Rollin Townships.

Age of Housing Units

Table 3.4 shows that about half of the housing stock in Lenawee County was constructed prior to 1960 and half was built after that year. Cities and villages tend to contain an older housing stock compared to townships. However, due to limitations of the soils for septic tank absorption fields, the housing stock in most of the townships in the south and east portions of the county are older due to a lack of growth in recent years.

Table 3.4
Lenawee County Age of Housing Units,2000

Period of Construction	Number of Housing Units	Percentage of Total
1999 to March, 2000	941	2.4
1995 to 1998	3,496	8.8
1990 to 1994	2,473	6.2
1980 to 1989	2,879	7.2
1970 to 1979	5,788	14.6
1960 to 1969	3,604	9.1
1940 to 1959	8,553	21.5
1939 or earlier	12,035	30.3
Total	**39,769**	**100.0**

Source: US Census Bureau

Building Permits

The 1990's saw the issuance of 4,866* building permits for new housing units in Lenawee County. In terms of historic housing growth, this ranks the 90's behind only the decades of the 1970's and 1950's.

Table 3.5 shows the number of dwelling units constructed within the county's four demographic regions. The Urban Core easily surpassed each of the other regions with a total of 3,075 new housing permits being issued representing 63% of all new units constructed during the decade. The City of Tecumseh, Madison Township, Adrian Township and Raisin Township were the four highest growth communities accounting for 50% of new housing construction.

*Building permit information is made available by the U.S. Census Bureau. The data do not include manufactured homes.

Table 3.5
Building Permits by Community and Region, 1990-2000

	Number of Permits
Urban Core	**3,075**
-Adrian City	321
-Adrian Township	664
-Clinton Township	124
-Clinton Village	13
-Madison Township	573
-Raisin Township	506
-Tecumseh City	691
-Tecumseh Township	183
US-12/Irish Hills Area	**1,053**
-Cambridge Township	472
-Cement City Village	5
-Franklin Township	225
-Onsted Village	56
-Woodstock Township	295
Balance of Cities and Villages	**185**
-Addison Village	11
-Blissfield Village	75
-Britton Village	4
-Clayton Village	2
-Deerfield Village	6
-Hudson City	57
-Morenci City	30
Rural Townships	**553**
-Blissfield Township	18
-Deerfield Township	0
-Dover Township	0
-Fairfield Township	48
-Hudson Township	83
-Macon Township	85
-Medina Township	45
-Ogden Township	0
-Palmyra Township	50
-Ridgeway Township	31
-Riga Township	12
-Rollin Township	142
-Rome Township	14
-Seneca Township	25
TOTAL	**4,866**

Source: U.S. Census Bureau

The US-12/Irish Hills region saw the next highest level of housing construction as permits for 1,053 (22% of county total) new housing units were issued during the1990's. Cambridge Township issued the highest number of permits in this region while Woodstock and Franklin townships also experienced relatively high growth.

The Balance of City and Village regions experienced very little housing construction. With permits for 185 new units, this area accounted for only 4% of the new construction in the county. These communities are essentially built out and there may not be readily available land for development without the acquisition and assembly of land.

Rural Townships issued construction permits for a total of 553 new units, or 11% of the total. Rollin Township was the only rural township to issue more than 100 permits during the decade. Dover, Ogden and Deerfield townships are not zoned and did not report their building permit activity to the Census Bureau. As a result, the accuracy of the data from the Rural Townships region is lacking. There have not been any large residential developments in these townships during the 1990's.

Housing Costs and Affordability

In 2000, the median value of a home in Lenawee County was $109,500. This was a significant increase above the 1990 median of $54,000. At the same time, the median monthly rent was $517, an increase from $316 in 1990. These costs are affordable when compared to the State of Michigan median housing value of $115,600 and median rent of $546 per month.

Housing affordability measures the cost of housing as it relates to an area's income. The maximum amount that lending institutions will lend for home mortgages is approximately 30% of gross household income. At the same time, rent payments above 30% of gross income are considered unaffordable. Table 3.6 provides community data on the median home value and rent, and the percentage of households paying more than 30% of their income for their mortgage or rent.

Table 3.6
Home Value, Rent, and Housing Affordability, 2000

	Median Home Value ($)	Percent Over 30% Income	Median Monthly Rent ($)	Percent Over 30% Income
Addison Village	80,700	17.7	447	35.0
Adrian City	86,100	17.1	504	34.5
Adrian Township	135,500	16.1	632	39.5
Blissfield Township	106,200	21.6	522	32.5
Blissfield Village	105,100	20.6	516	35.5
Britton Village	94,800	16.0	492	21.7
Cambridge Township	159,000	15.9	486	26.5
Cement City Village	80,600	11.9	525	35.3
Clayton Village	71,000	12.2	513	10.0
Clinton Township	123,100	16.5	527	17.3
Clinton Village	117,300	16.5	556	21.6
Deerfield Township	112,100	17.6	497	21.2
Deerfield Village	107,300	19.6	453	19.1
Dover Township	92,700	10.9	512	24.4
Fairfield Township	84,300	12.9	581	17.4
Franklin Township	139,600	18.9	575	10.3
Hudson City	78,100	17.4	479	27.9
Hudson Township	94,800	13.8	450	20.8
Macon Township	132,100	16.0	719	21.4
Madison Township	98,900	12.1	631	23.4
Medina Township	82,600	16.9	550	12.1
Morenci City	77,800	16.3	442	27.2
Ogden Township	101,500	6.4	575	11.1
Onsted Village	115,000	12.3	399	39.7
Palmyra Township	106,600	14.6	513	14.9
Raisin Township	127,000	12.9	669	14.9

	Median Home Value ($)	Percent Over 30% Income	Median Monthly Rent ($)	Percent Over 30% Income
Ridgeway Township	102,300	13.6	540	27.8
Riga Township	113,900	15.1	530	7.4
Rollin Township	111,000	27.3	448	33.5
Rome Township	96,900	15.6	588	24.3
Seneca Township	89,800	17.3	475	22.2
Tecumseh City	119,300	14.6	557	24.9
Tecumseh Township	157,800	15.9	638	21.6
Woodstock Township	139,100	22.6	501	23.0
LENAWEE COUNTY	**109,500**	**16.2**	**517**	**29.4**
State of Michigan	**115,600**	**17.7**	**546**	**35.2**

Source: 2000 US Census

In 2000, Lenawee County compared favorably to the State of Michigan in terms of housing affordability. While nearly18% of the State's homeowners resided in housing that was not affordable, only 16% of Lenawee County's homeowners were in this condition. As to renter units, 35% of the State's renters paid over 30% of their income on rent while 29% of Lenawee County's faced a similar situation.

According to these housing affordability measures, the most affordable owner-occupied dwelling units are found in the Villages of Cement City, and the townships of Dover and Ogden. Over 88% of the homeowners in these communities pay less than 30% of their income on mortgage costs. Rollin and Woodstock townships were the communities with the least affordable housing in the county.

In rural communities, there are usually few renter units. In some cases, there may be too few to provide an adequate sample to test affordability. However, the data that are available are found in Table 3.6.

Renters tend to spend a much larger percentage of their income for housing than owners. The affordability of rent in Lenawee County is also more variable with the index ranging from a low of 7.4% to a high of 39.7%. The lowest index values (i.e. most affordable) are found in the Village of Clayton and the townships of Franklin, Medina, Ogden, Palmyra, Raisin and Riga, all with rates under 15%. The least affordable rental housing is found in the villages of Addison, Blissfield, Cement City and Onsted, as well as Adrian Township.

The Michigan State Housing Development Authority (MSHDA) is the state agency established by the state Legislature in 1966 to address the housing needs of low- and moderate-income families, elderly people, and people with disabilities. In 1999, MSHDA analyzed the need for affordable housing in Lenawee County.

MSHDA does not use an affordability index to determine the need for affordable housing. Instead, they relate the income of owners and renters to the overall county median household income and determine whether occupants have sufficient means to afford their housing costs. MSHDA also breaks out the results according to elderly and non-elderly residents.

MSHDA's analyses generated Table 3.7 which illustrates estimated housing needs in Lenawee County:

Table 3.7
MSDHA Estimated Housing Needs in Lenawee County, 1999

Owners				
	0-30% AMI	31-50% AMI	51-80% AMI	Total
Elderly	743	380	278	1,401
Non-elderly	643	376	1,101	2,120
Renters				
	0-30% AMI	31-50% AMI	51-80% AMI	Total
Elderly	433	204	137	774
Non-elderly	1,331	489	468	2,288
Total				
	0-30% AMI	31-50% AMI	51-80% AMI	Total
Elderly	1,176	584	415	2,175
Non-Elderly	1,974	865	1,569	4,408
TOTAL	3,150	1,449	1.984	6,583

AMI - Average Median Income for Lenawee County
Source: Michigan State Housing Development Authority Lenawee County Housing Profile, 1999

MSHDA estimates that 6,583 households in Lenawee County are lacking affordable housing. Of this total, 2,175 household are elderly and 4,408 are non-elderly. Though the number of elderly households is smaller, it is proportionally much higher than non-elderly households.

Several federal, state and county governmental agencies administer programs that address the need for affordable housing in Lenawee County. MSHDA, HUD, and the Rural Housing Service provide assistance to families and the elderly in the form of rent subsidies at several locations throughout the county.

As of August, 2001, there were 1,224 subsidized rental units in Lenawee County. Of this total, 805 units were intended for occupation by families and 419 were intended for the elderly. Subsidized housing can be found in 21 locations throughout Lenawee County with a majority of the units in the City of Adrian.

Chapter 4
Economy

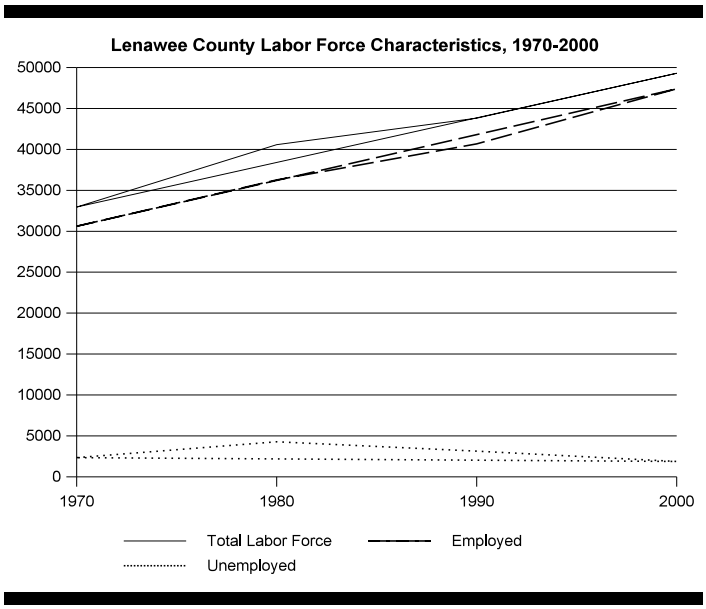
The economy is an important indicator of a community's quality of life. It yields information on community well-being and stability as well as the susceptibility to recession. Chapter 4 provides an overview of the economy of Lenawee County. It includes background information in regards to the economy including a description of comparative trends on employment, occupation, and income.

Employment

Employment is measured in terms of the size of the labor force. The labor force represents the total number of people who are eligible to work regardless of their employment status and is divided into two categories, those who are employed and those who are unemployed.

Figure 4.1 shows the 30-year trend in labor force, employment and unemployment in Lenawee County.

Figure 4.1



Source: U.S. Census Bureau

The County's labor force grew from 33,000 in 1970 to 49,000 in 2000. A great deal of the increase in the labor force is due to increasing population, and the impact of the baby boom generation entering the work force. During the same period, the number of employed workers grew from 30,600 in 1970 to 47,000 in 2000.

Even as the size of the work force has grown, unemployment levels have remained stable. Unemployment reached its peak during the recession of the early 1980's when 4,300 workers county were without jobs.

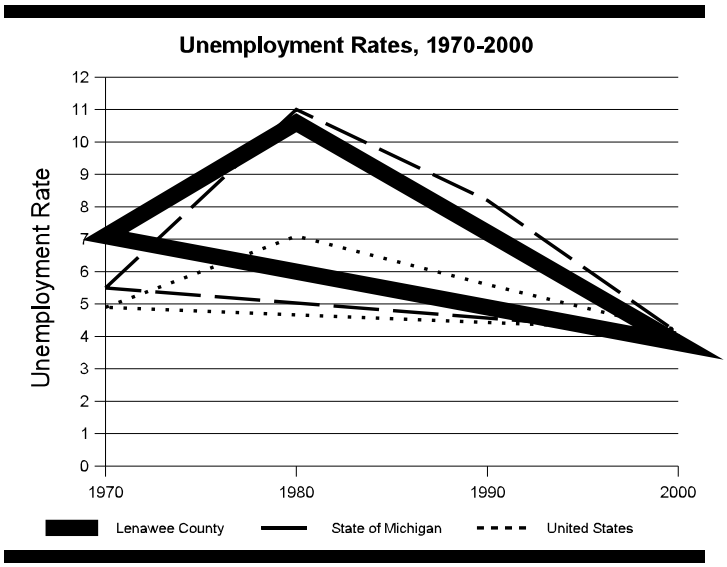
The unemployment *rate* is an important indicator of economic well-being. In the late 1990's, Lenawee County's unemployment rate was at the lowest levels recorded

reaching a low of 3.5% in 2000. Though more recent rates indicate that the economy may be slowing, the unemployment rate remains at a relatively low level.

Figure 4.2 compares the unemployment rate in Lenawee County to the state and nation. The county has followed the same pattern of the State fluctuating as it tends to do with the auto industry. Until the mid-1990's, the County and state unemployment rates were considerably higher than the nation. Since that time, the gap has narrowed and in 2000, Lenawee County and the State had lower unemployment rates than the nation.

Among local units of government, data from the 2000 Census show that unemployment rates are generally less than 6% throughout Lenawee County.

Figure 4.2



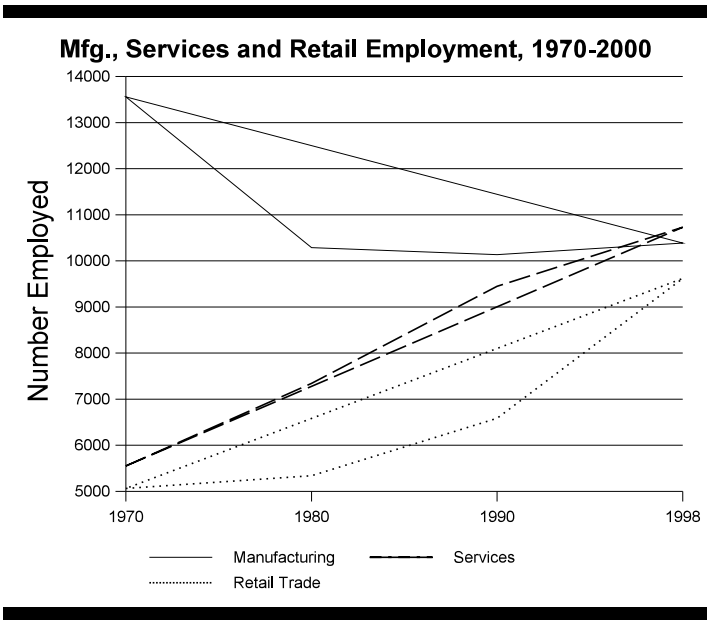
Source: U.S. Census Bureau

Figure 4.3

Employment by Industry

Over the last 30 years, the largest percentage increases in jobs available in Lenawee County has been in the sectors of construction, services, and retail trade. During the same period, there were declines in farm employment, mining, and manufacturing sectors.

In 1998, the three largest industries in Lenawee County were services, manufacturing, and retail trade. As Figure 4.3 shows, the number of manufacturing jobs has decreased from 13,600 in 1970 to the current level of 10,400. At the same time, the number of retail and services jobs has increased at a steady rate.



Source: U.S. Census Bureau

In 1970, manufacturing was easily the largest employment sector. However, it has declined due to the changing of market conditions and the desire to diversify the Michigan and Lenawee economy. The major manufacturing employers during this period of time were General Motors (automobiles) and Tecumseh Products Company (refrigeration and air conditioning). The largest employer outside of manufacturing in 1970 was the Lenawee Health Alliance.

Employment Forecast

South Central Michigan Works! predicts that there will be labor shortages in the region in the future. As the population ages and the baby boom generation reaches retirement age, there will be fewer workers available. Job competition is likely to decrease and employers will have fewer workers to fill available jobs. South Central Michigan Works! also predicted future needs for employment in the Lenawee, Jackson and Hillsdale county area. The projections are presented in Table 4.1.

Table 4.1
Employment Forecast by Major Occupational Category
Lenawee, Hillsdale and Jackson Counties, 1996-2006

Occupational Category	1996	2006	Employment Growth	
			Number	Percent
Total, all occupations	135,425	145,295	9,870	7.3
Executive, administrative and managerial	13,455	14,530	1,075	8.0
Professional specialty	17,400	19,140	1,740	10.0
Technicians and related support	3,865	4,200	335	8.6
Marketing and sales occupations	13,570	14,970	1,400	10.3
Administrative support, including clerical service	19,280	19,835	555	2.9
Services	22,450	25,055	2,605	11.6
Agriculture, forestry, fishing, and related	6,220	6,310	90	1.4
Precision production, craft, and repair	16,515	17,540	1,025	6.2
Operators, fabricators, and laborers	22,665	23,715	1,050	4.6

Source: Michigan Dept. of Career Development Office of Labor Market Information

According to the projections, an additional 9,870 jobs will be added to the three-county region through 2006. The greatest numerical growth is predicted to occur in the services, marketing and professional specialty occupations accounting for 58% of the projected gains in employment.

Income

Income data is an important measure of the relative wealth of an area. A commonly-used indicator is median household income. Median household income is defined as the point at which half of the households have a greater income and half have a lower income.

Lenawee County's median household income stood at $45,739 in 2000. This is an increase of $14,727 above the 1990 median of $31,012. Table 4.2 compares Lenawee County's increased income to other area counties and the state as a whole.

Table 4.2
Median Household Income Comparison, 1990-2000

Place	Median Household Income ($), 1990	Median Household Income ($), 2000	Percentage Change, 1990-2000
LENAWEE COUNTY	31,012	45,739	47.5
Hillsdale County	26,019	40,396	55.3
Jackson County	29,156	43,171	48.1
Monroe County	35,462	51,743	45.9
State of Michigan	31,020	44,667	44.0

Source: US Census

The table shows that median household income in Lenawee County grew at a comparable rate with area counties during the 1990's. In addition, the county saw larger increases than the state as a whole.

Statewide, the 2000 Census shows that 10.5% of individuals are below the poverty level. In Lenawee County the degree of poverty is lower at 6.7%, or 6,340 people. Approximately 43% of the individuals who below the poverty threshold reside in the City of Adrian the remainder being scattered in rough proportion to community population throughout the county.

Journey to Work

As shown in Table 4.3, the typical worker in Lenawee County drives alone to his job and travels an average of 25 minutes to and from work. Though the number of commuters increased from 1990 to 2000, the number of carpoolers, walkers, and public transportation riders decreased.

Table 4.3
Means of Transport to Work, 1990-2000

Means of Transport	2000	1990	% Change, 1990-2000
Car, Truck or Van	42,799	36,387	18
Drive alone	38,158	31,396	22
Carpool	4,641	4,991	(7)
Public Transportation	123	133	(8)
Walked	1,197	1,696	(29)
Other Means	301	260	16
Worked at Home	1,402	1,163	21
Ave. Travel Time (min.)	25.0	21.5	16

Source: US Census

While the number of people who work out of their home increased, the average commuting time increased from 21.5 minutes to 25 minutes. The increase suggests that workers are traveling farther to get to their place of employment and, in many cases, leaving the county to work.

Chapter 5
Land Use Trends

The major land uses in terms of land area in the American Midwest are agriculture and forests. Urban uses, consisting of residential, commercial, and industrial categories, are relatively small in area but their effects are being increasingly felt in rural parts.

In many areas, the landscape is in constant change shifting from one category of land use to another. One constant change over the last 50 years is the trend toward larger residential parcel sizes and the development of rural parcels. Improved means of transportation and an increasing population has led to the acquisition of larger parcels farther and farther away from urban centers.

In order to evaluate the impact of population growth on land use in Lenawee County, studies were conducted in 1978 and 1998 providing a 20-year time frame. The 1978 land use study was provided as part of the MIRIS (Michigan Inventory Resource System). Created using satellite photos of the State of Michigan, MIRIS was undertaken by the Michigan Department of Natural Resources in order to provide base line data on land use in the state. MIRIS land cover information for 1978 is displayed on Map 5.1.

Unfortunately, MIRIS data have never been updated. Therefore, in order to provide an update,1998 aerial photos of Lenawee County were analyzed as part of their plan to provide a 20-year time progression of land use. Each of the county's over 750 one-square mile section maps were categorized and computerized. As a result of the survey, land uses were placed within the following land use categories and subcategories:

Table 5.1
Land Use Categories

• Residential -Residential - 1F, 2F, 3F or greater -Farmstead -Mobile Home Park	• Industrial
• Commercial -General Commercial -Primary, central business district -Shopping center/mall -Institutional (churches, schools)	• Transportation, Communications, Utilities -General -Utilities (substations, etc.) -Waste disposal
• Open Land, Other -Other, fallow cropland -Outdoor recreation -Cemeteries -Other open	• Agriculture -Cropland (active) -Other (pasture, orchards, vineyards, horticulture, feed lots, etc.)

• Forested Land	• Lakes and Streams
• Wetlands -Wooded, aquatic bed and emergent (flats, shrub, scrub) -Intermittent	

General Findings

The total area of Lenawee County is 488,575 acres, or 763.4 square miles. Of this total, townships make up 97% (472,069 acres), villages comprise 1% (5,827 acres), and cities comprise 2% (10,679 acres).

Existing land use for 1998 is shown on Map 5.2. As the map shows, Lenawee County's townships are agricultural in nature with 332,680 acres (or 70% of land) dedicated to cropland and associated agricultural uses. The following sections present land use changes1978-1998 in the land use categories of agriculture, residential, commercial and industrial.

Agricultural Land Use (see Map 5.3)

Agriculture was the largest category of land use in Lenawee County in 1998. With nearly 334,000 acres of agricultural land use, Lenawee County ranks as one of the top agricultural counties in the State of Michigan. According to the 1997 Census of Agriculture, Lenawee Country ranked third in the state (behind Huron and Sanilac counties) in farmland acreage. Lenawee County is among the top producers of several crops including soybeans, corn, wheat, cucumbers, and sugar beets. The townships of Fairfield, Medina, Ogden , Riga and Seneca each have more than 20,000 acres in productive agriculture.

Though agriculture remains the predominant land use in Lenawee County, there was a decline in the number of acres devoted to this use from 1978 to 1998. According to the land use survey, Lenawee County lost 34,000 acres of agricultural land during the 20-year period. This is the equivalent of removing the agricultural land in Palmyra and Raisin Townships from the county. Much of this loss was due to residential development with the spread of urban growth in the Detroit and Toledo metropolitan areas.

The amount of farmland loss between 1978-1998 varies widely among townships. As Table 5.2 indicates, the largest losses occurred within the US-12/Irish Hills communities. As we have seen, this area is also one of the fastest growing residential areas of the county.

In the Urban Core, the townships of Raisin, Madison and Adrian also experienced loss of farmland acreage due to residential development and the availability of central sewer and water. Since they are half townships in terms

of area, Clinton and Tecumseh townships absorbed proportionately higher amounts of farmland loss.

Losses in agricultural acreage have been relatively small in those townships with the most productive farmland. Many of the townships in the south and east parts of Lenawee County have productive agricultural soil. However, the inability of these soils to percolate has resulted in very low-density residential development. An elaborate system of county drains has enabled the use of these rich soils for agriculture but has not aided the attempt to establish effective septic fields.

Table 5.2
Farmland Loss by Township, 1978-1998

Township	1978 Agricultural Land Use (acres)	1998 Agricultural Land Use (acres)	Difference (acres), 1978-1998
Woodstock	11,632	7,346	4,286
Cambridge	10,066	6,780	3,286
Hudson	17,222	14,365	2,857
Raisin	17,123	14,456	2,667
Adrian	16,221	13,850	2,371
Franklin	17,561	15,276	2,285
Rollin	14,360	12,428	1,932
Madison	14,120	12,299	1,821
Tecumseh	7,349	5,619	1,730
Rome	17,977	16,360	1,617
Clinton	8,878	7,397	1,481
Macon	19,068	17,850	1,218
Seneca	23,909	22,745	1,164
Dover	18,436	17,326	1,110
Palmyra	20,547	19,457	1,090
Medina	25,809	24,864	945
Blissfield	12,150	11,784	366
Ridgeway	17,792	17,436	356
Riga	25,673	25,330	343
Fairfield	23,978	23,722	256

Township	1978 Agricultural Land Use (acres)	1998 Agricultural Land Use (acres)	Difference (acres), 1978-1998
Ogden	25,496	25,248	248
Deerfield	15,196	14,974	222
TOTAL	**380,563**	**346,912**	**33,651**

Sources: 1978 and 1998 land use surveys

The number of farms declined from 1,387 in 1987 to 1,317 in 1997. Meanwhile, the average size of farms increased from 249 acres to 255 acres during the same period. Therefore, the trend indicates that there are fewer farmers, but there are larger working farms.

Residential Land Use

Much of the loss of agricultural acreage can be attributed to increases in residential usage. Low-density residential use in particular has resulted in changes in the landscape with more housing units appearing year by year.

The amount of land devoted to residential use approximately doubled from 1978 to 1998 (Table 5.3) to almost 30,000 acres. The largest percentage increases occurred in Dover, Macon, Ogden, Riga and Rome Townships though none of these communities have over a thousand acres in residential land use.

The largest absolute numerical changes occurred in Adrian, Cambridge, Raisin, and Woodstock Townships with over 9,000 acres devoted to new residential lands in each of these townships. Two of these townships are located in the Urban Core while two are located in the Irish Hills.

Minimal changes have occurred in the City of Adrian and in the townships of Hudson and Seneca. Comparing the change in residential land use from 1978 to 1998 and the change in the number of housing units in 1980 and 2000, one notes higher growth in land use devoted to residential than in total housing units. This would indicate that a larger parcel size per residential unit is developing as time passes. In the 1978-1980 comparison, roughly ½ an acre was devoted to each housing unit while the 1998-2000 comparison places that figure at 3/4 of an acre per household.

Commercial Land Use

The total amount of commercial land use in 1998 was slightly over 3,200 acres representing a 20% increase since 1978.

The largest areas of commercial development are associated with clusters of residential development. The City of Adrian and the surrounding townships of Adrian and Madison have the largest areas devoted to commercial uses. This is the

commercial core of the county and during the twenty year span from 1978-1998, it showed the largest increase in commercial land use.

As core commercial areas grow smaller, town and community businesses tend to disappear while commercial activity clusters along highly-accessible and highly-visible transportation routes. This is reflected in decreasing commercial lands in a number of rural Lenawee County townships including Clinton, Hudson, Palmyra, Ridgeway, and Woodstock.

Industrial Land Use

Industrial acreage comprises a smaller percentage of land than agricultural or commercial land, but provides a significant and growing contribution to the county's economic base. There was a 44% increase in industrial land use acreage between 1978 and 1998.

Every township has some land classified in industrial which was not the case in 1978. Only four townships saw decreases in area devoted in industrial activity: Adrian, Franklin, Raisin, and Rome. The largest decrease occurred in Raisin Township with the loss of over 70 acres of industrial land use.

Increases were small in total acreage but widespread throughout the county. The most significant gains occurred in Tecumseh and Madison townships, which are both part of the Urban Core. Hudson Township also showed a significant increase of over 100 acres devoted to industrial land use.

Table 5.3
1978-1998 Lenawee County Land Use Acreage

	Agriculture		Residential		Commercial		Industrial	
	1978	1998	1978	1998	1978	1998	1978	1998
Adrian Twp.	16,221.00	13,850.39	1,172.09	2,089.31	144.27	333.01	18.68	16.48
Adrian City	554.96	76.47	1,898.52	1,997.32	768.02	920.45	486.11	503.44
Blissfield Twp.	12,150.45	11,783.61	516.11	748.43	73.15	129.95	126.48	156.38
Cambridge Twp.	10,066.01	6,780.14	1,262.23	3,236.85	120.30	146.33	24.97	50.26
Clinton Twp.	8,878.14	7,397.25	633.96	1,387.48	147.11	129.67	99.04	163.53
Deerfield Twp.	15,196.15	14,974.26	169.39	416.25	29.29	48.27	19.49	30.55
Dover Twp.	18,436.15	17,326.27	152.61	622.58	26.01	40.11	0.00	7.90
Fairfield Twp.	23,977.80	23,722.45	238.56	546.12	7.86	11.91	34.43	35.77
Franklin Twp.	17,560.83	15,275.76	681.89	1,490.30	59.05	97.60	11.28	6.60
Hudson Twp.	17,221.76	14,364.78	723.49	1,097.67	219.88	130.92	24.99	126.94
Macon Twp.	19,068.42	17,849.75	211.38	971.20	52.06	78.83	0.00	2.69
Madison Twp.	14,119.60	12,299.18	952.39	1,738.35	240.24	363.13	206.61	357.04
Medina Twp.	25,809.47	24,863.70	124.97	356.68	14.90	5.20	0.00	11.50
Ogden Twp.	25,496.06	25,247.86	52.29	288.58	1.60	17.98	2.25	5.58
Palmyra Twp.	20,547.35	19,457.18	368.46	905.65	81.07	25.35	38.67	89.82
Raisin Twp.	17,123.36	14,455.95	1,462.71	3,028.61	59.97	75.04	272.81	202.15
Ridgeway Twp.	17,791.63	17,436.02	145.17	357.15	43.77	36.68	21.99	34.34
Riga Twp.	25,673.45	25,329.95	106.27	419.17	6.68	6.91	11.18	16.32
Rollin Twp.	14,360.21	12,427.66	657.36	1,383.73	69.46	74.35	12.86	18.48
Rome Twp.	17,977.41	16,359.80	254.16	955.11	10.96	19.59	11.35	2.27

	Agriculture		Residential		Commercial		Industrial	
	1978	1998	1978	1998	1978	1998	1978	1998
Seneca Twp.	23,909.37	22,745.05	510.73	858.77	107.00	119.36	30.62	49.37
Tecumseh Twp.	7,349.08	5,618.89	1,776.15	2,561.12	243.13	277.77	114.13	335.64
Woodstock Twp.	11,631.73	7,345.63	809.27	2,149.13	131.62	119.86	20.75	73.75
Lenawee County	381,120.39	346,988.00	14,880.16	29,605.56	2,657.40	3,208.27	1,588.69	2,296.80

Sources: MIRIS (1978) and 1998 Land Use Survey

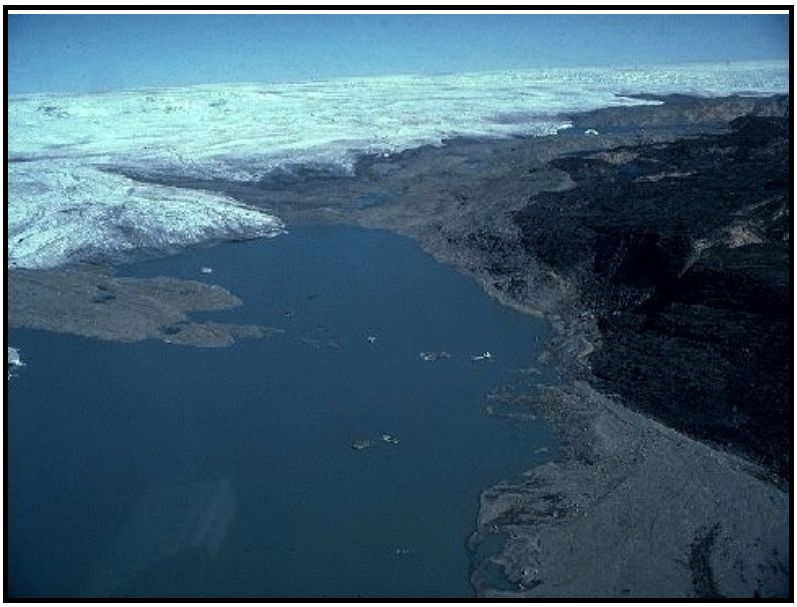
Chapter 6
Natural Features

The landscape of Lenawee County is made up of glacially developed landforms on top of sedimentary bedrock. These landforms have been modified by streams over the last twelve thousand years and, with the coming of settlement, change has continued at an accelerated pace. Lenawee County has been covered by glacial ice a number of times with the last ice sheet receding over 10,000 years ago.

General Description of Surface Formation

The bedrock formations underlying Lenawee County dip very gently to the northwest exposing shales, sandstones and limestones. The shales in the southeastern portion of the county are impermeable holding water at the surface of the bedrock. As a result, they are a poor water source for rural development. On the other hand, sandstones found predominantly in the northwestern portion of the county provide a good source for ground water making the area more appropriate for rural residential development.

During periods of glaciers, the front of glacial ice develops a series of tongues or lobes. A main lobe coming from the east down the valley of current Lake Erie covered the vast majority of Lenawee County. A small portion of northwestern Lenawee was covered by the lobe from Saginaw Bay.



Example of glaciation

Glaciers tend to deposit a mixture of materials upon the surface while in retreat and the northern two-thirds of the county reflects this mixture. The result in topography is gently rolling to hilly. With the retreat of the mile thick ice sheets, there was a great amount of melt water with nowhere to go. Since natural drainage is toward the east, the glaciers in retreat blocked the flow. Thus a large glacial lake (an extension of the current Lake Erie) formed at the front edge of the ice sheet. In the process lake sediments comprised mainly of clays were deposited. Lake bottoms are generally flats with subtle landscape features and this area of the county is typical of that description.

With the clays lying on top of shale, drainage of surface and ground water is very poor in the southeast part of the county.

Glacial deposits generally are less than one hundred feet in depth and in a number of places are less than ten feet. These deposits form a set of important natural resources for the county. The shallow depth provides the building industry with clean sands and gravels. More importantly for the economic base of the county, rich agricultural soils have developed on the glacial drift.

Aiding this soil development has been the dense deciduous forest that covered the county for many centuries. Red, white and black oaks, sugar maple and beech were the predominant species on the well-drained rolling glacial ice deposits. Oak and hickory were common on the excessively drained sandy and gravel soils. Elms and maples were common species on the poorly drained lake clays of the southeast.

Topography

Lenawee County features significant topographic relief ranging in elevation from 600 feet to 1,228 feet above sea level. Still, steep slopes are rare and local relief is commonly less than fifty feet. Higher elevations are found in the Irish Hills with Prospect Hill reaching 1,228 feet. The lowest elevations are found on the lake plains of the eastern part of the county with gradual variations between 600 and 700 feet above sea level. There is a general rise from east to west. Map 6.1 is a digital elevation model illustrating the topography in Lenawee County.

Drainage

Drainage in some portions of Lenawee County is poorly developed as a result of glaciation. In addition, there has not been a sufficient lapse of time since the last glacial period for stream action to properly develop.

Thirty-five lakes are concentrated in the northwestern portion of the county. They are associated with the undulating topography. The majority of these lakes are in the form of small kettles which are found in the upper portions of the county's drainage basins. The lakes provide the area with a recreation resource for many people in southeastern Michigan and several are densely developed in residential use. Additionally, a number of wetlands exist but many have disappeared over the last century with the development of the landscape. Wetlands provide a number of benefits to a community including flood control, water cleansing, and wildlife habitat.

The major drainage line is the River Raisin which drains over three-quarters of Lenawee County. Its major tributaries, which drain much of the western portion of the county, are Black Creek, the South Branch of the River Raisin, and Wolf Creek. These are small drainage lines bordered by distinct valleys and associated poorly drained

soils. Many of the smaller stream valleys in the western portion of the county are bordered by woodlands and provide corridors for wildlife movement. In the eastern portion of the county, on the lake plains stream, gradients are low and drainage is poor. Many drainage lines have been straightened and enhanced to improve local water removal. Most of these drainage lines flow through agricultural fields.

Most of the remaining portion of the drainage takes place through Bean Creek in the southwestern portion, which eventually drains into the Maumee River in Ohio.

Soils

The following discussion on soils begins with an overview of the soils of Lenawee County. Following the overview specific topics of particular interest to Lenawee County are considered including groundwater recharge, land capability classification, agricultural productivity, and suitability for septic tank absorption fields. These soil characteristics are largely responsible for patterns of growth in Lenawee County and will continue to be an important factor in future growth.

Soils Overview

The soils that have developed in Lenawee County are some of the best woodland agricultural soils in the world. Developed from relatively recent deposits, the continental climate and verdant forests have made available a rich resource. The majority of soils are mineral-based afisols and mollisols - the two richest soil orders to be found. Additionally the wetlands, swamps and marshes have accumulated decaying organic histisols. Even though most of the soils are rich in nutrients and bases there are some problems predominantly drainage and erosion. Additional problems include low fertility principally in the Irish Hills Region and scattered areas where retention of organics are a concern. These latter two problems will lead to poor growth in vegetation whether agricultural or aesthetic. In the heavier clay soils of the southeast portion of the county, maintaining tilth through best management practices is important.

Erosion tends to be a problem on undulating soils, which are found in the northwest portion of the county. With slopes of two to three percent or more there is a tendency for water to remove bare earth from its resting place. When slopes increase to six percent this can become a severe problem. It is important to keep the surface covered with some type of vegetative cover to prevent erosion and maintain the stability of steeper slopes. Wind erosion is also a problem on the finer textured soils that lay bare. This is especially true where there are no wind breaks to protect the soils. The flatter eastern portions are subject to wind erosion especially in the drying winds of spring before planting. Erosion has the ability to remove the productive topsoil very quickly with poor management practices, which greatly reduces productivity. This would have a major impact upon the rural economic productivity and the ability to compete in today's agricultural markets.

The most significant problem associated with the soils for agriculture, rural residential and urban use is the excess water caused by the slow removal of water and

high water tables. This is most pronounced in the southeast quadrant but does not leave any area unaffected. Attempts have been made to improve drainage with a series of drains and tilling of fields. This has proved to be somewhat successful for agriculture but still is a major problem for other uses. Most of the county outside the Irish Hills and the Urban Core are classified as unsuitable for septic drain fields. It does not mean that septic systems will not work in these areas, but there will be a higher rate of failure, more potential for problems and more cost for specially designed installations. Overall, it is a limiting factor for rural residential development. It does mean that for further significant expansion in these areas to occur urban infrastructure should be present.

In the northwestern section there are areas of gravel and coarse sand which promote excessive percolation and low moisture holding capacity. These areas are subject to drought and ground water pollution. Major ground water recharge areas are in this portion of the county and care should be taken to preserve the purity of this precious resource.

Groundwater Recharge

Ground water supplies are provided by an absorption of surface waters into underground areas. Most of these recharge areas can be found in the county's western portion on the sandy and gravel glacial soils. These important recharge areas are significant since much of the county's drinking water comes from local groundwater supplies. Ground water is obtained from wells driven into the unconsolidated glacial material ranging from 25 to over 150 feet in depth. Water is fairly plentiful in the sandy and gravel western soils but is harder to obtain in the eastern portions of the county where water movement is much slower through the lake clays and shales.

Groundwater recharge areas are shown in Map 6.2, which is based on information contained in the Lenawee County Soil Survey. The two principal factors that were used to generate the map were soil permeability and clay content but other factors were also considered including natural vegetation, underlying material, seepage, and presence of hydric (wet) soils. Though the map is useful on a county-wide basis, it is no substitute for field testing and direct knowledge of the area. The map identifies areas that are subject to pollution of ground waters and, therefore, areas that could be targeted if there is a desire to maintain and protect rural water supplies.

The map indicates that most recharge areas are located near lakes, rivers and wetlands. This is not surprising because these water bodies act as natural groundwater infiltration areas.

Land Capability Classification

The land capability classification is a general indicator of the ability of soils to produce a variety of crops. Soils are placed into one of eight general categories with Class I being the most suitable for crop production and Class VIII being the least suitable. A description of soil classes is provided in the following table.

Table 6.1
Description of Land Capability Classes

Soil Class	Description
I	Few soil limitations that restrict their use.
II	Moderate limitations that reduce the choice of plants or that require moderate conservation practices.
III	Severe limitations that reduce the choice of plants or that require special conservation practices, or both.
IV	Very severe limitations that reduce the choice of plants or that require very careful management, or both.
V	Soils that are not likely to erode but have other limitations , impractical to remove, that limit their use.
VI	Soils that have severe limitations that make them generally unsuitable for cultivation.
VII	Very severe limitations them unsuitable for cultivation.
VIII	Miscellaneous areas that limitations that nearly preclude their use for commercial crop production.

Source: USDA

The distribution of soils by classification is shown on Map 6.3. The map divides the soil classes into four categories - Class I, Class II, Class III and classes IV and above. This division is made because the top three classes are the best suited for crop production while Class IV and above are extremely limited for crop production.

The map shows that most soils in Lenawee County are either of the top three classes. Class I soils are somewhat scattered but there are large concentrations on the eastern edge of the county north of Deerfield, and long the southern edge of the county east of Morenci.

Class II soils are also distributed throughout the county but they are highly concentrated in the area east of the Ridge in the former lake bed. These are highly productive soils but tend to be wet unless properly drained.

Class III soils are found scattered throughout in areas west of the Ridge. These are marginal soils for crop production.

Very few soils are shown as Class IV and above. There are only two small concentrations east of the City of Adrian. Otherwise, they are found in very small areas

in the Irish Hills.

Agricultural Productivity

Agricultural productivity is based upon a number of factors and certain soils are deemed to be the most productive in a particular region. While management practices will allow practically any soil to be productive, some soils allow greater productivity with less input. These competitive soils are the ones that need to be preserved.

What is the basis for selection of a particular soil for classification as a productive soil within a region? The most obvious criterion are the production of general field crops. This information is easily available from soil survey manuals. Certain crops may need special soils such as mint or blueberries but these are specialty situations, not generally produced crops. To maintain the agricultural economy of the county the most productive soils need to be preserved in the agricultural districts.

Map 6.4 reflects agricultural productivity in Lenawee County. It is based on a ranking system which was developed from the Lenawee County Soil Survey using production figures for all the crops generally grown in Lenawee County. Yields of corn, corn silage, winter wheat, oats, soybeans, and alfalfa hay were used.

The map shows fairly dramatically that the flat lands east of the Ridge contain the most productive soils. The remainder of the highly productive soils are found in scattered locations.

Map 5.3 shows the active cropland in Lenawee County in 1998. Not surprisingly, the areas featuring highly productive agricultural soil generally coincide with active cropland locations.

Suitability for Septic Tank Absorption Fields

The Lenawee County Health Department developed a list of soils that are generally considered to be suitable, marginal and unsuitable for septic tank absorption fields. Principally, these soils percolate at an acceptable rate but the perc rate must be high enough to dispose of liquid waste products but not so high as to contaminate the groundwater due to insufficient filtering.

Map 6.5 is based on the Health Department's criteria for absorption fields. While this map should only be used on a general (not site specific) basis, it shows that the most of the suitable soils are found in the grainy gravelly near the Irish Hills, along a line west of the Ridge from Clinton to Morenci, and in an area north of Blissfield associated with the mouth of the River Raisin during the last period of glaciation.

It is not surprising that a comparison of Map 6.5 with the existing land use maps suggests that much of the dense development has occurred in areas that are suitable

for septic tank absorption fields.

Chapter 7
Parks and Recreation

Recreation is an important aspect of today's busy lifestyle. Particularly in urban and suburban settings, permanently preserved green space is an essential component of quality of life and peace of mind. A Parks and Recreation Plan was adopted in 1999 in order to identify park needs in Lenawee County.

Lenawee County is fortunate to have gently rolling to hilly countryside that offers a variety of views that are pleasing to many. The heart of Lenawee's beautiful countryside is the Irish Hills. The Irish Hills is unique and has gained a statewide reputation for beauty and recreation opportunities making the area attractive for residential development.

The population in the northwestern portion of Lenawee County expands during the summer season. Those areas directly influenced by the Irish Hills have a large number of summer residents, especially on weekends. These visitors, tourists and vacationers provide a significant boost to the local economy. Further, with the accessibility of recreation facilities such as the Michigan International Speedway as well as the many commercial recreation enterprises along US-12, there are many different facilities for all types of people.

The county has set aside 410 acres in park and recreation lands. The State of Michigan maintains three parks with 3,200 acres for camping, fishing, hiking and associated activities. In addition, communities feature local parks, gardens and sporting fields. Public and private schools maintain the facilities for their own personal use. Table 7.1 contains a list of the county and state parks in Lenawee County. The table also lists the facilities available and park acreage.

Table 7.1
County and State Parks

Name	Facilities	Acreage
Lenawee County Parks		
Bicentennial Park	Shelter areas with grills and tables, hand pump water and port-a-john, soccer field, volleyball, playground area, softball field, natural hiking trail	78.0
Ramsdell Nature Park	Shelter area with center fireplace, grills and tables, water, restroom, playground equipment	180.0

Name	Facilities	Acreage
Medina Park	Two picnic shelters with grills and tables, water, restrooms, tennis courts, softball field, fishing	40.0
Gerber Hill	Picnic shelter with grills and tables, port-a-john, soccer field, baseball field, horseshoe pits, basketball, playground equipment	31.0
Iron Lake	Boat Launch, fishing	1.0
Taylor Road	Undeveloped	80.0
State of Michigan Parks		
Cambridge Historic State Park	Picnic area, visitor center	181.0
W. J. Hayes State Park	185 camp sites, mini-cabins, picnic area, picnic shelter, playground, beach house, concessions/store, boat launch, interpretive program, swimming, fishing, watchable wildlife	654.0
Lake Hudson State Park	50 camp sites, picnic area, picnic shelter, boat launch, swimming, hunting, fishing, watchable wildlife	2700.0

Source: 1999-2004 Lenawee Co. Parks and Rec. Plan

Over 80% of the respondents of the citizen survey indicated that the county park system meets their needs (see Chapter 10). When asked what improvements could be made in the system, a variety of responses were returned. Spurred on by the popularity of ice hockey in Michigan, the most frequently mentioned improvement was the need for an ice rink.

The Parks and Recreation Plan calls for a number of improvements in the next few years. Each of the county's parks is scheduled for improvements or additions. However, support for county and local millages is low. If park improvements are to be made, the survey indicated that grant and private capital are the preferred funding sources.

A series of goals and objectives have been set in the Parks and Recreation Plan. Among the goals are the following:

- Provide all residents of Lenawee County with park and recreation areas and activities that meet acceptable standards.

- Increase visitor and tourist usage at county park facilities.

- Develop a greenways system as a means of preservation, and to provide a unification of existing park systems using river front parks, parkways, scenic drives, boulevards, biking and hiking trails, and rivers and streams.

The community is strongly in favor of a greenways system. The greenways would make each of the separate parks a part of the county wide trail system. Over 75% of the survey respondents were in favor of a path and trail system. With the abandonment of several rail lines, the use of the rails to trails program would greatly enhance the county's recreational system and help preserve the rural environment.

Map 7.1 depicts potential greenways for Lenawee County. It is based on the 1998 land use survey with potential greenways made up of forests, wetlands, rivers and lakes. There are continuous greenway links along the River Raisin and other streams, and large concentrations of potential greenways in and around the Irish Hills area.

Many of the recreational facilities are in the areas with the greatest population density including a large number of public and private facilities in and around the City of Adrian. Elsewhere, the facilities are fairly well distributed throughout the county with several located in the Irish Hills.

Chapter 8
Public Facilities

This chapter discusses available public infrastructure and community services. Information is provided on sewer and water systems, hospitals, fire and police departments, and recycling facilities.

Sewer and Water

Properly developed growth needs adequate public facilities. For high-density development, central sewer and water systems are needed to deliver potable water and dispose of waste. Table 8.1 lists central sewer and water systems that are administered by the Lenawee County Drain Commissioner. The table also shows the number of existing and potential customers on each of the systems.

Table 8.1
Available Sewer and Water Capacity

Sewer Systems				
System	**Township**	**Existing Customers**	**Potential Customers**	**Facility Capacity %**
Adrian Township	Adrian	1,500	3,000	50
Cambridge/ Franklin Twp.	Cambridge/ Franklin	750	850	88
Clayton	Dover	125	175	71
Jasper/Weston/ Fairfield	Fairfield	310	400	78
Loch Erin	Cambridge/ Franklin	500	1,000	50
Posey Lake	Hudson/Rollin	225	260	87
Riga Twp.	Riga	140	160	88
Rollin/Woodstock	Rollin/Woodstock	2,000	2,500	80
Wamplers Lake	Cambridge	850	950	90
Water Systems				
System	**Township**	**Existing Customers**	**Potential Customers**	**Facility Capacity %**
Lake Arrowhead	Raisin	66	66	100
ManNor Farms	Palmyra	54	54	100

Richland Manor	Adrian	100	110	90
Riga Twp.	Riga	140	160	88
South Shore	Cambridge	240	260	92

Source: Lenawee County Drain Commissioner

Maps 8.1 and 8.2 show all of the areas of Lenawee County that are served by central sewer and water systems. For the most part, infrastructure is publicly owned and operated but in a few cases the system is designed to accommodate a single residential development.

The county's four cities and the villages of Addison, Blissfield, Britton, Cement City, Clinton, Deerfield, and Onsted are served by both public sewer and water systems. The Village of Clayton does not have central water but does provide its own sewage service.

Where specific environmental problems have arisen due to inadequate provision of waste disposal and delivery of water, there have been extensions of services into rural areas. In some cases, growth in these areas has dictated the expansion of sewer and water. System extensions have occurred around the City of Adrian, and the villages of Blissfield and Britton. Several areas of intense development, especially around the lakes, have called for local infrastructure development.

Other problem areas have been addressed in Fairfield, Palmyra and Riga townships. A series of primary service areas expanded around existing systems. Also, population centers were established with the adoption of the Lenawee County Water, Sanitary Sewer, and Storm Drain Plan in 1972.

To date, several communities have been cited for pollution by the State of Michigan. In almost all cases, the pollution comes from improperly treated sewage being deposited into streams. Some of the problem results from River Raisin flooding in the southeastern quadrant of the county.

With the growth of urban areas and the increase in commercial activity, storm water run off is becoming more of a problem. Impermeable surfaces are not allowing for ground water infiltration. Local drains and streams are becoming flushing systems instead of water carriers. On-site storm water retention for commercial industrial and large residential development will become necessary. Drains and streams need to be scanned for debris dams, as well as for intermittent removal of materials that could cause high water backups.

Limited for drainage purposes by minimal relief and heavy soils, much of the southeastern portion of the county has experienced problems with standing water, especially in the spring after snowmelt. To help this problem hundreds of miles of drains have been installed throughout the county thereby lessening the problem to a degree. Excess water can still be a problem area and needs be monitored closely.

With the continued growth in the Urban Core area and the desire for agricultural preservation further infrastructure will be needed. For high-intensity development to occur mainly along a corridor from the Village of Clinton to Madison Township, there will be a need for continued expansion of sewer and water service to suburban and rural home sites. Additional commercial and industrial development will also be encouraged here.

Hospitals

There are currently five hospitals located in Lenawee County. Emma L. Bixby Medical Center in Adrian and Herrick Memorial Hospital in Tecumseh are the largest of the five in terms of number of beds and patient services. Addison, Morenci Area, and Thorn hospitals serve smaller populations and feature fewer services.

Emma L. Bixby Hospital provides ten new LDRP (labor, delivery, recovery, and post partum) rooms, a full nursery with treatment facilities as well as support functions. Bixby Hospital provides services such as: obstetrics, food and nutrition services, laboratory services, mental health services, occupational therapy, physical therapy, radiology/X-ray, substance abuse treatment, a speech and language center, and women's health services.

Herrick Memorial Hospital recently renovated their medical/surgical and intensive care unit creating private rooms for patients. Patient rooms include guest sleep over capacity and communal meeting areas for patients and family. Among the services currently offered are a diagnostic treatment center, laboratory services, a maternal child center, outpatient mental health, substance abuse services, physical and occupational therapy, radiology/X-ray, respite services and wellness programs.

The Lenawee Health Alliance is part of a unique group of healthcare providers located in Michigan's south central inland lakes region. The LHA is composed of two nursing homes, a home health agency, Hospice of Lenawee and a network of locally-based satellite health centers and clinics. It includes some 300 inpatient acute care hospital beds and 140 nursing home beds. As part of LHA services, the Community Home Care staff makes more than 28,000 home visits each year, offering a full range of adult and pediatric support including nursing, physical therapy, occupational and speech therapy, social work and mental health services.

The following list states all five hospitals in Lenawee County and their location.

- Addison Community Hospital
  421 N. Steer
  Addison, MI
  (517) 547-8400

- Herrick Memorial
  500 E. Pottawamie
  Tecumseh, MI 49286
  (517) 423-3000

- Bixby Hospital
  818 Riverside Ave
  Adrian, MI 49221
  (517) 265-0900

- Morenci Area Hospital
  13101 Sims Hwy
  Morenci, MI
  (517) 458-2141

- Thorn Hospital
  458 Cross St.
  Hudson, Mi
  (517) 448-2371

Fire Departments

_____Lenawee County has eighteen fire departments to service the area. A majority of the departments have over twenty-five fire fighters on a paid or volunteer basis.

All of the departments in the county provide an on-scene medical response, the level of which varies by department. The following departments provide ambulance service: Adrian, Addison, Blissfield, Deerfield, Fairfield, Hudson, Madison, Morenci, Palmyra, Raisin, and Riga. The remaining areas are covered by the Lenawee Community Ambulance.

Each department participates in mutual aid agreements, which insures that adequate response is available for multi-casualty incidents. Helicopter ambulance service is provided by four hospitals: St. Joseph's , University of Michigan in Ann Arbor, Toledo Hospital, and St. Vincent Hospital in Toledo.

Table 8.2 lists all of the fire departments in Lenawee County. The table also lists the number of paid and part paid officers, and the equipment each department has on hand to aid the public.

Table 8.2
Fire Departments in Lenawee County

Name	Location	Paid Officers	Part Paid Officers	Apparatus
1. Addison Fire Dept.	Located in Southeast Michigan 1 Station in Addison 1 Station in Cement City Telephone (517) 547-6776	3	55	Rescue Boat, Full time Advanced Life Support Ambulance Service, 2 Fire Trucks, 1 Utility Truck
2. City of Adrian Fire Dept.	Telephone (517) 263-2161	21	10	n/a
3. Adrian Twp. Fire Dept.	2889 Tipton Hwy Adrian, Mi 49221 (517) 265-1314	0	29	2 Pumpers, 1 Mini-Pumper, 1 Tanker, 1 Brush Truck, 1 Utility Truck, 1 Ambulance
4. Blissfield Twp. Fire Dept.	300 E. Adrian Blissfield, MI (517) 486-3978	0	28	Rescue Squad
5. Village of Britton Fire Dept.	**Station located in Ridgeway Twp.**	**Same as Ridgeway Fire Dept.**		n/a
6. Village of Cement City Fire Dept.	**Addison Fire Dept station located in Cement City** (517) 547-6776	**Same as Addison Fire Dept.**		n/a
7. Village of Clayton Fire Dept	(517) 445-2617	0	24	n/a
8. Clinton Twp. Fire Dept.	102 Jackson St. Clinton, MI 49236 (517) 456-4371	0	31	1 Engine, 2 Pumper Tankers, 1 1st Response Unit, 1 Brush Utility Unit, 1 Trailer Unit
9. Village of Deerfield Fire Dept.	468 Carey Deerfield, Mi (517) 447-3365	0	24	A grass rig, ambulance, and 2 Pumpers

Name	Location	Paid Officers	Part Paid Officers	Apparatus
10. City of Hudson Fire Dept.	121 N. Church St. Hudson, Mi (517) 448-2231	31	32	4 Pumpers, 1 Tanker, 1 Rescue Vehicle
11. Madison Fire Department	4008 S. Adrian Hwy Adrian, Mi 49221 (517) 265-6560	4	30	1 Aerial, 1 Grass Rig, 1 Rescue, 2 Tankers, 3 Pumpers
12. City of Morenci Fire Dept.	(517) 458-2301	2	35	2 Engines, 1 Pumper Tanker, 1 Heavy Rescue, 2 Brush Trucks, 1 1934 Dodge Parade Truck
13. Village of Onsted Fire Dept.	n/a	n/a	n/a	n/a
14. Palmyra Twp. Fire Dept.	4276 Main Palmyra, Mi (517) 263-7394	0	30	1 Ambulance, 2 Pumpers, 1 Tanker, 1 Grass Rig
15. Raisin Twp. Fire Dept.	Station #1: 5737 Holloway Rd. Raisin, Mi (517) 423-6781 Station #2: 5525 Occidental Hwy Tecumseh, Mi 49286 (517) 423-7811	6	38	2 Ambulances, 3 Engines, ECHO, 1 Rescue/Ambulance, 1 Grass Truck, 1 Pumper/Tanker1 Brush Truck, 1 Water Rescue Boat, 1 Foam Trailer, 1 Law Enforcement Car
16. Ridgeway Twp. Fire Dept.	103 W. Chicago Blvd. Britton, MI (517) 451-8264	0	25	n/a
17. Riga Fire Dept.	7817 Riga Hwy Riga, MI (517) 486-5023	0	24	n/a
18. City of Tecumseh Fire Dept.	110 S. Evans Tecumseh, MI 49286 (517) 423-4545	3	25	1 Ambulance- Rescue, 3 Pumpers, 1 Tanker, 1 Brush Truck

n/a - not available
Source: Lenawee County Hazard Analysis 2002

Police

Lenawee County currently has thirteen police departments on duty to service an area of twenty-two townships and twelve cities and villages. Ten of the thirteen police departments have more than one officer on duty.

In 2000, Lenawee County arrested 3,213 people and 8,808 offenses were committed. Of those arrested, 2,974 adults and 239 were juveniles. The highest number of arrests was for driving under the influence. In 1999, Lenawee County was rated as one of the top 20 counties in Michigan for increased robbery rate and aggravated assault.

Each police department in the county has both full-time and part-time officers. The Lenawee County Sheriff's Department employs 14 full time and 2 part time 911 dispatchers and 24 corrections officers. Table 8.3 displays each department, their location, and number of full time and part time officers.

Table 8.3
Lenawee County Law Enforcement Agencies

Department	Location	Full Time Officers	Part time/ reserves
1. Lenawee Co. Sheriff	Sheriff: Larry Richardson 405 N. Winter St. Adrian, MI 49221 (517) 263-0524	54	20
2. Adrian City	(517) 263-2161	32	15
3. Village of Blissfield	408 E. Adrian Blissfield, MI (517) 486-4340	5	2
4. Village of Clinton	Chief of Police: Michael Randolph 322 E. Michigan Ave Clinton, MI 49236 (517) 456-4511	3	7
5. City of Hudson	Chief of Police: Charles W. Herman 205 Railroad St. Hudson, MI 49247 (517) 448-8129	3	12
6. City of Morenci	Chief of Police: Frank J. Cordts 118 Orchard St. Morenci, MI 49256 (517) 458-6828	4	1

Department	Location	Full Time Officers	Part time/ reserves
7. City of Tecumseh	Chief of Police Laurence Van Alstine 309 E. Chicago Blvd. Tecumseh, MI 49286 (517) 423-7494	15	0
8. Adrian Township	Chief of Police: John M. Dull 100 E. Church St. Adrian, MI 49221 (517) 265-7151	1	1
9. Madison Township	4008 S. Adrian Hwy Adrian, MI 49221 (517) 263-9313	2	1
10. Michigan State Police Adrian Post	2222 N. Adrian Hwy Adrian, Mi 49221 (517) 263-0033	21	0

Source: Lenawee County Hazard Analysis 2002

Recycling Facilities

Lenawee County has seen a large increase in recycling. Today, many commercial and industrial concerns have internal recycling programs, and many communities maintain successful recycling programs.

The Rural Recycling Program provides recycling opportunities as an alternative to landfilling in rural areas. There are currently six rural recycling drop-off locations with drop-off times between the hours of 8:00 a.m and 12:00 p.m. on Saturday at each location. Below is a list of the six different drop-off site locations throughout the county:

1. Tibbs IGA
   1235 Elm St.
   2nd & 4th Saturday of the month

2. Citgo Gas Station
   M-34 & M-156
   3rd Saturday of the month

3. Pentecost Junction
   Mobile Station Corner of
   M-50 & Pentecost Hwy
   3rd Saturday of the month

4. Raisin Twp. Offices/
   Fire Hall
   5525 Occidental
   4th Saturday of the month

5. Macon Township Hall
   8320 Clinton/Macon Rd.
   1st Saturday of the month

6. Riverview Market
   105 E. River St.
   1st Saturday of the month

The use of recycled materials conserves natural resources and helps extend the life of valuable landfill space. The following materials are accepted: newspapers, cardboard, chipboard, clear glass, tin, plastics #1 and #2, and mixed papers.

Along with the Rural Recycling Program, there are several other recycling opportunities available in the county. Municipal programs feature curbside recycling, eight feature drop-off availability and the rest are on-site.

Christmas tree recycling is a service provided by the City of Adrian and the City of Tecumseh. The trees are chipped and are used as bedding at Hidden Lake Gardens in Franklin Township.

Tire recycling opportunities are also available in Lenawee County. Great Lakes Waste services acquired a tire shredder and offers periodic tire recycling opportunities The tire shreds are used for daily cover at the Adrian Landfill.

Table 8.4 displays each program, the area they service, and which materials they collect. A majority of the programs have a drop-off area and collect plastics, newspaper, glass and metals.

Table 8.4
Recycling in Lenawee County

Program Name	Service Area	Private or Public	Collection Point	Materials Collected
Rural Recycling Program	Lenawee County	Public	Drop-off	Plastics, Newspaper, Other Paper, Glass, Metals
Great Lakes Waste Services	Lenawee County	Private	Drop-off	Plastics, Newspaper, Corrugated Containers, Other Paper, Glass, Metals, Tires
Village of Blissfield	Village of Blissfield	Public	Drop-off	Plastics, Glass, Metals
City of Hudson	City of Hudson	Public	Curbside	Plastics, Newspaper, Corrugated Containers, Other paper, Glass, Metals
City of Morenci	City of Morenci	Public	Drop-off	Plastics, Newspaper, Other paper, Glass, Metals
Village of Onsted	Village of Onsted	Public	Curbside	Plastics, Newspaper, Corrugated Containers, Other Paper, Glass, Metals
Rollin Twp. Transfer Station	Rollin Township	Public	Drop-off	Glass, Metals
City of Tecumseh	City of Tecumseh	Public	Curbside	Plastics, Newspaper, Other Paper, Glass, Metals, Trees
Jackson Iron and Metal	Available to all customers	Private	On-site	Metals
Sorenson Paperboard	Available to all customers	Private	On-site	Newspaper, Corrugated Containers, Other Paper
City of Adrian	City of Adrian	Public	Drop-off	Plastics, Newspaper, Corrugated Containers, Glass, Metals, Trees
Village of Britton	Village of Britton	Public	Curbside	Plastics, Newspaper, Corrugated Containers, Glass, Metals
Village of Cement City	Village of Cement City	Public	Curbside	Plastics, Newspaper, Corrugated Containers, Other Paper, Glass, Metals
Christmas Tree Recycling	Lenawee County	Public	Drop-off	Trees
Tire Recycling	Lenawee County	Private	Drop-off	Tires
Village of Deerfield	Village of Deerfield	Public	Drop-off	Plastics, Newspaper, Other Paper, Glass, Metals
Clinton	Clinton	Public	Curbside	Plastics, Newspaper, Corrugated Containers, Other paper
Rosemary Company	Lenawee County	Private	Drop-off	Styrofoam

Chapter 9
Transportation

The growth of an area is strongly influenced by the region in which it is located. An area becomes tied to its region by its geographic location as well as its transportation routes. These connections are a prime motivator in area development and local economy. In today's society, the major types of transportation are associated with automobiles and airplanes.

Interstate routes are the major carriers of goods, materials and people. I-94, north of the county, carries much of the traffic between Detroit and Chicago and serves as an important international trade corridor between Ontario and points west in the United States. I-80, to the south of the county, is the major traffic route between Chicago and the major cities of the northeast. I-475, to the east of Lenawee, carries traffic from industrial eastern Michigan to areas south. Lenawee County is surrounded by interstate highways but does not currently have an interstate highway within.

Detroit as a central city is beginning to develop connecting routes further from its base. Due to this, the State of Michigan considered the development of I-73 across Lenawee County. Public meetings were held to consider several scenarios under which the interstate would cross the county. In the citizen survey found in Chapter 10 about one half of the respondents were in favor of the interstate. However, alternative approaches for transportation routes are under consideration and the interstate in Lenawee County presently appears unlikely.

Road Functional Classification

Roads serve a variety of functions depending on whether they are intended to provide access to property or to deliver traffic from one area to another. Accordingly, the Michigan Department of Transportation classifies roads as *arterials*, *collectors* and *locals* (see Map 9.1).

Arterial roads are intended for relatively high speed through traffic with as little access to individual properties as possible. This category of road Includes state trunklines and interstates.

Collector roads generally carry lower volumes of traffic at lower speeds than arterials. The purpose of collector roads is to funnel traffic from local streets to arterials.

Local roads take in the remainder of streets and roads. Their primary purpose is to provide a link from arterials and collectors to individual properties. Local roads generally have little or no through purpose and have low traffic volumes.

There are three major regional arterial highways that service Lenawee County - U.S.12, U.S.127 and U.S. 223. There are also four other arterials, which include M-34, M-50, M-52, and M-156 that provide important connections to adjacent counties.

U.S.12 enters the county from the north at Clinton and cuts westward through the Irish Hills. This route was originally the main route between Detroit and Chicago, but was replaced by I-94. U.S. 12 still plays an important role in connecting communities in the southern portion of Michigan's counties. U.S. 127 coincides with the western edge of Lenawee County extending from northern Ohio through Lansing to the tourist areas of Michigan. U. S. 223 crosses through the county diagonally from the northwest to the southeast through both Adrian and Blissfield. This route connects Toledo with U. S. 127 north of Addison. M-34 begins at Jonesville and connects Hillsdale and Hudson with Adrian. While Clayton and Morenci are connected by M-156. M-52 allows people to travel from the Ohio border through Adrian and north to Clinton while M-50 cuts through the northern third of the county through the communities of Britton, Tecumseh and Tipton. M-50 also connects the county with the cities of Jackson and Monroe.

Other arterial routes are Deerfield Road, Occidental Highway and major streets around Adrian. These roads connect the county's population centers and agricultural community to many of the State's urban centers. As in most systems there are deficiencies and poor alignments, but the existing pattern of U.S. and State highways work fairly well.

As previously stated, collector roads are major public highways that function as county trunk lines and provide connectors to regional travel routes. There are almost 500 miles of collector roads in Lenawee County. These roads also provide a means for movement of people and goods within the county. Some county roads carry larger traffic volumes than some arterial routes especially in the Urban Core.

The county road system was built along the section boundaries but topographic barriers and bodies of water cause frequently deviations from the section line grid pattern. In some cases, variations from the grid pattern have caused accessibility problems in traveling and the flow of travel has become restricted. There are few arterial or collector routes that allow complete east to west or north to south passage.

Increases in traffic flow on collector roads has caused a degree of discontent among citizens of Lenawee County. The 1999 citizen survey contained three questions pertaining to transportation facilities. Two-thirds of the respondents stated that they were not satisfied with the condition of the roads in the county (Table 10.2) with city streets regarded to be in the best condition and township roads considered to be in the worst condition.

There are approximately1,000 miles of local roads in Lenawee County and the majority of them are not paved. The purpose of local roads is to provide access to residential neighborhoods and rural lands. Most of the roads are in the densely populated areas or along section lines in the county. Maintenance is a problem along many of these roads because they were designed to carry little traffic at low speeds. However, that is not the case in today's local road system as over the years more and more traffic travel these roads.

Traffic Counts

Annual traffic estimates are produced along arterial routes by the Michigan Department of Transportation, while the Lenawee County Road Commission conducts traffic counts on half of the county road segments every year.

Traffic is the heaviest in the Urban Core with estimates as high as 24,000 on S. Main Street in Adrian. High counts can also be found in Tecumseh (17,500) and Blissfield (16,200). U.S. 12 is the busiest near Clinton, while U.S. 223 has maximum traffic east of Adrian. U.S. 127 on the other hand carries its highest traffic volumes as it enters Jackson County. Minimal traffic counts on arterial roads occurred in the southern portion of Lenawee County with traffic north of Morenci totaling 2,000 vehicles per day.

The City of Adrian generates significant local traffic as well as regional traffic. The business route on the west side of Adrian carries 10,500 while the bypass carries 13,400. M-52 south of U.S. 223 carries 6,200 vehicles. East of the M-52/ U. S. 223 by-pass intersection, U.S. 223 carries 19,800 vehicles west of Division St. and 12,900 east of Division St.

The following table displays the top ten highest volume roads in Lenawee County for the year 2000. It displays the street, the road link, and the volume per day. The greatest volume location was found on S. Main St. between downtown and U.S. 223.

Table 9.1
Highest Volume Roads in Lenawee Co.

Street	Location	Volume per day
1. S. Main St.	Between downtown and U.S. 223	24,000
2. M-52	Between Maple and Bent Oak	19,100
3. U.S. 223	Between M-52 and Division St.	18,100
4. U.S. 223	West of Adrian	18,000
5. U.S. 223	West of Blissfield	15,800
6. M-52	North of Adrian	15,800
7. M-50	Downtown Tecumseh	14,600
8. U.S. 12	East of Clinton	13,800
9. U.S. 223	East of Blissfield	13,600
10. M-34	Between M-52 and U.S. 223	13,500

Commercial traffic is heavy along U.S. 223, which is the connector route between Jackson and U.S. 23 north of Toledo. Commercial vehicle counts are higher east (1,400) of Adrian than west (1,300). The commercial traffic along most of U.S.12 and most of U.S.127 is below 800 vehicles per day but reaches a peak of 2,000

vehicles per day north of U.S. 127. Commercial traffic is the lightest along the southern routes of the county.

Traffic Accidents

One factor related to the efficiency and design of the road system is the number of traffic accidents and their distribution. Typically accidents reoccur at the points of greatest problem or poorest design. A large number of vehicles also tends to increase the chance of an accident at a problem intersection. In 2000 a total of 1,271 crashes were reported at 789 locations, not including car-deer accidents which add approximately an additional one-half to the total. The total number of crashes was up about 1% over 1999 when there were a total of 1,241 crashes reported at 860 locations. However, both the total number of crashes and the number of locations are lower in 2000 by 12% than in 1996 when 1,393 crashes were reported at 920 locations.

More traffic crashes were reported in the Urban Core than any other region in Lenawee County. In 2000, 44 percent (554) of the total crashes occurred in the City of Adrian and 12 percent occurred in the City of Tecumseh (156). No other unit of government recorded over 50 crashes. Adrian, Cambridge, Madison, Raisin and Woodstock townships all recorded between 25 and 50 traffic crashes for the year..

Airports

The Lenawee County Airport is the largest air facility in the county. The current runway is paved and has a length of 3,994 ft and is still expanding . Table 9.2 displays the six licensed airports according to the State of Michigan to Lenawee County. The table displays the services each airport provides as well as their location, length of runway and elevation.

Table 9.2
Lenawee County Airports

Airport	Runway Length	Elevation	Facility Type	Amenities
Adrian- Lenawee County Airport 2651 W. Cadmus Rd. Adrian, MI 49221 (517) 265-8993	3994'	798'	General Utility	Fuel, Aircraft Sales, Flight Instruction, Aircraft Rental, Repairs
Blissfield - Betz Airport 4504 S. Blissfield Hwy Blissfield, MI 49228 (517) 486-3667	2585'	691'	Basic Utility	Fuel, Minor Repairs
Clinton - Honey Acres Airport 12447 Matthews Hwy Clinton, MI 49236	3700'	820'	Basic Utility	None
Onsted - Loar's Field Airport 7315 Onsted Hwy Onsted, MI 49265 (517) 467-6721	2650'	990'	General Utility	Repairs
Tecumseh - Merillat Airport 5763 Rogers Hwy Tecumseh, MI 49286 (517) 423-7600	3614'	820'	General Utility	Fuel, Flight School, Repairs
Tecumseh - Myers Diver's Airport 4330 Macon Rd. Tecumseh, MI 49286 (517) 423-7629	2660'	815'	Basic Utility	Major Repairs, Parachuting, Fuel

Railroads

Lenawee County has three railroad lines, Lenawee County Railroad, Norfolk and Western Railroad, and the Grand Trunk and Western Railroad. The railroads connect with the major markets of Detroit and Toledo for the transportation of raw materials and finished products. While passenger transportation is practically a thing of the past, there is a recreational rail line that runs out of Blissfield during the tourist season.

Part 2 - Citizen Participation

- **citizen survey**
- **lcpc/cls public participation workshops**
- **public hearing**

Chapter 10
Citizen Survey

Three methods were used to gather public input: a public opinion survey, a series of regional planning workshops, and a public hearing. The Planning Commission believed that it was necessary to exceed the minimum public hearing requirement of the County Planning Act to ensure that the citizens and local officials were heard from.

Public Opinion Survey

The survey was developed during the winter and spring of 1999 for distribution to the residents of Lenawee County. The survey was to serve several purposes including the following:

- To gain an understanding of public opinion on land use issues.
- To discover the feasibility of possible implementation measures.
- To generate a list of land use issues and concerns.
- To go beyond the public hearing to allow citizens and local officials to express their opinions.
- To gain publicity and interest in the planning process.

Development of the survey began in January, 1999 when the County Planning Commission appointed an ad hoc survey subcommittee from among its members. At the first meeting of the subcommittee, general categories of interest for questions were decided upon. Subsequent to this, specific questions were to be formulated under these general categories.

The first draft of the survey was reviewed by the Citizens for Land Stewardship and the Lenawee County chapter of the Michigan Townships Association. Comments received at these meetings were considered by the LCPC who then made appropriate modifications to the survey form. The survey was then reviewed and approved by the Ways and Means Committee of the Board of Commissioners at their June, 1999 meeting. The survey is found at the end of this chapter.

The survey was randomly distributed using a master postal list on July 12. The survey was coded so the community of the survey respondent could be determined which the respondent's address remained confidential. Postage on the survey form was prepaid and a return deadline of July 30 was indicated though responses were accepted after that date. A press release announcing the survey was provided to local media on July 15 with the purpose of alerting the public that the survey would arrive shortly in the mail.

Survey Distribution and Return Rate

Surveys were randomly distributed to 5,000 households with a goal of receiving a minimum return of 500 to achieve a representative sample of the population of the county. Given the number of surveys that were distributed, it was estimated that even a modest return would produce the target 500 responses. The number of responses turned out to be 667 - a rate of 13.3%.

Return rates varied widely from community to community. The highest *number* of responses came from the City of Adrian with 97. However, Adrian's return rate was only 9% which was among the lowest in the county. The highest return *rate* came from Macon Township at 35%, or 18 surveys.

Response rates tended to be lower in cities as all four were below the county average. Among townships, no clear response pattern existed except that those townships experiencing a relatively high level of growth tended to respond at a higher rate than others. Table 10.1 reveals the number of responses by community (villages are included among township totals).

Table 10.1
Survey Responses by Community

Community	Number of Responses	Community	Number of Responses
Adrian City	97	Clinton Township	17
Tecumseh City	52	Fairfield Township	15
Madison Township	51	Morenci City	15
Raisin Township	50	Ogden Township	13
Adrian Township	47	Palmyra Township	13
Blissfield Township	36	Ridgeway Township	13
Cambridge Township	36	Rome Township	12
Woodstock Township	30	Dover Township	12
Franklin Township	27	Riga Township	11
Rollin Township	27	Medina Township	10
Hudson City	21	Seneca Township	10
Macon Township	18	Hudson Township	9
Tecumseh Township	18	Deerfield Township	5

Survey Questions and Responses

The survey was designed to be clear and easy to understand. Technical language and jargon were avoided and every attempt was made to avoid question bias.

The survey contained 32 questions within 9 general categories. The categories were:

- Lenawee County overview
- Residential land use
- Transportation facilities
- Industrial and commercial land use
- Agricultural land use
- Environmental issues
- Parks and recreation
- Personal information
- Comments

A summary of the results by category is contained in the following paragraphs.

Lenawee County Overview (Questions 1-3)

Questions 1-3 asked for an overall rating of Lenawee County as a place to live. The question was placed first to provide an opportunity for respondents to provide their overall views of the county before answering the more specific questions that followed.

Question 1asked respondents for a rating of Lenawee County as a place to live. Available ratings were "very good", "good", "fair", "poor", and "very poor". As it turned out, the county's rating was positive with 573 (87%) rating the county as very good or good. Only 12 respondents (2%) rated living in the county as poor or very poor (see Figure 10.1).

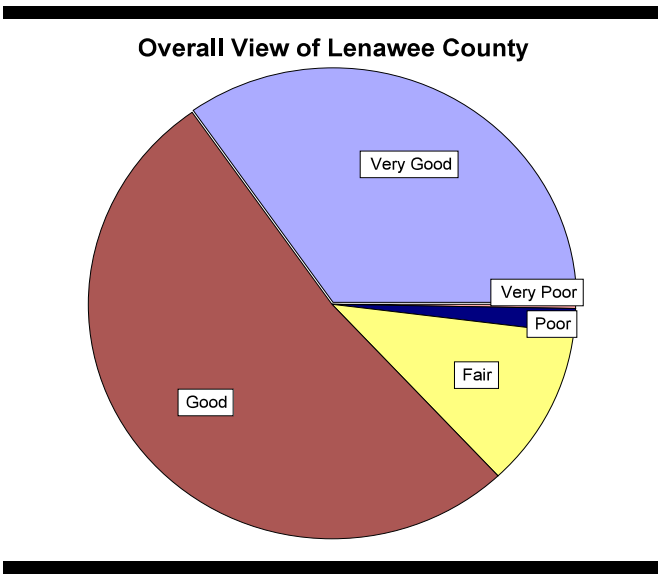


Figure 10.1

Question 2 offered an opportunity for respondents to list the features of Lenawee County that make it a good place to live. The question was open-ended. Examples of appropriate answers were not provided. The most

common responses to this question were “rural atmosphere” (161 responses) and “small town atmosphere” (94 responses). The following are the top ten responses to Question 2:

1. Rural atmosphere -161
2. Small town atmosphere - 94
3. Good, friendly people - 81
4. Close to larger cities (but rural) - 71
5. This is where I am from - 51
6. Not too crowded/population is right - 44
7. Good schools - 40
8. Safe/low crime - 38
9. Quiet - 36
10. Good/convenient shopping - 30

Question 3 asked respondents what features that they like *least* about living in the county. The top ten least liked aspects of the county are listed as follows:

1. Poor roads - 122
2. Growing too fast/too much development - 65
3. Not enough dining/shopping/entertainment - 39
4. Traffic congestion -35
5. Taxes too high - 33
6. Poor government service/too much government/local government problems - 29
7. US-223 inadequate/unsafe - 28
8. Loss of farmland - 23
9. Lack of building/zoning code enforcement - 14

10.(tie)More roads needed - 13
10.(tie)Judicial system - 13

Residential Land Use (Questions 4-7)

The four questions on residential land use were intended to discover housing needs and locational preferences for housing.

Question 4 asked where residential development should occur. Respondents were asked to check all that apply among cities and villages, urban townships*, rural

*Defined as the townships of Clinton, Raisin, Madison, Adrian and Tecumseh.

townships*, locations with access to central sewer, and locations with access to central water or adequate supplies of groundwater. A total of 1,448 responses were received.

Among the community types, cities and villages were the preferred location for residential use with 415 responses. This was followed by urban townships with 206, and rural townships with 82. There was a preference for location of residential on sewer lines (371 responses) and locations with central water or adequate groundwater supplies (374).

The purpose of Question 5 was to understand the perceived need for particular housing types. Respondents were asked to check all that apply among single family, two family, multiple family, manufactured housing, and low-income housing. A total of 907 responses were received.

The survey answers suggest that the highest perceived need is for single-family dwellings with 418 responses. This was followed by low-income housing (220 responses), multiple-family (114), two-family (94), and manufactured housing (61).

Question 6 asked whether public sewer and water should be required to serve new residential developments in rural parts of the county even if it means higher density residential development. The question was intended to present the likely consequences of extending sewer and water lines to rural areas.

A total of 626 responses was received to Question 6. A total of 363 (58%) respondents indicated that sewer and water infrastructure should not be extended while 263 (42%) opined that they should. Responses varied from city to township as city residents were split evenly on this question while township residents were opposed to extending sewer and water lines into rural areas.

Question 7 asked whether public sewer and water should be required for residential development. A total of 637 responses were received with 419 people (66%) saying that sewer and water should be required and 218 (34%) say such facilities should not be required.

Transportation Facilities

Questions 8-10 dealt with transportation facilities. The purpose of the questions was to understand public perception of state and local road conditions, and preferences regarding the location of an interstate highway in Lenawee County. At the time of the survey, safety concerns on US-12 and the possibility of an interstate traversing Lenawee County were some of the top land use issues in the local press.

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*Defined as townships not included as urban.

Question 8 regarded the general level of satisfaction of roads in the county. A total of 229 (37%) said that they were satisfied with roads while 391 (63%) said that they were not.

Question 9 asked respondents to rate their level of satisfaction of roads under state, county, city and township jurisdiction. On a weighted average basis, city streets scored the highest followed in order by state, county, and township roads. The results are summarized in Table 10.2

Table 10.2
Road Ratings by Jurisdiction

Road Jurisdiction	Very Satisfied	Satisfied	No Opinion	Dissatisfied	Very Dissatisfied	Weighted Score
State	35	295	45	197	60	2.08
County	22	253	45	221	85	1.85
City	43	309	102	127	40	2.10
Township	24	206	90	220	88	1.77

Those surveyed were asked to provide their opinion on the I-73 corridor which the Michigan Department of Transportation placed under consideration at the time. Public meetings were held by MDOT to consider several scenarios under which the freeway would traverse the county. Questions 10(a) and 10(b) pertain to the I-73 concept.

Question 10(a) sought to ascertain the level of public support for the concept of an interstate highway through Lenawee County. Of the 621 people who responded, a total of 319 (51%) support or strongly supported the freeway concept, 112 (18%) were neutral, and 190 (31%) opposed or strongly opposed the idea of an interstate highway in the County.

Question 10(b) regarded the concept of improving US-223 to a four-lane highway throughout Lenawee County. A total of 638 people responded to this question with 415 (65%) in favor of the idea and 127 (20%) opposed.

Industrial and Commercial Land Use

Questions 11-14 pertain to industrial and commercial land use and development. The queries were intended to discover whether there is a need for additional development of these types.

Question 11 asked if additional industrial development is needed in the county. A total of 503 responses were received with 296 (59%) in favor of additional industrial development and 97 (19%) opposed. The majority of the public saw a need for additional industrial development in order to provide employment and improve the County's tax base.

In Question 12, respondents were asked to indicate appropriate locations for industrial use. More than one response could be checked among the choices. The available choices and the number of responses were as follows:

- Adjacent to central sewer and water facilities - 287 responses
- In cities and villages - 185
- In urban townships - 59
- In rural townships - 27
- In industrial parks - 489
- Reuse of existing structures that are empty ("brownfields") - 542

The redevelopment of former industrial sites, or brownfields, received the largest number of responses. Industrial parks were also obvious choices for further industrial development. Cities and villages, and locations served by central sewer and water, were also favored over urban and rural townships.

Questions 13 and 14 regarded the need for additional commercial development. Question 13 asked how often respondents shop within the county. Of the 657 people who answered this question, 596 (91%) indicated that they always or often shop in the county while only 9 (1%) said they rarely or never shop in the county.

Question 14 asked whether more places to shop are desired in Lenawee County. A total of 633 responses were received with 353 (56%) stating that more retail is needed while 280 (44%) indicated that no additional shopping locations are needed.

Agricultural Land Uses

Questions 15 and 16 regarded agricultural land use and the level of support for agricultural preservation programs.

Question 15 asked respondents to indicate their level of approval of financial support for farmland and open space preservation programs in the county. Of 646 responses to this question, 468 (72%) indicated approval of financial support while 90 (14%) were not in favor of support.

Pursuant to Question 15, Question 16 consisted of three parts intended to find the level of support for different types of farmland preservation programs.

Question 16(a) was intended to discover the level of support for a county millage to support a purchase of development rights (PDR) program. The results suggested that there would be little support for a millage. Of the 562 responses, only 129 (23%) were in support while 298 (53%) were opposed. The opposition to such a millage was similarly reflected when the results were examined by community type and by farmland vs. non-farmland owners.

Question 16(b) considered an alternative approach to farmland preservation using zoning as the tool to control the use of farm land. As a contrast to a county PDR program, zoning received much greater support. Of 608 responses, 453 (75%) people indicated support for zoning restrictions while only 80 (13%) said they would be opposed to such measures.

Question 16(c) measured the level of support for a county-wide ordinance intended to preserve farmland. This method of farmland preservation received the highest level of support as 478 (76%) of a total response of 627 supported this approach.

Environmental Issues

The survey contained six questions regarding public perceptions on the quality of the environment, and actions needed to address environmental concerns. These were questions 17-22 on the survey form.

Question 17 asked residents about the quality of their drinking water. With few exceptions, the quality of the water was rated as satisfactory. Of the 645 responses, 474 (73%) were satisfied with their water and 171 (27%) were not. While generally satisfied with the quality of their water, cities tended to be slightly less satisfied than townships.

Question 18 was open ended and asked for suggestions as to how the quality of the River Raisin might be improved. Though the number of responses to this question was not high, a number of people suggested that the City of Adrian wastewater treatment plant needed to be upgraded and/or expanded.

The purpose of Question 19 was to understand the public perception of the degree of satisfaction with the quality of water and air in the county. The level of satisfaction was high as 517 (83%) indicated that air and water quality were acceptable.

Question 20 had to do with recycling efforts. The results showed that about half of county residents are satisfied (315 people, or 49.3%) with recycling efforts and half (324 people, or 50.7%) are not. People in cities and rural townships were generally more satisfied with available recycling than those in urban townships.

Question 21 asked whether existing public sewer and water facilities are adequately available. A total of 556 people responded to this question with 357 (64%) saying facilities are adequate and 199 (36%) indicating that sewer and water are not adequate.

Question 22 was open ended. It asked for comments regarding actions that might be taken to improve existing public sewer and water facilities. Because this question was technical in nature and assumed a certain level of expertise, response was limited.

Parks and Recreation

Five questions were asked regarding the adequacy of parks and recreation facilities. In questions 23-27, respondents were asked to rate the existing park system and address what improvements are needed.

Question 23 regards whether the park system meets the needs of the respondent. From the response, it appears that the parks serve their purpose because 500 (83%) of 604 respondents rated them as adequate.

The need for a new indoor sports facility was addressed in Question 24. The question asked for reaction to the proposition of whether a new indoor sports facility (e.g. ice rink) is needed in the county. Of the 593 responses received, 361 (61%) said that such a facility is needed and 232 (39%) responded that it is not.

Question 25 inquired into the desired source of funding if park improvements are to be made. The following were the choices and the number of responses:

- County millage - 89
- State grant funds - 383
- Local millages - 64
- Private sources - 275
- Combination of public and private sources - 402

Support for county and local millages is low. Therefore, grants and private capital are the preferred funding sources if parks improvements are to be made.

Question 26 was open ended. It asked the type of park activities that would be desired by respondents. The answers were wide ranging with several indicating the need for an indoor ice skating rink.

Question 27 asked whether a county wide system of bike paths/trails was desired. Of the 606 responses received, 457 (75%) indicated that such a trail system was desired while 149 (25%) was opposed to a trail system.

Personal Information

In order to get a general idea of the demographic and geographic characteristics of the survey respondents, four personal information questions were asked. The questions provided information on age, distance traveled to work, farmland ownership status, and community type. Responses were then cross-tabulated by personal characteristics.

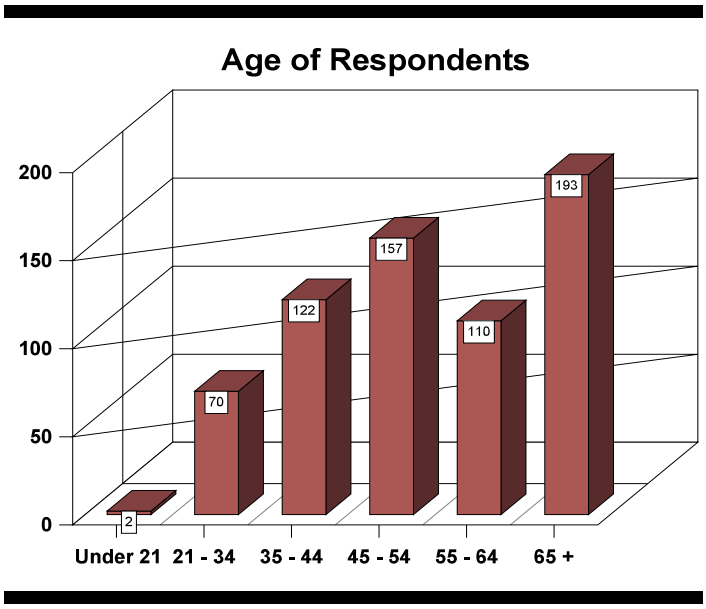

Figure 10.2

Question 28 asked respondents to indicate their age. To make this question less personal, the respondent was asked to indicate their age bracket, not their exact age. As a result, the response rate was 98% for this question.

Figure 10.2 shows the number of responses by age bracket. The highest number of responses was received from people 65 and above with 193. Only two surveys were returned from individuals younger than 21 years.

Response rates tended to rise with the age of the respondent. Age groups above age 44 responded at a higher rate than their proportion of the population while those below this age responded at a lower rate. However, the random distribution of the survey helped to reduce the bias toward older age brackets.

The purpose of questions 29 and 30 was to gain information about the commuting patterns of the respondents. Question 29 asked the number of miles travel to work while question 30 requested the work destination of respondents.

The results of Question 29 are shown in Figure 10.3 which indicates that, among the 390 responses received, almost half commuted 10 miles or less to work.

Fourteen respondents traveled over 50 miles each way to work with the highest being 75 miles. The average commuting distance was 16 miles.

Question 30 asked respondents to provide the geographic location of their work place. A total of 433 responses were received with the most common work place

location being the City of Adrian with 118 followed by the City of Tecumseh with 37.

Figure 10.4 shows place of work according to the locations of Lenawee County, Washtenaw County, other location in the State of Michigan, and out-of-state. Among these categories, Lenawee County was the most common workplace followed by Washtenaw County, other location in Michigan, and out of state.

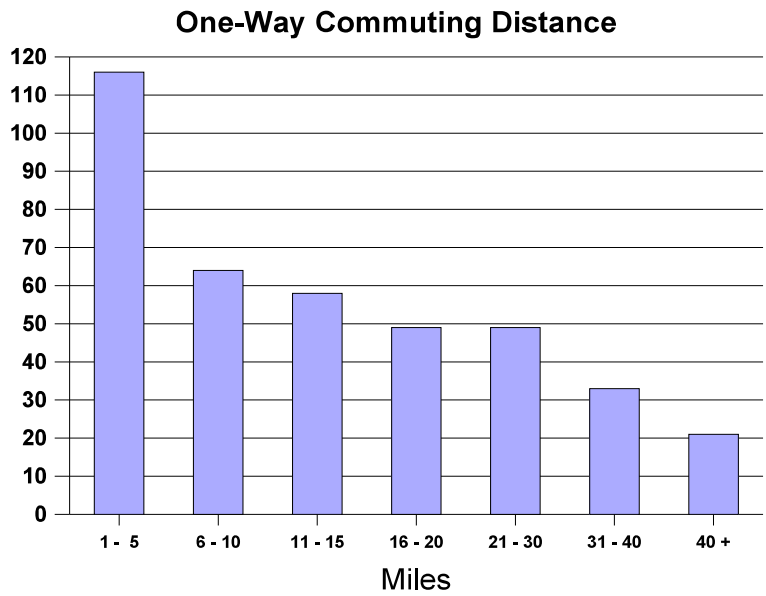

Figure 10.3

Question 31 asked respondents whether they own farmland in Lenawee County. Of 643 responses, 150 (23%) indicated that they are farmland owners and 493 (77%) do not own farmland.

Finally, Question 32 asked respondents whether they reside in a township, city or village. A blank was provided for the name of the community in which the respondent resides. This information was used to provide response by individual community and by type of community. There were 658 responses to Question 32. As shown in Figure 10.5, most of the responses came from townships with 401. This

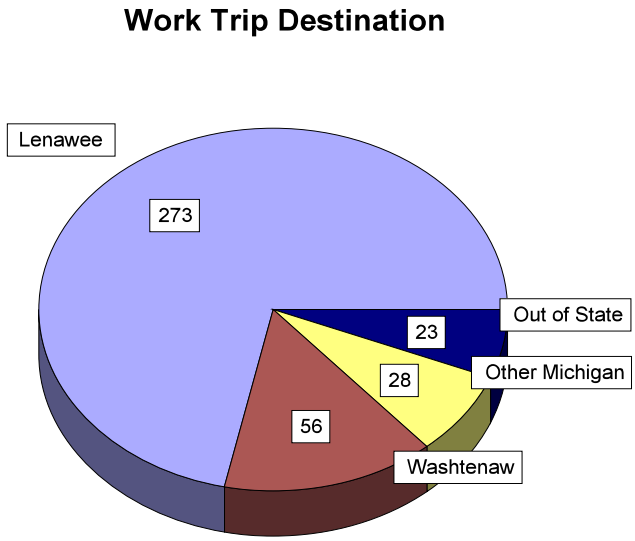

Figure 10.4

was followed by cities with 179 and villages with 78. Townships and villages responded at rates slightly higher than their proportion of the county population while cities responded at a lower rate.

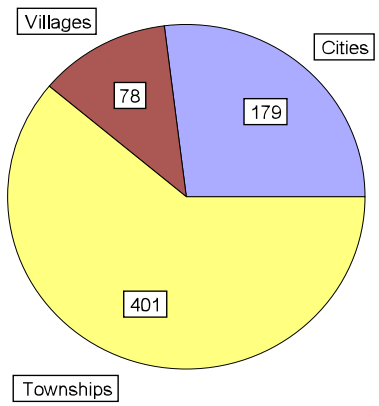

Figure 10.5

Chapter 11
Public Participation Workshops

In the last two weeks of March 2001, the LCPC and Citizens for Land Stewardship (CLS) held a series of public participation workshops. The workshops had the dual purpose of providing public input for the county plan update and providing area citizens with an innovative model for public interaction on land use issues. The workshops were titled "Gathering Concerns, Generating Solutions" and were held in five locations throughout Lenawee County. Participation was sought from the community by announcements in local media sources and by letters to township supervisors and municipal mayors and presidents. The workshops were attended by over 120 participants, including many local officials, and were held in the following locations:

- US-12/Irish Hills - Onsted Community School, March 20, 2001
- Urban Core - Raisin Charter Township Office, March 22, 2001
- Agricultural West - Hudson Community Center, March 26, 2001
- Agricultural Southeast - Madison Charter Township Office, March 28, 2001
- Agricultural Southeast - Deerfield Elementary Cafeteria, March 29, 2001

The workshop locations were based on the four planning regions discussed in Part I of the plan. The regions were defined by cultural, geographic and economic factors without regard to political boundaries. Due to the large geographic area of the southeast agricultural region, two workshops were held there, with one in the afternoon to allow the greatest possible opportunity for public participation. Post cards were provided at the workshops to encourage further comment.

The following individuals, with assistance from various agencies, played a role in planning and conducting the workshops:

- ♦ Robert Kellum, Raisin Valley Land Trust, CLS
- ♦ Steven Boles, CLS
- ♦ Steven May, Lenawee County Drain Commissioner, CLS
- ♦ Michael Kight, Lenawee County Health Department, CLS
- ♦ Constance Reid Guffey, Farm Service Agency, CLS
- ♦ Kenneth Mitchell, Lenawee County Farm Bureau, CLS
- ♦ Bob Knoblauch, Supervisor, Riga Township, CLS
- ♦ George Hawkins, CLS
- ♦ Frank Crosby, Chairman, Lenawee County Planning Commission, CLS
- ♦ Timothy Anderson, Region 2 Planning Commission Staff
- ♦ Susan Smith, Lenawee Training and Education Consortium
- ♦ Randall Yagiela, Lenawee Training and Education Consortium

The workshops were approximately two hours in length. The first hour consisted of presentations of background information by individuals from CLS and several county agencies. Handouts were distributed covering the information presented and maps related to area planning. The second hour was spent gathering public opinion on land use issues.

The five workshops generated a total of 208 comments. These comments have been divided into eight categories including agriculture, planning policy, community infrastructure, planning process, natural infrastructure, green spaces, private property rights, and green spaces. Where categories generated numerous comments, they were further divided into subcategories. A description of the categories and a summary of the comments, accompanied by the comments themselves, are listed below. The workshop at which the comments were received are identified in parentheses.

AGRICULTURE

This category includes responses focused on agriculture and agricultural policy. Approximately one quarter of workshop comments were related to agriculture. Some comments relating to agriculture are listed under other category headings. Considerable interest was expressed about agricultural zones, purchase and transfer of development rights, taxes, mega farms and low agricultural profits.

Agricultural Zones / Areas

- Protect prime agricultural ground (Onsted)
- Consider agriculturally secured zones. (Onsted)
- Determine & identify what areas should remain agriculture (Onsted)
- Preserve good farmland. (Raisin)
- Don't sacrifice good cropland, use poor and unproductive ground for development. (Raisin)
- Develop Agriculture zones. (Raisin)
- Set up Agricultural security areas. (Raisin)
- Retain agricultural land for agriculture. (Madison)
- Highly productive farmland must be preserved. (Madison)
- Create an agricultural pool, without legal trusts or easements, just a group of farmers that simply agree not to sell or develop <u>their</u> land. (Madison)
- Keep agricultural areas and prime land for use by farmers. (Deerfield)
- Maintain prime agricultural land. (Deerfield)
- Determine by township which areas we want to remain in agriculture. (Onsted)

Purchase / Transfer of Development Rights

- Seek State and Federal monies for PDR (Onsted)
- Establish a countywide PDR and TDR program. (Madison)
- Obtain more information about development rights (Onsted)

- Buy development rights from farmer with funds coming from developer, real estate transfer tax or tobacco tax. (Hudson)
- Encourage state and local level PDR (Onsted)
- Purchase Development Rights / Transfer Development Rights/Countywide mileage. (Raisin)
- Compensate for purchase of development rights and transfer of development rights. (Raisin)

Taxes

- Offer tax incentives for families to remain on the land. (Hudson)
- Tax farmland as farmland and not as development land (Onsted)
- Farmland should be taxed as such, not based on what's across the road. (Onsted)
- Create agricultural districts without property taxes. (Madison)
- Farming in the U.S.A. is a taxpayer subsidized industry. To what extent do taxpayers wish to subsidize farms and farmers? (Madison)
- Restructure tax system so agricultural and urban areas pay their fair share. (Raisin)

Mega and Family Farms

- There is an opportunity to add agricultural value with a manure processing plant in the Southwest part of the county. (Raisin)
- Preserve family farms (not corporate farms). (Raisin)
- Keep small, family farm lands in farming. (Hudson)
- We have to face water quality issues created by factory farms. (Madison)
- Mega farms running family farms out and causing new problems. (Post card response)

Ag Profitability

- Present profitability is threatened by S. American agri-business. Cheap transportation is not in our best interest. (Madison)
- To preserve farming (agriculture) make it pay! (Deerfield)
- Farmers are good land stewards. There is a need to make farming more profitable. (Post card response)

Planning & Zoning

- Explore planning and regulation methods that integrate residential uses with farmland while preserving agriculture. (Raisin)
- Create zoning scheme to prevent development in isolated clusters and preserve large portions of farmland. Provide incentive to farmers to do this. (Hudson)

Miscellaneous

- There is excessive loss of farmland to development. (Raisin)
- The closer residences get to active farming operations, the greater the health concerns from runoff. (Raisin)
- Protect farmers from environmental groups (Onsted)
- Explore other avenues to help keep land in agriculture (Onsted)
- Find funding for farmland preservation (Onsted)
- Keep more land in agriculture. (Raisin)
- Housing in agricultural areas is increasing. (Madison)
- Keep farmland in production to maintain a viable agricultural industry. (Deerfield)
- We hate to see the large loss of farmland and a rural way of life. (Deerfield)
- We need to be cautious about how land is developed. Once land is removed from agricultural use, it can't be reclaimed. (Deerfield)
- Maintain the right to farm. (Deerfield)
- Everything possible should be done to prevent further loss of agricultural acres (Post card response)
- Encourage farming in the younger generation. (Hudson)

PLANNING POLICY

This category acts as a catch-all for policy statements not included in other categories like Agriculture, Green Spaces, etc. These comments suggest planning policies that workshop participants believe should be in place. They are listed below under various subheadings. While clustering and zoning received a lot of comments, many other themes were represented.

Clustering

- Cluster new sub-divisions near amenities and preserve nature (Post card response)
- We have scattered housing rather than clustered housing in prime agricultural areas. (Post card response)
- Cluster housing together. (Deerfield)
- Promote cluster development instead of scattered. (Madison)
- Offer cluster housing incentives and maintain green areas. (Hudson)
- Clustering reduces utility costs and promotes land stewardship. (Raisin)
- Consider cluster housing. (Raisin)
- Cluster housing/not scattered. (Raisin)
- Farmland is wasted with the 10-acre rule, clustering is more efficient- short-term gains are a long-term loss. (Raisin)

Zoning

- Require fewer and smaller parcels in rural areas (Post card response)
- Through constructive zoning keep residential areas closer to already populated areas. (Deerfield)

- Restrict single-family housing to areas near towns & villages. (Deerfield)
- Develop, maintain and enforce zoning plans. (Deerfield)
- Limit acreage for all commercial and residential building sites. (Madison)
- Zoning alone is not an answer and in fact is contributing to the problem in many cases. (Madison)
- Zone for farms/open space/Industrial/commercial/recreation & tourism. (Raisin)
- Restrict new building sites so they don't go so deep. (Raisin)
- Less setback on housing. (Raisin)

Residential

- Raisin Township has best soils in county for development (Post card response)
- Limit residential development to the poor agricultural lands. (Raisin)
- Residential lots are too small. There should be green space around homes. (Raisin)
- Expand residential contiguous with other residential areas. (Raisin)
- Explore how to plan and regulate in order to integrate residential development with farmland. (Raisin)
- Townships need to develop master plans that prevent uncontrolled residential building. (Hudson)
- Plan which areas are to be developed for residential. (Onsted)
- Plan for higher density. (Onsted)

Rural

- Protect farms and wetlands (Post card response)
- Conserve farmland. (Hudson)
- Maintain rural environment (Post card response)
- Prevent haphazard sprawl (Post card response)

Commercial

- Concentrate commercial development along major highways. (Onsted)
- Concern about excessive and scattered commercial development along U.S. 12. (Onsted)

General

- Lenawee County should have a viable long-range development plan. It should also demand its fair share of funding from the State of Michigan for road improvements, other infrastructure improvements and farm wetland preservation (Post card response)
- Control rampant growth in area. (Post card response)
- Since construction <u>will</u> come, encourage it on less valuable farmland. (Hudson)
- Dissolve political boundaries. (Raisin)
- People who work in Ann Arbor should live there. (Raisin)
- Give something to the next generation. (Raisin)

- There has been a lack of county planning in the past. (Raisin)
- Plan for growth and open space. Townships should be given a guide or mandate (Onsted)
- Consider the most efficient use of land. (Raisin)
- Townships need to accommodate all land uses and control own destiny. (Onsted)
- Purpose for land use plan should be established, i.e. growth and open space preservation. (Onsted)
- Consider the best use of property. (Onsted)
- Support for the Watershed Council is necessary. (Madison)
- Preserve Historical areas. (Onsted)
- Eliminate the 10-acre lot size. (Raisin)
- We can't stop growth so let's at least try to organize it as to where and how it happens. (Deerfield)

COMMUNITY INFRASTRUCTURE

These comments refer to community held and administered infrastructure systems and services. Comments are divided by urban and rural because infrastructure needs and expectations in urban areas are so much greater than in rural areas. Infrastructure such as transportation and greenway parks are listed as separate categories. A strong correlation was made between urban abandonment and rural development. It was suggested that expansion of community infrastructure should be used to guide growth and reduce sprawl. There were several comments regarding the need for area wide community infrastructure planning.

Urban

- Revitalizing cities is important to slowing building in rural areas in an unplanned manner. (Onsted)
- Redevelop abandoned properties instead of building new. (Madison)
- Problems of sprawl are related to abandonment of cities. (Madison)
- Vacating population and business centers adds to sprawl in rural areas. (Post card response)
- City wastewater overflow is a problem. (Madison)
- Revitalize cities to minimize growth in rural areas (Onsted)
- Annex land where sewer and water are available. (Onsted)
- Revitalize urban centers. (Raisin)
- Encourage brownfield redevelopment. (Raisin)
- Utilize abandoned industrial sites first (brownfields). (Raisin)
- Redevelop abandoned properties instead of building new (Madison)

Urbanizing Rural

- Cities are losing population. Rural areas are gaining population. (Deerfield)
- Set up urban growth boundaries around cities and villages. (Raisin)
- Allow development in areas contiguous to cities and villages with public sewer and water service. (Raisin)
- Study where and how to get funds for wastewater treatment plants, water plants, purchase development rights. (Raisin)
- Plan for population growth near cities or villages where water and sewer is available (brownfields included). (Deerfield)
- Responsible development should be clustered around infrastructure. (Hudson)
- Keep development adjacent to existing cities and villages. (Deerfield)
- What can those on small acreages do to replace failing sewage systems? (Deerfield)
- Direct growth to outskirts of cities and villages. (Onsted)
- Cluster housing near water and sewage. (Hudson)
- Make effort to direct development toward existing residential and commercial areas. (Madison)
- Group together services, like sewer and water, to keep growth in certain areas (Onsted)
- Need more sewer systems around lakes (Post card response)
- Need regional development of sewer and waster water systems that are creative and experimental. (Raisin)
- Sanitation infrastructure needs to be set up. (Onsted)

Rural

- Infrastructure is expensive (Onsted)
- Establish a countywide waste / septic plan. (Madison)
- Improve county drains to make more land tillable and stop erosion (Post card response)
- Make sure roads and bridges are adequate for modern agriculture (Onsted)

PLANNING PROCESS

This category contains ideas to improve the way we plan. The subcategories below suggest the need for greater public involvement and the value of good planning and better communication between levels of government.

Public involvement

- Develop public awareness of land use issues by holding meetings similar to this CLS workshop. (Onsted)
- Meetings like tonight's should now be held at a township planning level. (Onsted)
- Create an ongoing process with planning commissions and citizenry. (Raisin)

- Need continued meetings and communication like this with County Planning Commission and also between townships! (Post card response)
- More public education & input into plan. (Onsted)
- Don't plan in isolation. (Raisin)
- Use public service announcements on TV to develop public awareness and promote citizen involvement in planning. (Onsted)
- If agriculture input is desired, hold meetings in the winter. (Madison)
- Outreach to nonprofit groups to help achieve goals. (Onsted)
- Educate homeowners who want to move to rural areas. They must understand what it's like, and then decide if they want to live there. (Onsted)
- Educate business and residential about rural realities prior to them locating in rural areas. (Deerfield)
- Education about costs of providing services is needed. (Onsted)
- What is a sustainable community? (Hudson)

Intergovernmental Relationships

- County plan shouldn't override township control. (Onsted)
- We need uniform zoning/planning throughout the county. (Onsted)
- Better communication between municipalities, surrounding areas, the county and beyond. (Raisin)
- County planners should work with township and village planners. (Madison)
- Planning for proper land use and water resources should be done on a whole watershed basis rather than fragmenting it among political jurisdictions. (Post card response)
- Local vs. County vs. Regional control of planning (The problem is one of political boundaries). (Raisin)
- County plan should be guideline for townships. (Onsted)

Land Use Planning

- Develop county land use plan! (Raisin)
- Make development plans that can be followed. (Raisin)
- Local control is paramount. Keep big government out of local issues. We are in touch with our needs and issues. (Madison)
- Make a plan and stick to it. (Madison)
- Planning Commission and Region 2 staff are merely observing what everyone else is doing. (Post card response)
- There has been no real common sense planning! (Post card response)

NATURAL INFRASTRUCTURE

These comments regard the natural features and systems on which our quality of life and standard of living rely, but which we often take for granted. They include references to surface and ground water, topography,

soils and air. Ten comments voiced concern for water quality, particularly drains and waterways. Concern was also expressed for wetlands, forests and natural land formations, as was the importance of watershed planning.

Water and Waterways

- Water levels should be monitored. (Madison)
- The River floods more often and the overflow kills trees and causes contamination concerns (Madison)
- Preservation of natural waterways is very important. (Deerfield)
- Is the River Raisin being maintained to handle potential water capacity needs? (Madison)
- Keep water supplies & surface waterways clean. (Onsted)
- Need stricter controls on what can run into our drains, rivers and streams. (Madison)
- Need good drainage in open areas to handle heavy rain runoff. (Deerfield)
- Preserve lake quality by restricting off lake development with lake access. (Onsted)
- Developments with lake access increase the chance of water pollution and excessive lake traffic (Post card response)
- Protect water quality (Onsted)

Wetlands

- Learn how to stop the destruction of wetlands. (Raisin)
- Make better use of wetlands and wildlife habitat (Post card response)

Trees and Forests

- Plant more trees. (Madison)
- Need more protection for woodlots and forests. (Madison)

Watershed Planning

- The River Raisin watershed is important in all planning considerations. (Raisin)
- GIS system identifies categories of sub-watershed at risk. (Madison)

Miscellaneous

- Soil erosion problems are a concern. (Raisin)
- Need stricter controls on commercial and factory emissions into the air and water. (Madison)
- Concerned for water, air and soil quality. (Hudson)
- Preserve natural and unusual land formations by limiting extraction of sand and gravel. (Onsted)

GREEN SPACES

These comments highlight the value placed on green areas and open space. Many comments suggested the need to preserve open space while others suggest that environmentally sensitive areas can be used for parks with the possibility of walkways and other recreation uses.

Preserving Open Space

- Preserve land for future uses - greenways (Onsted)
- Preserve more open space, natural areas, woodlands and wetlands. (Raisin)
- Protect green spaces such as wetlands and forests (Hudson)
- Preserve open space. (Madison)
- Preserve open space/farms/nature. (Post card response)
- Maintain the county's rural environment with its wetlands, farms, wildlife habit and open spaces. (Post card response)
- There is no shortage of farmland and there probably never will be. There is however, a shortage of open space in some areas and this shortage of open space will continue to worsen. (Madison)
- Fragmentation of open space is a problem. (Deerfield)
- Protect natural scenic views from industrial and other developments. (Deerfield)

Parks

- Preserve open space land for future parks. (Onsted)
- Set aside parkland. (Raisin)
- Plan and seek funding for parks and nature preserves. (Onsted)
- Plan more open space in housing developments by permitting greater density from connected and clustered homes and group them around shared, park-like, yards. (Hudson)

Walkways

- Develop walkways and trails throughout county (Onsted)
- Explore recreational activity possibilities on the River Raisin. (Madison)
- Preserve land along rivers and creeks (greenbelts) that is unsuitable for farming for public walkways and parks by voluntarily putting land in trusts or conservation easements. (Hudson)
- Develop a trail system throughout the county (Post card response)

PRIVATE PROPERTY RIGHTS

These comments highlight the erosion of private property rights by government intrusion. They emphasize that local regulations must respect private property rights.

- Government can't stop folks who want to sell or build without compensation first. (Onsted)
- Protect landowner's rights. (Onsted)
- Examine state's right to condemn or take over property (Onsted)
- Private rights (development) vs. public rights (trails, wetlands, natural areas). (Raisin)
- What has happened to private property? Everything is registered as residential, commercial, industrial or agricultural. (Hudson)
- Land should be considered as private not as agricultural, commercial or industrial (Hudson)
- Property owner rights are threatened by zoning and land preservation (Hudson)
- Landowners don't want to lose control of their land. (Deerfield)
- Limit government control of land. (Deerfield)
- How does an individual obtain a land patent on their property? (Hudson)

TRANSPORTATION

These comments regard transportation suggestions and issues. The comments call for better road access management, developing alternatives to the I-73 interstate proposal, and the need for road planning and improvement in populated areas.

Access Management

- Better access management to main transportation arteries. (Deerfield)
- Study access management and transportation system management. (Raisin)
- Plan for road access management. (Onsted)

Road Improvements

- Many of our roads are overcrowded. (Deerfield)
- Need road improvements in populated areas of county (Post card response)
- Plan now where future development will require connecting roads to be widened into arterial roads. (Hudson)

Interstate Highways

- Manage traffic more effectively to minimize or eliminate the need for new interstate highways. (Post card response)
- I-73 should be built on existing roads (straight down US-127) if at all. Through truck traffic should travel 23 to 94. (Post card response)

Chapter 12
Public Hearings

Two public hearings were held to receive input regarding the Plan from local units and citizens. The hearings were held at 7:00 p.m. on January 19, 2002 and March 21, 2002 in the Commission Chambers at the Lenawee County Courthouse. Notices were sent to elected officials, planning officials and members of the general public approximately 10 days prior to the hearings.

The approved minutes from those meetings are included in the following pages.

M I N U T E S
LENAWEE COUNTY PLANNING COMMISSION
Lenawee County Courthouse - Commission Chambers
Adrian, Michigan
Thursday, January 17, 2002

The meeting was called to order at 7:00 p.m. by Chairman Crosby. This is the regular meeting of the County Planning Commission and the first of two public hearings on the Lenawee County Comprehensive Land Use Plan. Participation was actively sought from each community in the county.

Members Present:	Frank Crosby, City of Tecumseh Keith Dersham, City of Adrian Becky Liedel, Madison Charter Township Bill Saunders, Dover Township Ralph Tillotson, Lenawee County Commission Jim Tipton, Blissfield Township
Members Absent:	Hugh Flippo, Lenawee County Commission
Others Present:	Timothy Anderson, Staff Scott Ambs, Staff Arnold Harper, Madison Township Ireno Busato, Adrian Township Linda Busato, Adrian Township Rick Richardson, Cambridge Township Doug Lake, Cambridge Township Linda Fisher, Rome Township Wes Gilmore, Macon Township Larry Liedel, Madison Township Susan Prater, Raisin Township/SPRAWL Phil Hart, Clayton Ken Mitchell, CLS, Raisin Township Barb Mitzel, Adrian Orrin Gregg, Lenawee County Road Commission Bob Kellum, CLS, Manchester Township Bob Platt, Franklin Township Julie Warner, Rome Township Roy Beal, Rome Township Larry Gould, Lenawee County Commission/Seneca Township David Munson, Lenawee County Chamber Stephen J. Boles, CLS, Raisin Township George Ante, Adrian

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Others Present (cont.): Wayne Smith, Madison Township
Dave Frownfelder, WLEN

ITEM 1 PUBLIC HEARING ON DRAFT COMPREHENSIVE LAND USE PLAN

A public hearing was held on the draft Lenawee County Comprehensive Land Use Plan. This is the first of two public hearings with the second hearing to be held on March 21 at 7:00 p.m.

Mr. Anderson presented a summary of the plan inventory, goals and policies, and proposed land use plan map.

Attendees were asked to respond to the draft land use plan map. The following comments were received.

Robert Kellum, Citizens for Land Stewardship, stated that communities need to consider adopt clustering provisions in their zoning ordinances. In addition, intensive uses should be clustered in areas where central sewer and water exist.

It was stated that the area near Morenci should be indicated as intensive agricultural due to the fact that the soils are suitable, the lots are large, and intensive agriculture is taking place in that area.

The Consolidated Planning Act was discussed. The Act as originally proposed is dead but another version has been passed in which communities are required to share comprehensive plans with surrounding communities.

It was pointed out that several county parks were placed incorrectly on the map. Gerber, Ramsdell, Medina and Heritage parks needed to be added.

It was suggested that Clayton be changed from agricultural to low-intensity development. Also, Fairfield, Jasper, Riga and Weston should be indicated for low-intensity development.

Ireno Busato, Adrian Township, said that the map should be altered to extend the area of intensive development north and west along

Doug Lake, Cambridge Township, commenting on the 1998 existing land use map, said that he would like to see a generalized land use map which would show simplified land use. The possibility of creating such a map was discussed.

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Susan Prater, SPRAWL, asked whether population projections and build-out and cost benefit analyses were done. Population projections were done but build-out and cost benefit were not performed due to their limitations and they are beyond the scope of the plan.

The area north of Palmyra and Blissfield were considered. There is a large area of suitable soils according to the Health Department's criteria for septic tank absorption capability.

Chm. Crosby asked each person present if they had any comments on the plan.

There being no further response, the public hearing was closed. The next public hearing is scheduled to take place on March 21 at the same time and location.

M I N U T E S
LENAWEE COUNTY PLANNING COMMISSION
Lenawee County Courthouse - Commission Chambers
Adrian, Michigan
Thursday, March 21, 2002

The meeting was called to order at 7:00 p.m. by Chairman Frank Crosby.

Members Present:	Frank Crosby, City of Tecumseh Hugh Flippo, Lenawee County Commission Becky Liedel, Madison Charter Township Bill Saunders, Dover Township Ralph Tillotson, Lenawee County Commission Jim Tipton, Blissfield Township
Members Absent:	Keith Dersham, City of Adrian
Others Present:	**Adrian Charter Township** - Lindsey Jones, Barbara Jones, Glenn Richard, Carolyn Baer **Blissfield Township** - Michael Frye, **Cambridge Township** - Welton Moore, Tom Van Wagner, John Garrison, Charlotte Garrison, Rick Richardson, Doug Lake **City of Tecumseh** - George Anton **Fairfield Township** - Allen M. Russell **Franklin Township** - Dan Van Valkenberg **Lenawee County** - Steve LeVeck, Kathy Linton **Lenawee County Commission** - Larry Gould, Dick Bailey **Madison Charter Township** - Janet Bovee, Arnold Harper, Larry Liedel, Ted Dusseau **Medina Township** - Charles Schaffner **Ogden Township** - Darrel Pifer, Edwin Pifer, Mark Vandenbusche **Raisin Charter Township** - Lee Mohr, Dean L. Wann, Carl Lehman, Donald E. Mitchell, Donald Meyers **Riga Township** - Robert Knoblauch **Rome Township** - Al Boggs, Roy Beal **Tecumseh Township** - Roy Schlegel, Cindy Eicholtz **Village of Clayton** - Lynn Henning **Woodstock Township** - Molly Upell, Anthony T. Griscauage, Ronald E. Walker **Media** - Dennis Pelham, Paul Wetter - Daily Telegram Tim Anderson, Secretary Scott Ambs, Staff

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ITEM 1 PUBLIC HEARING ON LENAWEE COUNTY COMPREHENSIVE LAND USE PLAN

Chm. Crosby opened the second public hearing on the Lenawee County Comprehensive Land Use Plan.

Mr. Anderson presented a summary of the plan inventory, maps and policies. He pointed out that several changes were made as a result of the previous public hearing and discussion of the Planning Commission. The changes were as follows:

1. state and county parks, recreation areas, and gaming areas are to be indicated in the correct locations.
2. Clayton village is to be classified as low-intensity development because it has sewer but not water.
3. the Class I soils between the City of Morenci and the intensive agricultural area east of the ridge should be added as intensive agricultural.
4. add a strip of intensive development along M-52 south to Fairfield village.
5. bring the area of intensive development north from the City of Adrian to Moore Road, and bring it west to Wisner Highway.
6. additional lakes and water bodies are to be included.
7. municipal boundaries to be darkened.
8. generalized land use categories to be considered.

Chm. Crosby invited members of the audience to comment.

Allen Russell, Fairfield Township, discussed a portion of the map near the conjunction of Seneca, Madison, Fairfield and Dover townships. He said that while the map indicates low-intensity development in this area, it is practically unusable due to the location of railroad right-of-way and other existing uses in that area. Railroad tracks are to be added to the map.

Charles Schaffner, Medina Township supervisor, asked about the greenway north of Lake Hudson and why that was indicated on the land use plan map. He agreed with the layout of the plan.

Al Boggs, Rome Township supervisor, indicated that his township lacks the infrastructure to keep up with others to improve their tax base. He wants the plan to help guide his township in the future.

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Tom Van Wagner, Lenawee NRCS, said that it could be useful for the plan to indicate areas for greenbelt in the Wolf Creek watershed. Also, consider changing the low intensity development area near Palmyra Township to intensive agriculture because it is among the best agricultural areas in the county.

Lynn Henning, Clayton, stated that we need to preserve the small family farms in the county.

Carolyn Baer, Adrian Township, said she is concerned about the location of her family's centennial farm within the intensive development area.

Charles Schaffner stated that agriculture cannot compete with development in terms of profits. Farmers should investigate the purchase of development rights program administered by the state. An agricultural committee has been organized to provide ideas to the townships as to agricultural preservation.

Cindy Eicholtz, SPRAWL, said she supports preservation of the small family farm. The plan should clearly distinguish the difference between agricultural uses and the intensive industrial agricultural uses.

Larry Gould, Lenawee County Commission, stated that there is a need for agricultural districts but that they are not indicated on the plan map. He explained that these are 5,000 acre minimum contiguous areas that could be set aside for intensive agricultural uses, and would allow processing plants.

Bob Knoblauch, Riga Township supervisor, pointed out that Gerber Park should be moved to Deerfield on the map. Mr. Knoblauch added that the plan cannot be implemented except through the action of local units of government. He stated that Riga Township will be working on a plan and they intend to consult the county plan and inventory data when creating their plan, and he urged other communities to follow suit.

Don Mitchell, Raisin Township, said that he sees nothing new about the plan. Small community water systems are not shown and the plan is too little, too late. However, he pointed out that it is a good first step. Planning should be pro-active and not reactive.

Chm. Crosby closed the public hearing. The Commission members discussed the comments. Due to the need for further discussion, action on the plan was delayed until a future meeting. Adoption of the plan will be put on the April agenda.

Part 3 - Issue Identification, Goals, Policies, and Implementation Strategy

- **issue identification**
- **goals and policies**
- **implementation strategy**

Chapter 13
Issue Identification

In order to develop a list of land use issues, the Lenawee County Planning Commission reviewed the physical characteristics and demographic trends in the County. Presentations were made at Planning Commission meetings and representatives of county and state agencies provided their perspectives on land use. The citizen participation effort provided an opportunity for local officials and the general public to provide their input on issues facing the county. The Planning Commission used all of this information to assist in issue identification.

To identify the most significant land use issues facing the County, the Planning Commission held a special meeting in July, 2001. Planning Commission members provided their feedback by responding to two questions: "What do you value that you would like to preserve about Lenawee County" , and "What do want Lenawee County to be like in 20 years?"

The responses to the issue identification questions served two principal purposes: to discover the aspects of the county that should be preserved, and to provide guidance for the development of goals. The responses to the two questions are discussed below.

Issue Question 1 - What do you value that you would like to preserve about Lenawee County?

This question was intended to identify aspects of the county that should be given priority for preservation. The Planning Commission provided the following seven characteristics to be preserved:

- farmland
- surface and ground water quality
- open space and natural resources including parks
- small town atmosphere
- rural atmosphere
- historic landmarks
- property rights and individual rights

The responses of the Planning Commission are consistent with the input received during the citizen participation process. Due to this consensus of opinion, they are a basis for goals. The responses are given further elaboration as follows.

Farmland

Agriculture is an important component of Lenawee County's economy. The County ranks third in the state in cropland acreage and is among the leaders in the production of corn, cucumbers, wheat, beans, and tomatoes, among other crops. However, due primarily to low-density residential development, farmland acreage is decreasing. From 1982-1992, Lenawee County lost 40,000 acres of cropland - the largest reduction of any county in the state.

Located just outside the growing Ann Arbor-Detroit and Toledo metropolitan areas, Lenawee County in particular faces the potential for increasing conflicts between agricultural and residential land uses. In spite of protections afforded by the Right to Farm Act, residential uses are likely to place increasing pressure on farmers to reduce the side effects of agricultural practices.

Soils are a key factor in determining the best location for different types of land use. Some soils are more productive for agriculture than others. At the same time, some soils are better suited than others for septic tank absorption fields. Lenawee County is fortunate because the soils that are the most productive for agriculture are the least suitable for residential development, and vice-versa. The soils in the former Lake Erie lake bed are very productive but do not drain well. Elsewhere, the soils are less productive for agriculture but tend to drain more efficiently.

Surface and Ground Water Quality

The potential for water quality problems exists in Lenawee County. The highest risk exists in the urban core where there are concentrations of residential, commercial, and industrial uses, but the potential for surface and groundwater contamination exists throughout the county. A number of concerns have been identified by state and local agencies including the following:

- In a report issued in 1997, the Michigan Department of Environmental Quality identified water quality problems in several lakes and streams in Lenawee County. Some of these problems are associated with population pressure including the release of untreated sewage, the increase in contaminants associated with pesticides and herbicides, and the presence of PCB's from industrial processes.

- The MDEQ has identified 200 leaking underground storage tanks in Lenawee County. The agency has also listed 42 other types of contamination resulting from industrial activity, dumps, wastewater treatment facilities, and salt storage.

- Impermeable ground cover eliminates the ability of the ground to absorb stormwater. Stormwater runs off directly to rivers, lakes and streams carrying with it oil, fuel, sediment, and other contaminants.

- The most appealing locations for residential development often serve important ecological functions. The encroachment of residential development on lakes, streams, and wetlands threatens to interfere with these functions.

- Particularly in the Urban Core, soils with the highest potential for development are also those that are most susceptible to groundwater contamination.

Open Space and Natural Resources including Parks

The 1998 land use survey indicates that most of the county remains in agriculture, forests, and open space. However, a growing proportion is being developed reducing the amount of available green space. The conversion of open areas to residential development is particularly significant in the US-12/Irish Hills area and the Urban Core. A lack of open space reduces individual quality of life. But how can open space be preserved short of public acquisition?

Some communities provide flexibility and incentives in their zoning code to preserve open space. In fact, recent statewide legislation requires that communities with 1,800 people or more provide such flexibility in their zoning ordinances. Open space zoning preserves natural areas within residential developments and buffer the surrounding area from the visual effect of the development. In addition, many property owners have chosen to enroll their land under the Farmland and Open Space Preservation Act which provides financial incentives not to develop the property for the length of the contract.

Small Town Atmosphere

Population growth and changing lifestyles are threatening the small town atmosphere in Lenawee County's cities and villages. Citizens are not taking advantage of opportunities for civic involvement. Interaction with other community members is reduced to the bare minimum. Longer commuting distances leave little time for interaction with others in the community. Turnout is small or non-existent at elections and local legislative and planning meetings unless a controversial issue is on the agenda.

Communities should encourage and provide opportunities for involvement in local activities. In addition, communities should be designed to bring residents together in a comfortable and attractive setting.

Rural Atmosphere

A rural atmosphere features natural settings, a slower pace, peace and quiet, and farming. In some areas of Lenawee County, particularly the urban core, the rural atmosphere is disappearing.

To a degree, the loss of rural atmosphere is due to the way land is developed under existing zoning ordinances. The typical rural residential development pattern involves the division of land into narrow frontage lots with suburban style residences, close-set driveways, and the clearing of natural vegetation. In some cases, development patterns have tended to blur the distinction between rural areas and the boundaries of cities and villages. Development that occurs at the edge of villages and cities results in strips along main roads, it also often leads to the decline of central business districts. In order to avoid the further loss of rural atmosphere, intensive development should be clustered in and around cities and villages where sewer and water facilities exist. Low-density strip development should be avoided.

Historic Landmarks

There is a growing recognition of the importance of the preservation of historic identity. Lenawee County contains many historic buildings and sites, but few communities have adopted architectural guidelines for preservation of historic buildings and sites.

It is important that historic landmarks and sites in Lenawee County are preserved. This is all the more challenging when the trends have tended toward sameness and the loss of individual community identity. Historic preservation will also help to preserve the small town atmosphere of the county's cities and villages.

Preservation of Property Rights and Individual Rights

Property and individual rights must be preserved. Property owners should generally be allowed to do as they wish with their property until their activity impinges on others.

At the same time, the original intent and purpose of zoning should be retained. Land uses that have the potential for conflict should be separated and planning and zoning should be implemented in a way that public infrastructure is made available in the most efficient manner possible. Still, governmental regulation of land use should not place undue restrictions on development. Careful consideration and restraint should be used when creating and enforcing land use laws.

Issue Question 2 - "What do you want Lenawee County to be like in 20 years?"

In response to issue question 2, the Planning Commission listed the characteristics that Lenawee County should exhibit in the future. The responses are listed below in the categories of transportation, agriculture, planning policy, planning process, and community infrastructure.

Transportation
- freeway regardless of location
- more and better roads
- maintain existing roads
- less reliance on fossil fuels
- multi modal transportation
- less reliance on automotive industry

Agriculture
- better distribution of agricultural products
- increase markets for agriculture
- agricultural security areas or agricultural renaissance zones

Planning Policy
- brownfield redevelopment
- dense development in proper locations which preserves open space elsewhere
- limited population
- tax benefits for restoration and historic preservation
- self-sufficient for trash disposal
- downtown revitalization
- increased cultural opportunities
- wider variety of entertainment

Planning Process
- urban growth boundaries through mutual cooperation of communities and landowners
- cities, townships and villages work together

Community Infrastructure
- residential, commercial and industrial development must hook into public or private central sewer and water facilities

These responses helped to shape the goals, policies and strategies of the plan. They also provided a future vision toward which land use planning efforts should strive.

Other Issues

In addition to the issues identified at the issue identification workshop, other observations and concerns have been raised by the Planning Commission over the years of dealing with planning and zoning issues. These will also be useful in the creation of goals. Other issues fall within the following categories:

- planning
- agricultural land use
- residential development and housing
- commercial land use
- manufacturing employment and industrial location
- environment
- transportation
- public facilities and services

Planning Issues

A number of issues and concerns have been raised by the Planning Commission relating to land use planning. They include the need for plan updates, coordinated planning, and training workshops. Planning issues are summarized in the following paragraphs.

- *Lenawee County has not updated the county plan in several years.*

  In the early 1970's, the Lenawee County Planning Commission completed a comprehensive land use plan. Much of the implementation of that plan was assigned to the County Planning Commission which lacks the authority to implement the plan and it has not been an effective tool. Few copies of the aged plan exist and it is not routinely consulted as a guide for decision making.

- *Several townships in the County lack land use plans and zoning ordinances.*

  The most effective tool for managing and controlling growth and development is the zoning ordinance. The Township Zoning Act and the City and Village Zoning Act specifically authorize communities to implement zoning ordinances based on a local plan.

  Three townships in Lenawee County have not enacted zoning and many have not recently updated their land use plans. This will ultimately reduce the effectiveness of planning and zoning in Lenawee County. Lack of local control may also result in the continued sprawl of residential uses and other conflicting

land uses into the countryside with the associated problems that unplanned development can cause.

- *There have been few efforts to coordinate planning and development on a county-wide basis.*

  One of the purposes of a county planning commission is to coordinate planning and zoning among communities. To some extent, this is accomplished through routine recommendations to communities on rezonings and zoning ordinance amendments. However, for the most part, planning in Lenawee County is done on a sporadic, as-needed basis. Planning and zoning are often not the pro-active tools that they were intended to be, rather they are used to respond to controversial land use issues.

  Because there are many land use issues that cross community boundaries, joint planning efforts, such as the Clinton Community School District Master Plan, are highly encouraged. The data and maps in this plan provide a large-scale view of the county and should be used to obtain a larger perspective than can be seen when limited to community boundaries. Recent statewide legislation has forced a certain amount of communication among neighboring communities but the spirit of true cooperation needs to arise from the communities themselves.

  There is a need to strengthen ties among governmental units. One of the purposes of this plan is to bridge the gap between the County and local governments and to encourage intergovernmental cooperation. There has been little effort to coordinate and guide growth into logical areas where community services already exist and development can occur with minimum impacts. While some communities have prepared and adopted land use plans, planning efforts at the county level have been limited. However, recent amendments to Michigan planning enabling legislation have created a larger role for county planning commissions.

- *Lack of coordinated infrastructure improvements (roads, water, sewer, fiber optics, natural gas, electric).*

  There is no single document or policy that is used for coordinating infrastructure so that the proper improvements are made in appropriate locations at the right time to meet the community needs and to channel growth to proper locations. In addition, the climate for cooperation among local units is cold and getting colder.

- *There is a need for continuous training of planning and zoning officials.*

  Lenawee is a primarily a rural community where significant population growth is a recent phenomenon. Turnover on local planning commissions and zoning boards results in the need for continual training and retraining on the ABC's of planning and zoning.

  At the same time, some local planning officials are prepared to move beyond the basics to more advanced topics. Some of these topics include open space zoning, agricultural preservation, growth management, access management, brownfield redevelopment, community design, and regulation of NIMBY land uses. Basic and advanced training should be encouraged with periodic workshops sponsored by the Lenawee County Planning Commission.

Agricultural Land Use Issues

Agriculture is the predominant land use in Lenawee County. In the midst of a growing population, many issues have arisen relating to farmland preservation. Some of the issues that have been discussed are reviewed here.

- *Until recently, prime farmlands were not identified and targeted for preservation.*

  Prime agricultural soils must be identified and mapped as a necessary first step in any effort to preserve farmland. This has been accomplished in the inventory portion of this plan.

- *The number of farms and the total number of acres devoted to farming has declined.*

  In the decade from 1982 to 1992, Lenawee County lost 40,000 acres of cropland - the most of any county in the state. At the same time, the average acreage per farm has increased. The result has been a decline in the number of family farms.

- *There has been no county-wide planning effort or plan to encourage the protection and preservation of farmland.*

  There has been no effort on the county level to preserve farmland. This would also help to protect the rural character of Lenawee County.

- *The suburbanization of agricultural areas contributes to conflicts between agricultural and residential uses. Agricultural noise, dust, and odors are often times objectionable to adjacent suburbanites.*

  Mega-farming has created an awareness of how certain agricultural activities can cause conflicting land use problems. However, smaller farms also increase the odor and dust problems that frequently irritate some residential uses. The concentrations of population near farming operations should be avoided to reduce potential conflicts.

- *There is an over-reliance on government solutions to market-driven problems.*

  The success of agriculture is largely related to market conditions. Government regulations are an artificial means to increase the price of agricultural commodities. However, in the absence of government involvement, it is likely that some farmers would go broke.

Residential Development and Housing Issues

For decades, residential land use has been increasing more than any other type. Such development creates fragmentation of land and often lead to conflicts with other land uses.

- *There has been an increase in lot splits to help satisfy the demand for suburban residential uses leading to the fragmentation of the countryside.*

  A large number of land divisions threatens the rural character of Lenawee County and interferes with agriculture. Once land is fragmented, it cannot readily be used for farming. Compact residential development in areas served by public sewer and water can reduce the amount of land affected by lot splitting.

- *The need for affordable housing.*

  The need for affordable housing, serving the needs of elderly and low- and moderate-income families, will increase as the baby boom generation reaches retirement. Manufactured housing parks offer one approach to the problem, but they are not well received and the cost of living in such communities is becoming prohibitive. In addition, manufactured housing is often accused of not paying its “fair share” of property taxes and most of the fees that it does pay goes to state coffers and does not contribute toward the cost of local services.

Communities should plan for affordable housing because the demand will be increasing. Local units should also become familiar with court decisions that have struck down attempts to exclude affordable housing.

- *Some of the County's housing stock is older and in need of repair.*

  Though a significant portion of the county's housing stock was built after 1970, there are pockets of aging housing, particularly in cities and villages. When appropriate, older housing should be preserved and maintained in an attempt to retain the county's historic features. Communities should consider the development of historic district ordinances and should also apply for historic preservation grants.

Commercial Land Use Issues

Though the amount of commercial development has not been large in terms of acreage, it tends to occur in scattered locations. Small scale commercial development is occurring in urban areas and in locations along major roads.

- *The isolation of the County reduces its attractiveness for certain retail chains.*

  Having a wide variety of shopping alternatives for a growing population allows the population to spend dollars locally and reduces the miles driven to satisfy a demand for specific goods or services. Except for the City of Adrian, there are few concentrations of population sufficient to draw major retailers to Lenawee County.

- *There is no one agency responsible for overseeing and attracting new commercial development.*

  Several agencies have a role in promoting Lenawee County to manufacturers. However, there is not a single agency designed to meet the needs of prospective commercial developers.

- *Communities are not planning adequately for commercial development along major roads.*

  The Planning Commission has reviewed many rezoning cases along major highways. In some cases, the requests are reasonable but local plans do not call for the rezoning. In other cases, plans call for an unrealistic amount of commercial development.

Manufacturing Employment and Industrial Location Issues

The amount of acreage dedicated to industrial use is not large, but it is growing. Some of the new industrial development is occurring on greenfields rather than brownfields.

- *There are not enough people qualified to fill new skilled industrial jobs.*

  The are not enough skilled workers to attract some industries. The younger population is not developing the skills necessary to attract high-tech industry employers. This is a disincentive to potential new manufacturers and keeps wages low in relation to the state and nation.

- *The existing road network may inhibit or prohibit industries from locating in the County. For example, there is no four-lane road running through the County connecting with one of the freeway systems that would help give the County a competitive industrial edge.*

  The Michigan Department of Transportation is currently considering alternatives for road improvement throughout the County. Some of the alternatives involve the improvement of state trunklines to four lanes. Until this is completed the County will contain no interstate highways and no four-lane roads other than in areas where passing lanes are provided.

- *There is a need for a coordinated brownfield development program.*

  Brownfield redevelopment encourages the reuse of abandoned industrial sites with existing infrastructure instead of expanding public infrastructure for construction on vacant lands in rural areas. The City of Adrian has initiated a multi-jurisdictional brownfield redevelopment planning effort to encourage the reuse of brownfields.

  Brownfield redevelopment is an extremely important aspect of this plan. It takes advantage of existing infrastructure and helps to prevent urban sprawl.

- *Tax abatements are a national problem that cannot be addressed at the local or state level*.

  Across the United States, communities provide tax abatements to industry. Manufacturers that withdraw early from a tax abatement due to relocation should be forced to pay into a fund in support of brownfield redevelopment.

Environmental Issues

Population growth carries with it the potential for environmental contamination. Some of the causes for this include leaking underground storage tanks, septic system failure, stormwater runoff from pavement, and air pollution as a result of traffic congestion.

- *Environmentally sensitive lands do not have a program or a set of policies in place to assist in natural resources conservation and protection.*

  No one agency, committee or commission has been designated to take the lead in a natural resources conservation program or to work with local units on environmental issues.

- *Animal waste application needs to be accomplished so that it meets the needs for targeted crop nutrients, but does not compromise the integrity of the environment.*

  The increase in the number of mega farms in Lenawee County has caused concern regarding the environmental hazards of farm operations.

- *Sites of environmental contamination, LUST (leaking underground storage tank) sites, sensitive surface formations, and areas of potential groundwater contamination should be identified.*

  Areas to be avoided for development due to contamination or sensitivity should be identified and mapped. Some sensitive areas have been mapped in this plan but a more comprehensive map containing LUST sites and other sites of environmental contamination should be developed.

- *Lakes with significant residential development are encouraged to install municipal sewer systems to protect the water body from environmental degradation.*

  Lakes with large numbers of homes and conversions of summer cottages to full-time residences should consider the installation of central sewer systems.

Transportation Issues

In the citizen survey, “Poor roads” was the most common complaint about living in Lenawee County. Some survey respondents saw the need for an interstate highway while others were concerned about safety on some of the County’s state trunklines.

- *Lenawee County lacks an interstate highway.*

  The proposals presented by the Michigan Department of Transportation for an interstate highway have created controversy. However, economic developers believe that the lack of a freeway through Lenawee County places it at a competitive disadvantage.

- *Lack of Access Management.*

  Growth is bringing with it the division of land and additional curb cuts along Lenawee County roads. Access management techniques should be used to plan ahead to reduce the number of conflict points on arterial and collector roads in Lenawee County.

- *County Road Commission review comes too late in the site plan review and platting process.*

  By the time site plans and proposed land divisions are received by the Lenawee County Road Commission they have already been approved by the local unit of government. A change in the review process is needed to allow simultaneous interagency review of developments.

- *Transportation alternatives are needed to reduce traffic congestion.*

  Population growth is resulting in traffic congestion. Alternatives to the single-occupancy vehicles are needed to reduce congestion and air pollution.

Public Facilities and Services Issues

When sewer and water lines are installed, high-density growth will occur. A plan is needed for infrastructure improvements to indicate where infrastructure is needed.

- *Infrastructure improvements tend to be made in an unplanned manner.*

  Because the county comprehensive plan has not been updated for several years, there is no framework for sewer and water improvements. The extension of urban services to low-density residential areas results in high costs and low efficiency. This will continue as long as public services are extended to new developments under the present planning process.

Chapter 14
Goals and Policies

After issues are identified, goals can be developed. Goals are intended to address the identified issues and express a desired vision of the future. In the case of a land use plan, goals express a community's vision as to how the landscape should be shaped, what elements of the community should be preserved and protected, and how and where development should occur.

Once goals are created, a means to bring them to reality must be established, which is the purpose of policies and strategies. Goals, policies and strategies work together in accordance with the following definitions:

> *Goals* describe a desired end toward which planning efforts should be directed. They are a general description of what is wanted. Goals reflect the core values of the community.
>
> *Policies* describe the framework for decision-making toward achieving the goals.
>
> *Strategies* describe what needs to happen to accomplish the goals.

This section presents the plans goals and policies. Strategies are considered within the plan implementation section to follow.

The goals and policies presented in this plan range from the general to the specific. General goals provide a framework for goals intended to address specific land use issues. First, the ***overall goal*** of the plan is presented. This statement describes the purpose, or mission statement, for developing the plan.

After the overall goal, the plan's ***general goals and policies*** are presented. The general goals and policies provide a framework for planning and zoning in Lenawee County.

Finally, ***land use goals and policies*** are intended to address issues related to specific land uses within the framework of the general goals and policies.

Lenawee County Comprehensive Land Use Plan

Goals and Policies

Overall Goal

The following statement represents the overall goal of the Lenawee County Land Use Plan. It may also be viewed as the mission statement for the planning effort.

> *To create a set of policies that will guide future development in a manner consistent with the natural attributes of the land, the preservation of open spaces, the rural character, and the provision of necessary public facilities and services.*

General Goals and Policies

The following general goals and policies have been identified by the Lenawee County Planning Commission. These goals represent the desired future condition toward which land use decision-makers should strive. They also form the basis for more specific goals and policies to follow.

General Goals

- **Coordinated land use planning and zoning with communities working together to solve common problems.**
- **Reduction of land use conflicts.**
- **An efficient and well-maintained transportation system.**
- **Coordinated and planned infrastructure improvements.**
- **Reduction of urban sprawl.**
- **Preservation of farmland and open space.**
- **Protection of the natural environment.**
- **A proper balance between the need for community rights and individual property rights.**

General Policies

The following policies are a guide to be consulted to achieve the general goals listed above.

- *Encourage all units of government to work together to develop policy, plans and zoning ordinances consistent with one another.*
- *Encourage well planned intensive development in existing urban areas or existing growth corridors that have municipal services.*
- *Encourage the preservation of the County's agricultural base, its open space, and natural resources by encouraging growth in and around existing urbanized areas.*
- *Promote the concept of Lenawee County as a place with individual identity maintaining a rural character; keeping the diversity of people and environment in balance while encouraging orderly community growth.*
- *Support the continuation of a sound economic base through a combination of industrial and commercial establishments. Seek to promote commercial business and support efforts to establish industrial parks for employment potential and retention of our youth.*
- *Encourage local units of government to expand public facilities and services such as municipal water and sewer or paved roads, only where the intensity of development requires such services or where the public health is at risk.*
- *Minimize new development where public services are unavailable.*
- *Encourage and work with townships that do not have land use plans or zoning ordinances to prepare and adopt these documents.*
- *Work with townships to encourage adoption and implementation of ordinance provisions intended to foster development, but maintain rural character and reduce conflicts with agricultural land use.*
- *Provide a framework for preservation of open spaces by coordinating local land use plans and related regulations.*
- *Implement a program that fosters intergovernmental coordination in growth management and planning decisions.*

- *Communicate with townships, villages, and cities in Lenawee County to discuss local and area-wide public facilities and service needs, land use conditions and trends, contemporary planning issues, and strategies to address short and long-term needs and issues in a mutually beneficial manner.*

- *Continually provide regular opportunities for substantive public input on growth and development issues facing local and county government and the future character of the landscape.*

- *Work with townships to allow input into the land division process prior to local action on land splits to assume compliance with the goals and policies of the plan.*

Land Use Goals and Policies

Land use goals and policies for specific types of land use are included in this section. Goals and policies are divided into the categories of agriculture, residential development and housing, commercial and industrial, environmental, public facilities and services, and transportation.

Agriculture

Agricultural Goals

- **Farmers have the right to farm.**

- **Separation of agricultural and conflicting land uses.**

- **Agriculture remains viable in Lenawee County.**

- **Better distribution of agricultural products.**

- **Increased markets for agriculture.**

- **Agricultural security areas/renaissance zones.**

- **Large undisturbed tracts of agriculture.**

Agricultural Policies

- *Encourage the protection and preservation of agricultural areas within the County that have prime agricultural soils as identified by the Lenawee County Soil Survey and maps included in Part I.*

- *Encourage the preservation of major farms, Centennial Farms, and lands enrolled in PA 116 or other conservation program or easements.*

- *Encourage townships to protect designated farmland and discourage townships from approving small land divisions for non-agricultural development.*

- *Support updates to local plans to address agricultural preservation.*

- *Encourage local units of government to carefully consider the impacts of extending municipal services such as paved roads, and water and sewer lines into agricultural areas of the County.*

- *Encourage townships in Lenawee County to adopt zoning standards that regulate and discourage haphazard residential development that encroaches into rural agricultural areas.*

Residential Development and Housing

Residential Development and Housing Goals

- **Residential development should primarily occur in and around existing urbanized areas where community facilities and services can most effectively and efficiently service the bulk of the County's population.**

Residential Development and Housing Policies

- *Assist townships in developing a uniform system to assemble information from applicants for land development projects to ensure that adequate utilities, effluent disposal, roads, fire, and police services are adequate to serve the proposed uses.*

- *Develop model ordinances that townships can adopt whose purpose it is to foster the establishment of residential developments that maintain rural character and preserve agricultural land.*

- *Discourage residential development in areas where public services and/or natural conditions are inadequate to support the proposed density.*
- *Assist townships, cities, and villages adopt ordinance regulations that incorporates the preservation of natural resource systems and open space.*

- *Assist local units of government to assure that the needs for alternative types of housing are meeting the demand for these types of housing and locate them in areas where municipal facilities and services are adequate.*

- *Encourage communities to allow and plan for affordable housing developments particularly in the urbanized communities where adequate municipal services needed to support those developments already exist.*

Commercial and Industrial

Commercial and Industrial Goals

- **Encourage commercial and office development in existing urbanized areas and along major thoroughfares where high intensity uses already are present.**

- **Clustered commercial and office uses that minimize curb cuts and driveways and efficiently make use of public infrastructure.**

- **Recognizing a need for a variety of commercial uses, support and encourage new commercial development and redevelopment so that residents of the County can meet their needs for goods and services locally rather than by taking their dollars outside the County to meet their needs.**

- **Encourage and support office uses as transition uses between more intensive uses such as commercial development and less intensive uses such as residential uses.**

- **Encourage the development of infrastructure that will support a high-skill work force.**

- **Encourage industrial development in existing industrial parks where roads, municipal water and sewer already exist.**

- **Support and encourage clean, light industrial development in predetermined areas and heavy industrial uses in areas away from conflicting land uses whenever possible.**

- **Encourage redevelopment of abandoned industrial sites rather than green field developments that are located considerable distance from an existing industrial park or within a reasonable distance from municipal services required to support the development.**

- **Encourage redevelopment of brownfield sites that have been abandoned. This might include any site that has been abandoned or vacant for a period of time, has contamination above residential cleanup standards, or is currently underutilized.**

Commercial and Industrial Policies

- *New commercial development should be designed to reflect the rural character of Lenawee County, with uses necessary for daily needs of the neighborhood and limited sizes of buildings and parking areas.*

- *Significant new commercial and industrial development should only be permitted in areas where public sewer and water are available.*

- *Communities are encouraged to adopt ordinance regulations that require adequate landscaping, open space, or other means to limit conflicts between uses when commercial, office, or industrial uses are adjacent to conflicting uses.*

- *Local units of government should develop their plans to prevent the premature conversion of land to commercial, office, or industrial development.*

- *Encourage local units of government to provide opportunities for home-based occupations within residential dwellings when the proposed home-occupation will not negatively affect the surrounding area.*

Environment

Environmental Goals

- **Preserve and protect environmentally-sensitive areas and conserve the natural resources of the County.**

- **Create a map containing sites of known environmental contamination and sensitive areas**.

Environmental Policies

- *Encourage the preservation and protection of the County's natural resources.*

- *Encourage the preservation of watershed areas, surface water and groundwater recharge areas, wetlands, and woodlots by encouraging development that takes advantage of these resources but does not permanently change the environment.*

- *Encourage the clustering of new residential development in pre-determined areas rather than promote low-density residential development.*

- *Encourage communities to adopt flexible zoning techniques such as planned unit developments (PUD) and open space zoning provisions that promote well planned, clustered developments.*

Public Facilities and Services

Public Facilities and Services Goals

- **Provide a range of public facilities and services consistent with the rural character of the County, which meets present and future needs of existing communities and supports the public health, safety and welfare of residents.**

- **Expand County public facilities and services only as necessary for the protection and maintenance of the public health, safety, and welfare, provided that improvements are consistent with this Comprehensive Plan's future land use pattern and do not encourage excessive growth of large areas of the township's without their knowledge and support.**

Public Facilities and Services Policies

- *Identify local communities which, due to existing conditions and/or actions which this plan could create, may be in need of improved public services including police and fire protection, sewage disposal, potable water, and storm water management.*

- *Create a realistic schedule of improvements that address and identifies the timing, cost, funding source, and need of each planned improvement, so that improvements can be adequately planned for in a priority based manner and tax dollars can be wisely spent.*

- *Develop and maintain a regular and meaningful communication program with local units of government and regional agencies to discuss and plan for infrastructure based and non-infrastructure based public facilities and services; opportunities for shared facilities and services; and, alternative strategies for contracted services versus individual local unit of government-operated services.*

Transportation

Transportation Goals

- **Maintain a safe, efficient road network and improve roads to accommodate growth without destroying rural character.**

Transportation Policies

- *Use access management techniques along major roadways to reduce the number of conflict points.*

- *Encourage plans to expand alternative transportation facilities, including walkways and bicycle trails, in coordination with public facilities, neighboring municipalities and regional efforts.*

- *Encourage local units of government to adopt land use and/or other regulations that include an opportunity for the Road Commission to provide input into the local site plan review process.*

Comprehensive Land Use Plan Map

The Lenawee County Comprehensive Land Use map translates goals and policies into a vision of future land use (see Map 14.1). To some extent, the map is a composite of maps contained in Part I because it is based factors such as existing land use, soils, topography, and the presence of public sewer and water facilities. The map was developed on a county-wide scale and should not be used on a site-by-site basis. The same limitation applies to the other maps that were used to create the Comprehensive Land Use Plan map, particularly the maps based on soil studies, should not be used on a site-specific basis.

The Comprehensive Land Use Plan map did not attempt to provide preferences for specific land use types (e.g. commercial, residential) on a local basis which is inappropriate on a county-wide basis. Instead, it provides a general illustration of the land use policies contained in the previous section.

The map contains the following seven categories of land use:

- intensive agriculture
- agriculture
- low-intensity development
- intensive development
- open space development/recreation
- parks

- greenways

These land use categories are described within the following paragraphs.

Intensive Agricultural

Areas designated intensive agriculture are primarily based on the Lenawee County Soil Survey. These areas consist of the ancient lake bed east of the Ridge, as well as large agricultural tracts in the southern portion of the County. The county drain system made this land tillable and the soils are among the best in the state.

Agricultural preservation techniques are encouraged in intensive agriculture areas. Being of high clay content, the soils do not drain well, and hence are not well suited for septic tank absorption fields. In order to preserve the agricultural integrity of these areas, the extension of central water and sewer services should be avoided except to provide for public health and safety.

Agricultural

Agricultural areas are based on the Lenawee County Soil Survey and the 1998 land use survey. These are areas in which the soils are not rated among the best in the County yet agricultural activities can take place, and is encouraged.

Agricultural areas are located in strips between the Ridge and the intensive development area associated with the Urban Core, and in a wide swath running from Medina Township northeast to Franklin Township.

While agricultural activity is encouraged to continue in these areas, it may also be suitable for other low-intensity uses such as rural non-farm residential, local and commercial recreation, and parks.

Low-Intensity Development

The designation of Low-Intensity Development areas was based on the Lenawee County Soil Survey and the 1998 land use survey.

Some areas designated Low-Intensity Development were so classified by virtue of possessing favorable soils for septic tank absorption fields as designated by the Lenawee County Health Department. Generally, the soils in these areas feature an adequate percolation rate and do not pose a risk of contamination of groundwater supply. The effort was made to situate these areas adjacent to developed or developing areas so that they can serve as a buffer. The largest contiguous area designated Low-Intensity Development is south, east and west of Devils Lake. Other areas include northeastern Franklin Township; Raisin Township between the Ridge and the River

Raisin; southwest Madison Township and southeast Dover Township; and the vicinity of Morenci.

In addition, there are several smaller concentrations of homes, or hamlets, that are classified as Low-Intensity Development. These are small unincorporated areas that can contain as few as 10-20 homes. They are usually not provided with central sewer or water but there are exceptions such as the villages of Riga and Palmyra.

Two areas have been classified within this category due to the presence of central sewer but not central water facilities. These are the Village of Clayton and the strips of land north and south of M-50 west of the Village of Britton. Due to the existence of some services, these two areas are able to accommodate more intensive development. However, due to lack of central water, they are not able to provide necessary services for such uses as heavy industry.

Intensive Development

The Intensive Development designation takes in the Urban Core and most of the County's cities and villages. These areas are already highly developed or are under development. These areas feature central sewer and water facilities, or have the potential to install these facilities. Due to the availability of public infrastructure, the highest intensity development has occurred in these areas, and likely will continue to develop there.

When central sewer and water facilities are available, Intensive Development areas are often able to accommodate the highest-intensity land uses. Due to the demand for the dependable high-volume water supply that heavy industry needs, it needs to take place here.

To the maximum extent possible, the use of growth management techniques should be employed within Intensive Development areas. Special consideration should be given to street and road access management, brownfield redevelopment, and intergovernmental cooperation.

Open Space Development/Recreation

The Open Space Development/Recreation designation is centered on the Irish Hills. As such, it takes in areas of significant topographic relief, lakes, and recreation areas (commercial and public). The area also features soils that are suitable for septic tank absorption fields. Due to its scenic nature and favorable soils, there has been considerable low-density residential development in this area. Depending on economic conditions this is expected to continue.

The purpose of the Open Space Development/Recreation designation is to encourage low- to moderate-intensity development to continue to occur. Within the limitations imposed by soils on a site-by-site basis, the use of open space zoning is strongly encouraged to ensure that development occurs in a clustered manner. This will help to preserve the scenic nature of the Irish Hills, as well as protect and preserve the lakes, wetlands, and topography of the area.

The Open Space Development/Recreation designation covers much of Woodstock and Cambridge Township, western Franklin Township, and the Devils Lake-Round Lake area straddling Rollin and Woodstock Township. It also takes in most of the County's significant lakes.

Parks

The Parks designation includes the nine state and county parks that exist in Lenawee County. These areas are set aside because they have already been designated for recreational use.

Greenways

The Greenways designation is based on the1998 land use survey and the location of existing parks facilities. They are defined as those locations where non-motorized trails and wildlife corridors are feasible.

Potential greenways were designated based on the following categories from the land use survey: rivers, lakes, streams, forests and wetlands. An effort was made to connect parks by way of greenway corridors.

Chapter 15
Implementation Strategy

In previous sections, the Lenawee County Planning Commission identified and analyzed a host of problems and opportunities related to land use planning. They have also developed policies designed to address the problems that effect the ability of various units of government to control growth in a logical manner. Coordinated planning efforts between all units of local government may help implement the overall goal of this plan.

Some of the policies identified in the plan are action-oriented, while others are not. In some cases, policies can be used to assist the Planning Commission in its day-to-day operations. Often times, the daily activities of the County Planning Commission will include an advisory role in the township zoning and planning process. Implementation of the goals and policies that address local zoning and planning issues will take place as needed and the issues arise from local unit of governments.

The Lenawee County Comprehensive Plan is larger in scope than the traditional land use plan adopted by local units of government. It presents the opportunity for communities to join together in a partnership to coordinate planning efforts. These planning efforts are intended to make Lenawee County a well-planned and desirable place to live and work for decades to come.

It is not anticipated that the changes proposed in this plan will take place overnight. It will take a concerted and continual effort of citizens, elected officials and local administrative officials to achieve the goals of this plan. However, the goals and implementation measures contained herein offer a better future than allowing existing trends to continue unabated. Local leaders should become familiar with the plan and encourage others to avail themselves of the information and policies contained within.

Successful plan implementation calls for a commitment on the part of the Planning Commission, citizens, the County Board of Commissioners and support from local units of government. Benefits will be most visible in terms of identification and preservation of farmland, retention of rural and small town atmosphere, open space, and protection of surface- and ground-water quality. The plan will also yield indirect benefits as well. For instance, the data collected as part of the plan inventory, will supply Lenawee County's communities with sufficient information to update their own land use plans.

The following section identifies projects that should be the focus of the Planning Commission to implement this plan.

Projects

- *Sponsor an annual joint planning brainstorming meeting with all units of government in Lenawee County.*

  In order to become more visible and proactive, the Planning Commission will sponsor an annual meeting in order to share ideas, discuss various topics of interest, and formulate solutions to address problems. These meetings are an opportunity for all units of government to pool their collective experiences and begin to explore ways that resources might be shared.

- *Develop a newsletter on a periodic basis to inform local units of government on planning topics of interest and updates on Planning Commission activities.*

  Newsletters are an effective way to disseminate information to the various local units of government. Distributed on a quarterly or semi-annual basis, the newsletter could discuss a wide variety of topics related to land use planning. Among newsletter contents are nuts and bolts of zoning, latest topics and trends, available grants and grant deadlines, and community news. The newsletter would not only foster cooperative arrangements between the Planning Commission and local units of government, but also between local units of government.

- *Voluntary review by the LCPC of projects with regional impacts.*

  The County Planning Commission should review and comment on developments with impacts that cross community boundaries. The review would take place at the request of effected local units of government and could entail the coordination of appropriate county and state departments.

- *Sponsor planning workshops designed to inform local units of government and other agencies on planning-related topics.*

  The County Planning Commission will present sessions on topics related to specific topics on zoning and planning. Some current possible topics of interest are regulation of wireless communication facilities, access management, open space zoning, and planning and zoning basics.

- *Develop model ordinances that local units of government can use to assist in coordinating an approach to regulate various issues of interest.*

  Local units of government are authorized to prepare, implement, and enforce zoning which is the most widely used tool to carry out the objectives of a plan. All but three communities in Lenawee County have enacted zoning ordinances.

The Planning Commission proposes to develop modern model zoning ordinance language to address goals and policies identified in this plan. Farm land preservation, site condominiums, planned unit development and open space zoning, cell towers, mobile home parks are all issues that have surfaced that could be addressed using model zoning language. land.

- *Develop a practical approach and program to address farmland preservation.*

  This issue is admittedly the most complex issue Lenawee County will face. Farmers are aging as a whole and not being replaced by a younger generation of farmers. The high price of land and depressed prices for farm commodities coupled with a relatively high property tax all make the issue a complex problem to address and resolve. What is necessary is a sensible and practical approach to farmland preservation. One that discourages scattered haphazard development and, at the same time, rewards the farmer for not dividing his land.

  A useful and practical approach to farmland preservation may take several years to adequately address and implement. Of all of the tasks facing this Planning Commission, certainly this task will be the most challenging. Nonetheless, the challenge of preserving and protecting farmland represents the fundamental theme of the Lenawee County Comprehensive Plan.

- *Distribute plan to local units of government.*

  Within a few months after adoption of the plan, it should be distributed to local units of government in Lenawee County. Data from the plan will be provided to communities upon request. Communities will be encouraged to adopt the plan and incorporate the policies contained within into their development review procedure.

- *Encourage local units of government to update their land use plans.*

  Many communities in Lenawee County have not updated their land use plans in several years. Considering the growth that has occurred in some areas over the past decade, plans should be updated making use of data provided in this plan and available 2000 Census data.

- *Creation of an agricultural/economic development committee.*

  The Board of Commissioners should consider creating a committee with the purpose of preserving agriculture and developing agricultural markets.