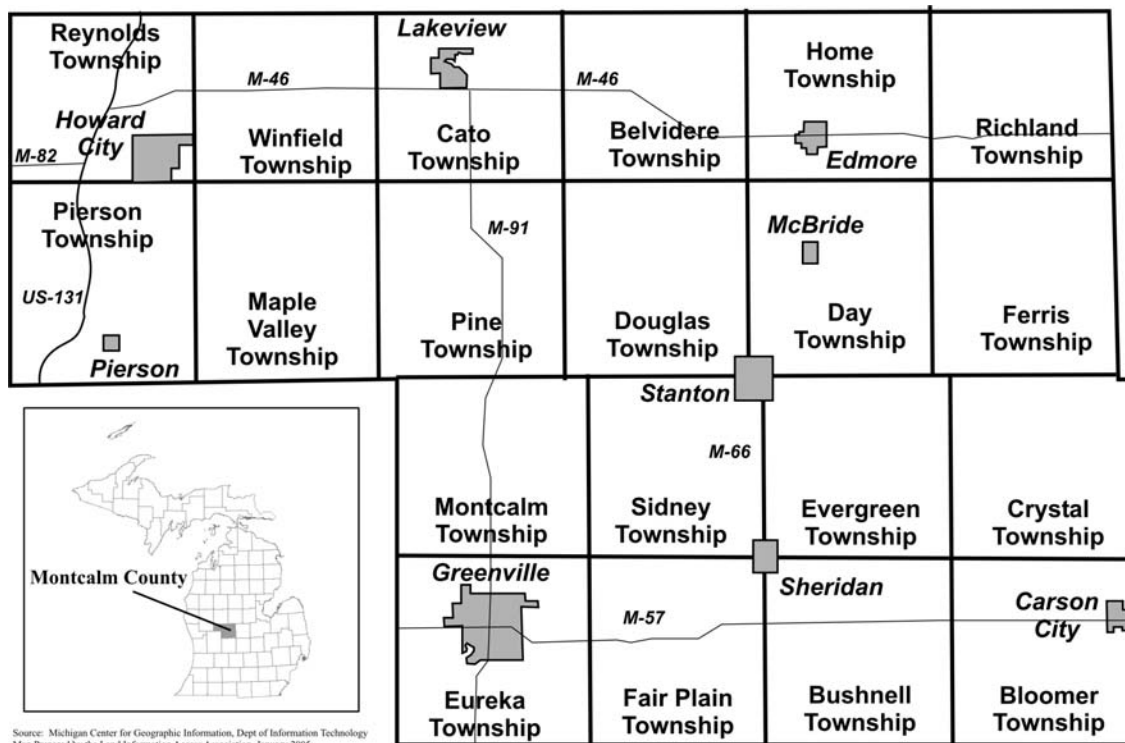# Chapter 1
INTRODUCTION

INTRODUCTION

The Montcalm County Fact Book provides information citizens and county officials can use to help them better understand the county and to help in the preparation of private and public plans for the future that improve quality of life in the county. This publication was initially prepared as part of the process to create a Comprehensive Plan to guide future land use and infrastructure decisions in Montcalm County. The current version of the Comprehensive Plan was updated in the spring of 2013 and this update of the Montcalm County Fact Book was completed in the spring of 2015. Both documents are available on-line at www.montcalm.org.

The data and trends presented in the Fact Book should be studied by elected and appointed officials, community leaders, service organizations, developers, realtors and interested citizens. The result will be better informed decisions on Montcalm County land, natural and cultural resources, community facilities and transportation systems.

Montcalm County is located in the middle of the Lower Peninsula of Michigan. There are 20 townships, 3 cities, and 6 incorporated villages within the county. Map 1-1 shows the location of Montcalm County within Michigan and the location of townships, cities, and villages within the county.

Map 1-1
Montcalm County Location and Local Jurisdictions

FACT BOOK CHAPTERS
The Fact Book contains the following chapters in addition to this introduction:

Chapter 2: Demographics. This chapter provides a profile of the Montcalm population and how it has changed over the past thirty to forty years. Trends in population change are presented, as well as projections based on recent trends. Population and housing characteristics are discussed at both the county and local jurisdiction level. Among the demographic characteristics presented are population size, age, minorities, housing, income, poverty and educational attainment.

Chapter 3: Economy and Economic Development. This chapter provides an overview of important economic indicators, such as jobs and businesses in Montcalm County. It discusses the size of the labor force, employment and unemployment, the sectors in which Montcalm residents are employed, the major businesses in the county, and travel time to work.

Chapter 4: Natural Resources and Environment. Land, water and other natural resources provide for the livelihood of Montcalm County residents and enrich their quality of life. This chapter describes important Montcalm County natural resources such as soils, agricultural land, and watershed components (wetlands, floodplains and water quality).

Chapter 5: Existing Land Use and Tax Base. How the land is currently used, and how that land is categorized for taxation purposes are important factors in understanding the issues communities face and in planning for the future use of that land. This chapter describes the pattern of different land uses in Montcalm County, which includes agriculture, residential, commercial and industrial uses, and how the pattern of those uses has been changing. It also describes the value of those different land uses and how that value has changed over time. This chapter also describes a "buildout analysis," that illustrates the potential extent of development if all of the land is developed as allowed by existing zoning. This can be an eye-opening experience for communities that express a commitment to a particular community character, but find they are moving toward a completely different character because it is allowed by their local zoning.

Chapter 6: Transportation. The transportation system of roads, rail and air provides access for Montcalm County residents and visitors to all of the places and activities that occupy their lives. In addition to access, the transportation network provides for a high level of mobility and a high degree of choice of where to go and when. As the pattern and density of uses of the land evolves, or responds to plans for its future, the transportation system will either promote the desired future or limit it. This chapter describes the current state of transportation in Montcalm County so that plans for transportation improvements can be made to complement future demands.

Chapter 7: Public Facilities and Physical Services. This chapter identifies the various publicly owned parks, city and township halls, fire stations, schools, utilities and other facilities, and the programs and services provided in Montcalm County. This information is valuable when comparing existing facilities against unmet needs and determining what new facilities and services that will be needed by new development.

Chapter 8: Summary and Implications. This chapter briefly summarizes some of the key data and identifies a set of issues that may have more significance in the future than

in the past. These issues are put into the context of the County Comprehensive Plan (revised and adopted by the Montcalm County Board of Commissioners, January 2013.

UPDATING AND COMPLETING THE FACT BOOK
The Fact Book is as current as possible and the county is committed to keeping it current with annual updates of the version located on the County Community Resource Center Website (www.montcalm.org). The facts presented in this document represent information about particular time periods that have passed, although some information is as recent as the year prior to writing the Fact Book (2013). Every attempt has been made to acquire the most recent data possible. However, as Montcalm County changes over time as noted, the information in the fact book will also be updated and reanalyzed.

There are large gaps in information in some areas which should be closed. For example, land use/land cover has not, with the exception of three townships (which were updated based on 1998 aerial photography), been updated based on low-level aerial photography since 1978. The most recent data available is 2001 satellite data which was gathered 200 miles up in space and is not as rich in detail as lower level air photos. This is far too long a period, about 35 years. As a result, decision makers must, to some extent, base decisions on old outdated information or their assumptions about current land use in the county. A current land cover inventory could improve land use decisions. The state will undertake a statewide inventory in 2006, but local governments may need to help pay for the air photo interpretation to ensure its timely availability to all citizens and county decision makers.

Chapter 2
DEMOGRAPHICS

INTRODUCTION

This chapter discusses the size, age, sex, poverty status, educational attainment, and other characteristics of the Montcalm County population over time. It looks at changes to the population and housing over the past several decades, and projects some demographic trends into the future.

POPULATION PROFILE

Over the past 100 years (1910-2010), Montcalm County's population fell until 1940, but since then has steadily increased and grew by 93% or 30,588 persons. Almost all of the growth was in the last half century. Table 2-1 lists Montcalm County's population each decade from 1910 to 2010. Figure 2-1 depicts this change. This increase is significantly smaller than Michigan as a whole which from 1910 to 2010 increased by over 300%. In Montcalm County the largest increases in population occurred between 1970 and 1980 (7,895 persons or 20%), 1980 and 1990 (5,504 persons or 12%) and 1990 and 2000 (8,207 persons or 15.5%) and 2000 and 2010 (2,076 persons or 3.3%) while the State of Michigan lost population at a rate of a minus 0.6% between 2000 and 2010 and only grew at 6.7% between 1990 and 2010..

Table 2-1
Population Change for Montcalm County 1910-2010

Year	Population
1910	32,069
1920	30,441
1930	27,471
1940	28,581
1950	31,013
1960	35,795
1970	39,660
1980	47,555
1990	53,059
2000	61,266
2010	63,342
Change in Population 1910-2010	31,273
Percent Change in Population 1910-2010	97.52%

Source: US Bureau of the Census

Figure 2-1
Population Change for Montcalm County 1910-2010
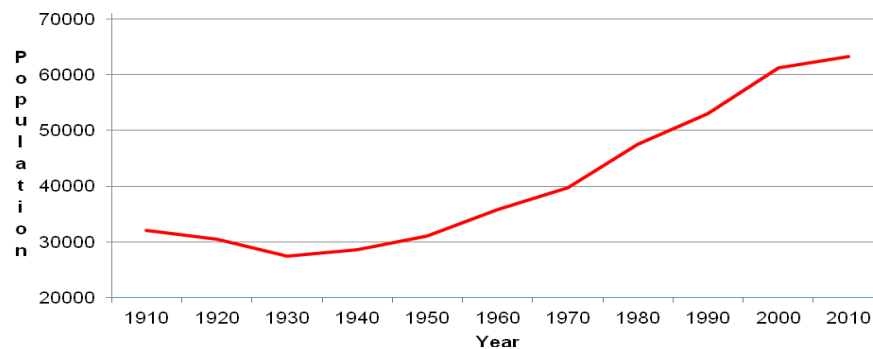
Source: US Bureau of the Census

The 2012 population estimate for Montcalm County by the U.S. Bureau of the Census was 63,097 persons. If this estimate is correct, the County's population increased 32.68% between 1980 and 2012. This is an increase of 15,542 persons from 1980. Of the eight counties surrounding Montcalm, Montcalm County was comparable to Clinton, Isabella, Kent and Newaygo Counties in percentage increase and reflects the overall increase in the eight county area. Table 2-2 illustrates the population changes for Montcalm and the surrounding counties between 1980 and 2012.

Table 2-2
Montcalm and Adjoining County Populations 1980 - 2012

County	1980	1990	2000	2010	Estimated 2012	Population Change from 1980-2012	Percent Change in Population 1980-2012
Montcalm	**47,555**	**53,059**	**61,266**	**63,342**	**63,097**	**15,542**	**32.68%**
Clinton	55,893	57,883	64,753	75,382	76,001	**20,108**	**35.98%**
Gratiot	40,448	38,982	42,285	42,476	42,063	**1,615**	**3.99%**
Ionia	51,815	57,024	61,518	63,905	63,941	**12,126**	**23.40%**
Isabella	54,110	54,624	63,351	70,311	70,617	**16,507**	**30.51%**
Kent	444,506	500,631	574,335	602,622	614,462	**169,956**	**38.23%**
Mecosta	36,961	37,308	40,553	42,798	43,318	**6,357**	**17.20%**
Newaygo	34,917	38,206	47,874	48,460	47,959	**13,042**	**37.35%**
Eight County Total	**766,205**	**837,717**	**955,935**	**1,009,296**	**1,021,458**	**255,253**	**33.31%**

Source: US Bureau of the Census

From 1990 to 2010 Montcalm County had a 19.38% increase in population which was 1.1% less than the eight county total. The percentage population increase continues to be slightly less when looking at the 2010 to 2012 trend according to US Census estimates. Montcalm County is now only experiencing a -0.39% decrease, which is comparable to the other eight county total. Table 2-3 illustrates the population changes for Montcalm and the surrounding counties between 1990 and 2010.

Table 2-3
Population Change for Montcalm and Surrounding Counties 1990-2012

County	1990	2010	Estimated 2012	Change in Population 1990-2010	Percent Change in Population 1990 - 2010	Change in Population in 2010-2012	Percent Change in Population 2010-2012
Montcalm	**53,059**	**63,342**	**63,097**	**10,038**	**19.38%**	**-245**	**-0.39%**
Clinton	57,883	75,382	76,001	18,118	30.23%	619	0.82%
Gratiot	38,982	42,476	42,063	3,081	8.96%	-413	-0.97%
Ionia	57,024	63,905	63,941	6,917	12.07%	36	0.06%
Isabella	54,624	70,311	70,617	15,993	28.72%	306	0.44%
Kent	500,631	602,622	614,462	113,831	20.37%	11840	1.96%
Mecosta	37,308	42,798	44,318	7,010	14.72%	1520	3.55%
Newaygo	38,206	48,460	47,959	9,753	26.84%	-501	-1.03%
Eight County Total	**837,717**	**1,009,296**	**1,022,458**	**184,741**	**20.48%**	**13,162**	**1.30%**

Source: US Bureau of the Census

COUNTY POPULATION PROJECTION

Projections of future population size have been made for Montcalm County and its Villages, Cities and Townships by the U.S. Census of Population and West Michigan Regional Planning Commission. Table 2-4 provides information from the 2010 census on population and the projected 2020 and 2030 population estimates. These projections estimate that Montcalm County's population will increase to approximately 70,000 persons between 2000 and 2020 and by 2030 be close to 77,000. Projections are based on birth, death and migration trends of the last two decades.

One must remember that there is a significant variation in possible population futures See Tables 2-5 and 2-6 for alternative projections. What really happens will largely depend on what happens to the state as a whole. That will be driven by economic conditions. If the state economy is good, Montcalm County will grow much more rapidly than if it is not. The other variables that could most affect future population in the county are the presence (or absence) of future jobs, the degree to which people with jobs in the larger cities such as Grand Rapids choose to have their homes in Montcalm County and whether a disproportionate number of baby boomers chose to retire here.

Table 2-4
Population Trends and Projections

	1990	2000	2010	2020	2030
Montcalm County	**53,059**	**61,288**	**63,342**	**70,085**	**76,808**
City of Carson City	1,158	1,190	1,093	1,044	995
City of Greenville	8,101	7,935	8,481	8,776	9,071
City of Stanton	1,504	1,504	1,417	1,418	1,418
Village of Edmore	1,126	1,244	1,201	1,206	1,210
Village of Howard City	1,351	1,585	1,808	2,073	2,338
Village of Lakeview	1,108	1,112	1,007	953	889
Village of McBride	236	232	205	188	171
Village of Pierson	207	185	172	160	149
Village of Sheridan	730	705	649	625	600
Township of Belvidere	2,134	2,438	2,209	2,258	2,307
Township of Bloomer	2,922	3,039	3,904	5,139	6,373
Township of Bushnell	1,285	2,109	1,602	1,578	1,577
Township of Cato	1,392	1,808	1,728	1,849	1,969
Township of Crystal	2,541	2,824	2,689	2,789	2,889
Township of Day	960	1,050	967	951	934
Township of Douglass	1,944	2,377	2,180	2,298	2,417
Eureka Charter Township	2,594	3,271	3,959	4,744	5,530
Township of Evergreen	2,020	2,392	2,370	2,611	2,821
Township of Fairplains	1,571	1,826	1,836	1,977	2,121
Township of Ferris	1,189	1,379	1,422	1,525	1,628
Township of Home	1,387	1,486	1,341	1,298	1,256
Township of Maple Valley	1,824	2,083	1,944	1,971	1,998
Township of Montcalm	2,879	3,178	3,350	3,653	3,956
Township of Pierson	1,970	2,681	3,044	3,748	4,451
Township of Pine	1,392	1,654	1,834	2,085	2,336
Township of Reynolds	1,677	2,694	3,502	4,919	6,336
Township of Richland	2,355	2,868	2,778	2,920	3,062
Township of Sidney	2,166	2,390	2,415	2,601	2,786
Township of Winfield	1,336	2,049	2,235	2,728	3,220

Source: U.S. Census of Population; West Michigan Regional Planning Commission

Table 2-5
Projected Population for Montcalm and Surrounding Counties 1990-2025
Based on 1990-2000 Trend

County	1990	2000	2005	2010	2015	2020	2025	Population Change from 2000-2025	Percent Change in Population 2000-2025
Montcalm	**53,059**	**61,266**	**65,370**	**63,342**	**73,577**	**77,680**	**81,784**	**20,518**	**33.49%**
Clinton	57,883	64,753	68,188	75,382	81,928	78,493	81,928	17,175	26.52%
Gratiot	38,982	42,285	43,937	42,476	47,240	48,891	50,543	8,258	19.53%
Ionia	57,024	61,518	63,765	63,905	68,259	70,506	72,753	11,235	18.26%
Isabella	54,624	63,351	67,715	70,311	76,442	80,805	85,169	21,818	34.44%
Kent	500,631	574,335	611,187	602,622	684,891	721,743	758,595	184,260	32.08%
Mecosta	37,308	40,553	42,176	42,798	45,421	47,043	48,666	8,113	20.01%
Newaygo	38,206	47,874	52,708	48,460	62,376	67,210	72,044	24,170	50.49%
Eight County Total	**837,717**	**955,935**	**1,015,046**	**1,009,296**	**1,140,134**	**1,192,371**	**1,251,482**	**295,547**	**30.92%**

Projection is straight line based on 1990-2000 population data. Source 1990 and 2000 data: us Bureau of the Census

Table 2-6
Projected Population for Montcalm and Surrounding Counties 1980-2025
Michigan State Demographer

County	1980	1990	2000	2005	2010	2015	2020	2025	Population Change from 2000-2025	Percent Change in Population 2000-2025
Montcalm	**47,555**	**53,059**	**61,266**	**65,370**	**63,342**	**70,874**	**74,527**	**77,954**	**16,688**	**27.24%**
Clinton	55,893	57,883	64,753	66,561	75,382	70,585	72,800	75,015	10,262	15.85%
Gratiot	40,448	38,982	42,285	43,937	42,476	42,471	43,327	43,786	1,501	3.55%
Ionia	51,815	57,024	61,518	63,765	63,905	68,974	71,340	73,766	12,248	19.91%
Isabella	54,110	54,624	63,351	67,715	70,311	68,229	71,223	73,533	10,182	16.07%
Kent	444,506	500,631	574,335	611,187	602,622	667,312	701,234	733,691	159,356	27.75%
Mecosta	36,961	37,308	40,553	42,176	42,798	42,523	43,662	44,560	4,007	9.88%
Newaygo	34,917	38,206	47,874	52,708	48,460	55,997	59,768	63,007	15,133	31.61%
Eight County Total	**766,205**	**837,717**	**955,935**	**1,013,419**	**1,009,296**	**1,086,965**	**1,137,881**	**1,185,312**	**229,377**	**24.00%**

TOWNSHIP, CITY AND VILLAGE POPULATION TRENDS

Table 2-4 illustrates the change in population from 1990 to 2010 for all of Montcalm County's jurisdictions. See Map 1-1 for the location of each jurisdiction. The population increase in Montcalm County was one of the few counties in the state that did not suffer a significant loss in population from 2000 to 2010. This increase in population is largely associated with US-131 that connects to Grand Rapids and Big Rapids and M-57 which connects the Greenville area to Grand Rapids and US-131 thus allowing residents of Montcalm County an easily accessible and less timely commute to and from these cities. It is also influenced by seasonal lake homes being now occupied by year around residents. The City of Greenville and the Village of Howard City and the townships that surround them – Pierson, Reynolds, Winfield and Maple Valley in the Panhandle area along US-131 and Eureka, Fairplains, Montcalm surrounding Greenville and M-57 all saw significant population growth. All of the remaining Cities and Villages as well as several townships had very little growth or lost population.

An exception to the population changes in Montcalm County over the past few decades is in Bloomer Township, which experienced population increases in 1990, 2000 and 2010 due to the additions of an institutionalized facilities/prison in 1987. The populations of institutionalized persons are included in the Bloomer numbers thus inflating the growth of the area. Table 2-7 illustrates population characteristics from 1990 to 2010 for all of Montcalm County's jurisdictions. The jurisdiction which experienced the overall greatest increase in percentage of persons between 1990 and 2010 (not including Bloomers unadjusted numbers) was Reynolds Township (60.64%, from 1,677 persons to 5,310 persons), followed by Winfield Township (53.37%, from 1,336 persons to 2,235 persons), and Pierson Township (36.09%, from 1,970 persons to 3,216 persons). The following jurisdictions experienced a decline in population from 1990 to 2010, the Villages of McBride (-1.69%, 236 persons to 205 persons), Pierson (-10.63%, 207 persons to 172 persons) and Sheridan (-3.42%, 730 persons to 649 persons).

Jurisdiction	1990	2000	2010	2012 (est)	Total Change in Population 1990 to 2000	% Change in Population 1990 to 2000	Total Change in Population in 2000 to 2012	% Change in Population 2000 to 2012
City of Carson City	1,158	1,190	1,093	1,090	32	2.76%	-100	-8.40%
City of Greenville	8,101	7,935	8,481	8,435	-166	-2.05%	500	6.30%
City of Stanton	1,504	1,504	1,417	1,411	0	0.00%	-93	-6.18%
Village of Edmore*	1,126	1,244	1,201	1,196	118	10.48%	-48	-3.86%
Village of Howard City*	1,351	1,585	1,808	1,791	234	17.32%	206	13.00%
Village of Lakeview*	1,108	1,112	1,007	1,004	4	0.36%	-108	-9.71%
Village of McBride*	236	232	205	205	-4	-1.69%	-27	-11.64%
Village of Pierson*	207	185	172	172	-22	-10.63%	-13	-7.03%
Village of Sheridan*	730	705	649	646	-25	-3.42%	-59	-8.37%
Township of Belvidere	2,134	2,438	2,209	3,202	304	14.25%	764	31.34%
Township of Bloomer	2,922	3,652	3,904	3,915	730	24.98%	263	7.20%
Township of Bushnell	1,285	1,498	1,602	1,601	213	16.58%	103	6.88%
Township of Cato	1,392	1,808	2,735	2,728	416	29.89%	920	50.88%
Township of Crystal	2,541	2,824	2,689	2,679	283	11.14%	-145	-5.13%
Township of Day	960	1,050	1,172	1,166	90	9.38%	116	11.05%
Township of Douglass	1,944	2,377	2,180	2,172	433	22.27%	-205	-8.62%
Eureka Charter Township	2,594	3,271	3,959	3,967	677	26.10%	696	21.28%
Township of Evergreen	2,020	2,392	3,019	2,894	372	18.42%	502	20.99%
Township of Fairplains	1,571	1,826	1,836	1,829	255	16.23%	3	0.16%
Township of Ferris	1,189	1,379	1,422	1,416	190	15.98%	37	2.68%
Township of Home	1,387	1,464	2,542	2,533	77	5.55%	1,069	73.02%
Township of Maple Valley	1,824	2,083	1,944	1,938	259	14.20%	-145	-6.96%
Township of Montcalm	2,879	3,178	3,350	3,321	299	10.39%	143	4.50%
Township of Pierson	1,970	2,681	3,216	3,207	711	36.09%	526	19.62%
Township of Pine	1,392	1,654	1,834	1,828	262	18.82%	174	10.52%
Township of Reynolds	1,677	2,694	5,310	3,468	1,017	60.64%	774	28.73%
Township of Richland	2,355	2,868	2,778	2,764	513	21.78%	-104	-3.63%
Township of Sidney	2,166	2,390	2,415	2,563	224	10.34%	173	7.24%
Township of Winfield	1,336	2,049	2,235	2,230	713	53.37%	181	8.83%
Montcalm County Totals	**53,059**	**61,268**	**63,342**	**67,371**	**8,209**	**15.47%**	**6,103**	**9.96%**

 * Village population also included in corresponding township population

Source: U.S. Census Bureau, 2010

HOUSING UNITS

Montcalm County had 5,366 new housing units added during the period of 1990 through 2010, or an average of 268 units per year. Table 2-8 illustrates the comparison of housing units in 1990, 2000, and 2010. The four townships with the greatest number of added housing units and percentage increase during this period were Reynolds (45.0% or 661 new units), Eureka (55.4% and 545 new units), Pierson (39.2% and 443 new units) and Winfield Townships (65.8% or 412 new units). The increase in these Townships was largely due to the easy access from US 131 to Grand Rapids and Big Rapids and M-57 to US 131 and Grand Rapids. The Village of Howard City, which lies in Reynolds Township gained an additional 231 units (41.9%) since 1990 and the City of Greenville also saw a significant number of new housing units (437) again due primarily due to easy access via M-57 to the greater Grand Rapids area.

Table 2-8
Housing Units for Montcalm County 1990-2010

Jurisdiction	1990 Total Housing Units	2000 Total Housing Units	2010 Total Housing Units	Change 1990-2010	% Change in Units 1990-2010	Average per Year 1990-2010
City of Carson City	501	532	521	20	3.99%	1
City of Greenville	3,389	3,571	3,826	437	12.89%	21.85
City of Stanton	605	609	579	-26	-4.30%	-1.3
Village of Edmore	502	524	565	63	12.55%	3.15
Village of Howard City	512	626	743	231	45.12%	11.55
Village of Lakeview	440	452	524	84	19.09%	4.2
Village of McBride	*	94	97	*	*	*
Village of Pierson	*	73	73	*	*	*
Village of Sheridan	*	324	308	*	*	*
Township of Belvidere	1,250	1,324	1,367	117	9.36%	5.85
Township of Bloomer	479	520	541	62	12.94%	3.1
Township of Bushnell	485	597	642	157	32.37%	7.85
Township of Cato	718	855	861	143	19.92%	7.15
Township of Crystal	1,467	1,594	1,618	151	10.29%	7.55
Township of Day	471	496	510	39	8.28%	1.95
Township of Douglass	1,002	1,116	1,215	213	21.26%	10.65
Eureka Charter Township	984	1,248	1,529	545	55.39%	27.25
Township of Evergreen	1,217	1,327	1,422	205	16.84%	10.25
Township of Fairplains	527	664	717	190	36.05%	9.5
Township of Ferris	469	566	613	144	30.70%	7.2
Township of Home	567	603	613	46	8.11%	2.3
Township of Maple Valley	837	910	939	102	12.19%	5.1
Township of Montcalm	1,159	1,321	1,459	300	25.88%	15
Township of Pierson	1,131	1,270	1,574	443	39.17%	22.15
Township of Pine	699	789	890	191	27.32%	9.55
Township of Reynolds	1,470	1,693	2,131	661	44.97%	33.05
Township of Richland	1,043	1,245	1,274	231	22.15%	11.55
Township of Sidney	1,043	1,035	1,248	205	19.65%	10.25
Township of Winfield	626	886	1,038	412	65.81%	20.6
Montcalm County Total	**23,593**	**26,864**	**29,437**	**5,366**	**24.77%**	**268.3**

* Data for some villages included in the township data
Source: US Bureau of the Census

Of the 28,221 total housing units in Montcalm County in 2010, 65.6% (18,513) were owner-occupied housing units, 17.4% (4,919) were renter-occupied housing units, and 17% (4,789) were vacant housing units. Refer to Table 2-9 for a breakdown of housing units by jurisdiction. It is important to note the low percentage of vacant housing units that are used for seasonal, recreational, or occasional use. Since Montcalm County is not a tourism based county, there are few houses that are used for this purpose. However, over the past three decades many seasonal homes have been torn down or converted to year around use since many of the lakes in the County are close to job providing areas.

Table 2-9
Housing Unit Characteristics for Montcalm County 2010

Jurisdiction	Total Housing Units	Owner Occupied Housing Units	Renter Occupied Housing Units	Total Vacant Housing Units	% of Vacant Housing Units for Seasonal, Recreational, or Occasional Use
City of Carson City	521	298	153	70	0.2%
City of Greenville	3,826	1,976	1,488	362	1.0%
City of Stanton	579	307	201	71	0.3%
Village of Edmore	565	338	153	33	1.0%
Village of Howard City	743	402	174	50	0.8%
Village of Lakeview	524	282	114	56	3.3%
Village of McBride	97	79	7	8	1.1%
Village of Pierson	73	49	13	11	2.7%
Village of Sheridan	308	227	77	20	1.5%
Township of Belvidere	1,367	754	154	459	23.3%
Township of Bloomer	541	413	80	48	1.7%
Township of Bushnell	642	510	78	54	4.7%
Township of Cato	1385	858	267	260	11.2%
Township of Crystal	1,618	1,057	195	561	24.9%
Township of Day	510	456	66	54	1.2%
Township of Douglass	1,215	888	135	327	15.6%
Township of Eureka	1,529	1,444	115	85	1.9%
Township of Evergreen	1,422	920	242	260	10.6%
Township of Fairplains	717	572	82	63	1.8%
Township of Ferris	613	448	74	91	7.1%
Township of Home	1,183	722	315	146	2.0%
Township of Maple Valley	939	636	104	199	12.9%
Township of Montcalm	1,459	1,101	163	195	7.5%
Township of Pierson	1,574	1,053	135	386	19.3%
Township of Pine	890	582	90	218	18.6%
Township of Reynolds	2,131	1,527	405	199	3.1%
Township of Richland	1,274	905	153	216	10.5%
Township of Sidney	1,248	878	129	241	10.7%
Township of Winfield	1,038	719	95	224	14.3%
Montcalm County Total	28,221	18,513	4,919	4,789	9.3%

Source: US Bureau of the Census; township totals include Village totals in the township where they are located.

TYPE OF OCCUPIED HOUSING IN MONTCALM COUNTY

Approximately 70% of Montcalm County's 28,221 housing units are one-unit detached homes followed by mobile homes which are 15% of the total occupied housing units. All other types of occupied housing in Montcalm are each less than 2% of total housing.

AGE OF HOUSING IN MONTCALM COUNTY

The age of the housing stock has implications for affordable housing, community character and the potential need for neighborhood revitalization. Housing in Montcalm

County consists of many older housing structures with 46.3%% (13,271 units) built before 1959 (see Table 2-10). A large percentage of the housing was built prior to 1939 (19.7%), and also during the period of 1960 to 1969 (15.9%). Despite a statewide recession in the early 1980's, 6.5% of the housing stock (1,856 units) was constructed between 1980 and 1990. Since less than 20% of the housing in the County was built after 1980, as a stable employment situation returns, there will be strong pressure to build new homes in Montcalm County which is what we are beginning to see in the last 6 or 7 years.

Table 2-10
Age of Occupied Housing Units in Montcalm County 2014

Year Structure Built	Number of Units	% of Total
2010 to Oct. 2014	440	1.54%
2000 to 2010	3,029	11.82%
1990 to 1999	2,236	7.80%
1980 to 1989	1,856	6.48%
1970 to 1979	3,283	11.45%
1960 to 1969	4,546	15.86%
1950 to 1959	3,217	11.22%
1940 to 1949	4,418	15.41%
1930 or earlier	5,636	19.66%

Source: US Bureau of the Census/Montcalm Building Department

BUILDING ACTIVITY

Table 2-11 represents building permit data for Montcalm County (except for the City of Greenville) from 2010 through October, 2014. From Table 2-11 we can infer a minimum of 440 new residential housing units were built in the county from 2010 through October, 2014. From Table 2-9, Montcalm County had 28,221 total housing units in 2010, and from Table 2-11 an additional 440 units were added which accounts for an additional 1.5% increase in housing units in the last five years. In addition, there is currently (October, 2014) approved and under construction significant additional new residential housing units in the City of Greenville, Eureka and Montcalm Townships alone.

Table 2-11
Residential Building Permits and New Housing Units for Montcalm County 2010-2014

Type	Building Permits/Housing Units					Total New Residential Housing Units 2010-2014
	2010	2011	2012	2013	2014	
Single Family	44 / 44	30 / 30	45 / 45	37 / 37	51 / 51	207
Two Family	0 / 0	0 / 0	1 / 2	0 / 0	0 / 0	2
Multi Family	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0
Manufactured	59 / 59	51 / 51	44 / 44	44 / 44	35 / 35	233
Total New Residential	103 / 103	81 / 81	90 / 91	81 / 81	86 / 86	442

Source: Montcalm County Building Department; City of Greenville is not included.

POPULATION PER HOUSEHOLD

The average number of persons per owner occupied unit fell in every Montcalm County community, with the exception of the City of Stanton, according to the 1980, 1990, 2000 and 2010 censuses. This is consistent with state and national trends. The County average fell from 2.90 to 2.63 persons per household from 1980 to 2010 (see Table 2-12). The communities with the highest population per household in 2010 were Bloomer, Bushnell and Fairplains townships. The communities with the lowest were the townships of Belvidere and Cato and the cities of Carson City and Greenville.

Table 2-12
Population per Household in Montcalm County 1980-2010

Community	1980	1990	2000	2010	Change in PPHH 1980-2010	% Change in PPH 1980-2010
City of Carson City	2.61	2.46	2.39	2.42	-0.19	-7.28%
City of Greenville	2.54	2.48	2.35	2.45	-0.09	-3.54%
City of Stanton	2.54	2.59	2.54	2.79	0.25	9.84%
Village of Edmore	2.56	2.43	2.49	*	-0.07	-2.73%
Village of Howard City	2.76	2.82	2.75	*	-0.01	-0.36%
Village of Lakeview	2.61	2.58	2.67	*	0.06	2.30%
Village of McBride	*	*	2.7	*	*	*
Village of Pierson	*	*	2.98	*	*	*
Village of Sheridan	*	*	2.32	*	*	*
Township of Belvidere	2.78	2.54	2.55	2.43	-0.35	-12.59%
Township of Bloomer	3.16	2.87	2.94	2.86	-0.30	-9.49%
Township of Bushnell	3.13	2.89	2.79	2.92	-0.21	-6.71%
Township of Cato	2.74	2.64	2.67	2.43	-0.31	-11.31%
Township of Crystal	2.81	2.46	2.56	2.54	-0.27	-9.61%
Township of Day	3.00	2.79	2.78	2.57	-0.43	-14.33%
Township of Douglass	2.81	2.73	2.66	2.46	-0.35	-12.46%
Eureka Charter Township	3.03	2.9	2.77	2.74	-0.29	-9.57%
Township of Evergreen	2.82	2.73	2.61	2.46	-0.36	-12.77%
Township of Fairplains	3.22	3.07	2.9	2.81	-0.41	-12.73%
Township of Ferris	3.29	2.92	2.84	2.72	-0.57	-17.33%
Township of Home	2.86	2.64	2.59	2.45	-0.41	-14.34%
Township of Maple Valley	2.93	2.82	2.75	2.63	-0.30	-10.24%
Township of Montcalm	3.00	2.88	2.75	2.65	-0.35	-11.67%
Township of Pierson	3.08	3.03	2.82	2.71	-0.37	-12.01%
Township of Pine	3.04	2.89	2.71	2.73	-0.31	-10.20%
Township of Reynolds	2.92	2.83	2.79	2.75	-0.17	-5.82%
Township of Richland	3.10	2.87	2.71	2.63	-0.47	-15.16%
Township of Sidney	2.85	2.84	2.65	2.56	-0.29	-10.18%
Township of Winfield	3.19	2.89	2.88	2.75	-0.44	-13.79%
Montcalm County	**2.90**	**2.75**	**2.69**	**2.63**	**-0.27**	**-9.00%**

Source: US Bureau of the Census
* Data unavailable for 2010

CHANGES IN AGE DISTRIBUTION

The average age of the Montcalm County population is increasing. Figure 2-2 depicts the distribution of the population in 2010 by age and sex. The median age for the
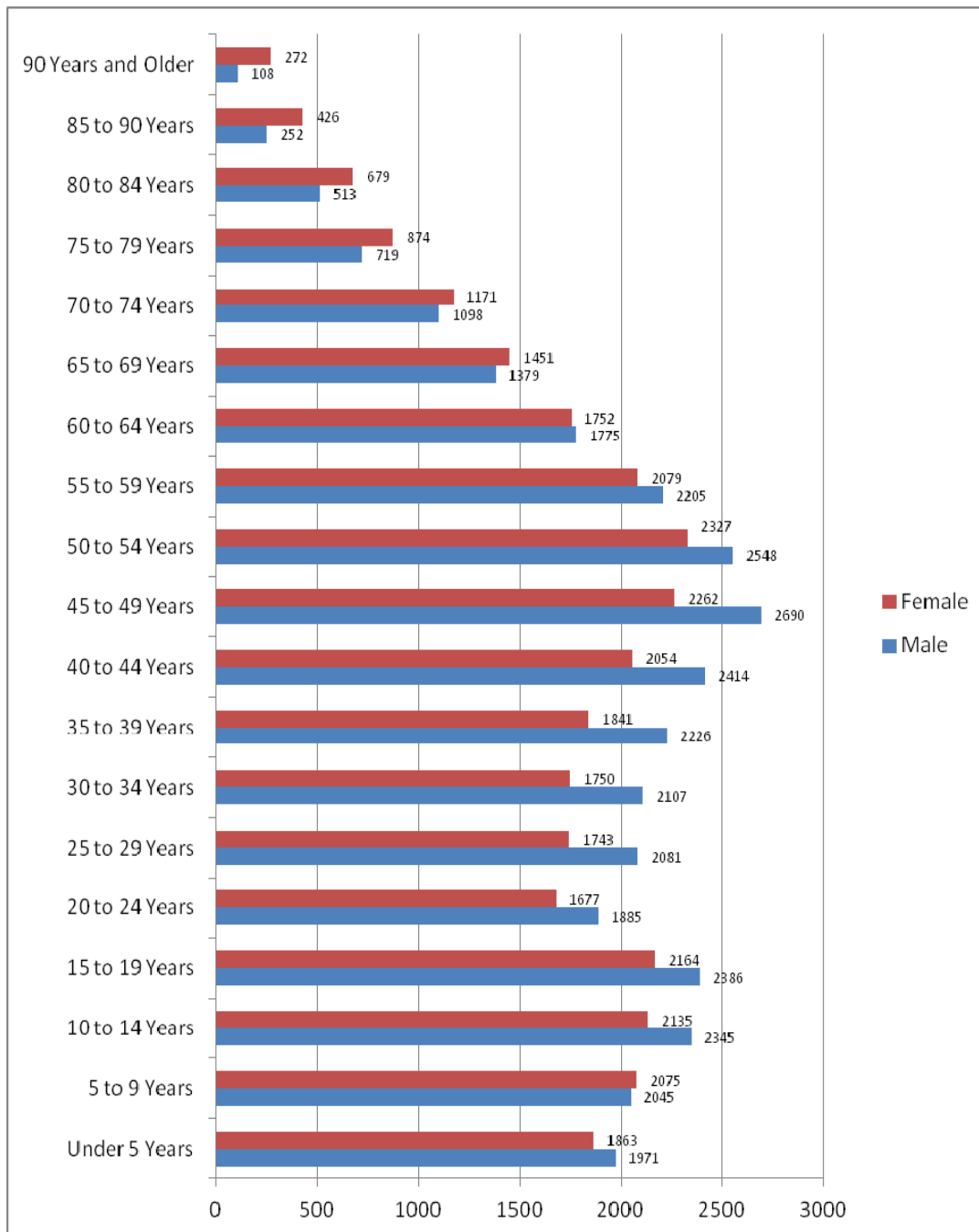
county's population was 35.6 in 2000 and by 2010 it had increased to 39.3. The largest growing age group in Montcalm County is people 45 to 54 years, increasing from 10% of the total population in 1980 to 15.5% of the total population in 2010 (see Table 2-13). Every age group from infant to through age 34 experienced a decline as a percentage of the county's total population during this period. All experienced a 2% or greater decline from 1980 to 2010. On the other hand all age groups 35 or over increased as a percentage of the total population between 1980 and 2010. If this trend continues, there will be less need for schools as there will be fewer young persons and more need for emergency services, health care, and a wider range of housing for the elderly.

Table 2-13
Age Groups of Montcalm County 1980-2010

Age	Total Population in 1980	% of Total Population in 1980	Total Population in 2000	% of Total Population in 2000	Total Population in 2010	% of Total Population in 2010
Under 5 years	3,175	8.03%	3,996	6.52%	3,834	6.05%
5 to 9 years	3,410	8.63%	4,702	7.67%	4,120	6.50%
10 to 14 years	3,749	9.48%	4,867	7.94%	4,480	7.07%
15 to 19 years	3,810	9.64%	4,583	7.48%	4,550	7.18%
20 to 24 years	3,063	7.75%	3,508	5.73%	3,562	5.62%
25 to 34 years	5,585	14.13%	8,369	13.66%	7,681	12.13%
35 to 44 years	4,550	11.51%	10,138	16.55%	8,535	13.47%
45 to 54 years	3,824	9.67%	7,955	12.98%	9,827	15.51%
55 to 59 years	1,989	5.03%	3,119	5.09%	4,284	6.76%
60 to 64 years	1,868	4.72%	2,608	4.26%	3,527	5.57%
65 to 74 years	2,902	7.34%	4,075	6.65%	5,099	8.05%
74 years and ove	1,611	4.07%	3,346	5.46%	3,843	6.07%
Total	**39,536**	**100.00%**	**61,266**	**100.00%**	**63,342**	**100.00%**

Source: US Bureau of the Census

Figure 2-2
Montcalm County Population by Age and Gender, 2010

90 Years and Older — Female 272, Male 108
85 to 90 Years — Female 426, Male 252
80 to 84 Years — Female 679, Male 513
75 to 79 Years — Female 874, Male 719
70 to 74 Years — Female 1171, Male 1098
65 to 69 Years — Female 1451, Male 1379
60 to 64 Years — Female 1752, Male 1775
55 to 59 Years — Female 2079, Male 2205
50 to 54 Years — Female 2327, Male 2548
45 to 49 Years — Female 2262, Male 2690
40 to 44 Years — Female 2054, Male 2414
35 to 39 Years — Female 1841, Male 2226
30 to 34 Years — Female 1750, Male 2107
25 to 29 Years — Female 1743, Male 2081
20 to 24 Years — Female 1677, Male 1885
15 to 19 Years — Female 2164, Male 2386
10 to 14 Years — Female 2135, Male 2345
5 to 9 Years — Female 2075, Male 2045
Under 5 Years — Female 1863, Male 1971

Source: U.S Census Bureau, 2010

INCOME CHANGES IN MONTCALM COUNTY, 1999-2012

The median household income in Montcalm County in 2012 was $40,707 according to the most recent US Census report. This is an increase of 9% or $3,489 from $37,218 in 1999. Individual incomes were considerably lower with the per capita income at $19,033 for residents of Montcalm County. The 2012 median household income for Montcalm County was only average compared to all abutting counties. The highest median

household income for abutting counties was Clinton ($58,231) and Kent ($51,030), followed by Ionia ($47,580), Newaygo ($43,180) and Gratiot ($40,224) Counties. Mecosta County ($38,332) and Isabella County ($35,927) were estimated to have the lowest median household income of any abutting county in 2012. However, these estimates are somewhat misleading because both counties have a large population of college students that are included in the census calculations (Ferris and Central Michigan Universities). Per Capita income for abutting counties for the same period (2012) differs only slightly from the median household income order with Clinton ($28,142), Kent ($25,541), Newaygo ($20,926), Ionia ($19,999), Mecosta ($19,184), Gratiot ($18,992) and Isabella ($18,988).

POVERTY

There were 6,249 persons living below the poverty level in Montcalm County in 1999, or 10.2% of the total County population. In 2012 the estimated number had increased to 11,613 or 18.3 of total County population. See Table 2-16. In Michigan, 16.3% of the total population was below the poverty level in 2012. This was above the national average of 14.9%.

Table 2-14
Persons below the Poverty Level in Montcalm County-2012

Jurisdiction	Total Persons Below Poverty	Total Population	Poverty % of Total Population
City of Carson City	192	1,093	17.57%
City of Greenville	2,553	8,481	30.10%
City of Stanton	360	1,417	25.41%
Township of Belvidere	482	2,209	21.82%
Township of Bloomer	422	3,904	10.81%
Township of Bushnell	258	1,604	16.08%
Township of Cato	708	2,735	25.89%
Township of Crystal	368	2,649	13.89%
Township of Day	232	1,172	19.80%
Township of Douglass	405	2,180	18.58%
Eureka Charter Township	519	3,959	13.11%
Township of Evergreen	417	2,858	14.59%
Township of Fairplains	433	1,836	23.58%
Township of Ferris	280	1,422	19.69%
Township of Home	521	2,542	20.50%
Township of Maple Valley	334	1,944	17.18%
Township of Montcalm	506	3,350	15.10%
Township of Pierson	361	3,216	11.23%
Township of Pine	319	1,834	17.39%
Township of Reynolds	690	5,310	12.99%
Township of Richland	383	2,778	13.79%
Township of Sidney	412	2,574	16.01%
Township of Winfield	458	2,235	20.49%
Montcalm County Total	**11,613**	**63,302**	**18.35%**

Note: Township totals include villages
Source: US Bureau of the Census; 2008-2012 American Community Survey, 5-Year Estimates
Small variation in cross tabs (under 250) due estimate rounding.

Poverty status is determined by the amount of income earned each year. The income cutoffs or thresholds are determined annually by the US Health and Human Services Administration. Thresholds differ depending upon age, number of persons in a family, or unrelated individuals. Nationally, a family of four persons in 1999 was considered below the poverty level if earnings were under $17,029, or if one person without a family earned under $8,501. In 2014 these levels had increased to $23,850 for a family of four and $11,760 for one person without a family.

For poverty based on personal income, the jurisdictions within Montcalm County with the highest percentage of persons in poverty in 2012 were the City of Greenville (30.1%), Cato Township (25.9%), and the city of Stanton (25.4%).The jurisdictions which had the lowest percentage of persons living in poverty were Bloomer (10.8%), Pierson (11.3%), Reynolds (13.1) and Eureka (13.1%) Townships.

Of the 11,782 total persons below the poverty level in Montcalm County in 2012, 35% (4,113 persons) were children under the age of 18. The greatest numbers of children living under the poverty level were located in the City of Greenville (1,213), Cato (293), Home (157), and Evergreen (138) Townships. Montcalm County had a decrease in the total number of persons in poverty from 1989 (7,800 persons) to 1999 (6,394 persons). This was a decrease of 1,406 persons, or 18%. However, between 1999 and 2012 the number in poverty increased to 11,782 an increase of 4,848 or 70%.

Table 2-15 illustrates poverty in Montcalm and adjoining counties in 1999 and 2012. Clinton, Gratiot, Ionia, Isabella, Mecosta, and Newaygo Counties. All of the Counties show an increase in total poverty numbers. Newaygo County had the smallest percent change (+60%) followed by Montcalm County at +70%. Isabella (94%), Kent (92%) and Mecosta (86%) Counties were all similar to the eight county increase of 93%. The largest increases were in Clinton (187%), Ionia (115%) and Gratiot (101%) Counties.

Table 2-15
Poverty in Montcalm and Surrounding Counties-2012

County	Number of People of All Ages in Poverty 1999	Number of People of All Ages in Poverty 2012	Difference 2012-1999	Percent of People of All Ages in Poverty 2012	Percent Change 2012-1999
Montcalm	6,249	11,613	5,364	8.50%	85.84%
Clinton	2,963	8,512	5,549	7.30%	187.28%
Gratiot	3,837	7,698	3,861	9.18%	100.63%
Ionia	4,858	10,422	5,564	8.70%	114.53%
Isabella	11,687	22,668	10,981	15.55%	93.96%
Kent	49,832	95,856	46,024	7.49%	92.36%
Mecosta	5,960	10,199	4,239	9.79%	71.12%
Newaygo	5,471	8,777	3,306	6.89%	60.43%
Eight County Total	**90,857**	**175,745**	**84,888**	**8.31%**	**93.43%**

Source: 2000 and 2012 data: US Bureau of the Census and 2008-2012 American Community Survey, 5-Year Estimate

In Montcalm County the number of households below the poverty level with females as the head (no husband present) was 460 in 1999 and by 2012 it had increased to 1,241. Table 2-16 shows the total number of families under the poverty level and the total number of families under the poverty level with female head of household in Montcalm and adjoining counties in 2012.

Kent County had 59% of female headed households in poverty in 2012, the largest percentage among the surrounding counties. The smallest percentages of female headed households in poverty were in the counties of Gratiot (33%), and Newaygo (34%). The jurisdictions within Montcalm County that had the highest percentage of female-headed households in poverty in 2012 were Cato, Crystal, Eureka, and Richland townships; and Carson City, Greenville, and Stanton cities.

Table 2-16
**Families in Poverty by Household Type in
Montcalm and Adjoining Counties-2012**

County	Families Under the Poverty Level	Married-Couple Families Under the Poverty Level	Families with Female Householder Under the Poverty Level	% of Families Under the Poverty Level with Female Head of Household
Montcalm	**2,402**	**887**	**1,241**	**51.67%**
Clinton	1,240	546	549	44.27%
Gratiot	1,916	533	648	33.82%
Ionia	2,156	764	1,041	48.28%
Isabella	1,968	639	1,033	52.49%
Kent	17,193	4,996	10,218	59.43%
Mecosta	1,263	577	593	46.95%
Newaygo	1,751	839	597	34.09%
Eight County Total	**29,889**	**9,781**	**15,920**	**53.26%**

Source: US Bureau of the Census: 2008-2012 American Community Survey, 5 Year Estimate

EDUCATIONAL ATTAINMENT

According to the 2010 Census, 46.5% of persons over the age of 25 within Montcalm County have had some college or have obtained a college degree. Additionally, 39.9% of the remaining populations have attained a high school diploma or the equivalent of a high school education. The remaining 13.6% of Montcalm County residents had not completed high school in 2010. See Figure 2-3 and Table 2-17 illustrating Montcalm County's educational attainment in 2010 for persons 25 years and older.

Figure 2-3
Educational Attainment in Montcalm County, 2012

Legend:
- Less than 9th Grade
- 9th - 12th Grade (no diploma)
- High School Graduate (includes equivalence)
- Some College (no degree)
- Associate Degree
- Bachelor's Degree
- Graduate or Professional Degree

Pie chart values: 4%, 9.6%, 39.9%, 25.2%, 8.5%, 7.8%, 5%
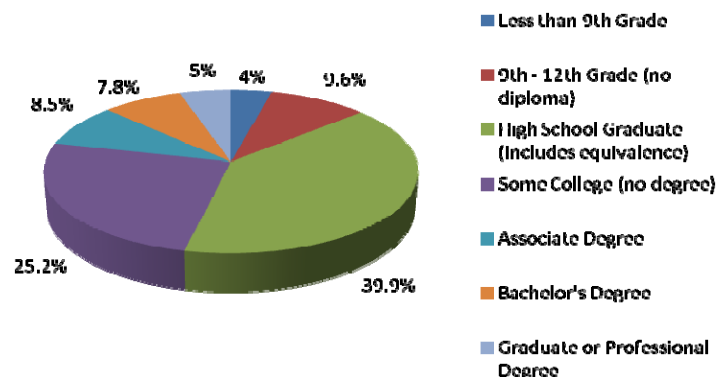
Source: US Census Bureau, Census 2010

Table 2-17
Educational Attainment in Montcalm County

Level of Education	Persons 25 years and over	Percentage of Population 25 years and over
Less than 9th grade	1,855	4.0%
9th to 12th grade (no diploma)	4,075	9.6%
High School (inc. HS equiv.)	16,936	39.9%
Some College (no degree)	10,718	25.2%
Associate's Degree	3,614	8.5%
Bachelor's Degree	3,317	7.8%
Graduate/ Professional Degree	2,137	5.0%

Source: US Census Bureau, Census 2010

For more summary demographic information about each of the jurisdictions within Montcalm County, see Appendix A. For complete census information, go to www.census.gov.

Chapter 3
ECONOMY AND ECONOMIC DEVELOPMENT

INTRODUCTION
This chapter discusses employment, unemployment, the labor force and other economic characteristics of Montcalm County such as growth of taxable property values which reflect both new investments in the County as well as how the value of real estate is maintaining. Data from the US Census Bureau, Michigan Department of Labor and Economic Growth (DLEG), and others are provided with projections and brief discussions of implications.

EMPLOYMENT
The available labor force in a county can be a crucial determinant in the decision making process for business attraction and retention. There were 21,522 persons employed in Montcalm County in 2013, which was a decrease of 1,978 since 2000 (see Table 3-1). Montcalm County experienced an increase of 4.56% in labor force between 2000 and 2010, and a 7.2% decrease between 2010 and 2013.The drop in labor force between 2000 and 2013 reflects out migration and those no longer actively looking for work. The number of those employed decreased by 9% between 2000 and 2010 and remained the same between 2010 and 2013.

Table 3-1
Employment Trends in Montcalm County, 2000-2013

Status	2000 Employment	2010 Employment	2013 Employment	% Change 2000-2010	% Change 2010-2013
Labor Force	25,075	26,218	24,330	4.56%	-7.20%
Employed	23,500	21,552	21,522	-8.29%	-0.14%
Unemployed	1,575	4,666	2,808	196.25%	-39.82%

Source: Michigan Department of Economic Growth, January of each year

Table 3-2 illustrates the total labor force and persons employed between 2000 to 2013 in Montcalm and surrounding counties. According to the Michigan Department of Labor and Economic Growth, Montcalm County saw a decrease between 2000 and 2010 and no change between 2010 and 2013 in persons employed. Four other counties surrounding Montcalm experienced a drop of employed labor force between 2000 and 2010 and two between 2010 and 2013.

The employed labor force percentage change between 2010 and 2013 was greatest in Kent County with an 8.2% increase followed by Ionia County (7.3%), Newaygo County (6.9%), and Mecosta County (2.1%). Gratiot County experienced the greatest loss in employed labor force during this time (-0.5%), followed by Clinton County (-0.1%).

The decreased number of employed persons between 2000 and 2013 in Montcalm County is in a large part due to the closing of many manufacturing plants and major reductions in others in the region including; Electrolux, Hitachi Magnetics, Bosh, Steelcase, Siemens, Herman Miller, Lear, Butternut Bread, and Lifesavers Candy.

Steelcase was the largest furniture manufacturer in the U.S. in 2000 and Electrolux one of the largest refrigerator manufacturers. Electrolux contributed about 20% of Greenville's tax base, and for the region the overall economic impact each year has been estimated to be over $200 million, including the impact on the service industry and Electrolux suppliers.

Table 3-2
Employment for Montcalm and Surrounding Counties, 2000-2013

Region	Labor Force			Total Employment			Employment % Change 2010-2013
	2000	2010	2013	2000	2010	2013	
State							
Michigan	5,075,000	4,742,000	4,652,000	4,885,000	4,055,000	4,190,000	-14.23%
County							
Clinton	34,300	38,218	36,812	33,425	34,389	34,347	2.76%
Gratiot	20,050	19,423	18,293	18,900	16,499	16,405	-13.20%
Ionia	27,050	28,894	29,013	25,825	24,746	26,555	2.83%
Isabella	32,725	36,727	35,742	31,450	33,194	33,304	5.90%
Kent	329,125	302,006	308,370	318,575	267,050	288,993	-9.29%
Mecosta	16,625	20,030	19,465	16,896	17,159	17,517	3.68%
Montcalm	25,075	26,218	24,330	23,500	21,552	21,552	-8.29%
Newaygo	20,975	21,586	21,563	19,175	18,326	19,598	2.21%
Eight County Total	505,925	493,102	493,588	487,746	432,915	458,271	-6.04%

Source: Michigan Department of Labor and Economic Growth, January of each year

Montcalm County's employment base largely comes from the manufacturing industry which had 24.8% of the labor force in 2013. The county's education and social services sector serves as its second highest employed sector at 24.6% of the labor force Montcalm County has a higher proportion of its population employed in the manufacturing, agriculture, public administration, and construction sectors than the State as a whole.

Table 3-3
Employment Distribution in Montcalm County, 2000-2010

Industry	2000		2013		Michigan
	#	%	#	%	%
Employed Person 16+	21,530	100.00%	20,989	100.00%	
Agriculture/Forestry/Fishing	869	4.04%	804	3.83%	1.10%
Construction	1,998	9.28%	1,477	7.04%	6.20%
Manufacturing	7,900	36.69%	5,217	24.86%	22.50%
Wholesale Trade	673	3.13%	684	3.26%	3.30%
Retail Trade	3,286	15.26%	2,935	13.98%	11.90%
Transportation	892	4.14%	1,200	5.72%	4.10%
Information	415	1.93%	434	2.07%	2.10%
Finance/Real Estate	920	4.27%	736	3.51%	5.30%
Educational/Health/Social Service	3,019	14.02%	5,134	24.46%	19.90%
Other Services	705	3.27%	1,276	6.08%	4.60%
Public Administration	853	3.96%	1,092	5.20%	3.60%

UNEMPLOYMENT

Table 3-4 shows the change in average annual unemployment rates from 1990 for the seven counties surrounding Montcalm, as well as for Montcalm County. Unemployment was at a very high rate of 15.6% in Montcalm County in 1990, which was 47.4% greater than the rate of 7.4 in 2014. Notably, Montcalm County's unemployment rate has fluctuated closely with the unemployment rates of five of the surrounding counties as is also illustrated in Table 3-4.

Table 3-4
Annual Average Unemployment Rate for Montcalm and Surrounding Counties, 1990-2014

State	1990	2000	2010	September 2014	% Change 2000-2014
Michigan	9.1	4	12.7	6.7	2.7
County	1990	2000	2010	September 2014	% Change 2000-2014
Clinton	11.1	2.6	9.6	4.6	2.00
Gratiot	12.2	5.8	12.4	7.7	1.90
Ionia	13.5	4.6	12.2	6.6	2.00
Isabella	6.2	3.9	9.3	4.9	1.00
Kent	6.5	3.2	10.4	4.5	1.30
Mecosta	9.7	6.8	12	6.4	-0.40
Montcalm	15.6	6.3	15.3	7.4	1.10
Newaygo	11.9	8.6	13.3	6.1	-2.50
Regional Average	**10.84**	**5.23**	**11.81**	**6.03**	**0.80**

Source: Michigan Department of Labor and Economic Growth, Annual for each year.

LABOR FORCE

The Montcalm County labor force (all persons employed or unemployed who are able to work) has grown from 23,600 in 1990 to 28,548 in 2012 (see Table 3-5), an increase of 4,948 (19.44%). The Montcalm communities with the smallest number of people in the work force in 2012 were Carson City (453) and Stanton (594) and the Townships of Ferris (575) and Day (487). The townships of Bloomer, Reynolds, Winfield, Pierson and Eureka experienced the largest percentage gain in the number of people in the labor force from 1990 to 2012. The largest number of persons in the labor force in 2012 was in the city of Greenville (3,425) and Reynolds Township (2,579).

Table 3-5
Annual Average Labor Force for Townships and Cities within Montcalm County, 1990-2012

Township	1990	2000	2010	2012	% Change 1990-2012
Belvidere	875	925	975	1,199	37.03%
Bloomer	550	575	775	1,105	100.91%
Bushnell	650	675	725	779	19.85%
Cato	1,175	1,225	1,200	1,131	-3.74%
Crystal	1,050	1,125	1,175	1,248	18.86%
Day	525	550	525	487	-7.24%
Douglass	875	950	950	956	9.26%
Charter Township of Eureka	1,375	1,500	1,750	2,008	46.04%
Evergreen	1,275	1,300	1,370	1,487	16.63%
Fairplain	725	775	725	673	-7.17%
Ferris	500	550	550	575	15.00%
Home	1,075	1,150	1,150	1,153	7.26%
Maple Valley	825	875	955	1,080	30.91%
Montcalm	1,475	1,525	1,625	1,740	17.97%
Pierson	975	1,050	1,450	1,617	65.85%
Pine	650	725	725	725	11.54%
Reynolds	1,375	1,475	2,175	2,579	87.56%
Richland	950	1,000	1,050	1,288	35.58%
Sidney	1,125	1,200	100	1,093	-2.84%
Winfield	625	675	975	1,153	84.48%
Total	**18,650**	**19,825**	**20,925**	**24,076**	**29.09%**

City	1990	2000	2010	2012	% Change 1990-2012
Carson City	550	600	500	453	-17.64%
Greenville	3,725	3,975	3,675	3,425	-8.05%
Stanton	675	675	625	594	-12.00%
Total	**4,950**	**5,250**	**4,800**	**4,472**	**-9.66%**

	1990	2000	2010	2012	% Change
Montcalm Total	**23,600**	**25,075**	**25,725**	**28,548**	**19.44%**

Source: Michigan Department of Labor and Economic Growth, January of each year and US Census: 2008-2012 American Community Survey 5 Year Estimates.
Village labor force is included in the Township figures.

MAJOR EMPLOYERS

Of the top thirty principal employers in Montcalm County in 2014, 13 had headquarters located within the City of Greenville, employing a total of 3,290 persons. This underlines the dominance of Greenville as the economic hub of the county, which includes 43.3% of the top thirty employers in the county. Major employers within Montcalm County are listed in Table 3-6. The three largest in the county are Spectrum Health United Memorial, Carson City Correctional Facility and Greenville Public Schools. Table 3-6 also illustrates the diverse nature of the jobs within the county, producing products ranging from engine bearings to injection molded plastics as well as a significant number of jobs in the healthcare, education, and retail sectors.

Table 3-6
Principal Employers in Montcalm County, 2014

Firm	Location	Employees	Product
Spectrum Health United Memorial/Kelsey Hospitals	Greenville/Lakeview	850	Healthcare
Carson City Correctional Facility	Carson City	600	Law Enforcement
Greenville Public Schools	Greenville	400	Education
Meijer	Greenville	350	Retail
Carson City Hospital	Carson City	315	Healthcare
Vertis	Greenville	300	Printing
WalMart	Greenville	300	Retail
Montcalm County	Stanton	250	Government
Tri-County Schools	Howard City	240	Education
Central Montcalm Schools	Stanton/Sheridan	230	Education
Greenville Tool & Die	Greenville	230	Specialty Dies
Federal Mogul	Greenville	225	Engine Bearings
Sheridan Community Hospital	Sheridan	205	Healthcare
Lakeview Community Schools	Lakeview	200	Education
Montcalm Community College	Sidney	200	Education
Parker Hanifin	Lakeview	175	Brass Fittings
Wolverine Worldwide	Howard City	150	Distribution Center
Montcalm Area ISD	Stanton	145	Education
Metron of Greenville	Greenville	145	Skilled Nursing Home
Carson City-Crystal Schools	Carson City	140	Education
Vestaburg Public Schools	Vestaburg	120	Education
Packaging Corp. of America	Edmore	120	Packaging Material
Montabella Public Schools	Edmore	120	Education
Clarion	Greenville	120	Plastic Products
AGA Marvel	Greenville	120	Specialty Refrigerators
Stafford Communications	Greenville	100	Newspapers, Radio
Wright Plastics	Sheridan	100	Plastic Injection Molding
Lakeland Mills	Edmore	100	Wood Furniture
Mersen USA	Greenville	100	Graphite Processing
Steeplechase Tool & Die	Lakeview	75	Specialty Dies
Kent Foundry	Greenville	50	Foundry

Source: Michigan Economic Development Corporation, (MEDC)/ Harris Publishing Company, 2014 Industrial Directory, Manta Online.

INDUSTRIAL AND COMMERCIAL BUSINESSES

There is an array of employment opportunities within Montcalm County. Table 3-7 lists the many types of industrial and commercial businesses and the number of establishments located within Montcalm County. Over 200 retail trade establishments exist in the county which is the largest sector in regards to number of establishments. The second largest number with 140 establishments is "other services" (mostly professional services), followed by education and health at 140 and construction (100) establishments.

Table 3-7
Types of Businesses within Montcalm County

Business	# of Establishments
Forestry, Fishing, Hunting and Agriculture	3
Construction	100
Manufacturing	70
Wholesale Trade	46
Retail Trade	216
Transportation and Warehousing	28
Information	18
Finance and Real Estate	83
Education and Health	112
Accommodations & Food Service	93
Other Services	140
Total of All Sectors	**909**

Source: U.S. Department of Commerce, U.S. Census Bureau, 2011 Economic Census.

TRAVEL TIME AND COMMUTING PATTERNS FOR WORKERS

The length of time it takes for one to travel to work can be used as an indicator for traffic congestion and can be used to gauge the degree to which a community is a "bedroom" community or an employment center. Montcalm County had a mean commute time of 28.2 minutes in 2000 which increased to 29.9 minutes by 2010 which suggests it is largely a bedroom community where people live in one place and work in another and that it is increasingly becoming so. Between 2000 and 2010, Montcalm County gained only 1,143 workers over the age of sixteen. Yet their preference of how to get to work resulted in all most 80% of the work force driving alone to work. At the same time the number of carpoolers increased to 2,830 or almost 12% of the employed work force. Although the percentage of those using public transit increased by 2%, the amount of public transit usage, in comparison to the total workforce, is extremely small. Table 3-10 illustrates the place of work for residents in Montcalm County between 1990 and 2000. Workers commuting outside of the county increased by 5,459 or 10.4% between 1990 and 2000, which means an increase in travel time and travel distance. If this trend continues, there will be an increased demand for road improvements to ease travel-related problems. This is particularly true of M-57 from Greenville to US-131.

Chapter 4
NATURAL RESOURCES AND ENVIRONMENT

INTRODUCTION
The natural environment of Montcalm County is vital to the health of its citizens, to the quality of life in the County, to tourism opportunities and recreational economy and to the life of future County residents and businesses. Montcalm County natural resources include surface and ground water, air and soil. The farms and forests of Montcalm County are not only important natural resources, but also important to the economy of the county. This chapter discusses the state of the environment and natural resources and some trends for the future of those resources.

WATERSHEDS
A watershed is defined as a ridge or stretch of high land dividing the area drained by different rivers or river systems. A watershed is more than a boundary drawn on a map; it is the water resource, such as a stream, river, lake, or aquifer, and all of the land encompassing the resource. To protect these resources, it is important to address the land areas within the watershed because as water drains off the land or leaches down into the groundwater it carries with it the effects of human activities throughout the watershed. The four major watersheds in Montcalm County are the Muskegon River, Lower Grand River, Maple River, and Pine River. See Map 4-1 for locations of each watershed within Montcalm County.

Lower Grand River Watershed
The Grand River Watershed is the largest watershed within the state of Michigan. It covers ten counties, more than 5,500 square miles, and empties into Lake Michigan. Grand Rapids is the largest city in the watershed. The Grand River watershed is so large it is broken down into smaller watersheds which consist of the Lower Grand, Red Cedar, Looking Glass, Maple, Thornapple, Flat, and Rogue River watersheds. Parts of the Lower Grand, Maple and Flat River watersheds are found in Montcalm County. These watersheds house a majority of Montcalm's lakes and smaller tributaries and streams. The prevalent land use in the watershed is agriculture. However, steady residential growth and commercial development are altering the landscape.

Maple River Watershed
While the Maple River is connected to the Grand River, the Maple River watershed is considered to be of a similar hierarchy, and is listed separately. The Maple River eventually flows into the Grand River. Part of the Maple River watershed is on the southeast portion of Montcalm County and includes Fish Creek which is a State designated cold water trout stream.

The Muskegon River Watershed
The Muskegon River Watershed contains 2,725 square miles of land or 1.74 million acres and is contained within twelve counties. Approximately 385,000 people live in the watershed, with the most concentrated in the metropolitan areas of Muskegon, Big Rapids, and Cadillac. Population centers within the watershed in Montcalm County include (2010 census figures in parentheses): Howard City (1,808), and Lakeview (1,007).

Pine River Watershed
The Pine River Watershed is in the northeast portion of Montcalm County. Water from this watershed flows east to the Tittabawassee River and Saginaw Bay.

Flat River Natural River
Portions of the Flat River were designated as a Country-Scenic River, and the Natural River Plan was adopted by the Natural Resources Commission in 1979. The designated portions of the Country-Scenic River are primarily in the western portions of Montcalm County, and shorter segments are in Ionia, and Kent Counties. The purpose of such a designation is to *"preserve and enhance its values for water conservation, its free flowing condition, and its fish, wildlife, boating, scenic, aesthetic, floodplain, ecologic, historic and recreational values and uses."* (Part 305, P.A. 451 of 1994, Michigan Natural Resources and Environmental Protection Act.)

The Flat River drains a watershed of about 560 square miles. The main stream originates in the Six Lakes area and flows for about 70 miles before joining the Grand River.

All the waters of the Flat River system are protected so that erosion, stream alteration or pollution does not prevent the use of the water by farmers, boaters, municipalities and industry.

Agriculture and forestry are the predominant land uses/land covers in the watershed. Nutrients from crop fertilizers are a particular concern as they contribute to excessive aquatic nuisance plant growth.

Archaeological sites, including Indian villages, campsites, mounds and burial grounds are assumed to be in the area of the Flat River; as such sites exist along the nearby Grand and Thornapple Rivers and indeed have been found along Wabasis Creek which flows into the Flat River.

Five tributaries are also included in the County-Scenic River designation. These are:
1. Dickerson Creek from Sidney Road (Sidney Township) to its confluence with the Flat River (20.3 miles).
2. Wabasis Creek from Spencer Mills Avenue (Oakfield Township) to its confluence with the Flat River (6.8 miles).
3. Coopers Creek from Harvard Avenue (Spencer Township) to is confluence with the Flat River (1.5 miles).
4. Clear Creek from Lincoln Lake Avenue (Spencer Township) to is confluence with Cooper Creek (2.8 miles).
5. West Branch Creek from its source in Pine Township to its confluence with the Flat River (7.1 miles).

The Flat River Natural River District includes an area 300 feet wide on each side of and parallel to all channels of the mainstream and designated tributaries. This district establishes a definable area within which local zoning may guide future development and use.

A series of lot width and setback requirements are mandated for the Flat River Natural River District. These include:
- A minimum residential lot width of 100'

- New industrial and commercial buildings set back a minimum of 300' except for certain commercial uses that may be compatible with maintaining the natural aspects of the river (through special exception procedure)
- New buildings and appurtenances setback a minimum of 100' from the ordinary high water mark or 25 feet from an identified or documented 100-year floodplain, which ever results in the greatest distance from the edge of the river, plus, setbacks of at least 50 feet from the top of a bluff.

Unobtrusive building and sign design, materials and colors and lighting, use of vegetative screening and vegetation filter strips are encouraged. Dock construction that is ecologically sound is encouraged.

Concerns for the Watersheds
Among the many concerns for the watersheds in Montcalm County are loss of habitat and degradation, nonpoint source pollution, and PCB contamination. A number of endangered animals live within these watersheds as well as a greater number of threatened plants and animals. Habitat loss and degradation has occurred partially from erosion of the river causing sedimentation and different sources of pollution. Nonpoint source pollution is largely the runoff of contaminants to lakes, streams, rivers and wetlands when it rains or when snow melts. Common nonpoint sources of pollution are livestock operations, farm fields, urban and suburban streets, lawns, parking lots, industrial, commercial, construction and household activities. Water quality in Montcalm County's rivers is significantly affected by runoff from all of these sources.

All of Montcalm County's surface water is subject to a variety of nonpoint pollution sources that come from the land and paved surfaces, nonpoint sources such as industrial pipes, waste water treatment plants and agricultural runoff (as mentioned above). The Chippewa Watershed Conservancy, Grand River Preservation Coalition, The Lower Grand River 319 Project, and Muskegon River Watershed Assembly all provide educational programs and materials regarding nonpoint source pollution and prevention to help preserve and protect these precious natural resources.

Most of these watershed areas have a remarkable wild and natural river aspect and have many assets that should be enjoyed and respected. Fishing for trout, bass, and other fish species is important to the Montcalm County economy. All pollutants have significant impacts on lakes and streams, and cooperative efforts between residents, businesses, local, county and state governments is needed to protect water resources within Montcalm County for future generations.

Map 4-1
Major Watersheds in Montcalm County

Montcalm County
Major Watersheds

Legend

U.S. Highway	Streams
State Highway	Drains
Roads	Jurisdictions
Lakes	Sections

Watersheds

- Lower Grand
- Maple
- Muskegon
- Pine

Source: Michigan Center for Geographic Information, Dept of Information Technology

Map Prepared by the Land Information Access Association, January 2005
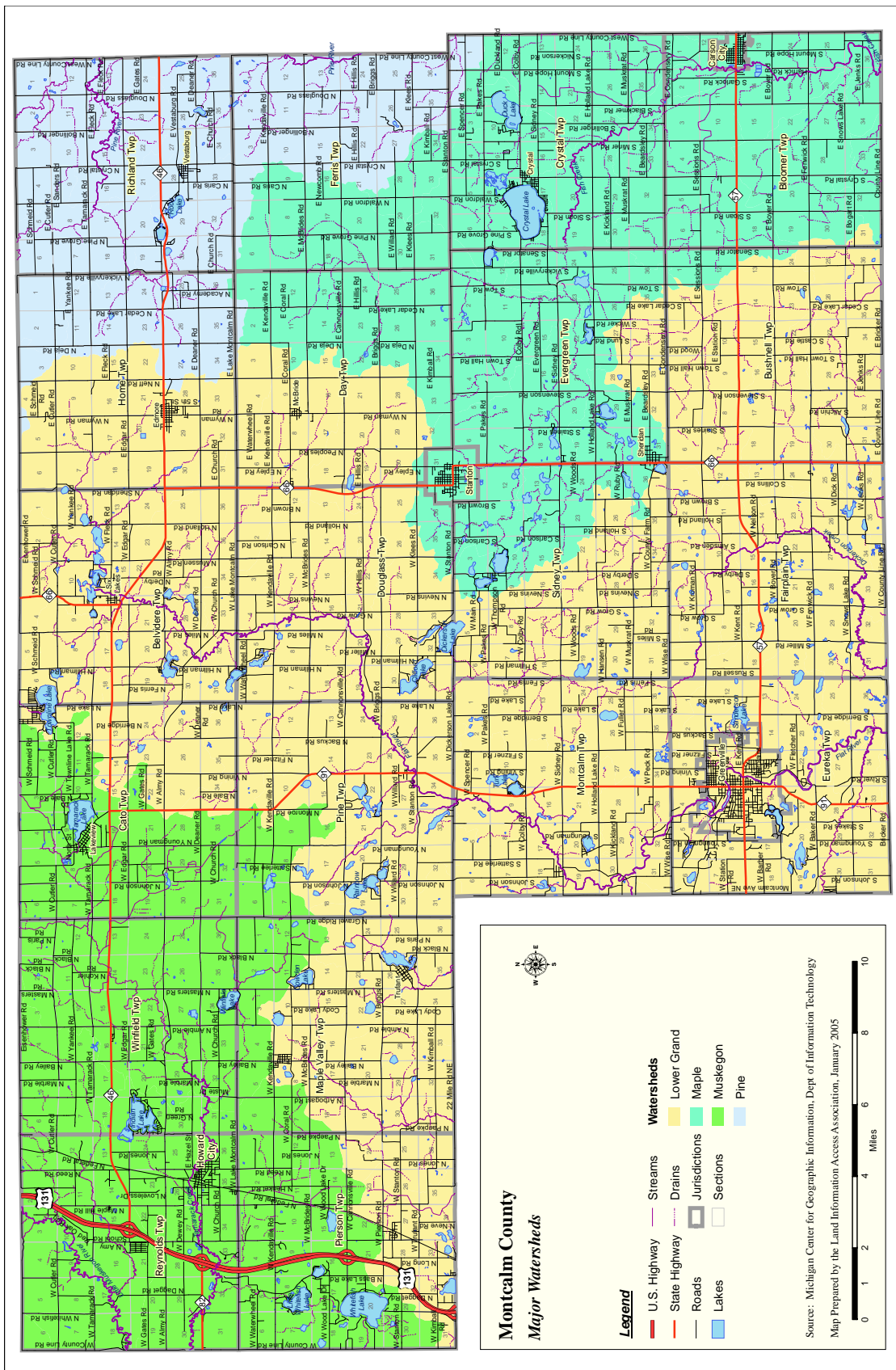
Source: Land Information Access Association

FLOODPLAINS

The many rivers and streams in Montcalm County can overflow their banks following snowmelt or heavy rains. The areas that become inundated by overflowing rivers are called floodplains. Along some watercourses, floodplains are developed with houses, businesses, parking lots and streets. Along other segments the floodplains contain undeveloped wetlands or parks. For the purposes of participating in the Federal Emergency Management Agency (FEMA) flood insurance program, floodplain maps are prepared. Only the City of Greenville, Eureka and Reynolds Townships have participated in the FEMA mapping program. The Michigan Department of Environmental Quality regulates wetlands.

The 100 year floodplain is mapped by FEMA to establish flood insurance rates on property. See zone A, on Map 4-2 for these locations. Land located directly adjacent to major rivers is likely to be in the 100 year floodplain.

While in Eureka and Reynolds Townships, the floodplains are undeveloped or sparsely developed, the City of Greenville is highly developed. If communities upstream of Greenville increase runoff through increased imperviousness or by not diverting stormwater runoff, this imperils properties along the river in Greenville.

Appropriate land management practices include regulation of buildings within the floodplain. There is no county ordinance to regulate floodplains. There are local communities with floodplain ordinances, and others in which local officials are interested in adopting an ordinance.
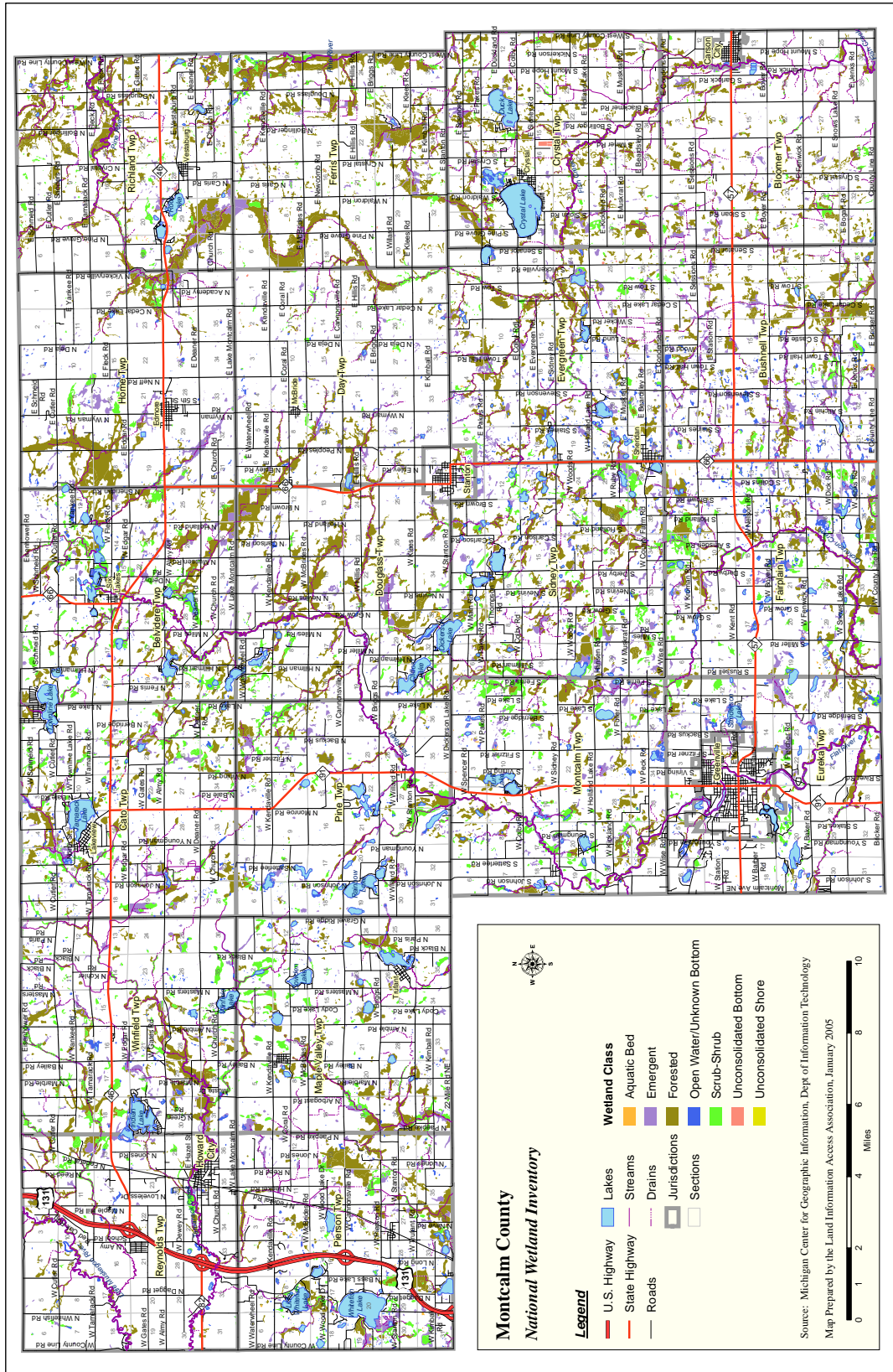
WETLANDS

Wetlands are areas that experience water saturation for extended periods. Wetlands may have standing water all of the year; they may have standing water for only part of the year; or they may only have saturated soil with little or no visible water. Certain plants that are adapted to soil saturation are a characteristic of wetlands. The soil of a wetland will have changed little over time due to the presence of water.

Wetlands are useful in absorbing excess stormwater and can filter many pollutants. All the rivers and headwater streams in Montcalm County have associated wetlands. Over 25,000 acres in Montcalm County are classified as wetlands. They make up 6% of the total county's land area. Most are isolated and scattered throughout the county. See the National Wetland Inventory Map 4-3 and Current Land Use Map 4-4 for the location of these wetlands. The Michigan Department of Environmental Quality regulates wetlands in Montcalm County that are contiguous to a lake, stream, pond, etc. and have a hydrologic relationship to it and are within 500' of a lake, stream or pond.

Map 4-2
Flood Insurance Rate Map in Montcalm County

Montcalm County
Flood Insurance Rate Map
Legend

—— U.S. Highway   —— Streams

—— State Highway   ···· Drains

—— Roads   ☐ Jurisdictions

☐ Lakes   ☐ Sections

■ Zone A*

■ Zone B**

■ Zone C**

* Zone A - Area inundated by the base (1% annual chance) flood, for which no Base Flood Elevation (BFEs) have been determined. This zone corresponds to the 100 year floodplains. Mandatory flood insurance purchase requirements apply.

** Zone B & C - Areas that are determined to be outside the 1% annual chance (100-year) floodplains. Flood insurance purchase is not required in these zones.

FEMA data available for only Reynolds & Eureka Twps. and the City of Greenville.

Source: Federal Emergency Management Agency, 1983, 1984, & 1988.

Michigan Center for Geographic Information, Dept of Information Technology

Map Prepared by the Land Information Access Association, January 2005

0   1   2   4   6   8   10
Miles

Map 4-3
National Wetland Inventory for Montcalm County

Montcalm County
National Wetland Inventory

Legend

U.S. Highway	Lakes
State Highway	Streams
Roads	Drains
	Jurisdictions
	Sections

Wetland Class
Aquatic Bed
Emergent
Forested
Open Water/Unknown Bottom
Scrub-Shrub
Unconsolidated Bottom
Unconsolidated Shore

Source: Michigan Center for Geographic Information, Dept of Information Technology

Map Prepared by the Land Information Access Association, January 2005

0 1 2 4 6 8 10
Miles

WATER QUALITY

Both surface water and groundwater have been affected by pollution in Montcalm County. Surface water is affected by discharges and runoff from industrial, commercial, agricultural and residential properties. A major contributor of surface water pollution in the past came from industrial pollution. Wastewater treatment facilities, heavy manufacturing, paper and pulp mills, and municipal sewage treatment plants have all been major contributors in the past, but today Michigan requires permits and monitors all discharges. In many areas of the county, groundwater is contaminated by agricultural chemicals, such as fertilizers and pesticides. Urban areas contribute to surface water pollution through development of land. When land is developed and replaced with concrete the surface water enters into a storm drain carrying with it oils, grease, salt, and other pollutants.

The National Pollutant Discharge Elimination System permit process was initiated by The National Federal Water Pollution Control Act amendments of 1972. The purpose of this program is to control the discharge of pollutants into surface waters imposing effluent limitations to protect the environment. Authority to administer this program was delegated to Michigan by the Environmental Protection Agency (EPA) in October of 1973. Currently, authority for NPDES permit issuance rests with the Michigan Department of Environmental Quality.

Currently (2012) there are 41 discharge permits in Montcalm County that allow surface water discharge. Detailed information can be obtained from Michigan Department of Environmental Quality website (www.michigan.gov/deq).

There are locations within Montcalm County that have leaking underground tanks. At the time of release, the owner/operator is responsible for the corrective actions mandated by Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 of PA 451, as amended (NREPA). Owners/operators are required to hire consultants that meet the qualifications in Section 21325 of Part 213 to perform corrective actions, and to submit specific reports required by the statute. Reported locations in Montcalm County of leaking underground tanks are available at the Michigan DEQ Leaking Storage Tank website http://michigan.gov/deq.

A Brownfield is a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Brownfield's have been identified and prioritized in Montcalm County, and a Brownfield Redevelopment Authority has been formed to work together with stakeholders in a timely manner to assess, safely clean up, and sustainable reuse Brownfield's. The goal of this redevelopment is to ensure the health and well-being of our citizens and environment and enabling reuses that enhance our tax base and quality of life.

Three sites in the county are current priorities for the Redevelopment Authority. They are the Amble Oil property in Amble, the Paloma Pickle Dock in Lakeview and Carnation building and elevator site in Sheridan. All have gone through the Phase 1 and 2 Environmental Assessments, and the Amble and Lakeview sites are moving forward as potential sites for developers and the Carnation site for demolition and clean-up.

EPA's Brownfield's Program provides financial and technical assistance for Brownfield's activities through an approach based on four main goals:

- Protecting the environment addressing Brownfield's to ensure the health and well-being of America's people and environment.
- Promoting Partnerships Enhancing collaboration and communication essential to facilitate Brownfield's cleanup and reuse.
- Strengthening the marketplace providing financial and technical assistance to bolster the private market.
- Sustaining reuse redeveloping Brownfield's to enhance a community's long-term quality of life.

Montcalm County has formed a Brownfield Redevelopment Authority that works together in a timely manner to assess, safely cleanup, and sustainably reuse Brownfield's.

It has been estimated that there are hundreds of abandoned wells in Montcalm County. These were former water, oil or gas wells, or wells that never produced the intended mineral. Uncapped or improperly abandoned wells can be conduits for contaminants to ground water. Although oil and gas exploration was especially active in Richland, and Belvidere Townships, there was gas exploration throughout the entire county.

The Michigan Groundwater Stewardship Program provides cost sharing for proper well closures. That program and the Federal EQUIP Program also provide cost share funds for soil testing, conservation tillage and a variety of management plans, equipment and storage/mixing devices that help reduce the use of, or properly contain contaminants.

A statewide groundwater vulnerability map has been prepared. It shows areas of soils with the highest permeability (and hence a potential vulnerability) in each county in Michigan. It is available on the website version of the Montcalm County Fact Book (www.montcalm.org).

There are over 150 inland lakes in Montcalm County with 23 having public access boating sites. Only 15 are 100 acres or greater in size, with three larger than 300 acres. Their surface water quality can be greatly affected by nonpoint source pollution, especially agricultural runoff.

Woodlands help increase the amount of stormwater that infiltrates the ground, reducing the scouring effects of runoff from impervious surfaces. Woodlands also cool runoff and contribute to a more even flow of groundwater into streams over periods of dry weather. Woodlands are concentrated on a few areas and scattered in others in Montcalm County. This is due primarily to the farming activities so widespread in the county. Even in areas where farming has ceased, woodlands have barely started the long process of regenerating.

CURRENT LAND USE/COVER
A land use refers to the type of activity which takes place on the land. Typical land uses include agricultural, residential, commercial, industrial, office, transportation, institutional, extraction and others. Land cover refers to the surface vegetation and other material on the land such as water, beach, woods, or hard urban surfaces.

Montcalm County land use and land cover was determined through interpretation of aerial photographs that had been mapped in a computerized, geographic information system (GIS). The last time all of Montcalm County land use and land cover were mapped was based on aerial photography flown in 1978. Through a USDA grant program designed to enhance rural economies through extension, research and partnering, Bushnell, Maple Valley and Reynolds Townships received funding to document land use changes that have taken place over a twenty year span in their township. The "Land Cover/Land Use Change Project" study was conducted by Michigan State University's Center for Remote Sensing and Geographic Information Service, and an update of land use/cover was compiled for the three townships, based on 1998 aerial photography. The residences shown were located on the map using geo-rectified mosaics of color infrared aerial photography.

Map 4-4 depicts composite land use/cover for the county using the most recent low-flying aircraft data available. **Trend analyses are vital in the assessment of land use concerns and it is essential that Montcalm County make completion of a county wide land use/cover update tied to contemporary digitized photographs of the entire county, a priority in the next few years. Without this most fundamental of data, the county, local governments, property owners, businesses and potential investors are unable to plan properly for future land use and infrastructure investments.**

Map 4- 5 shows land use/cover interpreted from 2001 satellite imagery. Small-scale comparisons and trends between the two time periods are not possible because analysis of the 2001 satellite imagery was not done according to the same methods or definitions as used with the 1978 and 1998 aerial photographs taken from low-flying aircraft. A visual comparison of the two maps will quickly reveal considerably more wetlands in 2001 than in 1978/1998. Such an increase did not occur. Instead this is a function of the software, time of year and definitions used to classify land. Satellite images are not very good at picking up homes and urban development, but are good at locating agricultural and forested lands.

Montcalm County is comprised of nearly 460,900 acres, with over half (52%) of the land currently being used for agriculture (see Table 4-3). Forest land covers 27% of the county, while rangeland, urban and built-up land, water and wetlands together make up only approximately 20% of the county. Current Land Use/Land Cover, Map 4-4, illustrates how widespread the agricultural lands are throughout the county. A fuller description of this map and table is found in the next chapter.

Table 4-3
Montcalm County Current Land Use/Cover Summary

Land Use/Land Cover	Acres	% of Total Land Use
Agricultural Land	240,700	52.22%
Forest Land	124,112	26.93%
Rangeland	42,997	9.33%
Urban and Built Up	19,911	4.32%
Water	7,756	1.68%
Wetlands	25,423	5.52%
Total Land Use/Land Cover	460,899	100.00%

Source: The land use for Bushnell, Maple Valley and Reynolds Townships have been updated to 1998. All other jurisdictions are 1978 MiRIS Land Use. 1998 Land Use Updates – MSU Center for Remote Sensing and GIS

Agricultural Land

Most of the agricultural land in the county is crop land; this land cover is the largest in the county comprising 52% (240,700 acres) of the total land in the county. Cropland is farmland used to grow crops like corn and wheat and beans. According to the Michigan Department of Agriculture, farmland increased in Montcalm County between 1992 and 1997 from 224,000 to 251,000 acres respectively, and from 251,000 to 255,000 acres between 1997 and 2002. Farmland decreased from 255,306 acres in 2002 to 242,804 acres in 2007. Most of these increases were likely due to classification changes such as counting land planted as "Christmas trees" in 1997 for the first time as agricultural land. Apparently, less land was in production in the 2007 census.

Montcalm County is blessed with deep, sandy loam and loamy sand soils, which are moderately well drained on gently sloping topography which are suitable for irrigated agriculture. The county is one of the top two counties in irrigated acres in the state. Water resources are excellent, with most irrigation water coming from wells from 100 to 300 feet deep.

Montcalm County farms have a long history of specialty crops and are progressive and innovative in their production and marketing of crops, such as potatoes, dry beans, and processing vegetables. Many are also producing seed corn and sugar beets.

Thirty year weather records for Greenville show the average date for the last freezing temperature in the spring is May 12, while the average date of the first freezing temperature in the fall is September 30. Thus, the growing season averaged 140 days annually. Crop season precipitation, April through September, averaged 19.06 inches for this period. Listed below are the rankings of many of the key products grown in Montcalm County and where they stand in comparison to the rest of the state based on the 2007- Census of Agriculture.

- 1st in acres of vegetables
- 1st in revenue from vegetables
- 1st for potato production (22nd in the country)
- 2nd for colonies of bees production

- 3rd for Christmas tree production (25th in country)
- 5th in number of dairy farms
- 7th in acres of forage
- 12th for cattle and calves
- 14th in total value of agriculture products sold

Forest Land
The magnitude of Michigan's timber industry is reflected by the fact that half the state's land is forested. Lumber, furniture, pulp and paper products contribute $4 billion to the state's economy annually. In 1993, over 26.8 billion cubic feet of growing stock were harvested in Michigan. Of this, more than one million board feet were harvested for saw timber. Forested land comprises the second largest percentage of land in Montcalm County 27% (124,111 acres), although little of it is in active forest management.

Open Land or Rangeland
This category comprises land that is not developed, forested or used for agriculture. It may at one time have been farmed or cleared of timber, but at the time of the land use inventory, was not actively used for either farming or forestry. This land use/land cover typically has meadows or fields of annual, biennial or perennial herbaceous plants and grasses. It may also have shrub growth and seedling trees. Rangeland is the third largest land cover in the county, comprising 9% (42,996 acres) of total land in the county.

Urban and Built Up
This category is the fourth largest land cover in the county, comprising just over 4% (19,911 acres) of total land. While single-family residential comprises most of all urban and built-up land, Montcalm County also has multifamily residential, mobile home parks, commercial, services, institutional, industrial, transport, communication, utilities, and outdoor recreation uses.

Water
Open water areas comprise nearly 7,756 acres of Montcalm County (1.7%). There are many rivers, streams and creeks, but most of the water area is in inland lakes, such as Crystal Lake, Tamarack Lake, and Big Whitefish Lake. Many of the settled areas in the county have rivers and/or creeks running through them which illustrate the importance of some of the waterways when these towns were established. Such areas include: Flat River in Greenville, Tamarack Creek in Howard City, and Fish Creek in Carson City.

Wetlands
This category is comprised of a land cover type which is characterized by certain soils and vegetation types and at least the seasonal presence of water. A precise determination of whether a parcel of land contains wetlands requires expert inspection, but the interpretation of aerial photographs can be fairly accurate. In the most recent estimation, there were over 25,000 acres of wetlands in Montcalm County. Wetland types in Montcalm County include woodland wetlands, shrub/scrub wetlands, aquatic bed wetlands, and emergent wetlands. Wetlands provide many important values, including stormwater storage, groundwater recharge, water filtering and purification, a nursery for the food chain, habitat for desired wildlife species and scenery.

SOILS

Well-drained soils make up about 71% of Montcalm County; somewhat poorly drained soils make up 12% and poorly and very poorly drained, mineral and organic soils about 15%. Water areas, urban and miscellaneous areas made up the remaining 2%. These soils vary widely throughout the county, based upon the USDA Soil Survey of Montcalm County, and the field work completed in 1960.

With 71% of the county having well-drained soils on gently sloping topography, the majority of Montcalm County is suitable for irrigated agriculture. Approximately 46,000 acres are irrigated, primarily sourced by surrounding wells.

Soils can be limiting for development when they are not suitable for building foundations or because of a high water table. As noted above, 27% of the county has poorly or very poorly drained soils, which are a problem for safe disposal of septic effluent. A high water table can also present restrictions for septic systems. Mound systems are increasingly being used in Montcalm County to overcome soil limitations. The areas with the most severe limitations are scattered on the east side of the County along Fish Creek and in the Six Lakes area in the north.

A large portion of the soils in the county are considered prime farmland when drained. Many of these soils are drained by an extensive network of county drains administered and maintained by the office of the County Drain Commission. Substantial areas of the prime farmlands have been farmed for 100 years or more, but increasingly much of it is being converted to residential development. Generally, the largest concentrations of prime farmlands are in the southeastern part of the county, plus the southern and the northwestern part. Unique farmland (i.e. irrigated), other than prime farmland, is concentrated in the central and southwestern areas of the county.
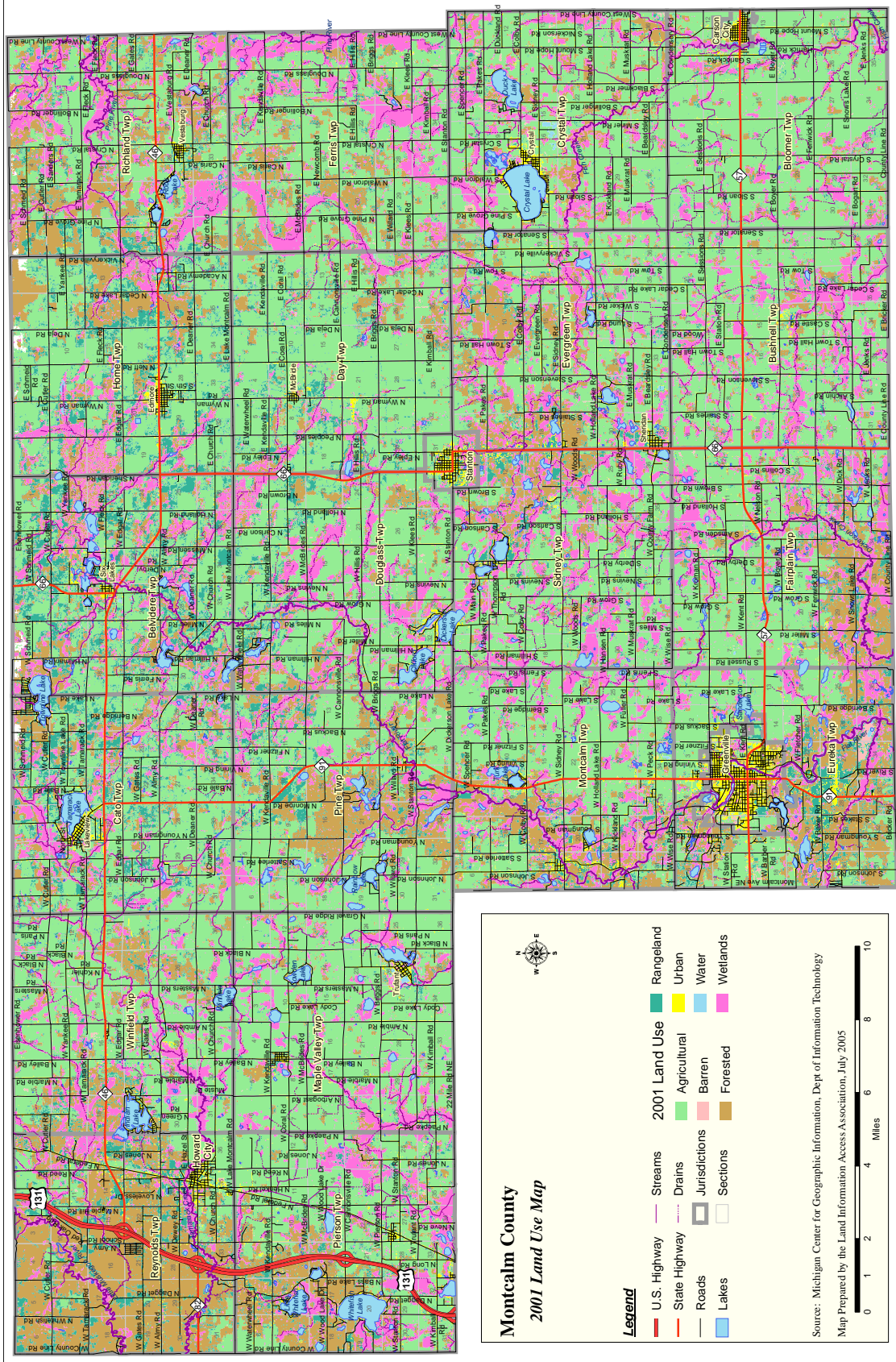
TOPOGRAPHY

The topography of Montcalm County is relatively flat with elevation ranging from 689 feet to 1,120 feet above sea level, a 431 feet difference. As shown on the Digital Elevation Map 4-6, the Southeastern part of the county is low lying but increases in elevation as you travel outwards, to the north and west, and elevation is the highest in the north central and parts of the far western portion of the county.
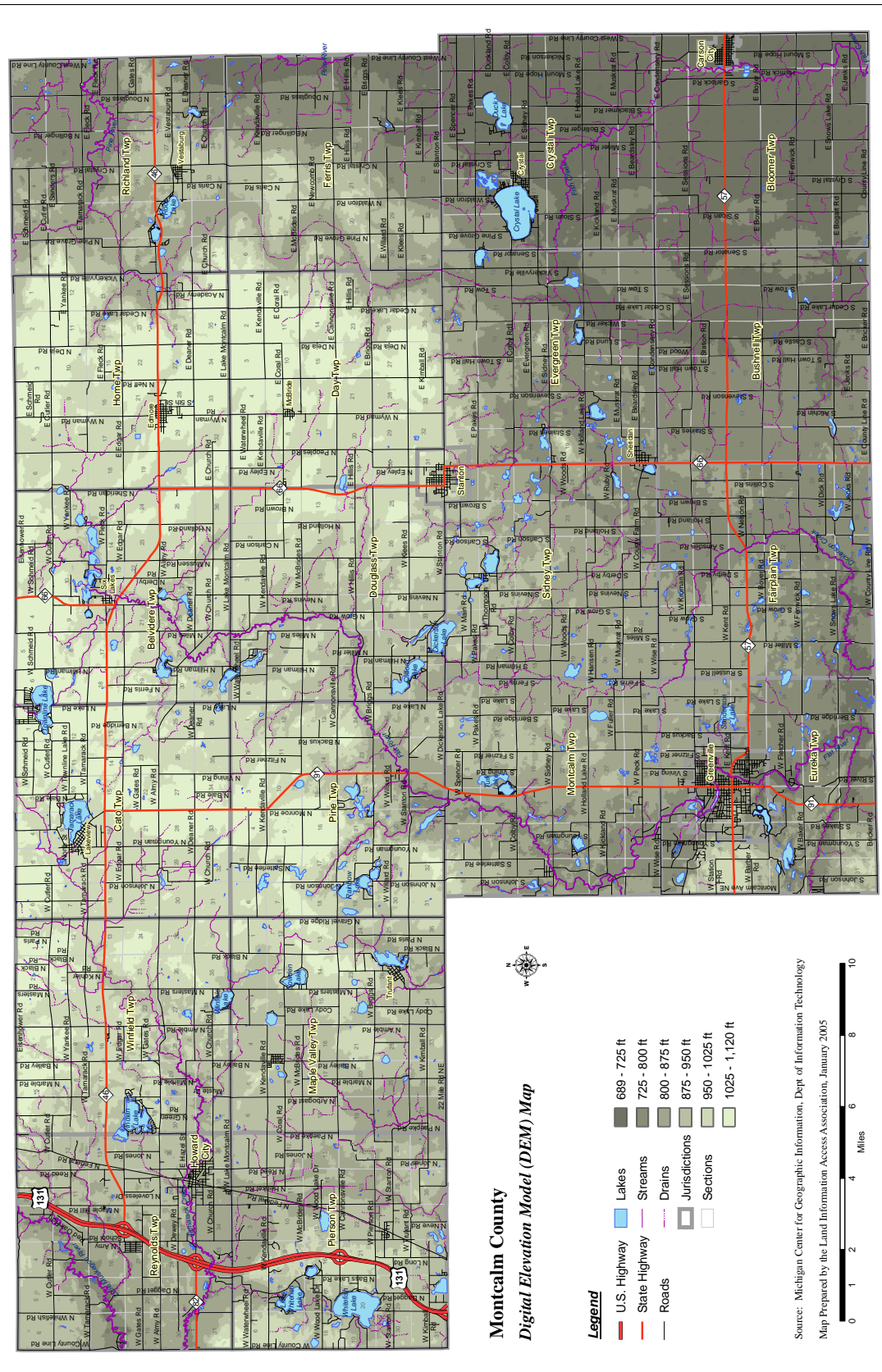
Map 4-4
Current Land Use/Land Cover Map for Montcalm County

Montcalm County
*Current Land Use Map**

Legend

— U.S. Highway   — Streams
— State Highway   ---- Drains
— Roads   ☐ Jurisdictions
☐ Lakes   ☐ Sections

Agricultural Land
Forest Land
Rangeland
Urban and Built Up
Water
Wetlands

* The land use data for Bushnell, Maple Valley, and Reynolds Township's have been updated to 1998. All other jurisdictions are 1978 MIRIS land use.

Source: 1998 Land Use updates – MSU Center for Remote Sensing and GIS

Michigan Center for Geographic Information, Dept of Information Technology

Map Prepared by the Land Information Access Association, March 2005

Map 4-5
2001 Montcalm County Land Use/Cover

Montcalm County
2001 Land Use Map

Legend

U.S. Highway — Streams
State Highway — Drains
Roads — Jurisdictions
Lakes — Sections

2001 Land Use
Agricultural
Barren
Forested
Rangeland
Urban
Water
Wetlands

Source: Michigan Center for Geographic Information, Dept of Information Technology

Map Prepared by the Land Information Access Association, July 2005

Map 4-6
Digital Elevation Map of Montcalm County

Source: Land Information Access Association

PA 116 FARMLAND PRESERVATION

The State of Michigan administers two programs for protecting farmland. These are the original Farmland and Open Space Preservation program (PA 116 of 1974, now Part 361 of PA 451 of 1994, the Natural Resources and Environmental Protection Act), officially called the Farmland Development Rights Agreements program and the Farmland Development Rights Purchase Program (PA 233 of 1996, amending Part 361). The Development Rights Agreement Program (PA 116) enables a landowner to enter into a development rights easement (the owner agrees not to develop the land) in exchange for property tax relief. The landowner can enter into this agreement for a specified length of time (10 to 90 years). If the owner decides to develop the land before the agreement expires, he/she is liable for repayment of abated taxes. A standard practice is to place a lien on the land for the amount due the state. The repayment of these liens funds a companion program, the purchase of development rights (PDR) program.

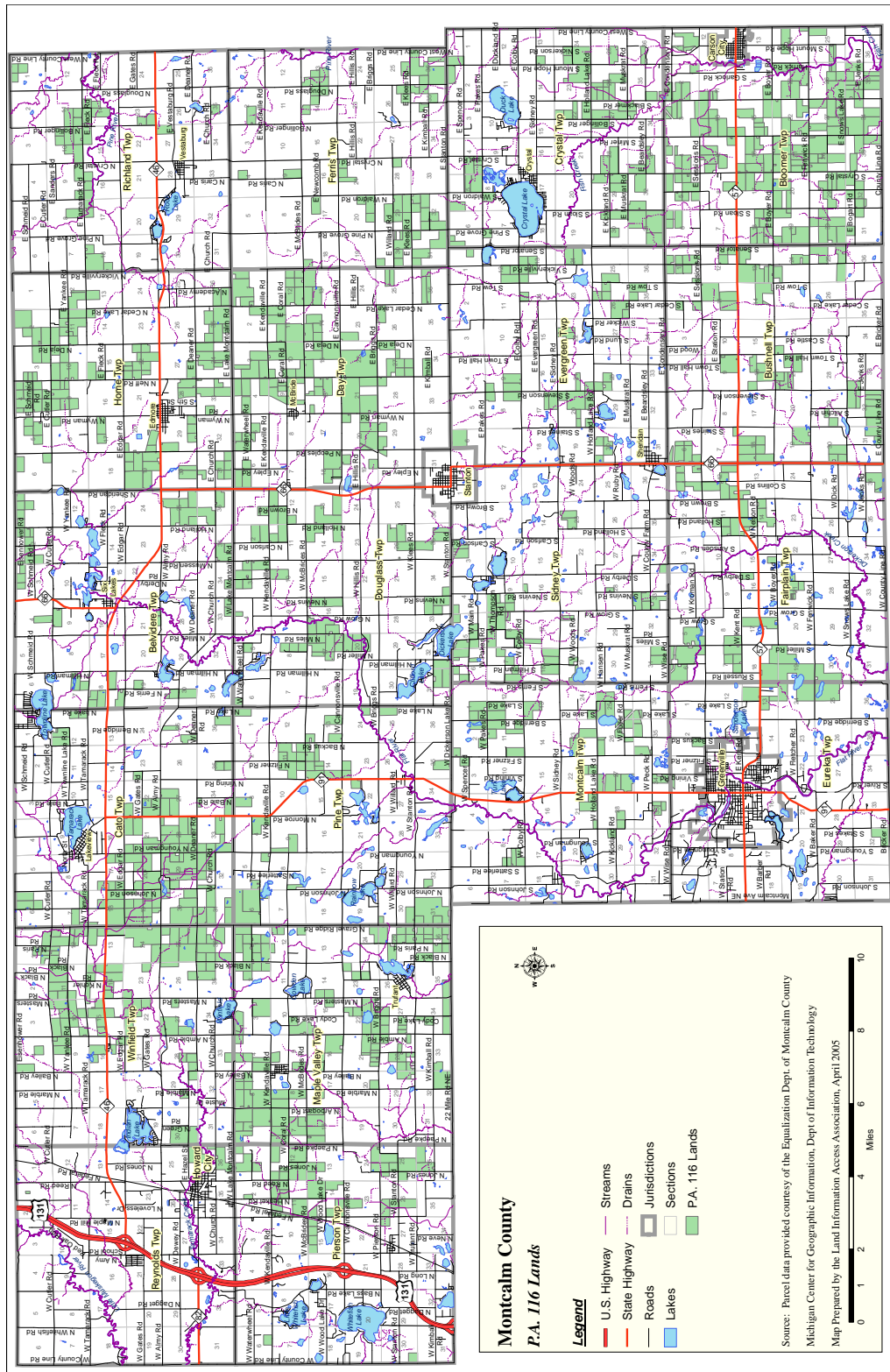According to the Michigan Farmland and Community Alliance:

> *"The purchase of development rights (PDR), also known as purchase of agricultural conservation easements (PACE), can permanently preserve farmland. A PDR program is voluntary, on the landowner's part, and preserves farmland by removing the development rights from the landowner's "bundle of rights." Landowners are compensated for the value of lost development potential in exchange for maintaining the property as farmland. PDR programs buy the development rights of farmland and in exchange, an agricultural conservation easement would be placed on the property that restricts development. Depending on the source of funds, the easement would be held, with stewardship responsibilities, by the local unit of government, the county, a private land trust, or the State of Michigan, and would "run with the land" in perpetuity, or forever. The landowner would still own the land and retain all of the other rights associated with it, but its development value would have been "captured" and converted into dollars. In this case, its development value is the difference between the current fair market value and the value in its present state for agricultural uses".*

> *"PDR programs are enabled for local government use. Funding can come from private and public sources. Private funding would include that from individuals, foundations and corporations. Public funding in Michigan can come from a local or county general fund contribution or property tax levy or the state Agricultural Preservation Fund. Federal dollars for farmland preservation may also be available".*
> *Source: www.mfcaonline.com*

As of March 2012, there were 70,000 acres of land in Montcalm County enrolled in the PA 116 program. This is a land area equivalent to approximately three townships, and compares to the 73,000 acres enrolled in 2003. There are about 4,200 acres of agreements in 2012 that have not been completed which may account for the reduction in acreage. The State of Michigan estimates that 35% of Michigan's farmland is in some form of preservation agreement with compares to 28% of Montcalm County's farmland in an agreement. The current number of acres is not known exactly. This is because the expiration date had passed on some of the properties and some of the properties could have been removed from the program. Montcalm County enrolled in the program in 2003.

Map 4-7
PA 116 Farmland Preservation Lands in Montcalm County

Montcalm County
P.A. 116 Lands

Legend

- U.S. Highway
- State Highway
- Roads
- Lakes
- Streams
- Drains
- Jurisdictions
- Sections
- P.A. 116 Lands

Source: Parcel data provided courtesy of the Equalization Dept. of Montcalm County
Michigan Center for Geographic Information, Dept of Information Technology
Map Prepared by the Land Information Access Association, April 2005

Chapter 5
EXISTING LAND USE AND TAX BASE

INTRODUCTION
This chapter discusses what has been built on the land and how much it is worth. The discussion includes land use and land cover in the County, the value of different land uses, and how these have changed in recent years.

STATE EQUALIZED VALUES (SEV) OF PROPERTY
SEV is one-half of true cash (or market) value of property. Property tax values are important indicators of the relative strength of different sectors of the local tax base and local economy. The most significant change in Montcalm County is a rise in industrial land, from 1995-2012. This is evident by comparing the value of property by tax class over time, as illustrated in Table 5-1 which compares SEV of different tax classes from 1995-2012 in Montcalm County. Figure 5-1 illustrates the shift in tax class from 1995-2012.

Residential land values have shown a slight relative decrease in % total, but remain the largest tax class. Residential values dropped from 69.42% of total SEV in 1995, to 68.10% in 2012 while commercial SEV increased from 8.94% of the tax base in 1995, to 9.43% of total SEV in 2012. In total, SEV in the county rose from about $718 million in 1995 to $1.9 billion in 2012, a 65.76% increase, or about 3.87% per year.

In 1995, the total SEV of agricultural land in Montcalm County contributed 17.84% of the total tax base. By 2012 it had fallen to 17.24%. At the same time, industrial land had risen from 3.74% in 1995 to 5.12% of total SEV in 2012.

The bottom part of Table 5-1 compares SEV in Montcalm County for the years 2004, 2008 and 2012. The table shows that the SEV decreased by 14.35% between 2008 and 2012 (more than 319 million dollars) which shows the impact of the recession on the county economy. The largest decrease was in the residential category which decreased by 16.99% reflecting the depressed housing market. The decreasing tax base which is the result of the recession is a significant negative impact on the tax revenue available to local governments which can be used to provide services to the county population.

Table 5-1
Tax Classes as Percentages of Total SEV

Montcalm County	2004 $	% of Total	2008 $	% of Total	2012 $	% of Total	Total Change 2008-2012 $	% change 2008-2012
Agriculture	166,375,446	12.68%	364,462,400	16.36%	329,039,400	17.24%	162,663,954	-9.72%
Commercial	129,471,861	9.87%	201,947,700	9.07%	179,888,000	9.43%	50,416,139	-10.92%
Industrial	130,783,145	9.97%	96,096,356	4.31%	97,965,800	5.13%	-32,817,345	1.95%
Residential	884,701,251	67.43%	1,563,363,421	70.19%	1,299,442,692	68.10%	414,741,441	-16.88%
Developmental	687,112	0.05%	1,574,500	0.07%	1,799,100	0.09%	1,111,988	14.26%
Total	1,312,018,815	100.00%	2,227,444,377	100.00%	1,908,134,992	100.00%	596,116,177	-14.34%

Source: Michigan Department of Treasury

Figure 5-1
Percentage of Tax Class

2004
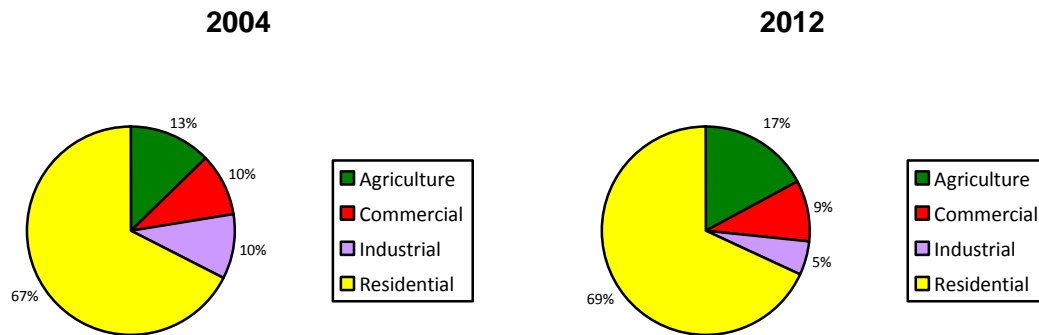
2012

Source: Michigan Department of Treasury

Individual Jurisdictions

Residential land values in Montcalm County gained an average of 178.83% in value between 1995 and 2012 (see Table 5-2). The greatest increase was in Ferris Township at 283.16%, followed by Winfield Township at 265.16%, and Pine Township at 238.70%. Among cities, Stanton   gained 83.37% in residential land value, while Greenville gained 66.57%. The smallest gains among Townships during this time were seen in Home, and Day   with gains of 105.14% and 117.30% respectively.

All jurisdictions within Montcalm County gained in agricultural land values between 1995 and 2012, with   Reynolds Township experiencing one of the smaller increases of 88.23% due to the loss of a significant amount of their agricultural land to residential use. The residential tax class in Reynolds Township increasing by 213.71%. Eureka Township which surrounds Greenville experienced the smallest increase of 80.76%. The average of all townships in agricultural land appreciation over the same time period was 156.73%, with Bushnell Township having the largest increase at 265.54%. Agricultural land value appreciated to a lesser degree in Montcalm County over this time period than did residential and commercial land values.

Commercial SEV in Montcalm gained 171.40% between 1995 and 2012. Pierson Township gained the most in value during this time (500.57%).

 Industrial SEV in Montcalm County experienced the smallest increase at 119.39% as well as the greatest fluctuations within municipalities over this period of time. The townships of Evergreen, Ferris, Day, Eureka, Sidney, Reynolds, and city of Carson City have had large percentage increases, and Home and Montcalm townships have experienced large dollar value losses and the city of Greenville large dollar increases during this time.

Table 5-2
SEV by Tax Class by Jurisdiction in Montcalm County, 1995-2004

Area	Agriculture			Residential			Commercial			Industrial		
	1995	2012	% Change	1995	2012	% Change	1995	2012	% Change	1995	2012	% Change
Belvidere	5,911,400	13,637,800	130.70%	23,827,700	61,694,000	158.92%	920,545	1,952,800	212.14%	1,033,800	3,087,500	198.66%
Bloomer	8,409,900	25,600,800	204.41%	7,209,000	19,098,600	164.93%	1,004,400	2,777,800	276.56%	89,500	494,600	452.63%
Bushnell	6,334,300	23,154,600	265.54%	8,360,300	24,687,200	195.29%	427,100	1,801,800	421.87%	58,900	278,400	372.67%
Cato	8,287,300	18,289,200	120.69%	21,762,200	55,016,900	152.81%	3,945,750	9,347,200	236.89%	856,900	1,024,400	19.55%
Crystal	4,912,500	15,716,300	219.92%	33,802,700	86,616,750	156.24%	1,769,200	4,239,700	239.64%	33,000	127,200	285.45%
Day	10,162,200	27,769,700	173.26%	6,132,400	13,326,000	117.30%	809,700	1,260,600	155.69%	15,100	214,100	1317.88%
Douglass	7,475,850	17,982,800	140.55%	24,599,150	68,221,000	177.33%	604,500	849,800	140.58%	0	47,900	0.00%
Eureka	4,338,400	7,842,200	80.76%	37,896,000	101,814,400	168.67%	4,118,200	13,274,800	322.34%	58,600	742,500	1167.06%
Evergreen	6,505,500	13,003,600	99.89%	21,581,200	61,036,900	182.82%	1,012,800	2,968,200	293.07%	9,700	1,251,600	12803.09%
Fairplain	4,995,100	14,059,000	181.46%	12,448,800	38,600,100	210.07%	732,300	1,634,000	223.13%	48,700	227,100	366.32%
Ferris	5,679,600	15,425,700	171.60%	7,459,800	28,582,900	283.16%	219,300	621,600	283.45%	3,400	293,400	8529.41%
Home	7,518,280	19,936,800	165.18%	16,731,250	34,323,000	105.14%	3,849,700	8,607,800	223.60%	5,484,000	4,165,100	-24.05%
Maple Valley	9,161,300	27,150,700	196.36%	15,708,300	44,367,700	182.45%	585,500	1,231,700	210.37%	15,700	43,600	177.71%
Montcalm	6,512,010	15,348,900	135.70%	31,219,530	80,909,600	159.16%	2,772,950	7,525,000	271.37%	2,043,920	832,000	-59.29%
Pierson	6,099,100	13,791,500	126.12%	40,606,400	112,591,400	177.28%	748,200	4,493,500	600.57%	0	653,400	0.00%
Pine	8,109,600	17,291,400	113.22%	14,786,500	50,081,000	238.69%	244,500	847,000	346.42%	0	206,300	0.00%
Reynolds	1,934,400	3,641,200	88.23%	29,850,500	93,645,100	213.71%	4,157,400	12,989,900	312.45%	855,100	9,232,400	979.69%
Richland	2,644,400	6,915,500	161.51%	20,956,400	60,360,042	188.03%	1,315,261	3,225,700	245.25%	380,000	657,800	73.11%
Sidney	5,203,550	13,269,400	155.01%	24,811,610	63,939,100	157.70%	1,051,707	2,320,300	220.62%	3,800	27,100	613.16%
Winfield	7,896,100	19,020,000	140.88%	18,178,700	66,381,000	265.16%	303,900	1,052,300	346.27%	184,500	909,300	392.85%
Township Total	**128,090,790**	**328,847,100**	**156.73%**	**417,928,440**	**1,165,292,692**	**178.83%**	**30,592,913**	**83,021,500**	**271.37%**	**11,174,620**	**24,515,700**	**119.39%**

City												
Carson City	0	0	0	9,484,800	14,592,900	53.86%	2,542,300	7,919,800	211.52%	153,300	51,120,300	33246.58%
Greenville	0	0	0	63,580,900	105,961,900	66.66%	27,587,400	78,437,200	184.32%	15,508,600	22,035,600	42.09%
Stanton	0	0	0	7,414,100	13,595,600	83.37%	3,431,800	10,500,500	205.98%	0	24,200	0.00%
City Total	0	0	0	80,479,800	134,150,400	66.69%	33,561,500	96,857,500	188.60%	15,661,900	73,180,100	367.25%
County Total	**128,090,790**	**328,847,100**	**156.73%**	**498,408,240**	**1,299,443,092**	**160.72%**	**64,154,413**	**179,879,000**	**180.38%**	**26,836,520**	**97,695,800**	**264.04%**

Source: Michigan Department of Treasury

LAND USE BY TAX CLASS

Map 5-1 depicts land use by parcel by tax class in 2004. This map was created by merging the digital county tax class data base with the digital parcel map. It is crude for a land use map as only tax class is shown so more refined land uses like office (commercial class) or multiple family (also commercial class) are not depicted. Also if a 40 acre parcel has a house on it and part is rented out for agriculture and the rest is woods, it will likely be classed only as residential, rather than agricultural. Never the less, it gives a useful overview, especially of agricultural and residential lands in the County.

While residential land is the largest tax class by value (see Table 5-1), agricultural lands comprise the largest area in the county (see Table 5-3) with 280,432 acres (61% of the area) compared to 147,300 aces (32%) for residential. Commercial land is 5,958 acres (1.3%) with industrial 3,633 acres (1.0%). Tax exempt lands which include public land and churches total 10,099 acres. Developmental lands are parcels under development but not yet occupied on Dec. 31 of the tax year. The land in transition category refers to land for which there is a parcel on the base map and no corresponding parcel number and related tax class information. This could be the result of map errors or tax errors or both.

Table 5-3
Acreage by Tax Class, 2013

Tax Class	Acres	% of Total
Agriculture	280,432	60.81%
Commercial	5,958	1.29%
Developmental	180	0.04%
Industrical	3,633	0.79%
Residential	147,300	31.94%
Tax Exempt	10,099	2.19%
Land in Transition	13,560	2.94%
Total	**461,162**	**100.00%**

Source: Land Information Access Association based on Equalization Department Records. The total acreage for land in the county on this table is 282 acres different than on table 4-3. This is because each table uses a slightly different base map.
Note: State lands shown on Map 5-1 are not included in the above table as many are not tax exempt.
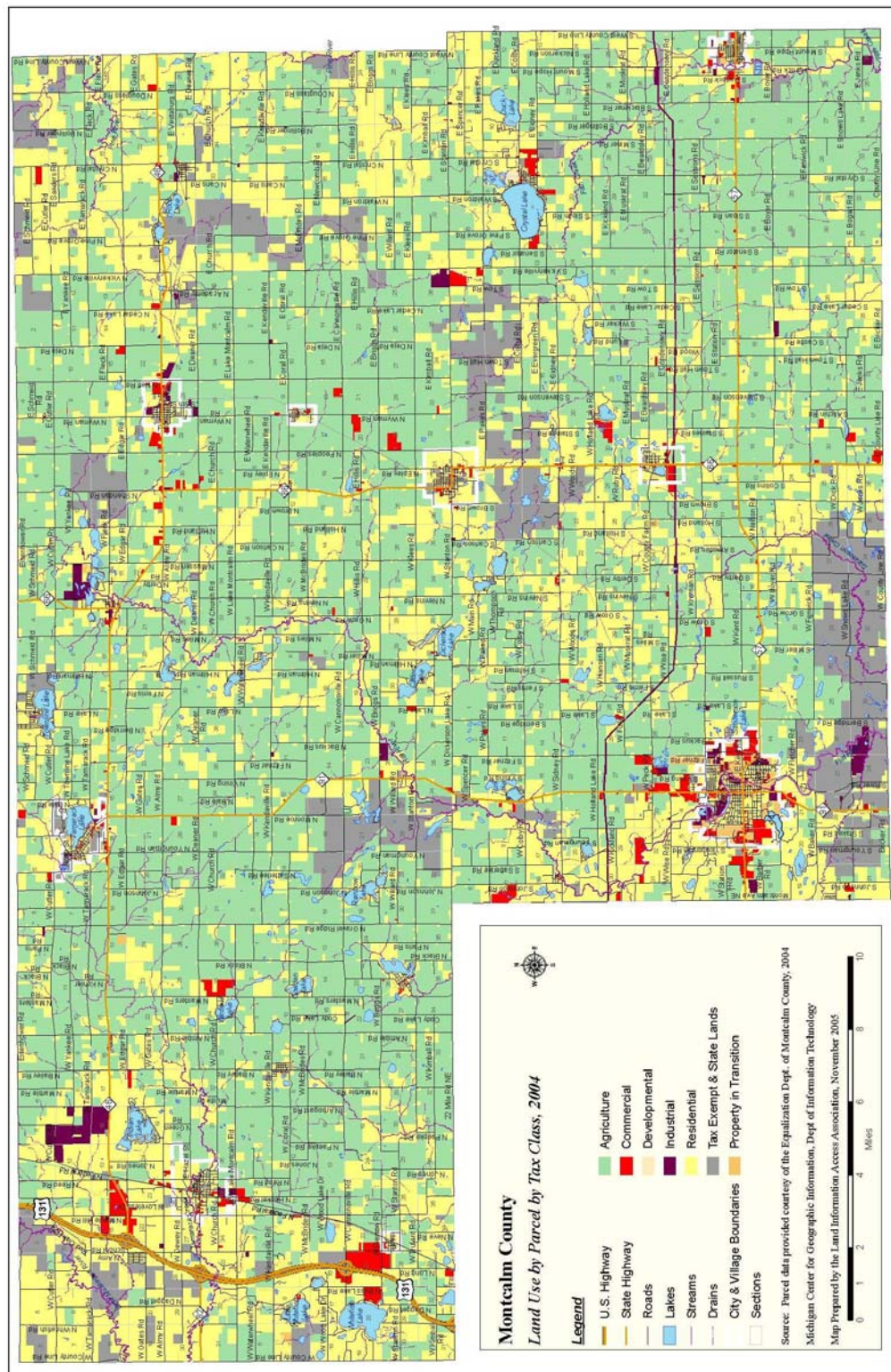
The classifications of assessable real property are described as follows:
- Agricultural real property includes parcels used partially or wholly for agricultural operations, with or without buildings, and parcels assessed to the department of natural resources and valued by the state tax commission. For taxes levied after December 31, 2002, agricultural real property includes buildings on leased land used for agricultural operations. As used in this subdivision, "agricultural operations" means the following:
  - Farming in all its branches, including cultivating soil.
  - Growing and harvesting any agricultural, horticultural, or floricultural commodity.
  - Dairying.
  - Raising livestock, bees, fish, fur-bearing animals, or poultry.
  - Turf and tree farming.

- Performing any practices on a farm incident to, or in conjunction with, farming operations. A commercial storage, processing, distribution, marketing, or shipping operation is not part of agricultural operations.
- Commercial real property includes the following:
  - Platted or unplatted parcels used for commercial purposes, whether wholesale, retail, or service, with or without buildings.
  - Parcels used by fraternal societies.
  - Parcels used as golf courses, boat clubs, ski areas, or apartment buildings with more than 4 units.
  - For taxes levied after December 31, 2002, buildings on leased land used for commercial purposes.
- Developmental real property includes parcels containing more than 5 acres without buildings, or more than 15 acres with a market value in excess of its value in use. Developmental real property may include farm land or open space land adjacent to a population center, or farm land subject to several competing valuation influences.
- Industrial real property includes the following:
  - Platted or unplatted parcels used for manufacturing and processing purposes, with or without buildings.
  - Parcels used for utilities sites for generating plants, pumping stations, switches, substations, compressing stations, warehouses, rights-of-way, flowage land, and storage areas.
  - Parcels used for removal or processing of gravel, stone, or mineral ores, whether valued by the local assessor or by the state geologist.
  - Buildings on leased land used for industrial purposes.
  - Buildings on leased land for utility purposes.
- Residential real property includes the following:
  - Platted or unplatted parcels, with or without buildings, and condominium apartments located within or outside a village or city, which are used for, or probably will be used for, residential purposes.
  - Parcels that are used for, or probably will be used for, recreational purposes, such as lake lots and hunting lands, located in an area used predominantly for recreational purposes.
  - A home, cottage, or cabin on leased land, and a mobile home that would be assessable as real property except that the land on which it is located is not assessable because the land is exempt.

Source: The General Property Tax Act (Excerpt) PA 206 of 1893.

Map 5-1
Land Use by Parcel by Tax Class, 2004
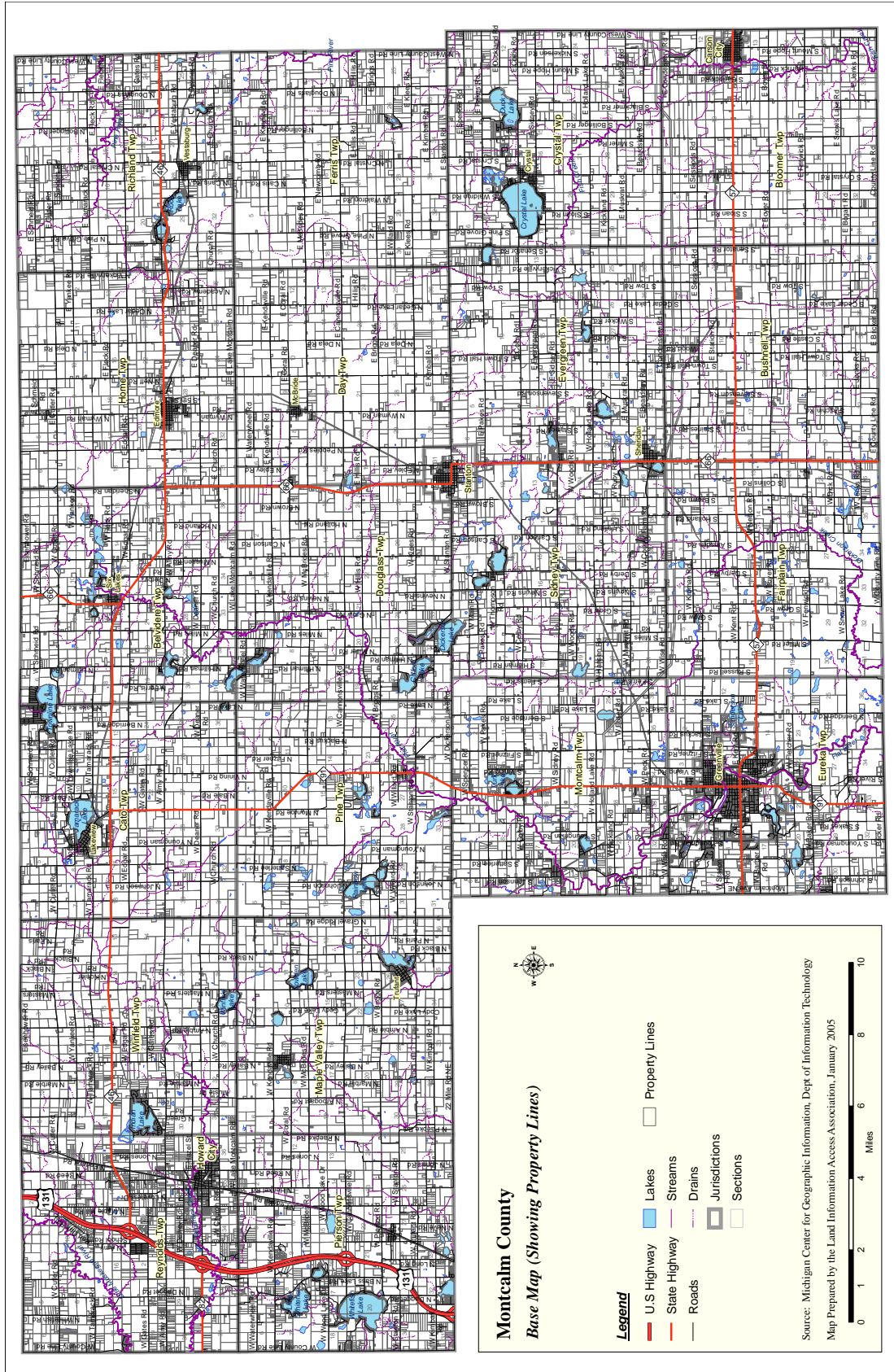**(Includes state-owned lands for which taxes are paid)**

Montcalm County
Land Use by Parcel by Tax Class, 2004

Legend

U.S. Highway
State Highway
Roads
Lakes
Streams
Drains
City & Village Boundaries
Sections

Agriculture
Commercial
Developmental
Industrial
Residential
Tax Exempt & State Lands
Property in Transition

Source: Parcel data provided courtesy of the Equalization Dept. of Montcalm County, 2004
Michigan Center for Geographic Information, Dept of Information Technology
Map Prepared by the Land Information Access Association, November 2005

LAND DIVISIONS

A major aspect of land use in a rural county has to do with the examination of the land ownership patterns. Map 5-2 shows all the parcels in the county along with the roads and water features. Map 5-3 through 5-5 compares the land ownership patterns of a few selected townships in Montcalm County between 1962 and 2000. Reynolds Township was selected to give a perspective on the changes over time the area had with the inclusion of a major transportation artery (US-131). Eureka Township was selected because it contains the largest city in the county (Greenville), and Bloomer Township was selected to give a perspective of the land division changes on a more rural area on the east side of the county.

These examples visibly illustrate the fragmentation of large tracts of rural land into 5 and 10 acre parcels for the use as large lots for single family dwellings. This is a trend throughout the county. It results in the rapid transformation of farm and forest land and dramatically changes the character of rural area over as little as a decade. It also results in new and growing public service costs as new non-farm residents demand a higher level of public service costs than farm residents, yet the growth in residential tax base is rarely enough to pay the full cost of the demanded new services.

Most of these parcels were created between 1967 and 1997 under the then called Subdivision Control Act as a way to avoid platting. Such lots are still allowed under the current Land Division Act, although the number is somewhat reduced in some cases.

Map 5-2
Base Map with Property Lines in Montcalm County

Montcalm County
Base Map (Showing Property Lines)

Legend
— U.S Highway
— State Highway
— Roads
▨ Lakes
— Streams
--- Drains
☐ Jurisdictions
☐ Sections
☐ Property Lines

Source: Michigan Center for Geographic Information, Dept of Information Technology

Map Prepared by the Land Information Access Association, January 2005

0 1 2 4 6 8 10
Miles

They are also created because most of the Township zoning ordinances in the county allow the creation of 5-10 acre lots and do not provide for preservation of farm and forest land.

An example of the negative impacts of uncontrolled land segmentation can be seen in the scale of farm production in relation to the large tracts of land which is required for positive incomes. The unrestricted division of parcels of land can result in complex patterns of narrow, tiered lots, creating illogical development. This may result not only in the consumption of valuable land, but can also create problems for emergency vehicles, road maintenance, and overall general access. This can generally be prevented by requiring a reasonable lot width and frontage on a public or well-designed and constructed private road, lot depth-to-width ratios, prime and unique agriculture land preservation, and PUD and private road provisions. These issues will be discussed in more detail in the comprehensive plan.

Observations from Maps 5-3 through 5-5
Reynolds Township
With the completion and determination of US-131 as a state trunkline in the early 70's, several land divisions can be seen in the central Reynolds Township area (see Map 5-3). The 1962 map shows the central part of the Township before the completion of the expressway, and the 2000 map shows the Township after completion, with matured land division surrounding it. In particular, section 22 shows several 40, 60, and 80 acreage lots in 1962. After US-131 was constructed, many of these lots were divided into 10 acreage lots, with many of them assuming a thin and narrow shape leading to frequent driveways on rural roads.
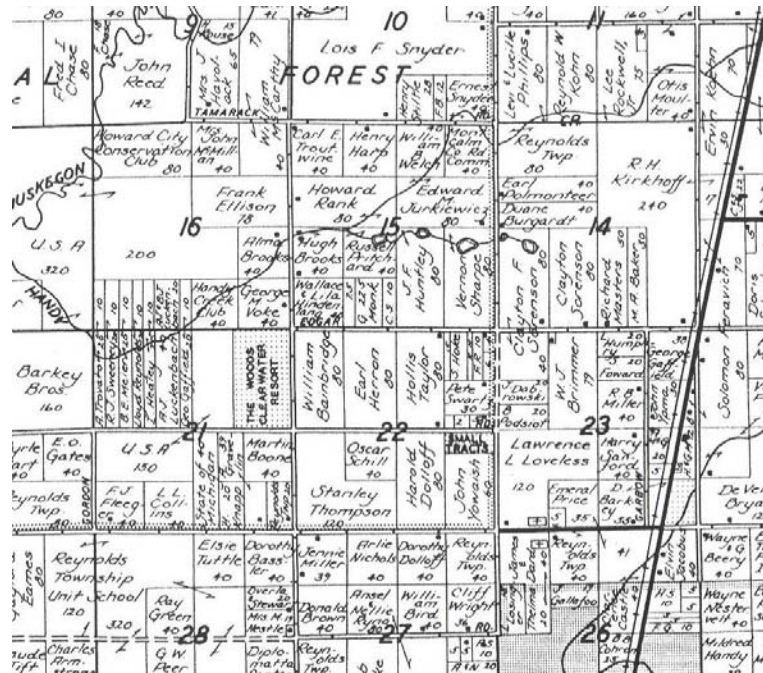
Eureka Township
The City of Greenville expanded between 1962 and 2000 and now contains almost all of section 15 within its limits (see Map 5-4). Comparison of the southern portion along Flat River shows several land divisions as does the Sanderson Lake area just east of the City. Generally, many of the land divisions are appearing around natural features bordered by land owned by the State. There are still several large tracts of land which have remained agricultural, mostly on the southeast and southwest sides of the city.
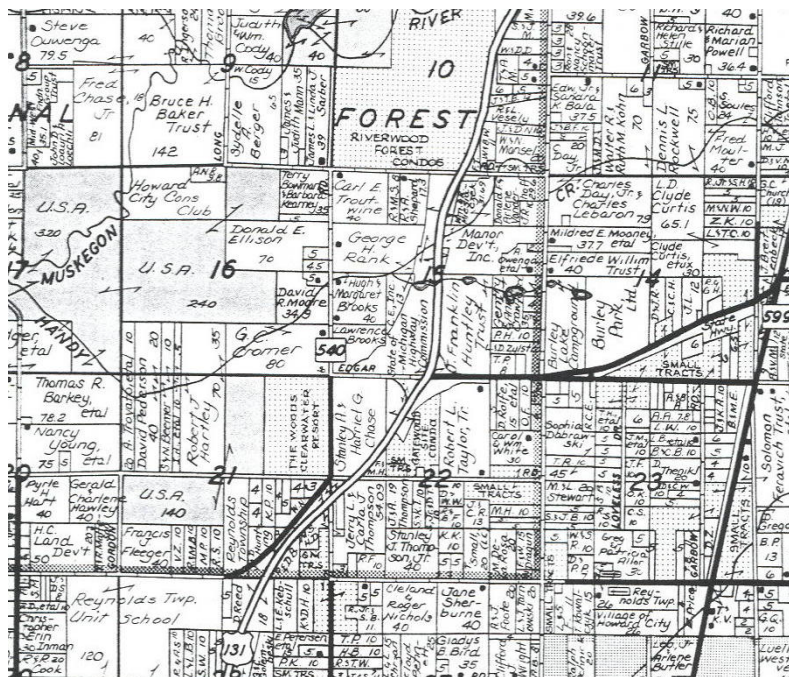
Bloomer Township
Although Bloomer Township may be considered more rural than some of its counterparts, there have been considerable land divisions over the years (see Map 5-5). The northwestern section around Carson City is where the greatest portion of land divisions has taken place. Major county roads have been paved, which may have influenced many of the land divisions over time, or vice versa. In contrast, a few sections have experienced land amalgamation which result from land owners increasing their land stock as opposed to splitting. For the most part, however there are more increases in the number of land parcels over the years than there have been consolidations.

Map 5-3-A
Central Reynolds Township 1962
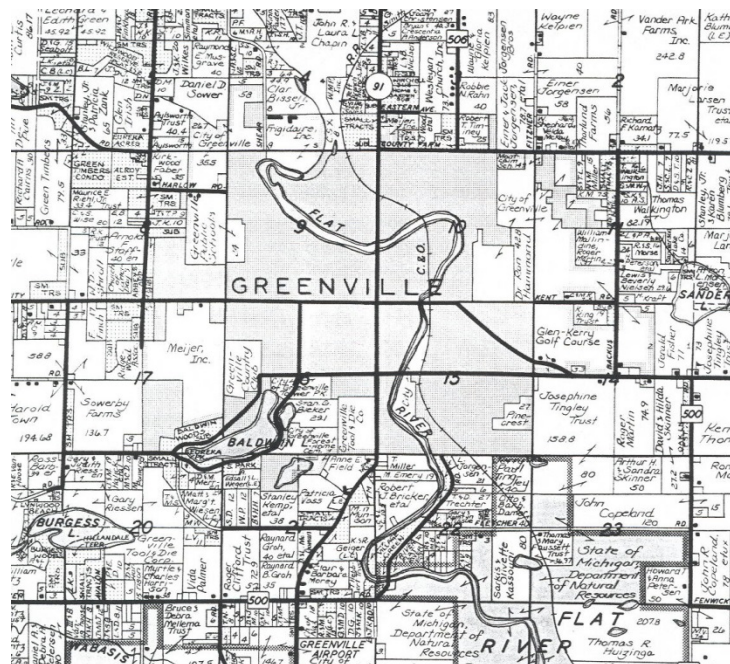
Map 5-3-B
Central Reynolds Township 2000

Source: Rockford Maps

Map 5-4-A
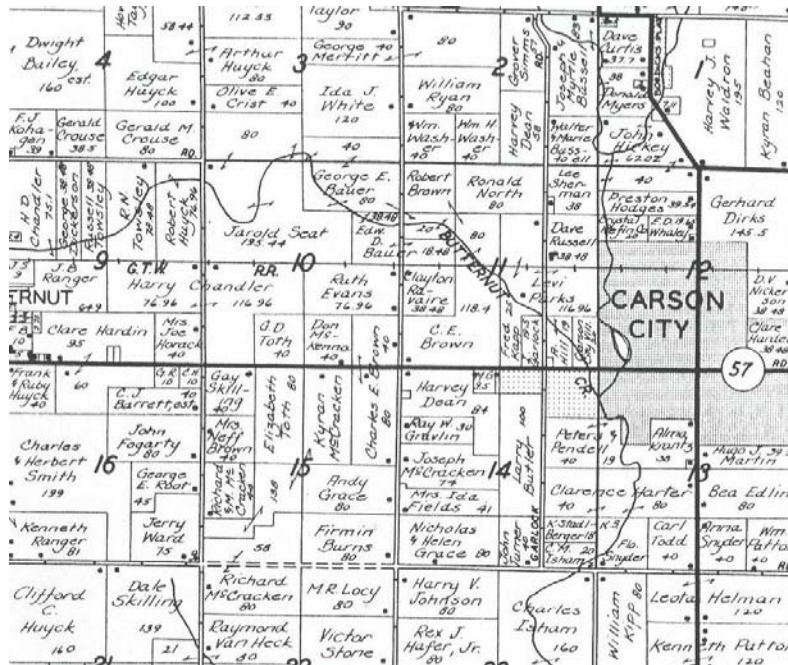**Eureka Township and the City of Greenville 1962**

Map 5-4-B
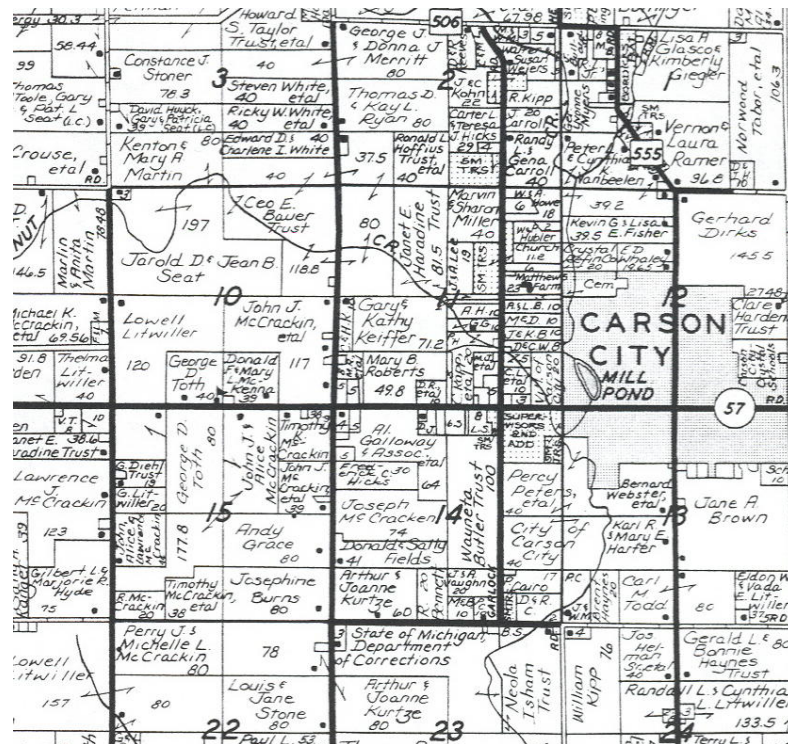**Eureka Township and the City of Greenville 2000**

Source: Rockford Maps

Map 5-5-A
Bloomer Township and Carson City, 1962

Map 5-5-B
Bloomer Township and Carson City, 2000

Source: Rockford Maps

BUILD OUT ANALYSIS
A buildout analysis is a powerful tool for illustrating the potential impact of existing master plans and zoning policy, if all land develops at the maximum permitted density. It is usually performed as a "reality check". Many communities underestimate the potential population impact of various zoning, or planned future densities. If buildout reveals a very large increase in dwelling units and population, then the community must answer questions about its ability to meet the implicit infrastructure needs and associated impacts on community character, traffic and open spaces.

Buildout analysis involves first identifying lands within a community that are not buildable because there is a lake, stream or wetland, very steep slope or hydric (muck) soils. Then the existing zoning density (or proposed density in the master plan) is applied to the remaining buildable land. This results in the maximum number of dwelling units permitted. When multiplied by the existing or projected future population per household, the total potential population of the community can be estimated. When this is contrasted to the existing population and projected future population based on current trends, then the reasonableness of the existing zoning or master plan can be more readily ascertained. At the same time, the new residents in the rural community begin to demand, if not require additional public infrastructure and services which is often very expensive to provide where density of development is low or very scattered.

For example, in a typical Michigan township of 36 square miles with an average amount of unbuildable land and 1 acre minimum lot size zoning over most of the undeveloped land, buildout will yield between 48,000 and 54,000 persons at about 3.0 persons per household. This is often 10 times the current population and 2-3 times more than residents usually desire. Several counties have performed buildout analyses of all jurisdictions in the county. The generalized results of these studies follow:

Table 5-5
Buildout in Michigan Counties

County	1990 Population	2000 Population	Projected 2020 Population	Buildout Population (Future Year Unknown)	Percent Population Increase (of Buildiout Population Compared to 2000 Population)	Year Buildout was calculated
Bay	111,723	110,157	124,826	465,896	322.94%	2000
Benzie	12,200	15,998	17,700	195,000	1118.90%	1999
Clinton	57,883	64,753	79,953	392,776	506.58%	2001
Eaton	92,879	103,655	127,605	495,012	377.56%	2001
Grand Traverse	64,273	77,654	99,600	400,000	415.11%	1992?
Ingham	281,912	279,320	296,724	574,678	105.74%	2001
Leelanau	16,527	21,119	30,000	280,000	1225.82%	1994
Manistee	21,265	24,527	27,965	602,307	2355.69%	1997
St. Clair	145,607	164,235	199,160	1,025,382	524.34%	2000

The disparity between these figures has caused a serious rethinking of public policy among local units of government in many of these counties. Buildout analysis helps to prove that sprawl is often aided by, if not simply the result of over zoning of rural land for

low density, rural residential development. Zoning that promotes sprawl is usually counter to what the Master or Comprehensive Plan advocates. Over zoning in low tax jurisdictions at the edge of the metro area can slowly sap the population out of older central cities, which must still continue to provide a higher level of public service but with far fewer residents to pay the costs of supporting those services.

In suburbs with full public services available, land tends to build out eventually at close to the maximum permitted density. However, this can take 50 or more years to occur. In a rural area, the result is usually widely scattered subdivisions or site condo developments that permit no economies of scale in service provision, resulting in significant negative impacts on farm and forest land, and in a major loss of rural character (especially along main roads). These impacts are usually quite the opposite of what people who moved to these areas want to enjoy.

Table 5-6 illustrates a comparison of buildout population for Montcalm County from two sources: Planning and Zoning Center (PZC) staff and Michigan State University 5th year Landscape Architecture students. Population from PZC estimates a range for the minimum and maximum permitted density according to each of the jurisdiction's zoning ordinance of each jurisdiction in the County for which the zoning ordinance was available. MSU calculated buildout based on a single density (minimum lot size) for each zoning district. The primary difference between the two estimates is that PZC calculated a population range based on a composite zoning map which incorporated a range of densities in certain zoning classifications. Further, mapping for PZC was completed by the Land Information Access Association, and MSU students did their own mapping. The MSU numbers also represent more of a median compared to the PZC numbers because they did not use a range and only calculated for minimum lot size. Out of thirteen of the communities that have zoning in Montcalm County, the MSU students examined eight townships.

Table 5-7 shows a potential buildout for Montcalm County based on an interpretation of the zoning regulations for those which had zoning as of 2005. Currently, there are a total of six townships which do not have zoning within Montcalm County. Table 5-7 was based on a composite or generalized zoning map prepared for Montcalm County (see Map 5-6). While an interpretation of existing zoning revealed the potential for a range of densities in one or more composite zoning districts, the trend experienced by a community may lean toward one end of the range or the other. Communities can use their experience in looking at the potential buildout range but should remember that trends can change. The total numbers for minimum and maximum dwelling units and population represent two extremes, and the results would likely be somewhere in-between. The potential population for the portions of Montcalm County with zoning ranges from 148,366 to 759,476 persons at buildout. These figures compare to the 2000 U.S. Census population for the entire Montcalm County of 61,266, population projections to 2020 of 70,400 by the Michigan Department of Management and Budget, 77,954 in 2025 based on the 1980-2000 trend, and 81,784 based on the 1990-2000 trend. The potential increase between the 2000 population and estimated buildout population of eighteen of twenty-three communities ranges from 87,100 to 698,210 more people in Montcalm County if all buildable lands are developed according to current zoning.

Table 5-6
Potential Buildout Population by Planning & Zoning Center and MSU Students

Jurisdiction	Planning and Zoning Center		MSU Students	
	# of Dwellings	Population	# of Dwellings	Population
Belvidere	2,2013 to 17,345	5,619 to 44,230	13,821	24,877
Bloomer	632 to 18,471	1,834 to 53,565	1,590	4,611
Cato	1,711 to 16,830	4,621 to 45,442		
Douglass	2,875 to 20,265	7,761 to 54,715		
Edmore	230 to 915	7,761 to 54,715		
Eureka	4,626 to 43,973	12,943 to 122,668		
Greenville	1,794 to 5,600	4,306 to 13,441		
Home	1,766 to 16,951	4,592 to 44,074		
Howard City	442 to 2,442	1,238 to 6,839		
Lakeview	582 to 1,746	1,571 to 4,714		
Maple Valley	1,905 to 18,173	4,954 to 47,251		
Montcalm	4,160 to 22, 374	11,648 to 62,648	19,626	47,297
Pierson	4,352 to 23,270	12,187 to 65,156		
Pine	3,110 to 21,263	8,396 to 57,410		
Reynolds	2,278 to 18,193	6,378 to 50,942	10,190	25,781
Richland	1,603 to 16,024	6,378 to 50,942	10,190	25,781
Sidney	1,020 to 15,598	2,652 to 40,556	8,124	19,090
Winfield	2,079 to 18,819	5,821 to 52,693		

Because six townships in Montcalm County are without zoning, it is impossible to estimate buildout for that portion of the County—because it is unlimited by zoning. Large areas could develop at a relatively low density, or they could develop at a density higher than similar areas have experienced. If a rural township develops at a low density, at buildout the population may increase only a few thousand families. If development occurs at a higher density, at buildout the population may increase by thousands of new families. Fortunately, overall development in Montcalm County has been moderate, so total population increase is likely to continue to be moderate for the near future. However, rural living remains an attraction for a segment of the population, so a continued steady migration could have an impact on those areas before local officials realize its extent.

There are two important considerations for those areas without zoning. One is that scattered, uncontrolled development could seriously affect existing farms, existing residents, existing roads and the ability of local units of government to provide expanded services. The second is the potential for mobile home parks to be developed in these areas because zoning would not limited their location. A large population influx in a rural county could significantly affect the communities in which they located as has occurred, for example, in Portland over in Ionia County.

The population trend for Montcalm County indicates that buildout is unlikely to be reached for a very long time. However, some areas are developing more rapidly than others, and some communities, or parts of communities could approach buildout much sooner. Those areas of the County that develop more quickly may face the impacts of a

buildout population within only a few decades. Communities in the County that develop more slowly may also begin to experience the impacts of a buildout population in the near future, even at lower populations. This can be due to the development of 1 acre (or similar size) lots along rural roads, creating strip residential development that creates traffic problems and increases public service costs even at low densities. Impacts on farming typically occur with only a few additional dwellings per square mile if they house nonfarm residents unfamiliar with typical farm practices.

Table 5-7
Montcalm County Residential Buildout

Zoning District by Township/City/Village	Total Area (acres)	Non-Buildable (acres)	Buildable (acres)	Percent of Area Subtracted for Roads and Other Unbuildable Areas	Remaining Buildable Area (acres)	Permitted Density	Potential Number of Dwelling Units		Estimated Persons Per Dwelling Unit	Potential Population	
							Min Density	Max Density		Min Density	Max Density
Belvidere											
Commercial	1,672	167	1,505	15%	1,280	1 acre min. lot size	0	0	0	0	0
Industrial	117	14	104	15%	88	5 acre min. lot size	0	0	0	0	0
Residential	858	70	788	15%	670	1 unit/acre to 3 units/acre	670	2,010	2.6	1,708	5,125
Rural Residential	19,524	1,482	18,041	15%	15,335	1 unit/10 acres to 1 unit/acre	1,534	15,335	2.6	3,910	39,104
Total	**22,171**	**1,733**	**20,438**	**15%**	**17,373**		**2,204**	**17,345**	**2.6**	**5,618**	**44,229**
Bloomer											
Commercial	519	0	519	15%	441	1 acre min. lot size	0	0	0	0	0
Industrial	46	14	33	15%	28	1 unit/acre to 3 units/acre	28	84	2.9	81	243
Residential	19,663	304	19,359	15%	16,455	1 unit/40 acres to 1 unit/acre	411	16,455	2.9	1,193	47,720
Rural Residential	2,291	18	2,272	15%	1,932	1 unit/10 acres to 1 unit/acre	193	1,932	2.9	560	5,602
Total	**22,519**	**336**	**22,183**	**15%**	**18,856**		**632**	**18,471**	**2.9**	**1,834**	**53,565**
Cato											
Commercial	186	5	180	15%	153	1 acre min. lot size	0	0	0	0	0
Industrial	2	0	2	15%	2	5 acre min. lot size	0	0	0	0	0
Residential	55	7	48	15%	41	1 unit/acre to 3 units/acre	41	122	2.7	110	329
Rural Residential	21,294	1,637	19,657	15%	16,709	1 unit/10 acres to 1 unit/acre	1,671	16,709	2.7	4,511	45,113
Total	**21,537**	**1,649**	**19,887**	**15%**	**16,905**		**1,712**	**16,831**	**2.7**	**4,621**	**45,442**
Douglass											
Commercial	108	4	105	15%	89	1 acre min. lot size	0	0	0	0	0
Residential	1,571	145	1,425	15%	1,212	1 unit/acre to 3 units/acre	1,212	3,635	2.7	3,271	9,814
Rural Residential	20,552	988	19,565	15%	16,630	1 unit/10 acres to 1 unit/acre	1,663	16,630	2.7	4,490	44,901
Total	**22,231**	**1,137**	**21,095**	**15%**	**17,931**		**2,875**	**20,265**	**2.7**	**7,761**	**54,715**
Edmore											
Commercial	185	0	185	15%	157	1 acre min. lot size	0	0	0	0	0
Industrial	133	0	133	15%	113	5 acre min. lot size	0	0	0	0	0
Manufactured Home	3	0	3	15%	2	8 units/acre	0	19	2.8	0	53
Residential	236	0	236	15%	201	1 unit/acre to 3 units/acre	201	602	2.8	562	1,686
Rural Residential	367	21	346	15%	294	1 unit/10 acres to 1 unit/acre	29	294	2.8	82	824
Total	**924**	**21**	**903**	**15%**	**767**		**230**	**915**	**2.8**	**644**	**2,563**
Eureka											
Commercial	449	37	413	15%	351	1 acre min. lot size	0	0	0	0	0
Industrial	240	1	238	15%	203	5 acre min. lot size	0	0	0	0	0
Manufactured Home	3,979	393	3,585	15%	3,048	8 units/acre	0	24,381	2.8	0	68,267
Residential	5,514	456	5,058	15%	4,299	1 unit/acre to 3 units/acre	4,299	12,897	2.7	12,038	36,113
Resource Protection	6,051	685	5,366	15%	4,561	1 unit/40 acres to 1 unit/acre	114	4,561	2.8	308	12,316
Rural Residential	2,670	161	2,509	15%	2,133	1 unit/10acres to 1 unit/acre	213	2,133	2.8	597	5,972
Total	**18,903**	**1,733**	**17,169**	**15%**	**14,595**		**4,626**	**43,972**	**2.8**	**12,943**	**122,668**
Greenville											
Commercial	398	12	386	15%	328	1 acre min. lot size	0	0	0	0	0
Industrial	778	161	616	15%	524	5 acre min. lot size	0	0	0	0	0
Manufactured Home	32	0	32	15%	27	8 units/acre	0	217	2.4	0	522
Residential	2,271	160	2,111	15%	1,794	1 unit/acre to 3 units/acre	1,794	5,383	2.4	4,306	12,919
Total	**3,479**	**333**	**3,145**	**15%**	**2,673**		**1,794**	**5,600**	**2.4**	**4,306**	**13,441**
Home											
Commercial	102	2	100	15%	85	1 acre min. lot size	0	0	0	0	0
Industrial	110	0	110	15%	93	5 acre min. lot size	0	0	0	0	0
Other	1,344	24	1,320	15%	1,122	N/A	0	0	0	0	0
Residential	119	0	119	15%	101	1 unit/acre to 3 units/acre	101	304	2.6	264	791
Rural Residential	20,432	847	19,585	15%	16,647	1 unit/10 acres to 1 unit/acre	1,665	16,647	2.6	4,328	43,282
Total	**22,107**	**873**	**21,234**	**15%**	**18,048**		**1,766**	**16,951**	**2.6**	**4,592**	**44,073**

Table 5-7 Montcalm County Residential Buildout Continued

Zoning District by Township/City/Village	Total Area (acres)	Non-Buildable (acres)	Buildable (acres)	Percent of Area Subtracted for Roads and Other Unbuildable Areas	Remaining Buildable Area (acres)	Permitted Density	Potential Number of Dwelling Units		Estimated Persons Per Dwelling Unit	Potential Population	
							Min Density	Max Density		Min Density	Max Density
Greenville											
Commercial	398	12	386	15%	328	1 acre min. lot size	0	0	0.0	0	0
Industrial	778	161	616	15%	524	5 acre min. lot size	0	0	0.0	0	0
Manufactured Home	32	0	32	15%	27	8 units/acre	0	217	2.4	0	522
Residential	2,271	160	2,111	15%	1,794	1 unit/acre to 3 units/acre	1,794	5,383	2.4	4,306	12,919
Total	**3,479**	**334**	**3,145**	**15%**	**2,673**		**1,794**	**5,600**	**2.4**	**4,306**	**13,441**
Home											
Commercial	102	2	100	15%	85	1 acre min. lot size	0	0	0.0	0	0
Industrial	110	0	110	15%	93	5 acre min. lot size	0	0	0.0	0	0
Other	1,344	24	1,320	15%	1,122	N/A	0	0	0.0	0	0
Residential	119	0	119	15%	101	1 unit/acre to 3 units/acre	101	304	2.6	264	791
Rural Residential	20,432	847	19,585	15%	16,647	1 unit/10 acres to 1 unit/acre	1,665	16,647	2.6	4,328	43,282
Total	**22,106**	**873**	**21,234**	**15%**	**18,049**		**1,766**	**16,951**	**2.6**	**4,592**	**44,074**
Howard City											
Commercial	160	0	160	15%	136	1 acre min. lot size	0	0	0.0	0	0
Industrial	50	0	50	15%	43	5 acre min. lot size	0	0	0.0	0	0
Manufactured Home	91	0	91	15%	77	8 units/acre	0	620	2.8	0	1,736
Residential	444	7	437	15%	371	1 unit/acre to 3 units/acre	371	1,114	2.8	1,040	3,119
Rural Residential	865	31	834	15%	709	1 unit/10 acres to 1 unit/acre	71	709	2.8	198	1,985
Total	**1,611**	**39**	**1,572**	**15%**	**1,336**		**442**	**2,442**	**2.8**	**1,238**	**6,839**
Lakeview											
Commercial	137	4	133	15%	113	1 acre min. lot size	0	0	0.0	0	0
Industrial	9	2	7	15%	6	5 acre min. lot size	0	0	0.0	0	0
Other	37	0	37	15%	31	N/A	0	0	0.0	0	0
Residential	782	97	685	15%	582	1 unit/acre to 3 units/acre	582	1,746	2.7	1,571	4,714
Total	**964**	**102**	**862**	**15%**	**732**		**582**	**1,746**	**2.7**	**1,571**	**4,714**
Maple Valley											
Commercial	51	0	51	15%	43	1 acre min. lot size	0	0	0.0	0	0
Residential	148	0	148	15%	126	1 unit/acre to 3 units/acre	126	377	2.6	327	981
Rural Residential	22,393	1,457	20,936	15%	17,796	1 unit/10 acres to 1 unit/acre	1,780	17,796	2.6	4,627	46,269
Total	**22,592**	**1,457**	**21,135**	**15%**	**17,965**		**1,905**	**18,173**	**2.6**	**4,954**	**47,251**
Montcalm											
Commercial	500	11	489	15%	416	1 acre min. lot size	0.0	0.0	0.0	0.0	0.0
Industrial	324	51	273	15%	232	5 acre min. lot size	0.0	0.0	0.0	0.0	0.0
Other	95	0	95	15%	81	N/A	0.0	0.0	0.0	0.0	0.0
Residential	3,428	197	3,231	15%	2746	1 unit/acre to 3 units/acre	2,746	8,239	2.8	7,690	23,069
Rural Residential	18,307	1,677	16,630	15%	14135	1 unit/10 acres to 1 unit/acre	1,414	14,135	2.8	3,958	39,579
Total	**22,654**	**1,936**	**20,718**	**15%**	**17610**		**4,160**	**22,374**	**2.8**	**11,648**	**62,648**

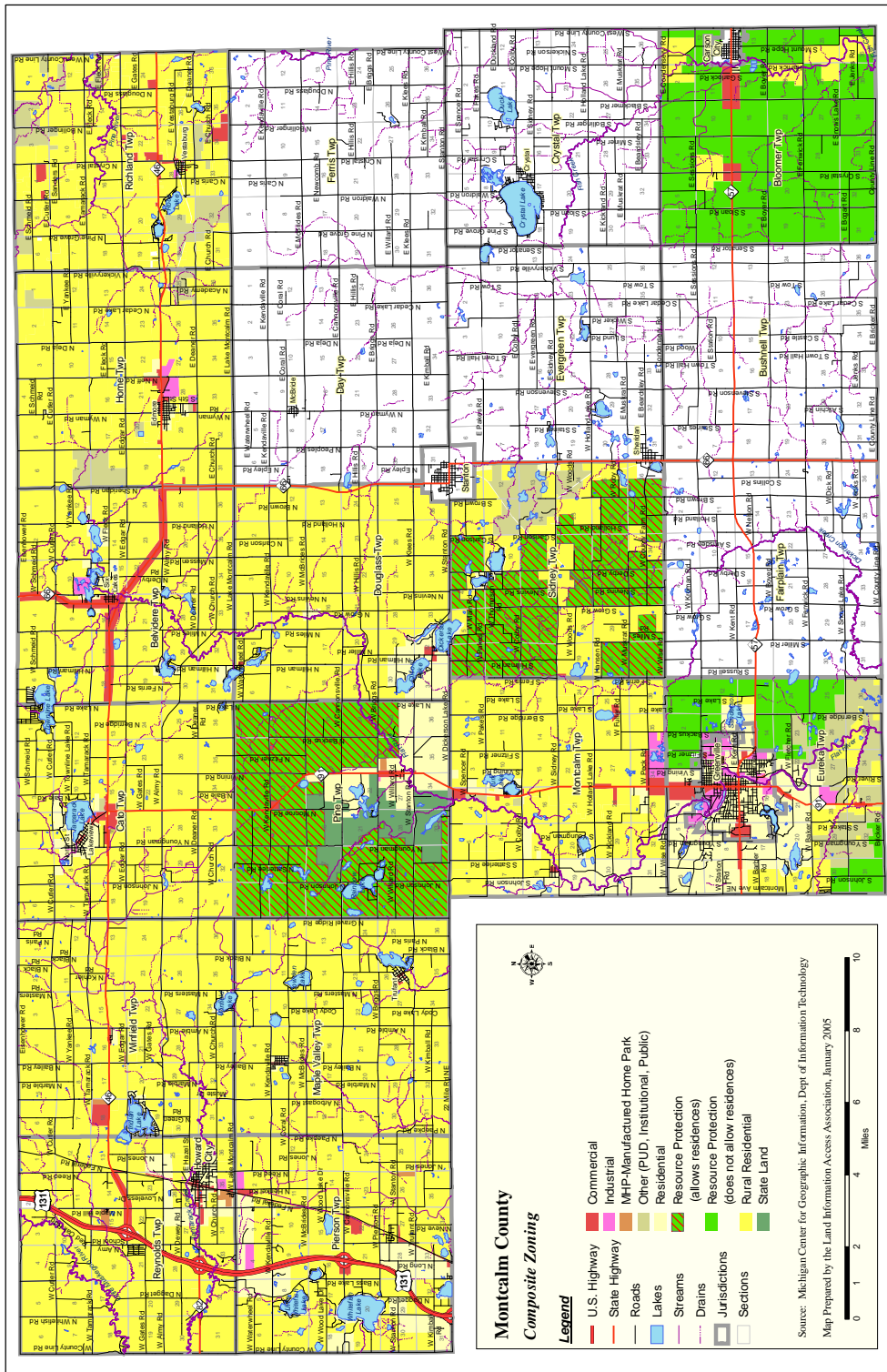## Table 5-7 Montcalm County Residential Buildout Continued

Zoning District by Township/City/Village	Total Area (acres)	Non-Buildable (acres)	Buildable (acres)	Percent of Area Subtracted for Roads and Other Unbuildable Areas	Remaining Buildable Area (acres)	Permitted Density	Potential Number of Dwelling Units		Estimated Persons Per Dwelling Unit	Potential Population	
							Min Density	Max Density		Min Density	Max Density
Pierson											
Commercial	370	4	366	15%	311	1 acre min. lot size	0	0	0.0	0	0
Industrial	195	0	195	15%	166	5 acre min. lot size	0	0	0.0	0	0
Manufactured Home	44	0	44	15%	37	8 units/acre	0	297	2.8	0	832
Residential	3,575	121	3,454	15%	2,936	1 unit/acre to 3 units/acre	2,936	8,807	2.8	8,220	24,661
Rural Residential	17,346	681	16,665	15%	14,165	1 unit/10 acres to 1 unit/acre	1,417	14,165	2.8	3,966	39,663
Total	**21,530**	**806**	**20,724**	**15%**	**17,615**		**4,352**	**23,270**	**2.8**	**12,187**	**65,156**
Pine											
Commercial	155	4	151	15%	128	1 acre min. lot size	0	0	0.0	0	0
Industrial	9	2	7	15%	6	5 acre min. lot size	0	0	0.0	0	0
Manufactured Home	38	2	37	15%	31	8 units/acre	0	250	2.7	0	674
Residential	3,483	196	3,287	15%	2,794	1 unit/acre to 3 units/acre	2,794	8,382	2.7	7,544	22,631
Resource Protection	15,648	787	14,861	15%	12,632	1 unit/40 acres to 1 unit/acre	316	12,632	2.7	853	34,105
Sensitive Lands	3,039	160	2,879	15%	2,447	N/A	0	0	0.0	0	0
Total	**22,372**	**1,150**	**21,221**	**15%**	**18,038**		**3,110**	**21,263**		**8,396**	**57,410**
Reynolds											
Commercial	240	0	240	15%	204	1 acre min. lot size	0	0	0.0	0	0
Interstate	786	7	779	15%	662		0	0	0.0	0	0
Manufactured Home	80	0	80	15%	68	8 units/acre	0	542	2.8	0	1,517
Residential	913	52	862	15%	733	1 unit/acre to 3 units/acre	733	2,198	2.8	2,051	6,153
Rural Residential	19,223	1,042	18,181	15%	15,454	1 unit/10 acres to 1 unit/acre	1,545	15,454	2.8	4,327	43,271
Total	**21,242**	**1,100**	**20,142**	**15%**	**17,121**		**2,278**	**18,193**	**2.8**	**6,378**	**50,942**
Richland											
Commercial	536	19	517	15%	440	1 acre min. lot size	0	0	0.0	0	0
Industrial	20	0	19	15%	16	5 acre min. lot size	0	0	0.0	0	0
Lake/Other	134	21	113	15%	96	N/A	0	0	0.0	0	0
Other	2,515	133	2,382	15%	2,025	N/A	0	0	0.0	0	0
Residential	1	0	1	15%	1	1 unit/acre to 3 units/acre	1	3	2.7	3	8
Rural Residential	19,562	714	18,848	15%	16,021	1 unit/10 acres to 1 unit/acre	1,602	16,021	2.7	4,326	43,257
Total	**22,769**	**887**	**21,881**	**15%**	**18,599**		**1,603**	**16,024**	**2.7**	**4,328**	**43,265**

Table 5-7 Montcalm County Residential Buildout Continued

Zoning District by Township/City/Village	Total Area (acres)	Non-Buildable (acres)	Buildable (acres)	Percent of Area Subtracted for Roads and Other Unbuildable Areas	Remaining Buildable Area (acres)	Permitted Density	Potential Number of Dwelling Units		Estimated Persons Per Dwelling Unit	Potential Population	
							Min Density	Max Density		Min Density	Max Density
Sidney											
Commercial	42	5	37	15%	31	1 acre min. lot size	0	0	0.0	0	0
Other	1,945	101	1,843	15%	1,567	N/A	0	0	0.0	0	0
Residential	342	19	323	15%	275	1 unit/acre to 3 units/acre	275	825	2.6	715	2,144
Resource Protection	12,385	898	11,487	15%	9,764	1 unit/40 acres to 1 unit/acre	244	9,764	2.6	635	25,386
Rural Residential	6,687	793	5,894	15%	5,010	1 unit/10 acres to 1 unit/acre	501	5,010	2.6	1,303	13,025
Total	**21,400**	**1,816**	**19,584**	15%	**16,646**		**1,020**	**15,598**		**2,652**	**40,556**
Winfield											
Commercial	218	6	212	15%	180	1 acre min. lot size	0	0	0.0	0	0
Manufactured Home	48	0	48	15%	41	8 units/acre	0	327	2.8	0	915
Residential	400	14	386	15%	328	1 unit/acre to 3 units/acre	328	984	2.8	919	2,756
Rural Residential	21,993	1,395	20,598	15%	17,508	1 unit/10 acres to 1 unit/acre	1,751	17,508	2.8	4,902	49,023
Total	**22,659**	**1,415**	**21,244**	15%	**18,057**		**2,079**	**18,819**	**2.8**	**5,821**	**52,693**
Total	**292,421**	**38,354**	**273,896**		**232,811**		**54,110**	**279,438**		**148,366**	**759,476**

Townships which do not have zoning in Montcalm County include; Bushnell, Crystal, Day, Evergreen, Fairplain and Ferris.

Map 5-6
Montcalm County Composite Zoning

Montcalm County
Composite Zoning

Legend

U.S. Highway	Commercial
State Highway	Industrial
Roads	MHP-Manufactured Home Park
Lakes	Other (PUD, Institutional, Public)
Streams	Residential
Drains	Resource Protection (allows residences)
Jurisdictions	Resource Protection (does not allow residences)
Sections	Rural Residential
	State Land

Source: Michigan Center for Geographic Information, Dept of Information Technology

Map Prepared by the Land Information Access Association, January 2005

0 1 2 4 6 8 10
Miles

Chapter 6
TRANSPORTATION

INTRODUCTION

In today's automobile dependent society, the quality of the road system and its ability to link people from home to work, to shopping, schools and recreation is critical to efficient and pleasant daily life. The road system also greatly affects and is affected by land use patterns. As new land uses are developed, road changes will be needed. How these changes are made will have an impact on the character of the community as well as on its improved roads. But an efficient and sustainable community has more transportation services than the road system. Rail, air, public transit, and bicycle and pedestrian trails are also very important. This Chapter presents background information on the existing transportation system in Montcalm County.

ROAD TYPES

Montcalm County has approximately 1,748 certified miles of roadway, which is derived from the Highway Performance Monitoring System (HPMS) and Act 51 of Public Acts of 1951 (as amended). Map 6-1 shows the primary road network in Montcalm County as classified by the Michigan Department of Transportation. Following is a brief description of five road types which exist in Montcalm County.

Freeways/Interstate Routes

Rural Freeways (shown in purpose on Map 6-1). These roads are intended to provide movement of large volumes of through traffic on a regional basis as well as between communities. These types of roads typically have limited access, no at-grade crossings, and no traffic stops. The legal traveling speeds on freeways are typically 55 miles per hour for trucks and 70 miles per hour for other vehicles. US-131 is the only freeway/interstate route that traverses the county. It is located in the northwest corner of the county and provides a high volume northbound and southbound link through Pierson and Reynolds townships.

Federal/State Trunklines

Federal and state trunklines are Michigan Department of Transportation (MDOT) highways maintained by the Road Commission for Montcalm County (and are shown in red or green on Map 6-1). They are intended to provide for movement of large volumes of through traffic on a regional basis as well as between communities. Some of these roads have channelized grade crossings and signals at major intersections. The five facilities designated as federal/state trunklines in Montcalm County include M-46, M-57, M-66, M-82, and M-91. According to MDOT, there are over 119 miles of federal and state trunklines in the county.

Map 6-1
National Functional Classification System Road Network in Montcalm County
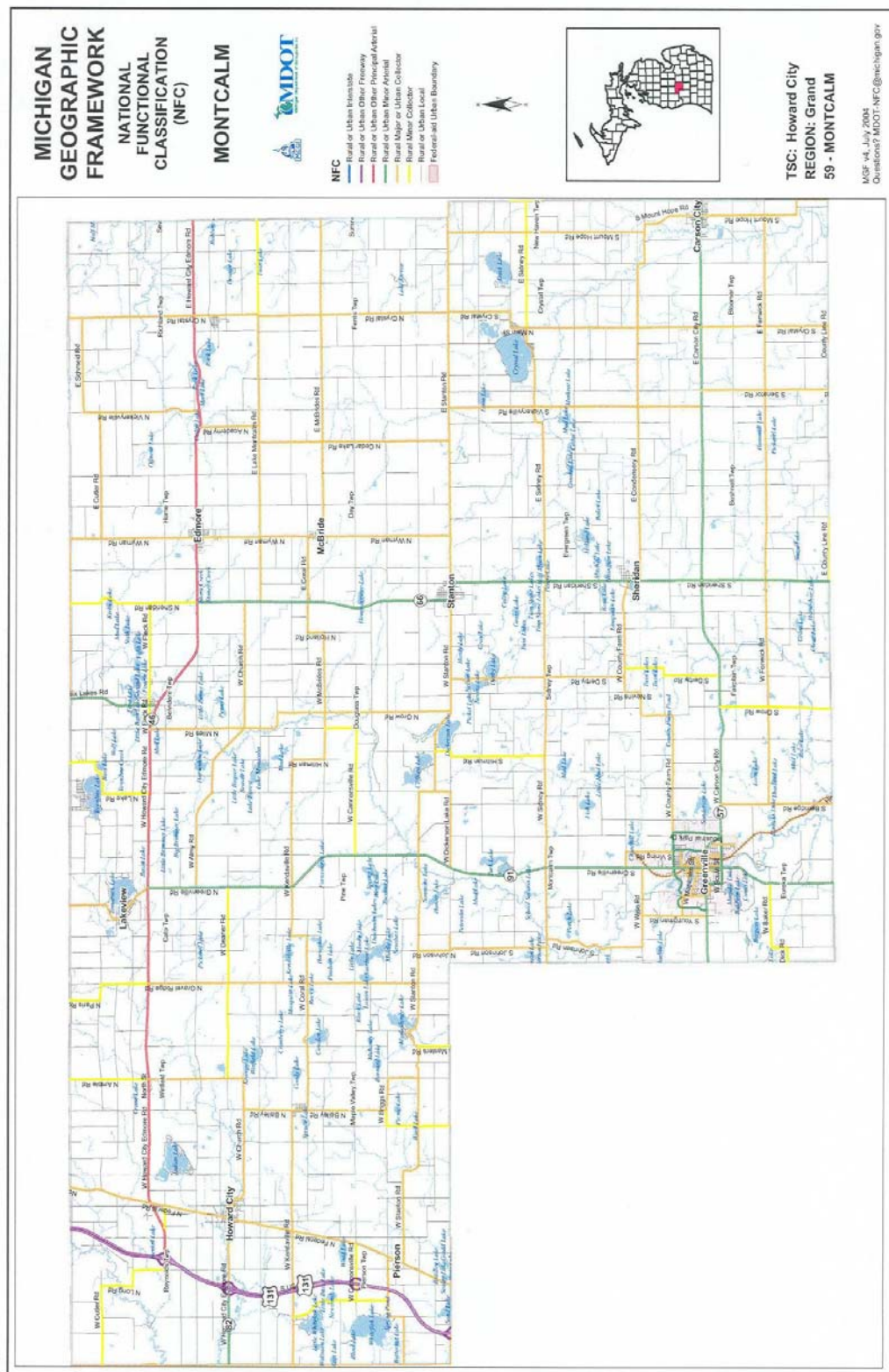
Source: Michigan Department of Transportation

Table 6-1 illustrates the current average daily traffic (ADT) on the major federal and state trunklines and Map 6-2 shows these counts on key road segments. Average daily traffic counts are important indicators of traffic volume changes over time, which is useful in planning for road maintenance and improvements.

Table 6-1
Federal and State Trunkline ADT, Montcalm County Segment Average 2010

Fed-State Trunklines	Average Daily Traffic
M-82	5,500
M-46	7,100
US-131 Expressway	22,800
M-91	7,200
M-66	5,900
M-57	6,700
Total	**55,200**

Source: Michigan Department of Transportation (MDOT)

The traffic count data was taken by the Michigan Department of Transportation and is collected using mechanical counters that record the volume of traffic passing a point or segment of a road, in both directions, during a 24-hour period. Overall, the heaviest traffic can be seen on US-131 with a Montcalm County segment average of 22,800 vehicles. Among the county's roads, the heaviest amount of traffic can be seen on the western portion of M-57 with an average of 12,000 vehicles, and the southern portion of M-91 (the county segment average for these roads are lower due to the smaller amount of traffic on the remaining portions of the road).

Map 6-2
Annual Average Traffic Count, Montcalm County 2010

Source: Michigan Department of Transportation (MDOT)
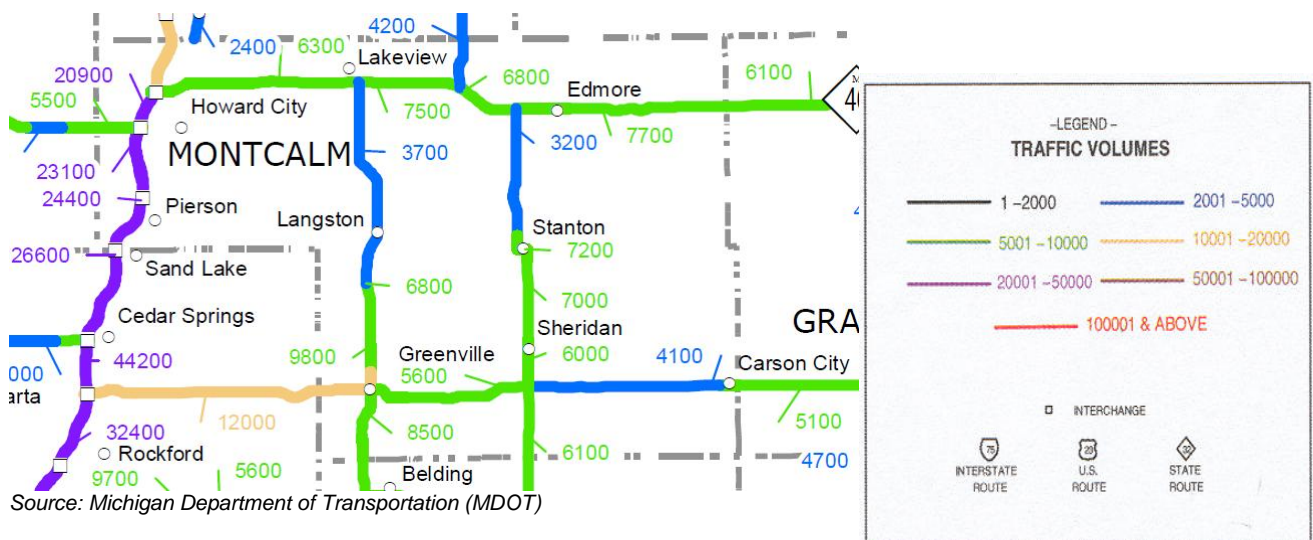
County Primary Roads
The major function of the county primary roads is to provide for through traffic between areas and across communities, as well as direct access to abutting property. They are

shown in orange and yellow on Map 6-1 and only extend between city limits. These paved roads are designed to move traffic at a range of design speed between 35 and 55 miles per hour. In addition, these roads are typically subject to necessary control of entrances, exits, and curb cuts. Examples of such roads in Montcalm County include Mt Hope, Federal Road, and County Farm Road. According to MDOT, Montcalm County has approximately 379.6 miles of county primary roads.

County Local Roads
These roads provide for internal traffic movement within the County and connect local land areas with the major arterial road system. They are thin gray lines on Map 6-1. Providing direct access to adjacent properties is an important function of these roads. These roadways typically have speed limits in the range of 35 to 55 miles per hour. The majority of the county's roads fall under this classification. Examples of such roads in Montcalm County include Backus Road near Greenville, and Peoples Road north of Stanton. Montcalm County has approximately 1,125 miles of county local roads.

County City Streets
Streets within the boundaries of a city or incorporated village are under the jurisdiction of and are the responsibility of that city or village. The arterials within the city limits, which serve as the major more heavily used roads, are in green. The collectors, which serve as secondary branch roads to the arterials, are in orange. The local streets are thin lines in gray and are all on Map 6-1. There are 32,856 miles of city streets in Montcalm County (27,425 miles of arterial and collector city streets and 5,696 miles of local city streets).

TRAFFIC ON COUNTY ROADS
The state trunkline system is the spine and the county road network is the arteries in the local transportation system in Montcalm County. This network is extensive and in generally good condition. Table 6-2 illustrates the Average Daily Traffic (ADT) on major county roads within Montcalm County. ADT's for all county primary roads can be found at the Road Commission for Montcalm County's web site – www.montcalmroads.com

The highest average daily traffic on county roads in the County is on Federal Road (old US-131) in Pierson Township (7,448), followed by Stanton Road in Day Township (6,108), and Federal Road in Reynolds Township (5,801). Federal Road runs parallel to US-131, which results in the high volume of traffic in the adjacent communities.

Each township in the County contributes funds for road improvements to supplement the gas, diesel and vehicle registration tax revenues received by the County Road Commission. This enables road resurfacing, intersection and other safety improvements that otherwise would not be possible. Despite the township contributions, there are more road repair and improvement needs than current revenues can pay for. If future development of residences along county roads continues at the rates projected in Chapter 2, the increased traffic will widen the gap between needs and available revenues.

Table 6-2
Average Daily Traffic, Montcalm County Major Roads

Township	Road	Counter Location	ADT
Belvidere	North County Line Road	1/8 mile W. of Sheridan Rd.	577
Bloomer	Mt. Hope Road	N. Carson City limit	1,729
Bushnell	Condensery Road	1/8 mile E. of M-66	1,457
Cato	Lakeview Road	Lakeview N. Village limit	1,843
Crystal	Mt. Hope Road	1/8 mile N. of Condensery Road	1,096
Day	Stanton Road	1/8 mile W. of Sheridan Rd.	5,387
Douglass	Stanton Road	1/8 mile E. of Derby Road	5,031
Eureka	Wise Road	1/8 mile E. of Youngman Road	2,879
Evergreen	Sidney Road	1/8 mile E. of M-66	2,013
Fairplain	Fenwick Road	1/8 mile W. of M-66	860
Ferris	Stanton Road	1/8 mile W. of Vickeryville Road	2,699
Home	Wyman Road	North Edmore Village limit	1,555
Maple Valley	Stanton Road	1/8 mile W. of Gravel Ridge Road	2,758
Montcalm	Sidney Road	1/8 mile E. of West County Road	3,913
Pierson	Federal Road	1/8 mile N. of South County Line	5,184
Pine	Stanton Road	1/8 mile E. of M-91	1,024
Reynolds	Federal Road	1/8 mile S. of Howard City limit	5,552
Richland	Crystal Road	1/8 mile S. of M-46	3,310
Sidney	Sidney Road	1/8 mile E. of Hillman Road	3,819
Winfield	Gravel Ridge Road	1/8 mile S. of M-46	1,107

Source: Montcalm County Road Commission, 2003

AIR TRANSPORTATION
The residents of Montcalm County travel to Gerald R. Ford International Airport, in Grand Rapids, or the Capital City Airport in Lansing for the closest commercial air passenger service. Ionia County Airport also provides limited, private air service to Montcalm County residents. There are three airports in Montcalm County. Two are classified as U-3/U-4 airports and the other as a U-1/U-2. A brief description of the classification descriptions for these airports, taken from the *Michigan Aviation System Plan (MASP)*, follows.

Airport Classifications (in Montcalm County)
U-1 and U-2
Mayes Airport in Carson City is a U-1/U-2 airport, which are generally small facilities with primary and crosswind turf runways that are intended to respond to aviation needs of communities under a population of 2,500. Typically, these airports have less than 10 registered aircraft, fewer than 10,000 annual operations, lack all-weather capabilities and may be closed during a portion of the year. Approximately 75% of the general aviation aircraft types can be accommodated at this classification of airport.

U-3 and U-4
Two airports in Montcalm County, Lakeview Airport – Griffith Field and Greenville Municipal Airport, are classified as a U-3/U-4 airport. These airports are generally medium utility facilities with a paved primary runway and a turf crosswind runway intended to respond to the needs of communities over a population of 2,500, recreational centers and geographically isolated areas such as population islands. Typically, these airports have more than 10 registered aircraft, fewer than 20,000 annual operations, may lack all-weather capabilities, but remain open throughout the year. Approximately 95% of the general aviation aircraft types can be accommodated at this classification airport.

Montcalm County Airports
Greenville Municipal Airport – Greenville, MI
This facility provides service to Greenville and Montcalm County and is owned by the City of Greenville. This is Montcalm County's largest airport based upon "on field aircraft" and "aircraft operations." The Federal Aviation Administration (FAA) reported the average aircraft based on the field for this facility at 46 with average aircraft operations of 39 a day (14,235/yr). Of those aircraft, 37 are single-engine while 9 are multi-engine airplanes. Local general aviation constitutes 64% of its operations, with 28% being transient general aviation, and 8% air taxi. The airport has four runways, two paved and the other two turf. The longest is a paved runway at 4,200 ft. with a width of 75 ft. This facility is designated as a U3-U4 airport.

Lakeview Airport – Griffith Field - Lakeview, MI
This is Montcalm County's second largest airport based upon "on field aircraft" and "aircraft operations" and is also designated as a U3-U4 facility. The Federal Aviation Administration (FAA) reported the average aircraft based on the field for this facility at 39 with average aircraft operations at 14,000 per year. Of those aircraft, 32 are single-engine while 2 are multi-engine airplanes and 5 are helicopters. Local general aviation constitutes 70% of its operations which is primarily seasonal agricultural crop dusting, with 30% being transient general aviation. The airport has two runways, both paved with the longer of the two measuring at 3,500 ft. in length and 75 ft. at its width.

Mayes Airport – Carson City, MI
Currently, the facility is a small utility airport, limited to accommodating single-engine propeller-driven aircraft. Airport operations tend to be limited to daylight hours with common airport closures due to inclement weather. Seasonal closures are also common at this airport. The average number of aircraft based on the field for this facility is under 10, with airport operations totaling an average of only 48 per month. Fifty percent of the operations are transient general aviation, while the other fifty percent are local general aviation.

PUBLIC TRANSIT
Local transit services and public transportation systems can be an integral part of a community's transportation system if they transport significant numbers of people and offer access to jobs and shopping areas to individuals without other personal transportation options. Public transit systems also provide a method of transportation for senior citizens and persons with physical disabilities that make it difficult to operate a vehicle. In addition, public transportation systems eliminate individual vehicle trips from the roadway thereby reducing traffic congestion and air pollution. Following is a brief description of the public transit services in Montcalm County.

Greenville Transit System, Dial-a-Ride
Greenville's Dial-a-Ride Transit System provides affordable public transit throughout the City and the Greater Greenville area. The system operates four buses Monday through Saturday. Arrangements for rides are demand responsive and may be utilized by Dial-a-Ride tokens that are available at City Hall and the Greenville Transit Garage.

The annual ridership for the dial-a-ride system was 31,936 passengers in 2012 and ran a total of 99,010 miles. Total eligible expenses in 2012 were $274,207.

School Bus System
Each of the seven K-12 school districts and the Montcalm Intermediate School District and Eight Cap (Head Start Program) within Montcalm County operates its own bus system for student transportation. The bus routes and the size of the bus fleets are unique to the individual school systems and may transport students to and from school, to school athletic events and on field trips, but they represent significant duplication of services.

TRAILS
Montcalm County's bicycle and non-motorized paths or trails offer users a variety of recreational opportunities in safe areas that provide the space and accessibility for activities such as biking, walking, jogging, in-line skating, roller skating and cross country skiing. As described below, some areas are designated as a bike or non-motorized route. However, people also take advantage of any local and primary roads with wide shoulders and low traffic flow for the same types of activities.

In addition to locally designated recreational trails, there exists a national organization called the Rails-to-Trails Conservancy that assists in creating recreational trails. Michigan's chapter of this organization is known as Discover Michigan Trail. This group attempts to enhance communities by converting thousands of miles of abandoned rail corridors, and connecting open space, into a nationwide network of public trails. This program is often referred to as the "rails to trails" program.

These types of trails sometimes offer a wider variety of recreational options including snowmobiling, horseback riding, hiking, mountain biking, and cross-country skiing. In many cases, once completed, the ownership and maintenance of these trails are given to the local community in which the trail is located.

Whichever the type of opportunities offered, these trails typically provide a connection between communities. Some of the trails extend only a few miles while others may extend 50 to 90 miles in length, traversing several counties.

Although there are many locations within Montcalm County that may be thought of as recreational trails because of wide-shoulders or off-road access, to mention every trail is beyond the scope of this report. The trails mentioned are those which are recognized at the state level.

Fred Meijer Heartland Trail
This non-motorized trail (the former CSX railroad right of way) runs through 41 miles of rural Montcalm County and east Gratiot County. The southern tip begins in Greenville (intersecting the Fred Meijer Flat River trail) and winds its way north through farmland and wooded state game areas. The trail runs through the towns of Sidney, Stanton,

McBride, and Edmore. At Edmore the trail turns east and heads past Cedar Lake and Vestaburg, entering Gratiot County and extends 8 more miles through Riverdale and Elwell to Alma. Along its length it crosses several creeks and one river. The entire trail is paved with major trailheads located at Alma, Edmore, McBride and Stanton. Of particular interest, is the 120 year old historic bridge that spans Fish Creek just south of Stanton. (See Map 6-3.)

Map 6-3
Fred Meijer Heartland Trail
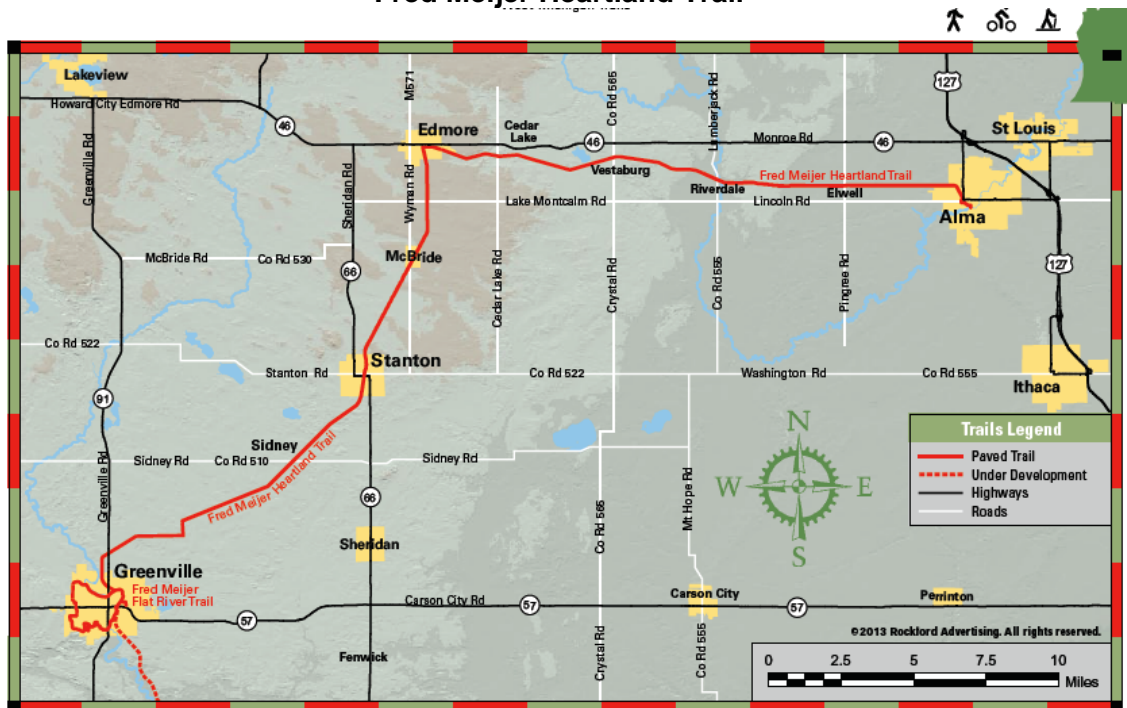
Source: Michigan Trails

White Pine Trail State Park
This trail is Michigan's longest Rail-Trail State Park (formerly the Grand Rapids and Indiana Railroads), stretching a distance of 92 miles (12 miles in Pierson and Reynolds Townships) from Comstock Park just north of Grand Rapids, north to the City of Cadillac. The trail is open along its entire length for all non-motorized recreational uses. Snowmobile use is restricted to the area from Russell Road (just north of M-57) to Cadillac. The trail passes through 31 municipalities and townships.

Fred Meijer Flat River Trail
The Fred Meijer Flat River Trail is the crown jewel of Greenville's park system. The trail is a nationally recognized trail, winning the American Society of Civil Engineers 2000 Quality of Life Award. The trail currently stretches approximately 1.8 miles from Tower Park to Davis Park. The paved walkway passes through hardwoods and wetlands before it runs along and crosses the Flat River. The trail provides excellent walking, biking, and in-line skating opportunities. Eventually, Phase II and III of the Fred Meijer Flat River Trail will stretch the trail nearly eight miles around the entire city and connect to the Fred Meijer Heartland Trail. The completed trail system will connect many of Greenville's neighborhoods, schools, and commercial districts.

Chapter 7
PUBLIC FACILITIES AND PHYSICAL SERVICES

INTRODUCTION
Adequate public facilities and physical services are essential to meeting the needs of Montcalm County residents. As a county matures and grows, public facilities must be maintained, upgraded, and expanded to meet changing needs and to respond to the problems of an aging system. This chapter discusses existing public facilities and physical services available to Montcalm County residents, and planned improvements where they are known.

SEWER AND WATER
Sewer and water systems are regulated by the Montcalm County Health Department and the Michigan Department of Environmental Quality. Their regulations serve as a means to safeguard the environment and protect the health, safety, and welfare of visitors and residents of Montcalm County.

Wastewater
Cities, townships, and other local units of government, or sewage disposal districts can all provide waste disposal within Montcalm County. Effluent standards are regulated and must be met before a facility discharges effluent to surface waters. Although individual treatment plant methods may vary, wastewater may receive up to three levels of treatment. Solids are removed in primary treatment. Bacteria digest and degrade organic material in secondary treatment. If the particulate and dissolved organic matter are not removed prior to discharge, bacterial breakdown of this material causes oxygen depletion in the receiving water which can adversely affect aquatic life.

Some wastewater requires tertiary treatment to meet effluent standards, especially for phosphorus and pathogens. Presently, most tertiary wastewater treatment processes are not capable of removing heavy metals and toxic organic compounds. Discharging these substances into waterways can have significant adverse effects on plants and animals. If an industry produces wastewater containing flammable, explosive or hazardous substances, poisons, or toxics, it is required to pretreat the water before discharge to a public treatment system.

Water Supply Control Regulations
Water supply regulations within Montcalm County apply to all premises, both residential and commercial. Where a public water supply system is not available, an adequate and safe water supply system must be constructed and maintained for human occupancy. The potability and safety of water must be of suitable bacteriologic and chemical quality. The Drinking Water Standards of the Environmental Protection Agency (EPA) and the Michigan Department of Environmental Quality (MDEQ) are used as guidelines in Montcalm County when determining suitable bacteriological and chemical quality.

Public Water and Sewer
The reliability of the water system depends on a water supply sufficient to meet peak demands, storage capacity to provide flow for sufficient duration of fire fighting, and adequate water pressure. Public water systems in Montcalm County are located in

Greenville, Carson City, Stanton, the Village of Lakeview, Village of Edmore, Village of Howard City, Village of Sheridan and Sidney Township. Water pressure is maintained through the use of at-ground surge tanks or water towers in all of these systems. Within Carson City the water system contains 2 wells, a pump house and a 100,000 gallon water tower.

The largest capacity of the seven systems is in Greenville where it pumps 7.2 million gallons per day. The second largest is the Carson City Water System where it pumps 1.5 million gallons per day. The third largest is in the Village of Sheridan pumping 1.2 million gallons per day, followed by the Village of Lakeview's pumping 0.6 million gallons per day. The last three of the systems have plans for future expansion. Carson City plans to replace water mains and add a new 500,000 gallon water tower in the next few years.

Public sewer systems in Montcalm County are located in Greenville, Crystal Township, Sidney Township, Carson City, City of Stanton, the Village of Lakeview, the Village of Howard City, Village of Edmore, Village of Pierson and the Village of Sheridan. The Greenville sewer system processes 1.3 million gallons per day. The Crystal Sewer Distribution system contains the second largest capacity among the four with 1.75 million gallons per day. Carson City is the third largest with 0.5 million gallons per day, followed by the Village of Lakeview with 210,000 gallons per day, and the Village of Sheridan with 119,000 gallon per day. The Greenville system has an unknown amount of used capacity. Crystal Township has 50% total system capacity remaining, the Village of Sheridan has 40% capacity remaining, the Village of Lakeview has 30%, and Carson City only has 20% of total system capacity remaining.

ELECTRIC AND GAS
Electric utilities within Montcalm County are provided by Consumers Energy, Tri-County Electric Cooperative, and Great Lakes Energy Cooperative. Tri-County services all townships except for Eureka, Fairplain, Montcalm, Pierson, Reynolds, and Sidney Townships and has nearby offices in the City of Blanchard (Isabella County) and the City of Portland (Ionia County). Great Lakes Energy's nearest office is in the City of Newaygo and provides electricity to Maple Valley, Pierson, and Reynolds Townships. Consumers Energy has an office in the City of Greenville and services the rest of the County.

Gas utilities in Montcalm County are provided by Consumers Energy and Michigan Consolidated Gas Company, a company within DTE Energy. The majority of the eastern half of Montcalm County is serviced by Consumers Energy. These townships include Belvidere, Bushnell, Crystal, Day, Douglass, Evergreen, Fairplain, Ferris, Home, Richland, and Sidney Townships. The majority of the western half of Montcalm County is serviced by Michigan Consolidated Gas Company. These townships include Belvidere, Bloomer, Cato, Eureka, Home, Maple Valley, Montcalm, Pierson, Pine, Reynolds, and Winfield Townships. Only Belvidere and Home Townships are serviced by both providers.

SOLID WASTE AND RECYCLING
According to the DEQ annual solid waste reports, Montcalm County has shown a reduction in the amount of solid waste produced and disposed of in Montcalm County over the past 5 years. From 2008 to 2012 solid waste disposed of in Montcalm County has decreased by approximately 25%. The amount of solid waste produced by Montcalm County has decrease by approximately 41% over that same time period.

Currently Montcalm County has one landfill, Central Sanitary Landfill located in Pierson Township. The landfill is allowed to accept refuse from 18 surrounding counties, with Kent, Mecosta and Newaygo counties being the 3 largest importers of solid waste for Montcalm County.
Roughly 35% of the solid waste produced in Montcalm County ends up at Central Sanitary Landfill with the remaining majority being exported to Ionia and Ottawa counties.
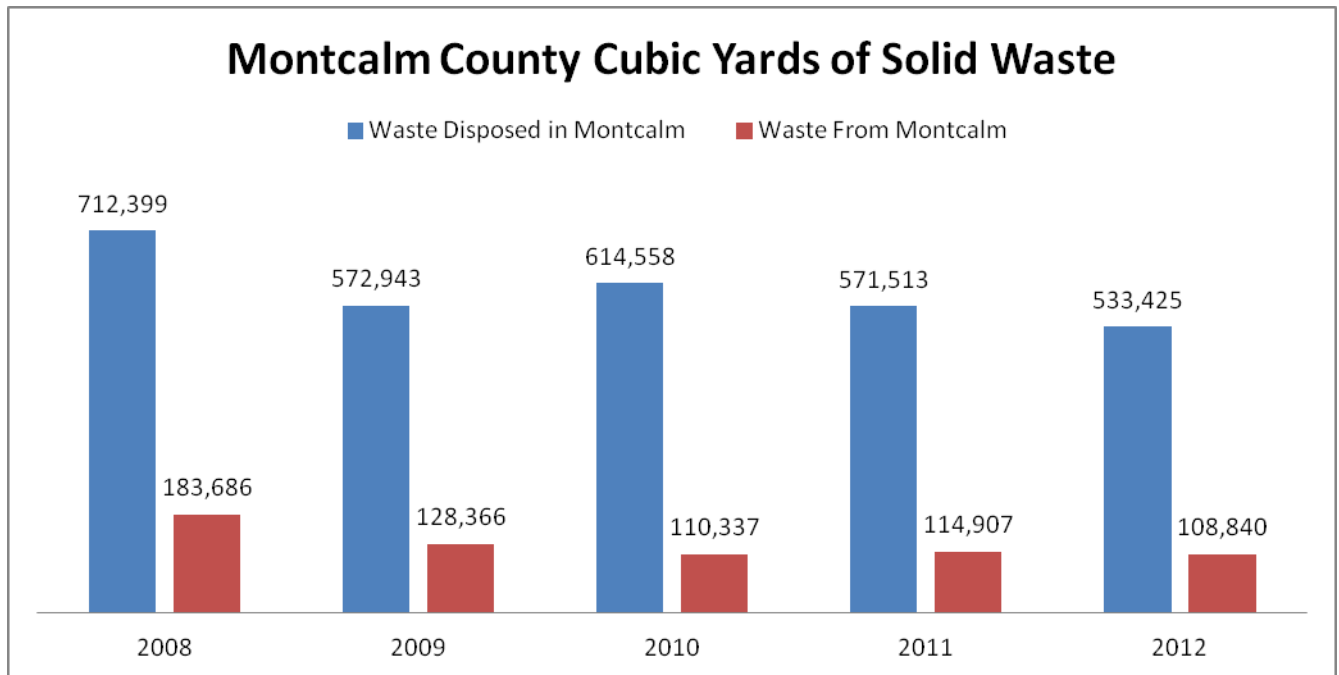
Waste diversion efforts in Montcalm County include recycling, hazardous waste collections, and yard waste composting in some locations.

Montcalm County receives a per ton user fee from Central Sanitary Landfill in Pierson that funds the county run waste diversion programs.

As of August 1, 2012 Montcalm County has transitioned to a single stream comingled program. Seven sites are located throughout the county that are open 24/7 for residents to drop off recyclable household items; paper, cardboard, paperboard, plastic bottles and jugs #1 - #7, shopping bags, metal cans, glass bottles and jars are accepted at the drop off locations.
Greenville, Carson City, Stanton and Belvidere Township are municipalities that currently offer curbside garbage collection for their residents, with Greenville also offering single stream recycling. The majority of the residents in the county are left to privately contract for garbage pickup.

The county run recycle program, greatly increased volumes of materials collected after transitioning to a single stream program with more convenient locations and 24/7 drop off. Recycling is currently bailed and shipped on for processing at Kent County Recycling and Education Center as well as within Montcalm County at Recycle World LLC.

In addition to the Solid Waste Management Planning Committee the County employs a Resource Recovery Coordinator who oversees the expansion of recycling activities in the County. The Resource Recovery Coordinator is responsible for educating residents on the importance of recycling and proper waste management.

Montcalm County has yearly Household Hazardous Waste Collections, resulting in an average of 18,180 lbs. of hazardous waste being properly disposed of per year since 1998. In addition to HHW collection Montcalm County has removed and recycled 10,914 old tires since 2005.
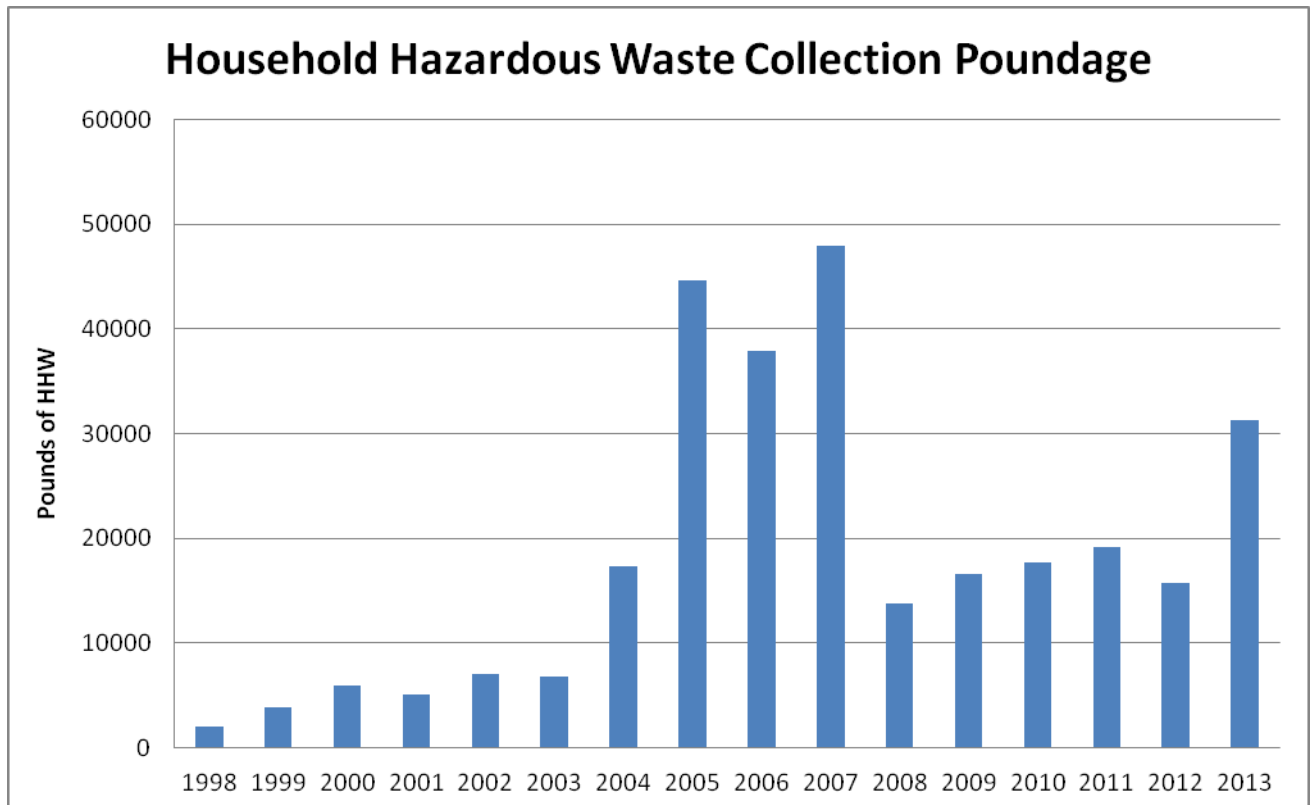
As of September 2012 Montcalm County is home to 5 medication drop off boxes, located in the police departments of Lakeview, Stanton, Greenville, Carson City and Howard City. The drop boxes have thus far helped keep over 700 lbs of medications out of the local watershed and has prevented unwanted medicine from reaching the hands of children and reduced the potential for substance abuse.

HEALTH SERVICES AND FACILITIES
Environmental Health
Environmental health is protected by services administered by the Mid-Michigan Health Department. This department is responsible for overseeing many aspects of environmental quality and health within Montcalm, Clinton, and Gratiot Counties. The Health Department monitors water quality, ground water contamination, air pollution, solid waste, sanitary sewage and septic systems. The Health Department also inspects all public swimming pools and campgrounds, in addition to licensing and inspecting food establishments.

Hospitals
There are four hospitals located within Montcalm County: Carson City Hospital in Carson City, Sheridan Community Hospital in Sheridan, Kelsey Memorial Health Center in Lakeview, and United Memorial Health Center in Greenville. Both Kelsey Memorial and United Memorial are a part of Spectrum Health Regional Hospital Network.

Spectrum Health United Hospital, in Greenville, and Spectrum Health Kelsey Hospital, in Lakeview, provide local communities with access to world-class resources and expertise in a local, intimate and compassionate care setting. Together, the hospitals employ approximately 700 professional employees, clinical staff and medical professionals.

Spectrum Health United Hospital is home to the Hendrik & Gezina Meijer Surgery and Patient Care Center. On an annual basis, approximately 4,900 procedures are performed at the Surgery Center by general and specialized surgeons. Additional areas of specialty at United Hospital include cancer care services, diagnostic imaging, emergency medicine, obstetrics & gynecology, acute care, physical therapy, wound healing, ears, nose and throat services, sleep studies and orthopedics.

In 2011, United Hospital broke ground on a significant expansion and renovation project, called United for Health. United for Health encompasses a new emergency department, renovations to diagnostic imaging and the addition of the Spectrum Health United Hospital Heart & Vascular Center. Providers from West Michigan Heart and the Spectrum Health Medical Group will provide cardiovascular services onsite at United Hospital. Also in 2011, the United Hospital Rehab and Nursing Center underwent renovations and upgrades to meet the needs of residents.

Spectrum Health Kelsey Hospital is a critical access hospital focusing on areas such as emergency medicine, inpatient care, minor procedures and diagnostic imaging. Attached to the hospital is the Medical Specialty Center at which specialists in areas such as obstetrics, cardiologists, urologists and general surgery have regular office hours in order to meet the needs of the community.

Recently, Kelsey Hospital opened two practices to better serve greater Lakeview. Lakeview Family Medicine, opened in 2010, and provides primary care services to all ages. The Lakeview Youth Clinic, opened in 2011, offers medical care to adolescents ages 10-21.

Carson City Hospital is a 77-bed hospital in rural central Michigan. It offers state-of-the-art equipment with patient-centered care. Upon entering the hospital, you will be amidst a gorgeous front lobby with a serene waterscape, comforting fireplace and beautiful music flowing from the baby-grand piano. Carson City Hospital is the first hospital in the service area to acquire da Vinci Surgical System offering surgery with smaller incisions, shorter hospital stays and faster recoveries. The benevolent staff, state-of-the-art equipment and central location, allows Carson City Hospital to offer comprehensive care, close to home.

Sheridan Community Hospital (SCH) is a 22-licensed bed acute care hospital, located in the heart of Montcalm County, on M-66. The hospital employs over 160 workers and professional staff and serves Montcalm and parts of Ionia, Gratiot, Mecosta, and Isabella

counties. SCH also provides care for patients requiring longer-term stays using ten beds that are certified as "Swing Beds" or transitional care nursing.

SCH has had continued success in broadening its capabilities in the area of emergency services, same day/short stay surgery, patient-centered care, outpatient services, and more recently the offering of new service lines such as minimal invasive neurosurgery. In addition, the hospital owns three family health practices which are located in Sheridan, Stanton, and Edmore.

In the past few years, SCH has completed several major renovation projects. Some of these have included a new outpatient services lobby, registration area, a large office area for physician specialists, visitor's lobby, a state-of-the-art laboratory, a beautifully designed diagnostic imaging department, and a CT scanning suite-housing a Toshiba 32-slice CT scanner.

Emergency Medical Services
Montcalm County Emergency Services provides 24/7 ambulance and medical first response to all residents of Montcalm County as well as servicing the medical transportation needs of the four hospitals in Montcalm County.

Medical emergencies are dispatched by Montcalm County Central Dispatch. There are five medical first response rescue units, five heavy extraction vehicles, and one confined space rescue. The Montcalm County Ambulance service is staffed with 20 full-time and part-time paramedics. There are also 16 permanent part-time paramedic, EMT (Emergency Medical Technician) specialists. The rescue staff employs over 60 part-time employees, when combined have a multitude of licenses ranging from medical first responder to paramedic. The Montcalm Technical Rescue Team (MTRT) is staffed by 12 trained individuals in confined space rescue and specialized rescue.

Mental Health
Mental health services provide treatment for depression, anxiety, substance abuse, stress management, and eating disorders. Therapy is also available for marriage or family relationships. Facilities which offer mental health services covering Montcalm County are Carson City Hospital, Spectrum United Memorial Health Centers, and Montcalm County Center for Behavioral Health.

PUBLIC SAFETY SERVICES AND FACILITIES
Police
Montcalm County police departments are located in the cities of Carson, Greenville, and Stanton and the villages of Edmore, Howard City, and Lakeview. The County's Sheriff's Department is located in the City of Stanton. Additionally, one State of Michigan police post, located in Lakeview, and one detachment station located in the Village of Sheridan, serves the County's residents.
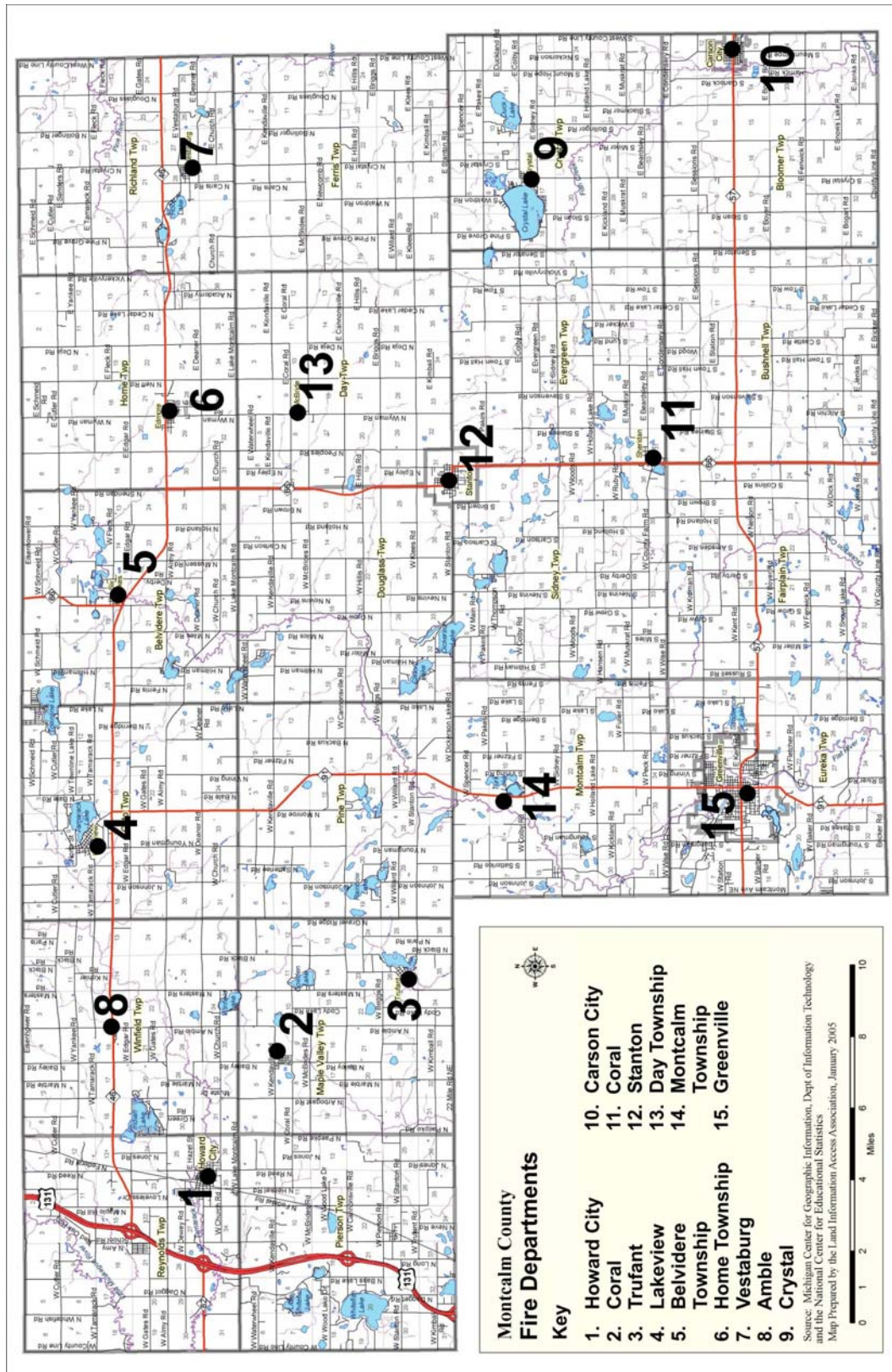
Fire Departments
Montcalm County is serviced by fifteen volunteer fire departments located in several villages, cities, townships and surrounding counties (see Map 7-1). Greenville has 18 full-time cross-trained police/fire personnel, plus 17 volunteer firefighters.

Disaster and Emergency Declarations
In Michigan over the past two decades, disaster events resulted in hundreds of millions of dollars in damage, destruction, and tremendous disruption to the communities affected. On five different occasions between the years of 1965 and 1998, Montcalm County has had Presidential Declared Disasters. The Presidential Disaster Declarations were due to tornadoes, flooding, windstorms, thunderstorms, and ice storms.

Some of the devastation and loss to communities may have been prevented if cognizance efforts were made. Efforts in the form of environmentally sound building practices such as: not building in floodplains, near or in wetlands, and avoiding building on sandy soils or other sensitive lands, could have avoided some of the major disasters to residents and businesses. Proper planning is necessary to reduce the extent of future disasters.

Map 7-1
Fire Department Locations in Montcalm County

Montcalm County
Fire Departments
Key

1. Howard City
2. Coral
3. Trufant
4. Lakeview
5. Belvidere Township
6. Home Township
7. Vestaburg
8. Amble
9. Crystal
10. Carson City
11. Coral
12. Stanton
13. Day Township
14. Montcalm Township
15. Greenville

Source: Michigan Center for Geographic Information, Dept of Information Technology and the National Center for Educational Statistics
Map Prepared by the Land Information Access Association, January 2005

Source: Montcalm County Community Facility Survey

PUBLIC FACILITIES & QUASI-PUBLIC FACILITIES

The locations of the public facilities described in the balance of this chapter are mapped through Map 7-2 and Map 7-6. They include the location of all township/city/village public offices, libraries, cemeteries, public access sites, churches and support facilities. The list of churches accompanying Map 7-5 is included on Table 7-1. Table 7-2 is a list of the types of public facilities in Montcalm County, by community, and the responsibility for the maintenance and budgeting of these facilities.

City, Village and Township Offices

Map 7-2 shows the location of all twenty-eight city, village and township offices. These offices generally serve as administrative centers for their communities and often are where meetings of the governing bodies and appointed boards and commissions are held.

Libraries

Map 7-3 shows the location of nine public libraries in Montcalm County. Libraries are located in the City of Greenville, Carson City, the Village of Howard City, Lakeview, Edmore, Vestaburg, Crystal, Stanton and Amble.

Cemeteries

There are thirty-two identified cemeteries in Montcalm County. These are located on Map 7-4. These include both publicly owned and private cemeteries. Sources of information about community owned cemeteries can be found under the particular community listing at www.montcalm.org or by contacting the community directly.

Churches

Churches are technically private facilities, but because they are generally open to all, often available to aid a range of community groups, and an important part of the community fabric of Montcalm County, they are included here. Table 7-1 lists 106 churches and serves as a map key to their locations on Map 7-5.

Administrative, Transportation and Support Facilities

Montcalm County enjoys a number of agencies and public facilities that provide residents access to state, county, township, village or city agencies and their services. The locations of these are shown on Map 7-6. The Greenville Airport, County Road Commission buildings are transportation facilities shown on the map.

Map 7-2
County, City, Village and Township Offices in Montcalm County

Montcalm County/City/Village/Township Offices
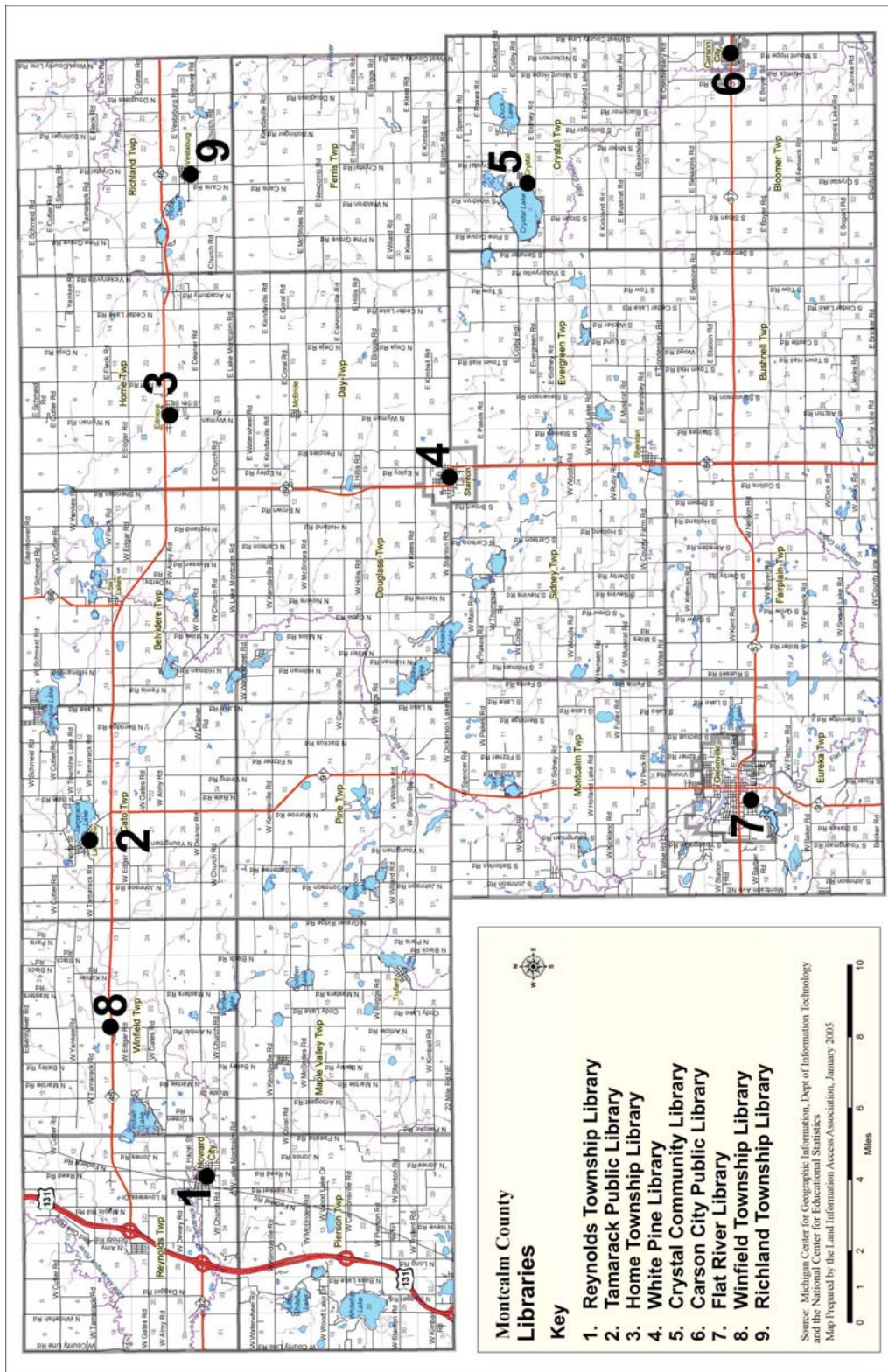
1. Village of Howard City
2. Reynolds Township
3. Pierson Township
4. Winfield Township
5. Maple Valley Township
6. Maple Valley Township – Trufant Complex
7. Cato Township
8. Village of Lakeview
9. Pine Township
10. Montcalm Township
11. City of Greenville
12. Eureka Township
13. Fairplans Township
14. Sidney Township
15. Douglass Township
16. Belvidere Township
17. Home Township
18. Village of Edmore
19. Village of McBride
20. Day Township
21. City of Stanton
22. Evergreen Township
23. Village of Sheridan
24. Bushnell Township
25. Bloomer Township
26. City of Carson City
27. Crystal Township
28. Ferris Township
29. Richland Township
30. County Buildings

Source: Michigan Center for Geographic Information, Dept of Information Technology

Map Prepared by the Land Information Access Association, January 2005

Source: Montcalm County Community Facility Survey

Map 7-3
Libraries in Montcalm County

Montcalm County
Libraries
Key

1. Reynolds Township Library
2. Tamarack Public Library
3. Home Township Library
4. White Pine Library
5. Crystal Community Library
6. Carson City Public Library
7. Flat River Library
8. Winfield Township Library
9. Richland Township Library

Source: Michigan Center for Geographic Information, Dept. of Information Technology and the National Center for Educational Statistics
Map Prepared by the Land Information Access Association, January 2005

Source: Montcalm County Community Facility Survey

Map 7-4
Cemeteries in Montcalm County

Montcalm County Cemeteries

1. Reynolds Township
2. Pierson Township
3. Dickerson
4. Amble
5. Cody
6. Maple Valley Township
7. Cato Township
8. West Pine
9. Little Denmark
10. Monroe
11. East Montcalm
12. West Montcalm
13. Clear Lake
14. Fairplain Township
15. Sidney Township
16. North Sidney
17. Entrican
18. Evergreen
19. Vinewood
20. Parmer
21. McBride
22. Forest Hill
23. Evergreen Township
24. Vickeryville
25. Sunny Hill
26. Bloomer Township
27. Burke
28. Klees
29. Richland Township
30. Hillcrest
31. Eureka Township
32. Trufant
33. Country Farm

Map 7-5
Churches in Montcalm County
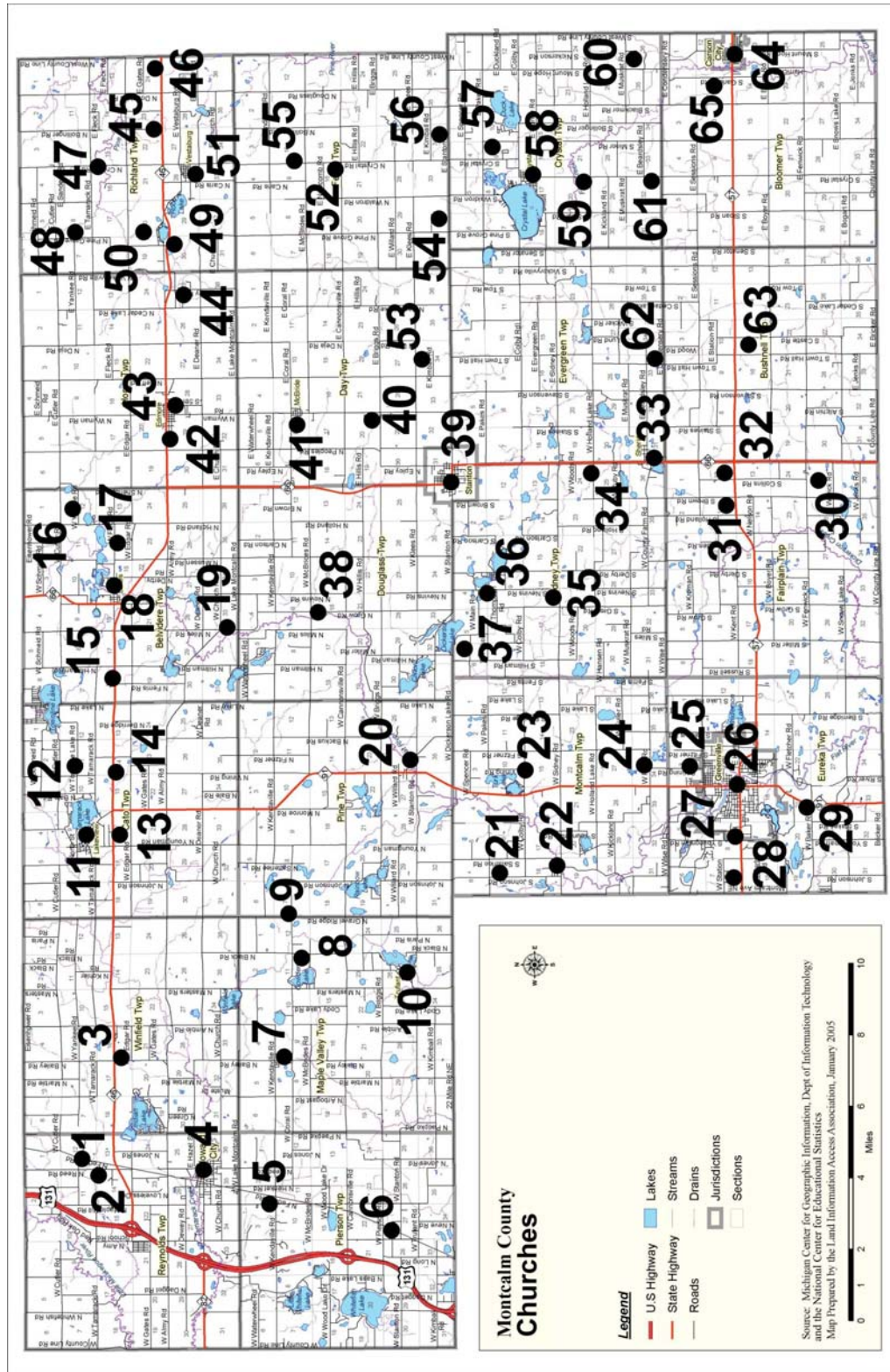
Source: Montcalm County Community Facility Survey

Table 7-1
Churches within Montcalm County (to accompany Map 7-5)

Map Key	Church	Map Key	Church
1	Body of Christ Family Church	26	Living Faith Family Church
2	Christ the King Catholic Church	26	Mount Calvary Lutheran Church
2	Grace Community Church	26	Parish of St Mathias
3	Bethel Lutheran Church	26	Pilgrim Wesleyan
4	First Baptist Church of Howard City	26	Reorganized Church of the Latter Day Saints
5	Heritage United Methodist Church	26	St. Charles Catholic Church
6	Pierson Bible Church	26	St. Paul Lutheran Church
7	Emmanuel Baptist Church	26	St. Paul Episcopal Church
7	St. Clara Catholic Church	27	Church of the Nazarene
8	Cowden Lake Bible Church	28	Liberty Baptist Church
9	Cowden Lake Christian Church	29	Belgreen Seventh Day Adventist Church
10	St. Thomas Lutheran Church	30	Fenwick United Methodist Church
11	Holy Trinity Church	31	Beth Haven Baptist Church
11	Lakeview Free Methodist Church	32	Sheridan Church of God
11	Lakeview United Church of Christ	33	Church of Christ at Sheridan
11	St. Francis de Sales Catholic Church	33	Central Montcalm Community Church
11	Son Shine Worship Center	33	First Congregational Church
12	Kingdom Hall Jehovah Witness	34	Sheridan Assembly of God
13	Lakeview Baptist Church	35	Faith Lutheran Church
13	Living Water Pentecostal Church	36	Nevins Lake Church
14	Lakeview Seven Day Adventist	37	Hope Lutheran Church
15	New Life United Methodist Church	38	Entrican Bible Church
16	Bible Missionary Church	39	First Baptist Church
17	New Beginnings Church	39	First Congregational Church UCC
18	Church of the Gentle Shepherd	39	St. Bernadette of Lourdes Catholic Church
19	Belvidere Church	39	Traditional Congregational Church
20	Langston Church	39	Trinity Free Evangelical Church
21	Settlement Lutheran Church	40	Day Bethel Baptist Church
22	Gowen Bible Church	41	McBride Church of Christ
22	Spencer Mills Church	42	St. Margaret Mary's Catholic Church
23	Turk Lake United Methodist Church	43	Every Day Church
24	Jesus non-Denominational Church	43	Faith United Methodist Church
25	Greenville Community Church	43	First Baptist Church
26	Calvary Baptist Church	43	First Church of God
26	Church of Christ Anonymous	3	Our Savior Lutheran Church
26	First Baptist Church	43	Seventh Day Adventist Church
26	Faith Baptist Church	44	Cedar Lake Seventh Davy Adventist Church
26	First Church of God of Greenville	45	Cornerstone Worship Center
26	First Congregational Church	46	M-46 Tabernacle
26	First United Methodist Church	47	Pine River Church of God
26	Kingdom Hall Jehovah Witness	48	Emmanuel Monastery
26	Hillcrest Free Methodist Church	49	Kingdom Hall Jehovah Witness

Table 7-1 Continued

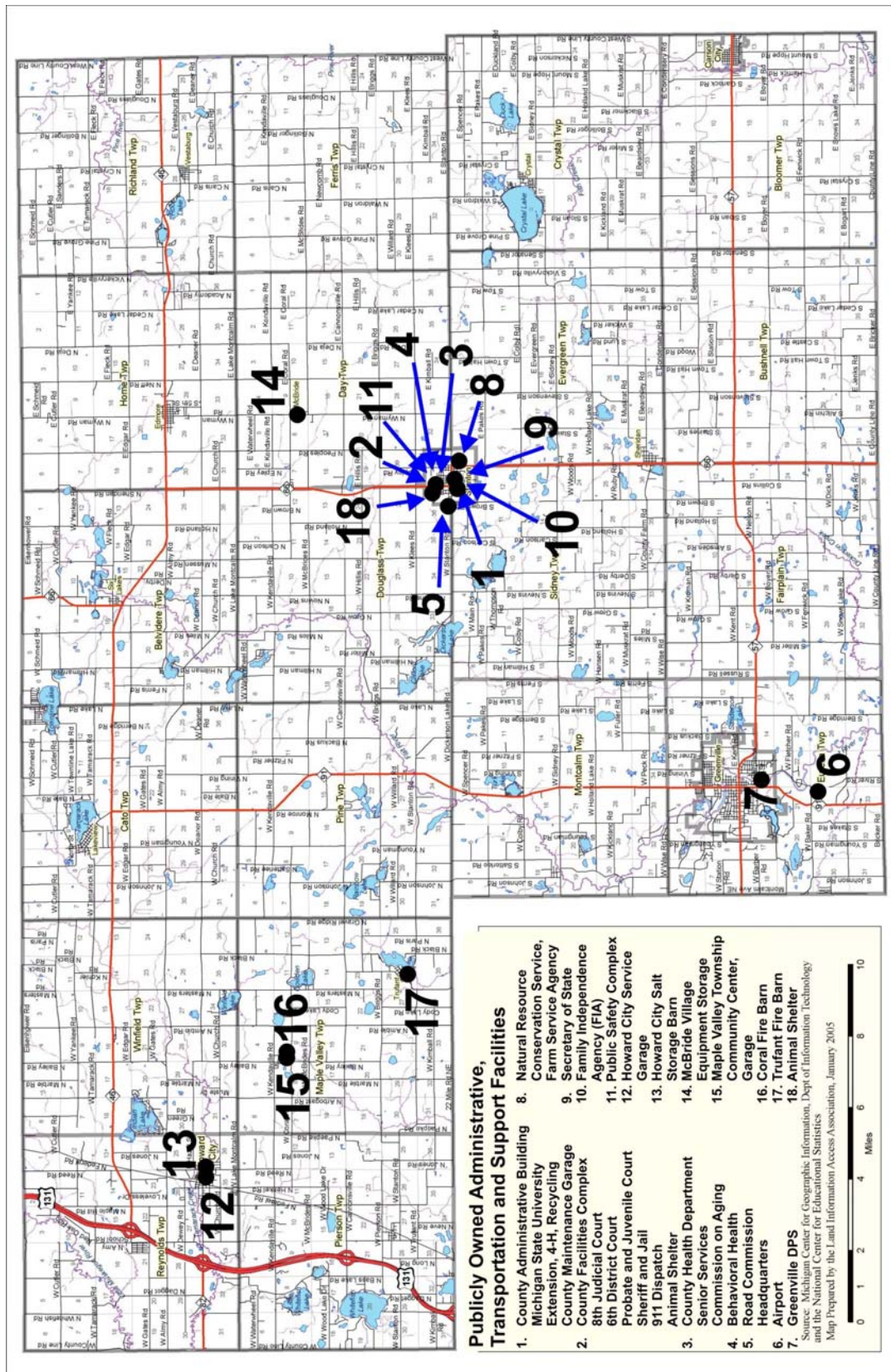| Map Key	Church
50	Rock Lake Bible Methodist Church
51	First Baptist Church
51	Vestaburg Church of Christ
52	Ferris Church of Christ
53	Frost Seven Day Adventist Church
54	Pine Grove Church
55	Ferris Church of Christ
56	Assembly of God
57	Freedom Way Church of God
58	Crystal Congregational Church
58	Crystal Lake Community Church
59	Crystal Church of the Brethren
60	Mount Hope United Brethren Church
61	Butternut Bible Church
62	Evergreen Free Methodist Church
63	Bible Wesleyan Church
64	Calvary Lutheran Church
64	Christian Full Gospel Church
64	Church of God in Christ
64	First Baptist Church
64	First Congregational Church of Carson City
64	Montcalm Mennonite Church
64	Seven Day Adventist Church
64	St. Mary's Catholic Church
64	Church of Carson City

Table 7-2
Community Facilities/Responsibilities

Community	Community owns parks or natural areas	Community owns or participates in a municipal water system.	Community owns or participates in a municipal sanitary sewer system.	Size of Township/Village/City Hall. Plans to expand? If so, what size?	Buildings used by public (fire barns, storage buildings, etc.).	Community Police Dept.	Community has Fire Dept.	Party responsible for public facilities and equipment maintenance	Party responsible for public facility maintenance budget.	Party responsible for approving the public facility and mainenance budget.	Planned future public facility improvements.
Belvidere Twp.	Y	N	N	24'X32' / N	Y	N	Y				
Bloomer Twp.	N	N	N	28'X32' / N	N	N	N	Supervisor	Supervisor	Twp. Board	N
Bushnell Twp.	N	N	N		N	N	N	Supervisor	Supervisor	Twp. Board	N
Cato Twp.	Y	N	N			N	Y				
Carson City	Y	Y	Y	50'X100' / Y/unknown	N	Y	Y	Public Works	Administrator	Council	N
Crystal Twp.	Y	N	Y	4,000 sq. ft. / N	N	Y	Y	Public Works	Public Works	Twp. Board	N
Day Twp.	Y	N	N	24'X50' / N	Y	N	Y	Supervisor	Supervisor	Twp. Board	N
Douglass Twp.	Y	N	N	2,500 sq. ft. / N	Y	Y	N	Sexton	Supervisor	Twp. Board	N
Edmore Village	N	Y	Y	1,500 sq. ft. / N	Y	Y	N	Public Works	Manager	Village Council	Y
Eureka Charter Twp.	Y	N	Y	1,200 sq. ft. / N	Y	N	N	Supervisor	Supervisor	Twp. Board	Y
Evergreen Twp.	N	N	N	1,100 sq. ft. / N	N	N	N	Supervisor	Supervisor	Twp. Board	N
Fairplain Twp.		N	N		N	N	N				
Ferris Twp.	N	N	N	1,200 sq. ft. / N	Y	N	N	Supervisor	Supervisor	Twp. Board	N
Greenville City	Y	Y	Y	4,500 sq. ft. / N	Y	Y	Y	City Manager	City Manager	City Manager	Y
Home Twp.	N	N	N	60'x80' / N	Y	Y	Y	Twp. Board	Supervisor	Supervisor	Y
Howard City	Y	Y	Y	3,255 sq. ft. / Y	Y	Y	Y	Municipal Services Dept.	Village Manager	Village Council	Y

Table 7-2 Continued

Community	Community owns parks or natural areas	Community owns or participates in a municipal water system.	Community owns or participates in a municipal sanitary sewer system.	Size of Township/Village/City Hall. Plans to expand? If so, what size?	Buildings used by public (fire barns, storage buildings, etc.).	Community Police Dept.	Community has Fire Dept.	Party responsible for public facilities and equipment maintenance	Party responsible for public facility maintenance budget.	Party responsible for approving the public facility and mainenance budget.	Planned future public facility improvements.
Community Facilities/Responsibilities											
Lakeview Village	N	Y	Y	20'x80' / N	Y	N	N	Public Works	Village Manager	Village Council	N
Maple Valley Twp.	Y	N	N	40'x80' / N	Y	N	Y	Volunteers	Twp. Board	Twp. Board	N
McBride Village	Y	N	N	1,832 sq. ft. / N	Y	N	N	Commissioner	Clerk/ Treasurer	Village Council	N
Montcalm County	Y	N	Y		Y	Y	N	Drain Commissioner	Drain Commissioner	Drain Commissioner	Y
Montcalm Twp.	Y	N	N	N	Y	N	Y	Supervisor	Supervisor	Twp. Board	N
Pierson Twp.	N	N	N	4,400 sq. ft.	N	N	N	Twp. Board	Twp. Board	Twp. Board	N
Pierson Village	Y	N	Y	50'x100'	Y	N	N	Village President	Village President	Village Council	Y
Pine Twp.	Y	N	N	30'x52' / N	Y	N	Y	Twp. Supervisor	Twp. Board	Twp. Board	N
Reynolds Twp.	N	N	N	24' x 40' / N	N	N	N				
Richland Twp.		N	N	30' x 60' / N	Y	N	Y	Staff	Twp. Board	Twp. Board	N
Sidney Twp.	Y	N	Y	40'x80' / N	Y	N	N	Twp. Board	Twp. Board	Twp. Board	N
Sheridan Village	Y	Y	Y	40'x70' / N	Y	N	Y	Public Works	Village Council	Village Council	Y
Stanton City*	Y	Y	Y	N	Y	Y	Y	Public Works	City Manager	City Council	Y
Winfield Twp.*	Y	N	N	30'x50' / N	N	N	Y	Fire Chief	Fire Chief	Twp. Board	N

Source: Community facilities surveys
Rows in Pink = no community facility surveys returned. Facility information provided by County Planning Commission*

Map 7- 6

Montcalm County Administrative, Transportation and Support Facilities

Publicly Owned Administrative, Transportation and Support Facilities

1. County Administrative Building
   Michigan State University
   Extension, 4-H, Recycling
   County Maintenance Garage
2. County Facilities Complex
   8th Judicial Court
   6th District Court
   Probate and Juvenile Court
   Sheriff and Jail
   911 Dispatch
   Animal Shelter
3. County Health Department
   Senior Services
   Commission on Aging
   Behavioral Health
4. Road Commission
   Headquarters
5. Airport
6. Greenville DPS

8. Natural Resource
   Conservation Service,
   Farm Service Agency
9. Secretary of State
10. Family Independence
    Agency (FIA)
11. Public Safety Complex
12. Howard City Service
    Garage
13. Howard City Salt
    Storage Barn
14. McBride Village
    Equipment Storage
15. Maple Valley Township
    Community Center,
    Garage
16. Coral Fire Barn
17. Trufant Fire Barn
18. Animal Shelter

Source: Michigan Center for Geographic Information, Dept of Information Technology
and the National Center for Educational Statistics
Map Prepared by the Land Information Access Association, January 2005

Source:
Community

facilities surveys

EDUCATION FACILITIES AND SERVICES
Montcalm Community College (MCC)
In the 2009-2010 fiscal year, 3,641 students were enrolled in credit courses and took MCC classes at the following locations: MCC's Sidney campus, MCC's Greenville campus, which includes the Stanley & Blanche Ash Technology and Learning Center and the Bill Braman Family Center, MCC classrooms at the Panhandle Area Center in Howard City, and the MCC Ionia Center. In 2010, 275 students graduated from MCC with degrees and 114 earned certificates. In 2009-2010, 113 courses are available online and are becoming increasingly popular. MCC services Montcalm, Gratiot, and Ionia Counties and 90% of its graduates stay within the region.

Montcalm Area Career Center
The Montcalm Area Career Center provides State approved Career and Technical Education (CTE) classes to the seven local school districts of Montcalm County, as well as, students from area charter and private high schools. Students in the 10th, 11th and/or 12th grade may enroll in one of fifteen programs which includes: Animal Science/Veterinary Medicine, Automotive Technology, Business Management and Administration, Computer Support Technology, Criminal Justice, Computer Aided Drafting and Design, Construction Trades, Cosmetology, Dental Occupation, Diesel and Equipment Technology, Early Childhood/Elementary Education, Engineering Technology, Health Related Careers, Plant and Environmental Science and Welding Technology. Each program offers broad academic preparation tied to the field of specialization along with technical experience coupled with exposure to future career and educational opportunities in the field.

SCHOOLS AND SCHOOL DISTRICTS
Public Schools
The Montcalm Area Intermediate School District (MAISD) provides educational services to each of the seven local public schools districts in Montcalm County including: Carson City-Crystal Area Schools, Central Montcalm Public Schools, Greenville Public Schools, Lakeview Community Schools, Montabella Community Schools, Tri-County Area Schools, and Vestaburg Community Schools. These traditional public school districts serve the vast majority of all school-age children in Montcalm County. Recent enrollment trends show a slight decline in several districts. The most recent available enrollment data for each of these local districts as well as each school building within that district are shown in Table 7-3. Four additional school districts that lie adjacent to the seven districts in MAISD also reach some households within Montcalm County. They are: Morley Stanwood Community Schools, Belding Area Schools, Palo Community Schools, and Alma Schools. Nearly one-third of all public school students in Montcalm County attend the largest of these districts, Greenville Public Schools. Table 7-4 identifies non-public schools in Montcalm County and their enrollments. Table 7-5 lists several measures of populations enrolled in local schools, such as the percentage of students who have been identified as "economically disadvantaged", the percentage of students eligible to receive special education services, annual per-pupil expenditures, and the most recently published results identifying the percentage of students who have met or exceeded standards of academic proficiency as demonstrated on statewide assessments administered by the Office of Educational Assessment and Accountability (OEAA), known as the Michigan Educational Assessment Program (MEAP).

A significant amount of additional information on each of the local school districts is available at the Michigan School Report Card website at: https://oeaa.state.mi.us/AYP

or find school safety data from the Center of Educational Performance Indicators (CEPI) at: http://www.michigan.gov/cepi and more specifically as a link from the cite to the School Matters website at: http://www.schoolmatters.com. These web-based sources can provide up-to-date information on a range of school related issues including student discipline, operating expenditures, student achievement results, course offerings, financial statistics, and district demographics. In addition, readers may select research fields from which they can compare schools in Montcalm County to other schools across the State of Michigan. A large quantity of data on school districts, which is beyond the scope of this fact book, can be found at the Standard & Poor's school evaluation services internet site: URL www.ses.standardandpoors.com. The 2002 data includes school enrollment; graduation and dropout rates; MEAP, ACT, and PSAP test results; advanced placement participation levels; operating expenditures per student broken down several different ways; average teacher salaries; students per staff/teacher; median size of district's schools; performance cost indices (based on test results and per student operating expenses); fund balances; tax impact; taxable property value per student; long-term debt per student; and school district demographics (free or reduced lunch, level of adult education attainment, on-parent families).

Table 7-3
**Individual School Enrollment in Seven Montcalm County
School Districts**

Carson City-Crystal Area Schools	Location	Enrollment 942
Carson City Elementary (Grades K-3)	338 Eagle Avenue, Carson City	283
Carson City-Crystal Middle School (Grades 4-8)	213 East Sherman, Carson City	360
Carson City-Crystal High School (Grades 9-12)	213 East Sherman, Carson City	299
Central Montcalm Public Schools	Location	Enrollment 1,717
Central Montcalm Elementary (Grades K-1)	289 St. Clair Street, Sheridan	258
Central Montcalm Upper Elementary (Grades 3-5)	1488 South Sheridan Road, Stanton	509
Central Montcalm Middle School (Grades 6-8)	1480 South Sheridan Road, Stanton	433
Central Montcalm High School (Grades 9-12)	1480 South Sheridan Road, Stanton	517
Virtual Learning (Berrien Springs Partner Schools)		82*
Greenville Public Schools	Location	Enrollment 3,669
Baldwin Heights Elementary (Grades K-5)	821 West Oak Street, Greenville	519
Cedar Crest Elementary (Grades K-5)	622 South Cedar Street, Greenville	311
Lincoln Heights Elementary (Grades K-5)	12420 Lincoln Lake Road, Greenville	481
Walnut Hills Elementary (Grades K-5)	712 North Walnut Street, Greenville	380
Greenville Middle School (Grades 6-8)	1321 Chase Road, Greenville	841
Greenville High School (Grades 9-12)	111 North Hillcrest Street, Greenville	1,137
Virtual Learning (Berrien Springs Partner Schools)		121*
Lakeview Community Schools	Location	Enrollment 1,268
Lakeview Elementary (Grades K-3)	125 Fifth Street, Lakeview	335
Lakeview Middle School (Grades 4-7)	516 Washington Street, Lakeview	365
Lakeview High School (Grades 8-12)	9800 North Youngman Road, Lakeview	568
Virtual Learning (Berrien Springs Partner Schools)		46*
Montabella Community Schools	Location	Enrollment 826
Montabella Elementary (Grades K-6)	1456 East North County Line Road, Blanchard	425
Montabella Junior/Senior High School (Grades 7-12)	1324 East North County Line Road, Blanchard	401
Virtual Learning (Berrien Springs Partner Schools)		79**
Tri-County Area Schools	Location	Enrollment 2,147
MacNaughton Elementary (Grades K-2)	415 Cedar Street, Howard City	451
Sand Lake Elementary (Grades K-2)	15 South Seventh Street, Sand Lake	478
Tri-County Middle School	21350 Kendaville Road, Howard City	522
Tri-County High School	21338 Kendaville Road, Howard City	696
Vestaburg Community Schools	Location	Enrollment 630
Vestaburg Elementary (Grades K-6)	7188 Avenue B, Vestaburg	315
Vestaburg High School (Grades 7-12)	7188 Avenue B, Vestaburg	315
Virtual Learning (Berrien Springs Partner Schools)		79**

* Number not included in Enrollment
** Combined number with Montabella and Vestaburg, number not included in Enrollment
Source: mischooldata.org, 2013-2014 School Year

Non-Public Schools
Non-public or private schools also exist within the County; Beth Haven Christian in
Sheridan, Cedar Lake SDA Elementary in Cedar Lake, Cowden Lake Bible Academy in
Coral, Fish Creek School in Carson City, Fellowship Baptist Academy is in Carson City,
Grattan Academy in Greenville, Great Lakes Adventist Academy in Cedar Lake, St.
Charles School in Greenville, Head Start in Greenville. A number of students are home
schooled. See Table 7-4.

Table 7-4
Non-Public Schools, 2013-14 School Year

School	Location	Enrollment
Fellowship Baptist Academy	8070 Bloomer Street, Carson City	70
Beth Haven Christian	Sheridan	65
Brockway Christian Academy	10951 3 Mile Rd, Morley	17
Cedar Lake SDA Academy	7195 N Academy Rd, Cedar Lake	53
Cowden Lake Bible Academy	4931 Bailey Road, Coral	27
Fish Creek School	7217 S Garlock Road, Carson City	65
Grattan Academy	9481 Jordan Road, Greenville	(Ionia County)
St. Charles	502 S. Franklin, Greenville	126
Great Lakes Adventist Academy	7477 Academy Road, Cedar Lake	181
Registered home school students	various	1

Source: Montcalm Area Intermediate School District, 2015

Table 7-5
Measures of Public Schools in Montcalm County

School District	Enrollment in 2013-2014	% Economically Disadvantaged 2013-2014	% Special Education 2013-2014	MEAP Reading Proficiency 2013-2014	MEAP Mathematics Proficiency 2013-2014
Carson City-Crystal	971	59.00%	8.65%	66.34%	39.04%
Central Montcalm	1,721	62.00%	11.50%	64.71%	25.73%
Greenville	3,741	52.00%	13.39%	68.83%	27.30%
Lakeview	1,268	58.00%	13.49%	62.50%	30.39%
Montabella	830	65.00%	14.58%	55.56%	15.26%
Tri-County	2,164	54.00%	12.66%	64.71%	23.06%
Vestaburg	633	63.00%	14.69%	59.84%	26.77%

Source: Montcalm Area Intermediate School District, MICIS, OEAA Websites

PARKS AND RECREATION

The Montcalm County park system consists of seven recreation sites totaling about 170 acres and ranging in size from 2 acres to 69 acres. The parks include: Artman Park in Reynolds Township, Bass Lake Park in Richland Township, Camp Ford Lincoln Park in Cato Township, Carl Paepke Flat River Nature Park in Montcalm Township, Krampe Park in Winfield Township, William "Bill" McCarthy Park in Montcalm Township, and Schmied Park in Belvidere Township.

The location of twenty-four park and recreation sites, five state game areas and the Manistee National Forest are on Map 7-8. Other parks and recreational facilities in the County include several local parks and facilities, and a number of public fishing and boat launching sites. Recreational activities within the County consist of baseball and softball fields, basketball, volleyball and tennis courts, golfing, camping, bicycling, canoeing, hiking, and nature trails. For a list of parks and their facilities, see Table 7-6.

The following State Game Areas exist within Montcalm County: Edmore State Game Area, Flat River State Game Area, Langston State Game Area, Stanton State Game Area, and Vestaburg State Game Area (see Map 7-8). These areas of land are state-
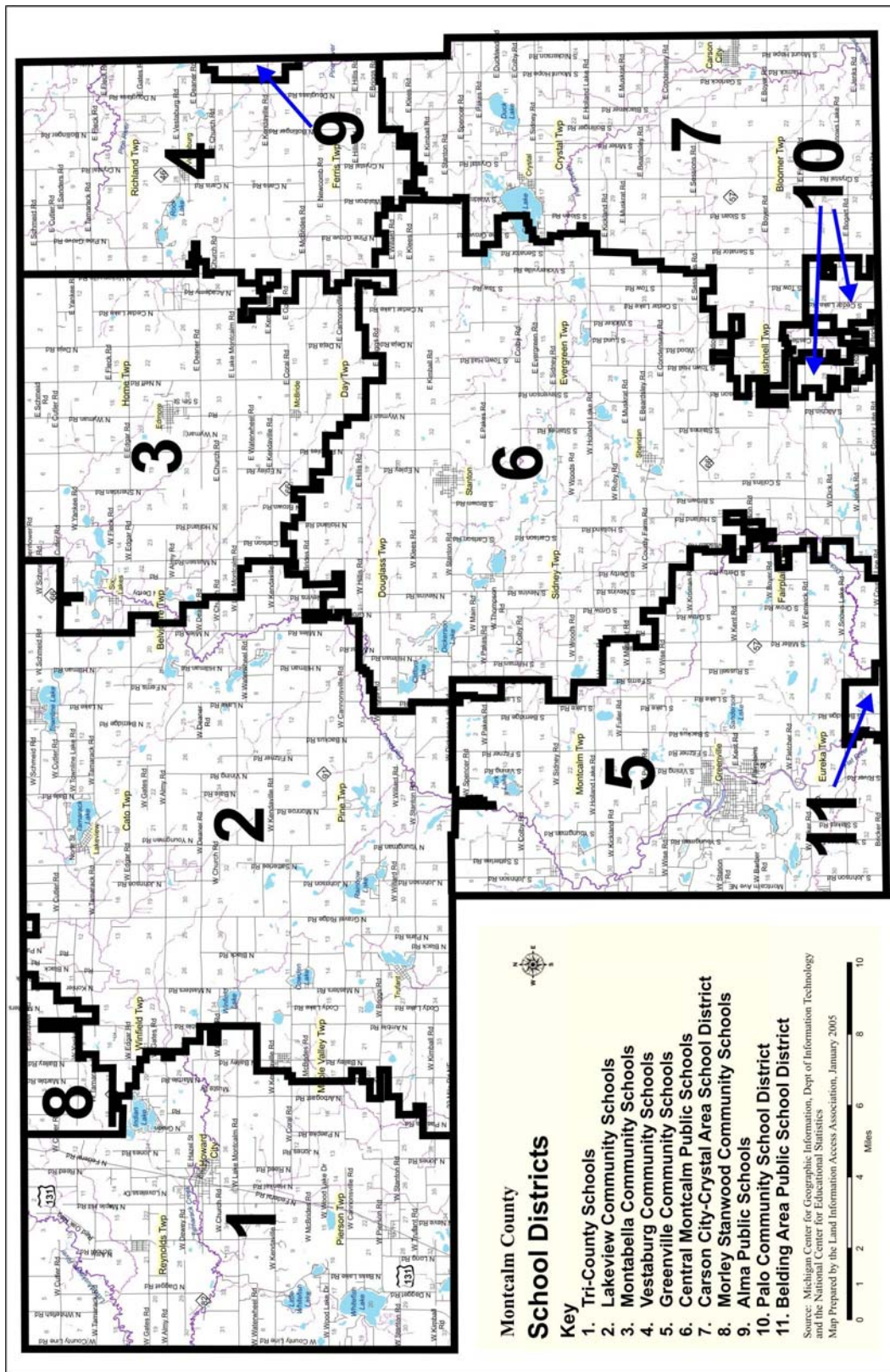
owned and are administered by the Department of Natural Resources (DNR), Wildlife Division. State Game Areas are managed to maintain diversity of several unique plant communities and to support a number of endangered and threatened species, in addition to providing a land base on which to hunt and engage in other recreation pursuits.

Montcalm County has six privately owned campgrounds. Red Pines Campground in Carson City (30 campsites), Pleasure Point RV Condominium Resort in Six Lakes (176 campsites), Family Campground in Edmore (25 campsites), Greenville Campground in Greenville (85 campsites), Snow Lake Kampground in Fenwick (178 campsites), and Camp Thunderhawk in Pierson (50 campsites).

To address county-wide recreational needs, the 2003-2008 Montcalm County Recreational Plan identified several action items. These include the installation of wells and associated facilities in Artman, Camp Ford Lincoln, Krampe, and "Bill" McCarthy Parks; a feasibility analysis of Schmied Park for converting the maintenance responsibilities to Belvidere Township from the Michigan Department of Natural Resources; an analysis of forming a private/public partnership to more efficiently operate camps at Camp Ford Lincoln Park; construction of a pavilion and improving a pedestrian bridge at Artman Park; improve or replace sleeping facilities and restrooms at Camp Ford Lincoln Park, constructing a barrier free fishing pier/platform, and developing a network of trails with support facilities at "Bill" McCarthy Park and Artman Park. Updating the County Parks and Recreation Plan is slated for 2007.

In 2003, there were 9 historic sites in the County listed on the state or national registers of historic places. These sites date from the 1800's and many of the small communities in Montcalm County have restored storefronts and streetscapes to reflect the historic heritage. See Table 7-7.

Map 7-7
Public School Districts Serving Montcalm County

Montcalm County
School Districts
Key
1. Tri-County Schools
2. Lakeview Community Schools
3. Montabella Community Schools
4. Vestaburg Community Schools
5. Greenville Community Schools
6. Central Montcalm Public Schools
7. Carson City-Crystal Area School District
8. Morley Stanwood Community Schools
9. Alma Public Schools
10. Palo Community School District
11. Belding Area Public School District

Source: Michigan Center for Geographic Information, Dept of Information Technology and the National Center for Educational Statistics
Map Prepared by the Land Information Access Association, January 2005

Source: United
Department of Education
States

Table 7-6
Local Community Recreational Facilities

Park	Community	Type of Activity	Location	Approximate Acreage	Facilities
Schmeid Park (County)*	Montcalm County	Picnicking, play	5603 Caroline Drive, Belvidere Township Section 6, Townline Lake	4	Playground, picnic tables, grills
Sheridan Roadside Park**	Bushnell Township		M-57		
Camp Ford Lincoln Park (County)*	Montcalm County	Camping, picnicking, swimming	6551 Schmeid Rd, Cato Township, Lakeview, Townline Lake	3	Cabins, restaurants, swimming
West park	Carson City	Walking, play area	M-57 @ Creek	22	Walking trails
Haradine Park		Fishing, picnicking	M-57 @ Creek	8	Shelters
Grove Park		Plat area, picnicking	Williams & Linden St	25	Horseshoes, shelter, swings
Crystal Park	Crystal Township	Picknicking	101 Lake	6	6 grills
South Pier Park		Swim, fish	Sloan & Sidney	1.5	2 grills, fishing pier
Noll Park			410 Smith	13	3 grills, 3 tennis courts, 4 ball fields, ice rink
Mid-Michigan MotorPlex*	Day Township	Racing			Race Track
Old Fence Rider Historical Center*	Edmore	Historical Study			Displays
Curtis Park**					
Bennet Park**	Evergreen Township				
Greenville Roadside Park**	Fairplain Township		M-57		
11 Parks*	Greenville	Athletics, linear activities, picnicking, water		160	Lake access, trails, picnicking facilities, in-line skating, biking
Not Identified	Home Township	Athletics, play, picnic, camping			Community Center, ball field, tennis, campground

Table 7-6 Continued

Park	Community	Type of Activity	Location	Approximate Acreage	Facilities
Ensley Park	Howard City	Play, athletics, picnicking	Shaw Street	3.5	Tennis courts, grills, pavilion, picnic tables, playground
Minnie Farmer Park		Picnicking	Orton Street	0.13	Pavilion, picnic tables, grill
Herbert J. Peck Park		Play, picnicking	Chestnut Street	1.26	Playground, picnic tables
The Depot		Picnicking, farmers market	Edgerton Street	0.5	Picnic tables
Lakeside Park	Lakeview	Picnicking, play	6th Street & Richardson	1.5	Grill
Wiseman Park	Maple Valley Township	Basketball, swings, picnicking	Bailey Rd, Coral	Less than 0.25	Volleyball and basketball courts, horsehoe pitch, grills, picnic tables, play equipment
Trufant Petersen Park		Basketball, swings, picnicking	A Street, Trufant	4	Volleyball and basketball courts, horsehoe pitch, grills, picnic tables, play equipment
Johnson Park**					
Robert David Memorial Park	McBride	Picnicking	1875 C Street	20	Ball fields, tennis courts, playground, grills, horshoe pitch
McCarthy Park (County)	Montcalm County	Picnicking	592 S. Greenville Rd, Montcalm Township	26	Picnic tables, shelter, playground, grills
Montcalm Township Complex	Montcalm Township	Picnicking, athletics	Township Hall	10	basketball & tennis courts, playground, picnic facilities
Village Park	Village of Pierson	Athletics	Grand Street	3	Ball fields, concessions stand
Farnsworth Park	Pine Township	Picnicking, swing set	M-91	4	

Table 7-6 Continued

Park	Community	Type of Activity	Location	Approximate Acreage	Facilities
Unnamed Park*	Reynolds Township			4	
Artman Park (County)*	Montcalm County	Picnicking, passive activity	7095 N. Amy School Rd, Howard City	30	Parking, 5 picnic tables
Old County Rd. Community Property	Richland Township	Baseball	Caris/Vestaburg	4	2 ball fields
Peasley Property Park		Softball	Caris/4th Street	2.5	Ball field
Marl Lake Roadside Park**			M-46		
Sidney Township Park	Sidney Township	Picnicking	Sidney	5	ball fields, playground, 2 grills
Pearl Lake Park	Sheridan	Picnicking, swimming	Washington Street		Pavilion, playground, grills, fishing pier
D. Hale Brake Park**	Stanton	Picnicking, athletics	Lincoln Street	5	Picnic tables, playgound, tennis courts, basketball court, ball fields
Larson-Keeler Park	Winfield Township	Picnicking, fishing, boating	Amble	5	Playground, picnic tables, grills, shelter, portable toilets
Krampe Park (County)	Montcalm County	Fishing, boating, picnicking	14555 W. Church Rd, Winfield Lake	20	Playground, picnic tables, grills, shelter, portable toilets
Tower Park**	Greenville	Sledding	City of Greenville		
Veterans Park**		Tennis courts			
Alan G. Davis Park**		Ball fields, picnicking			
Carl Paepke Flat River Nature Park (County)	Montcalm County	Trail walking, horseback riding	3494 S. Johnson Rd, Gowen, Montcalm Township	69	Walking trails
Bass Lake Park (County)	Montcalm County	Fishing, picnicking	Richland Township, south of M-46 on Vestaburg Rd.	2	
Montcalm County 4-H Fairgrounds **	Montcalm County	Exhibits, events	Montcalm Township	63	Exhibit Hall, campsites, horse facilities

*Source: Community Facility Surveys / *Information obtained from Montcalm County / **County identified park/facility but detailed information needed*

<div align="center">Table 7-7</div>
<div align="center">**Montcalm County Sites on Historic Register**</div>

Montcalm County Historic Sites: Names and Addresses	National Register	State Register	Marker
Church, Charles, Gibson, Frank, House, 301 S. Barry St, Greenville	na	1989	na
Clifford Lake Hotel, 561 Clifford Lake Drive, Stanton	na	1983	na
Cowden Lake Church of Christ, 4510 Gravel Ridge Rd, Coral	na	1989	na
Ecker, Ambrose, House, 615 Lafayette St, Greenville	na	1988	na
Gibson, Charles, House, 306 N. Camburn St, Stanton	1987	1984	na
Greenville Informational Designation, 213 N. Franklin St, Greenville	na	1975	na
Little Denmark Evangelical Lutheran Church, 1031 S. Johnson Rd, Gowen	na	1985	1986
Saint Paul's Episcopal Church, 305 S. Clay St, Greenville	na	1992	1993
Winter Inn, 100 N. Lafayette St, Greenville	1980	1979	na

Source: Michigan Department of State
Na = not available

Huron Manistee National Forest
According to the U.S. Forest Service: *"The Huron Manistee National Forests comprise almost a million acres of public lands extending across the northern lower peninsula of Michigan. The Huron-Manistee National Forests provide recreational opportunities for visitors, habitat for fish and wildlife, and resources for local industry."*

Of the two forests, the Huron and the Huron- Manistee, only portions of the Manistee National Forest are in the northern corner of Montcalm County.

The Manistee Forest was established in 1938 and now has a gross area of 1,331,671 acres, of which 531,595 acres (40%) are in National Forest ownership. Remaining lands consists of a mixture of local government, quasi-public (private land open to public recreation), State, and private ownership.

Forest cover types are generally dependent on glacial landforms; logging activities followed by wildfires during the late 1800's and early 1900's; and later planting of pines. The typical forest of the 1800's was replaced by young, even-aged forests that had a large component of aspen and jack pine. Currently, about one-half of the Huron-Manistee National Forests' timber consists of long-rotation species that are even aged. This includes tree species with productive life spans of 80 to 200 years, such as maple, oak and red pine. The remaining timber consists of short rotation species, such as aspen, birch and jack pine.

Wildlife such as deer, grouse, and hare that are associated with early succession species of trees and young forests are declining in numbers as the existing forest matures.

Map 7-8 and 7-9 show both the official boundary of the Manistee Forest within Montcalm County and those lands within the National Forest that are under Federal ownership.

Public Access Sites
Map 7-9 shows the location of twenty-four DNR public access sites in Montcalm County. These are sites where the public can enjoy access to a wide range of lake, river and stream resources for fishing, boating, wildlife viewing and other recreational activities. Many of these access sites are located within State Game Areas. Additional public access sites to Montcalm County lakes and rivers are operated and maintained by local villages, cities and townships.

Map 7-8
Montcalm County Parks and Recreation Areas
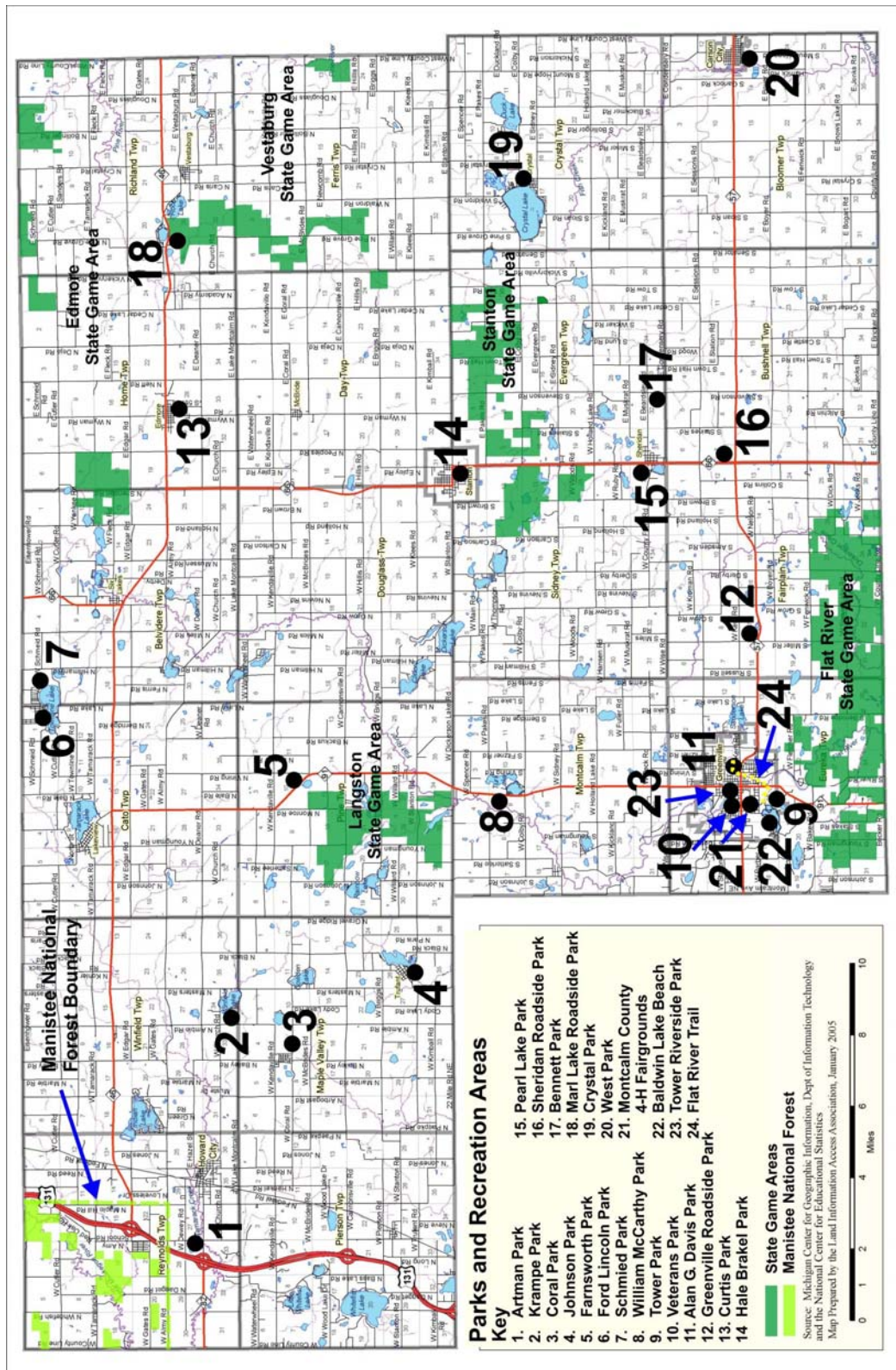
Source: Montcalm County Community Facility Survey

Map 7-9
Public Access Sites in Montcalm County
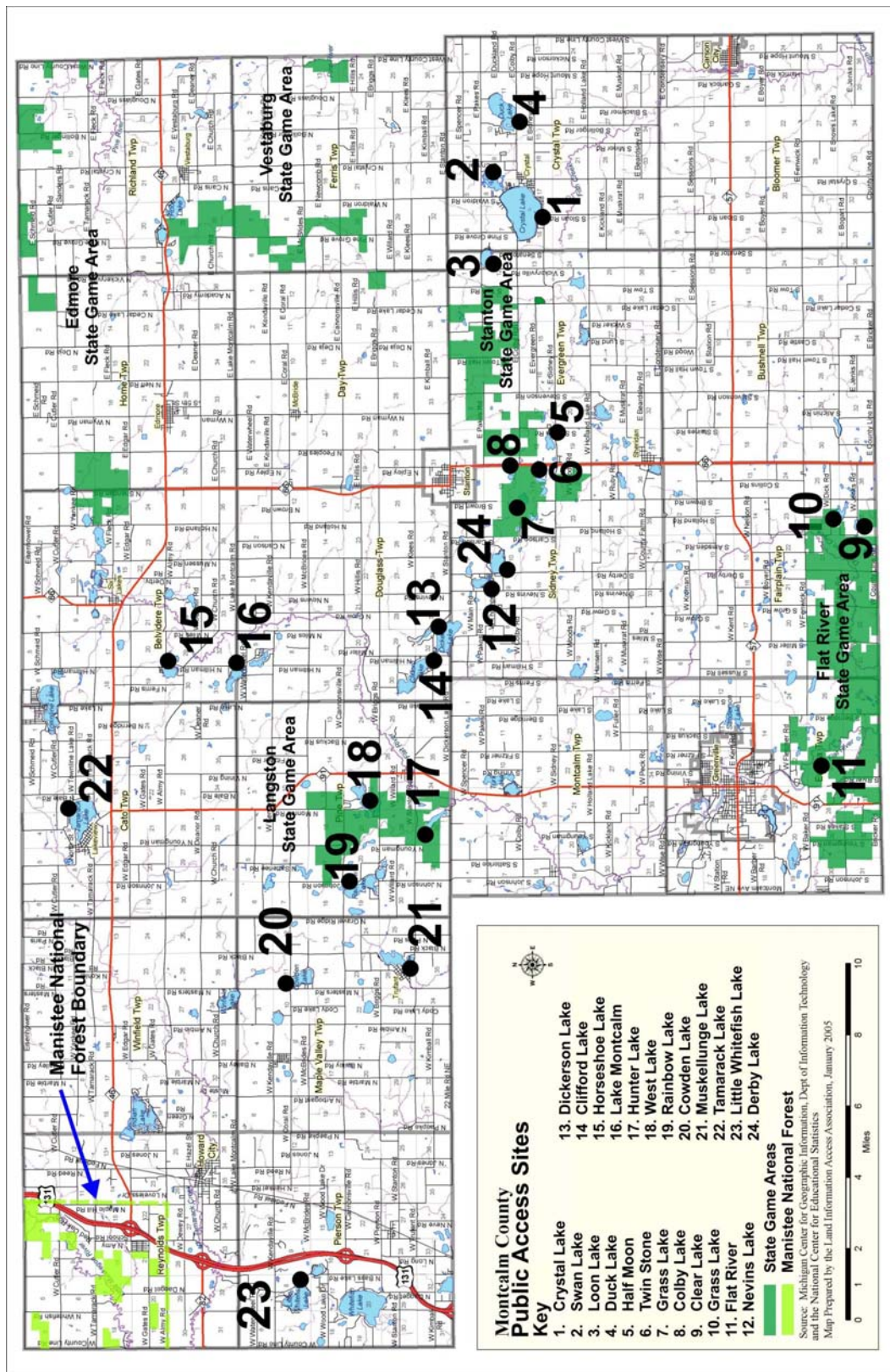
Source:

Montcalm County Community Facility Survey

FACILITY NEEDS

Table 7-8 provides a list of facility improvements, staffing or funding needs identified by Montcalm County.

Table 7-8
Facility Improvements, Staffing and Funding Needs

Facility Need	Who Identified the Need
Improvements at Ford Lincoln Park, new cabins, restrooms and kitchen	Parks & Recreation Commission
New windows at Administration Building	County Controller
Façade improvements on the Administration Building	County Controller
Various capital needs of about $600,000	County Controller
A county GIS Department	Register of Deeds, Physical Resources Committee of the Board of Commissioners
New Boiler at Administration Building	County Controller

These improvements should be included in county capital improvements programming and efforts made to secure funding.

Chapter 8
SUMMARY AND IMPLICATIONS

INTRODUCTION
This Chapter provides a short summary of important data presented in earlier chapters of this Fact Book. It also discusses the general implications of that data as it relates to community planning in Montcalm County.

DEMOGRAPHICS
Population
The total population increased in Montcalm County between 1970 and 2004, but the size of families fell and the population grew older. The greatest population increase is largely associated with communities along US-131 that connects to Grand Rapids and Big Rapids and along M-57 which connects the Greenville area to Grand Rapids. These routes allow residents of Montcalm County an easily accessible and less time-consuming commute to and from these cities.

- The 2010 population for Montcalm County by the U.S. Bureau of the Census was 63,342 persons. The County's population increased 60% between 1970 and 2010, an increase of 23,682 persons from 1970.
- The Villages of McBride, Pierson, and Sheridan, experienced a small combined decrease of population during that period of over 200 persons. Several townships also had very little or no change in population including Day, and Home Townships as well as the City of Stanton and the Village of Lakeview.
- The County person per household average fell from 2.85 to 2.63 persons per household from 1980 to 2010, a decline of 7%. This is consistent with state and national trends.
- These trends suggest there will continue to be a need for a greater number of residential units, but with fewer bedrooms per unit. Impacts will be most cost effective and have the fewest negative effects, if new homes are close to public services and commercial areas, close to transportation and close to recreational facilities.
- The demand for suburban and rural housing will likely remain for families with children, but demand for housing for single parent families, singles and couples without children may be strongest close to existing cities and villages.
- As the aging trend continues, there will be less need for schools as there will be fewer young persons and more need for emergency services, health care, and a wider range of housing for the elderly.

Housing
Housing in Montcalm County mostly consists of owner-occupied (70%), older (80% prior to 1980), single family homes (75%), and mobile homes (17%).

- As with population growth, the greatest increase in housing growth was also in the communities with easy access from US 131 to Grand Rapids and Big Rapids.
- Montcalm County had 5,366 new housing units constructed from 1990 to March 2010. That is an average of 268 units per year.
- Few of the vacant housing units (19.3% of total housing) are used for seasonal, recreational, or occasional use. Over the past three decades many seasonal

homes have been torn down or converted to year around use since many of the lakes in the County are close to job providing areas.
- A large stock of older homes can mean that housing is more affordable. However, older homes require more maintenance and repair. Housing conservation programs may be necessary over the next twenty years to ensure the housing stock is properly maintained.

ECONOMY
Employment and Unemployment
The available labor force can be a crucial determinant in the decision making process for business attraction and retention.
- According to the Michigan Department of Labor and Economic Growth, Montcalm County saw a decrease in employment of 1,948 persons between 2000 and 2013.
- The decreased number of employed persons between 2000 and 2013 in Montcalm County is in part due to the closing of many manufacturing plants and major reductions in others in the region.
-
- Montcalm County has a higher proportion of its population employed in the manufacturing, agriculture, public administration, and construction sectors than the State as a whole. With such a strong reliance on the manufacturing sector, Montcalm County's economy rises and falls with the fate of that sector.
- Unemployment rates in Montcalm County have generally been high in comparison to surrounding counties and the State of Michigan.

Labor Force
The Montcalm County labor force (all persons employed or unemployed who are able to work) has grown from 23,600 in 1990 to 28.548 in 2012.

Business Establishments
There is an array of employment opportunities within Montcalm County, with retail trade establishments being the largest in number and "other services" (mostly professional services) second, followed by education and health establishments, and construction.
- These businesses will become increasingly important if the number of people who work outside of, but live in Montcalm County continues to rise.
- The location of new service businesses will be important decisions for Montcalm County communities to make. If they contribute to, or destroy the attractive natural character of roads, the small town character of cities and villages and efficiency of existing roads will be injured.

State Equalized Values (SEV) of Property
Property tax values are important indicators of the relative strength of different sectors of the local tax base and local economy. The most significant change in Montcalm County is a loss in relative value of agricultural land and a rise in industrial land, from 1990-2004. However, the rise in industrial land value will soon be a significant decline if large factories close.

If Montcalm County wishes to diversify its tax base, it will need to provide for more industrial and commercial growth, and rely less on residential development. This is not the trend the county is experiencing. The residential sector can require more in public

service costs than it provides in taxes. Unless the commercial and industrial sectors, which tend to provide more in revenues than they cost in public services are sufficiently strong, it will be difficult to continue to provide the same or an improved level of public services. This is especially true if the pattern of development is widely spread and low density.

Travel Time and Commuting Patterns for Workers
The length of time it takes for one to travel to work can be used as an indicator for traffic congestion and can be used to gauge the degree to which a community is a "bedroom" community or an employment center.

- Montcalm County had a mean commute time of 28.2 minutes which suggests it is largely a bedroom community where people live in one place and work in another.
- Although the percentage of those using public transit nearly doubled, the amount of public transit usage, in comparison to the total workforce, is extremely small.
- Workers commuting outside of the county increased by 5,459 or 10.4% between 1990 and 2000, which means an increase in travel time and travel distance.
- If these trends continue, there will be an increased demand for road improvements to ease travel-related problems. This is particularly true of M-57 from Greenville to US-131.

NATURAL RESOURCES, LAND AND ENVIRONMENT
The natural environment of Montcalm County is vital to the health of its citizens, to the quality of life in the County, to tourism opportunities and recreational economy and to the life of future County residents and businesses. Montcalm County natural resources include surface and ground water, air and soil, plants and animals in farms and forests.

Water Resources
Montcalm has a number of important water resources. All of these are located in one of four major watersheds. To protect these resources, it is important to address the land areas within the watershed because as water drains off the land or leaches down into the groundwater it carries with it the wastes, by-products and effects of human activities throughout the watershed.

- The four major watersheds in Montcalm County are the Muskegon River, Lower Grand River, Maple River, and Pine River. Within the Lower Grand River Watershed is the Flat River and portions of the Flat River are designated as a Country-Scenic River. This designation provides for higher levels of protection from erosion and visual blight.
- Among the many concerns for the watersheds in Montcalm County are loss of habitat and degradation, nonpoint source pollution, and PCB contamination. A number of endangered animals live within these watersheds as well as a greater number of threatened plants and animals.
- The many rivers and streams in Montcalm County can overflow their banks following snowmelt or heavy rains. Only the City of Greenville, Eureka and Reynolds Townships have participated in the FEMA floodplain mapping and regulatory program.

Current Land Use/Cover
Montcalm County is comprised of nearly 460,900 acres. According to 1978 aerial photography, supplemented by aerial photography for three townships in 1998, over half

(52%) of the land is currently being used for agriculture. Forest land covers 27% of the county, while rangeland, urban and built-up land, water and wetlands together make up only approximately 20% of the county.

PA 116 Farmland Preservation
As of March 2012, it is estimated that over 70,000 acres of land in Montcalm County is enrolled in the Farmland and Open Space Preservation program (PA 116 of 1974, now Part 361 of PA 451 of 1994, the Natural Resources and Environmental Protection Act). This is a land area equivalent to approximately three townships, and compares to 73,000 acres enrolled in 2003. There are about 4,200 acres of agreements in 2012 that have not been completed which may account for the reduction in acreage. The State of Michigan estimates that 35% of Michigan's farmland is in some form of a preservation agreement which compares to 28% of Montcalm County's farmland in an agreement. While a PA 116 agreement helps preserve farmland, and thus farming in Montcalm County, it is only saving farming for as long as the farmer holds a PA 116 contract with the state. More permanent farmland protection tools are available, such as purchase of development rights (PDR). Farmers are paid for the development rights which are then permanently extinguished and while the land can thereafter be farmed, it cannot be used or sold for other non-agricultural purposes. In order to apply for state PDR funding, the county needs to prepare a PDR Plan, or to have a PDR Plan as an element of the county Comprehensive Plan.

Land Divisions
Montcalm County has experienced the rapid fragmentation of large tracts of rural land into 5 and 10 acre parcels for use as large lots for single family dwellings.
- This practice results in the rapid transformation of farm and forest land and dramatically changes the character of rural areas over as little as a decade.
- It also results in new and growing public service costs as new non-farm residents demand a higher level of public service costs than farm residents, yet the growth in residential tax base is rarely enough to pay the full cost of the demanded new services.
- The unrestricted division of parcels of land can also result in complex patterns of narrow, tiered lots, creating illogical development. This can also create problems for emergency vehicles, road maintenance, and overall general access. This pattern can generally be prevented by requiring a reasonable lot width and frontage on a public or well-designed and constructed private road, lot depth-to-width ratios, prime and unique agriculture land preservation, as well as by using PUD and private road provisions.

Build Out Analysis
A buildout analysis illustrates the potential impact of existing master plans and zoning policy, if all land develops at the maximum permitted density. Eighteen jurisdictions in Montcalm have a master plan (according to an Institute for Public Policy and Social Research 2003 survey) and 18 have a zoning ordinance (according to Montcalm County).
- A buildout analysis of zoning ordinances of local governments in Montcalm County revealed a potential future population of 759,476, which is an increase of 695,849 over the 2004 estimated population. This shows tremendous "over zoning," especially in the rural parts of the county.

TRANSPORTATION
Traffic on County Roads
The state trunkline system is the spine and the county road network is the arteries in the local transportation system in Montcalm County. This network is extensive and in generally good condition.

- The highest average daily traffic on federal and state trunklines is on the US-131 Expressway (22,800), M-57 (6,700) and M-91 (7,200).
- The highest average daily traffic on county roads in the County is on Federal Road (old US-131) in Pierson Township (7,448), followed by Stanton Road in Day Township (6,108), and Federal Road in Reynolds Township (5,801). Federal Road runs parallel to US-131, which results in the high volume of traffic in the adjacent communities.
- Despite the township contributions to improving the county road network, there are more road repair and improvement needs than current revenues can pay for.
- If future development of residences along county roads continues at recent rates, the increased traffic will widen the gap between needs and available revenues.

Trails
Montcalm County's bicycle and non-motorized paths or trails offer users a variety of recreational opportunities in safe areas that provide the space and accessibility for activities such as biking, walking, jogging, in-line skating, roller skating and cross country skiing. Trails can provide a connection between communities. The major trails in Montcalm County include: the Fred Meijer Heartland Trail, White Pine Trail State Park and the Fred Meijer Flat River Trail.

PUBLIC FACILITIES AND SERVICES
Montcalm County and local jurisdictions maintain a wide variety of municipal, utility, public safety, educational, health and recreational facilities and provide a variety of services. The extent of future growth and the pattern of that growth will both be influenced by the future capacity of sewer and water systems and the extent of those systems. How efficiently the county and local communities can provide those services will affect the pattern of future growth.