

# TUSCOLA COUNTY

## GENERAL DEVELOPMENT PLAN

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Tuscola County, Michigan

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Caro, MI 48723

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<https://www.tuscolacounty.org/planning/>

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Prepared by: Tuscola County Planning Commission

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**Effective Date:**

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# Tuscola County Development Plan

## Executive Summary

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The Tuscola County Development Plan (TCDP) is a state-required guidance document. It serves the purpose of providing basic guidelines and assistance material for the development of municipal master plans. In Tuscola County, this document focuses and provides guidance for two large overarching county goals, local municipal control and the preservation of farmland.

The organization of this document is designed to support these two priorities. The document is divided into seven parts.

- Sections one and two provide the legal authority, purpose, planning goals, and policies that form the foundation of the county plan.
- Sections three, four, and five provide information important to fostering local and municipal planning. This material includes guidance on developing effective capital improvement plans, a county-level community assessment, and overall county-level objectives. The county profile is also provided to facilitate and improve local municipal planning factors.
- Section six highlights the Farmland and Open Space Preservation Program. In addition to being a primary focus of Tuscola County, this section also provides a critical planning factor for local development.
- The appendix serves a dual purpose. First, it provides the planned future state of each local municipality. This allows for direct cross-examination of municipal purposes and more easily highlights potential conflicts and incompatibilities. The appendix also provides information on county-level community initiatives.

The periodic revisiting and updating of the TCDP is necessary to ensure that the document continues to be relevant and provides useful information. During the review and revision of this version of the TCDP, it was noted that the last county-wide community assessment was conducted in 2005. Since this date, there have been numerous changes within the county as evidenced by the County Profile. These changes in population density, age, and economic factors indicate additional considerations for community development should be considered and included in the next TCDP as well as replace the existing Community Assessment as an additional guidance document.

**The Tuscola County Planning Commission recommends a Community Assessment Team be formed over the next two years to evaluate the current state of the county**

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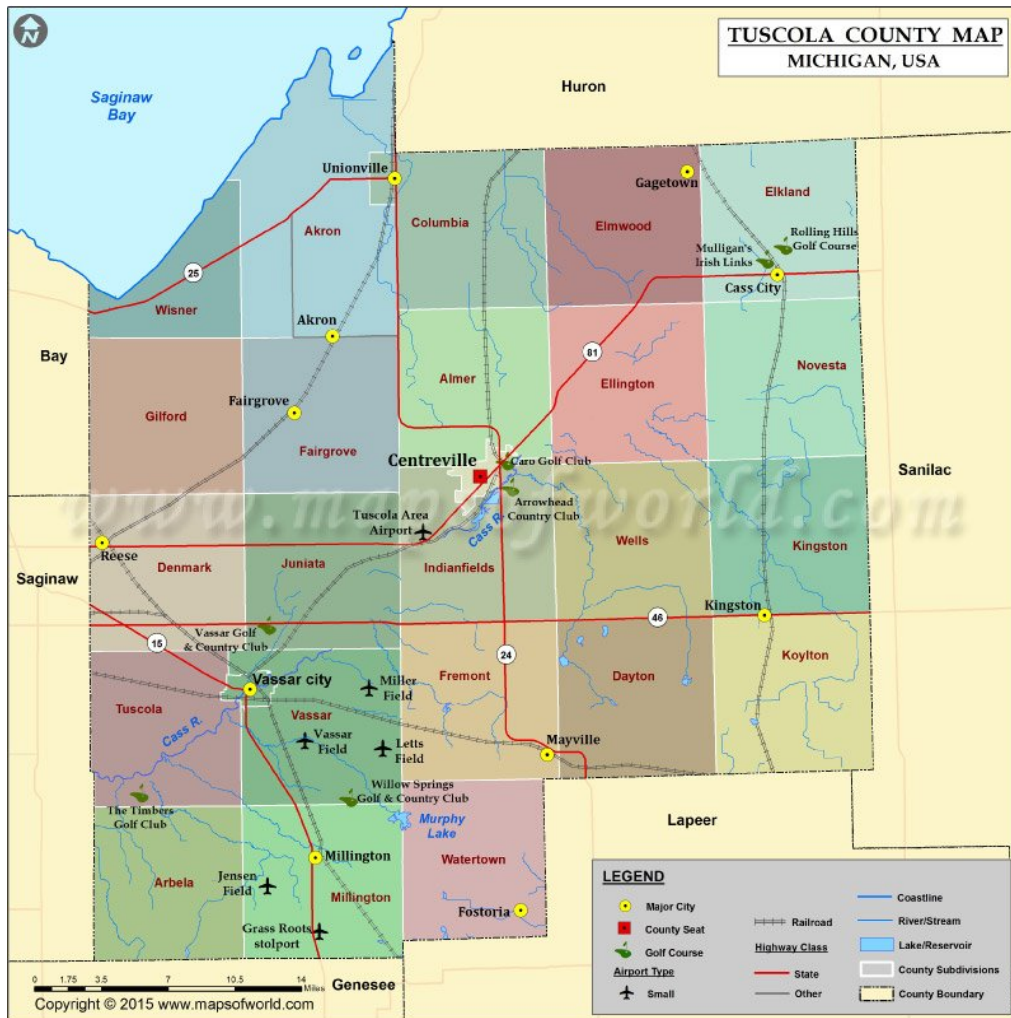
# 1.0 Introduction

## 1.1 Regional Setting

Tuscola County is located at the western edge of the “Thumb” area of Michigan’s Lower Peninsula. The County has a year 2020 population of 53,323 and covers an area of over 800 square miles. The surrounding counties are Bay and Saginaw to the west, Huron to the north, Sanilac to the east, and Genesee and Lapeer to the south. The County has a 20-mile stretch of shoreline along Saginaw Bay at its northwest border.

The County contains 34 units of local government: two cities, nine villages and 23 townships. Tuscola County is predominantly rural, with extensive agriculture and small communities. Family farms characterize agriculture in the County. Tuscola County sits in close proximity to the population centers of Bay City, Flint and Saginaw, and maintains excellent access from state highways M-15, M-24, M-46, and M-81.

Figure 1 Tuscola County, Michigan



## 1.2 Authority to Plan

The Tuscola County Planning Commission has prepared this development plan under the authority of the Michigan Planning Enabling Act, Public Act 33 of 2008 as amended. Section 37 states:

1. *A county board of commissioners may designate the county planning commission as the metropolitan county planning commission. A county planning commission so designated shall perform metropolitan and regional planning whenever necessary or desirable. The metropolitan county planning commission may engage in comprehensive planning, including, but not limited to, the following:*
  - *Preparation, as a guide for long-range development, of general physical plans with respect to the pattern and intensity of land use and the provision of public facilities, together with long-range fiscal plans for such development.*
  - *Programming of capital improvements based on relative urgency, together with definitive financing plans for the improvements to be constructed in the earlier years of the program.*
  - *Coordination of all related plans of local governmental agencies within the metropolitan area or region.*
  - *Intergovernmental coordination of all related planning activities between the state and local governmental agencies within the metropolitan area or region.*
2. *In addition to the powers conferred by other provisions of this act, a metropolitan county planning commission may apply for, receive, and accept grants from any local, regional, state, or federal governmental agency and agree to and comply with the terms and conditions of such grants. A metropolitan county planning commission may do any and all things necessary or desirable to secure the financial aid or cooperation of a regional, state, or federal governmental agency in carrying out its functions, when approved by a 2/3 vote of the county board of commissioners.*

The Tuscola County Planning Commission has amended this General Development Plan under the authority to plan requirements as set forth by the Michigan Zoning Enabling Act, Act 110 of 2006, specifically article III, Zoning Commissions, effective July 1, 2006.

## 1.3 Planning Approach

The Tuscola County Development Plan process has a long history. The first Tuscola county General Development Plans was adopted in 1974. A Vision and Policy Plan was adopted in January 1998 to redirect and refocus county planning. An updated General Development Plan was adopted in 2002. The Tuscola County General Development Plan of 2008 was developed using the principal that it should be based upon a “bottom-up” rather than “top-down” approach. In other words, the Plan would be based upon the following assumptions:

- The most effective planning and land use controls are accomplished at the local level;
- The plan should build upon the strength of all local planning efforts to date in the County; and
- The County Plan should strengthen local planning.

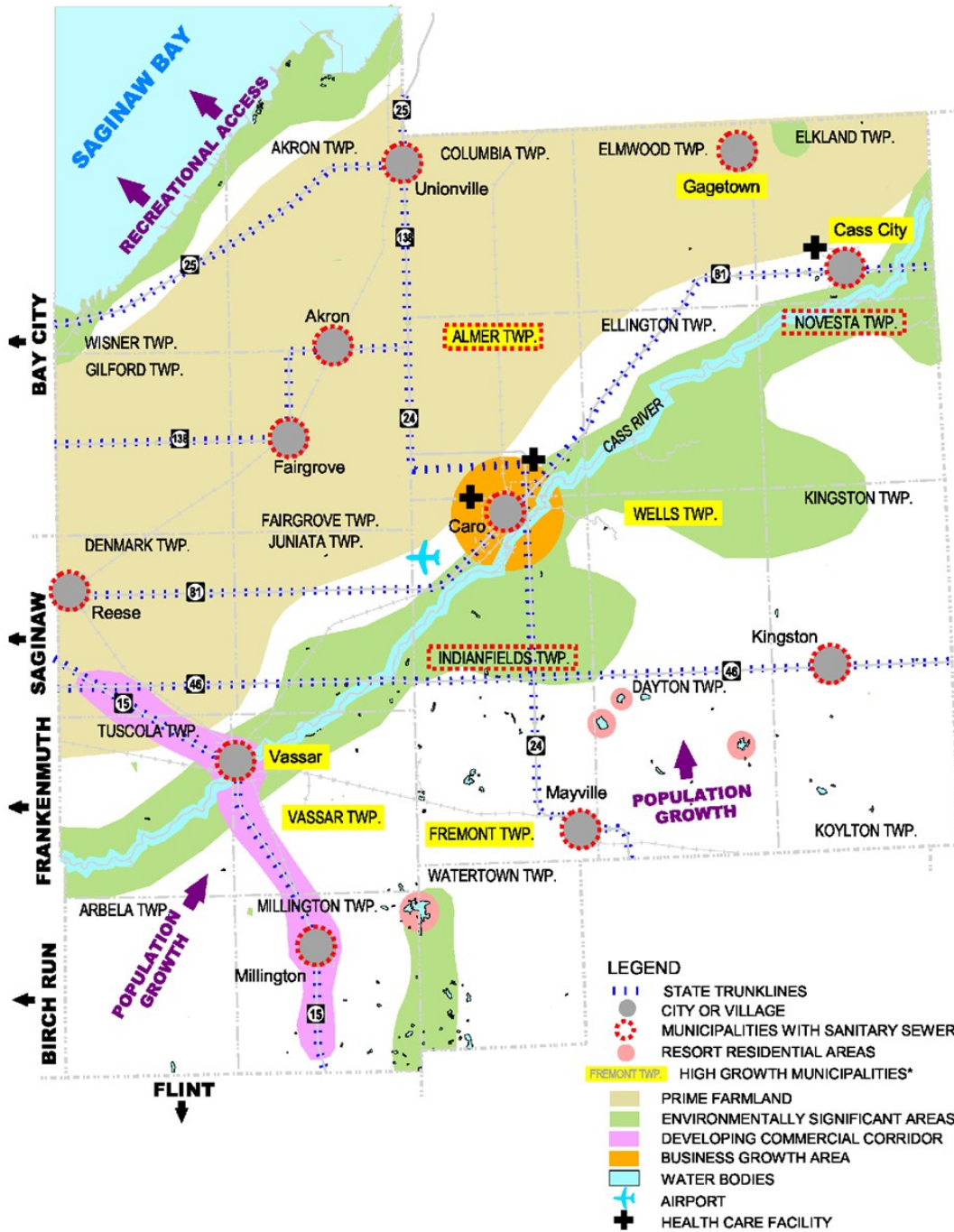
These assumptions were reflected in the 2013 Tuscola County General Development Plan update in 2013 and are maintained in this 2023 revision.

#### **1.4 Plan Organization**

The Plan is organized into six major sections.

- Section One: Introductory information, including the regional setting for Tuscola County, legal authority for the County to plan, and purpose of the Plan.
- Section Two: Countywide planning goals and policies that form a basis for the Plan.
- Section Three: Recommendations for developing a Capital Improvements Program.
- Section Four: A review of the current status of planning at all levels of government in and around Tuscola County and other considerations.
- Section Five: The County Profile.
- Section Six: Farmland and Open Space Preservation

Figure 2 Planning Determinants



## 2.0 Planning Goals and Policies

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### 2.1 Planning Determinants

Figure 2 reveals planning determinants. Planning determinants are major considerations of the future land use pattern:

- The preservation of prime farmland north of the Cass River.
- Tourism industry growth associated with new Saginaw Bay shoreline access, the Cass River, bordering state hunting lands, and resort residential areas surrounding inland lakes.
- County receipt of new population and residential growth from the south extending along the M-24 and M-15 corridors.
- Continued expansion of Caro as the County focal point of business growth, along with M-15 as a developing commercial corridor.
- Continued County reliance on employment and shopping opportunities found in Bay City, Saginaw, Birch Run, Frankenmuth, and Flint.
- Maintenance of a rural development pattern because of limited public sanitary sewer and water systems.

### 2.2 Tuscola County Goals

The “*Tuscola County Goals and Policy Plan*”, originally formulated in 2008 and amended in 2012, was reviewed in 2022 and 2023. The following is a summary of that plan:

#### General Goals and Policies

1. All land use and development shall be based on PA110 of 2006 as revised, PA 33 of 2008, Michigan’s Planning Enabling Act of 2008 and Schindler’s Land Use Series Checklist.
  - a. Land use policies shall ensure the continued health, safety and general welfare of the residents of Tuscola County through Master Plans and Zoning and education and training seminars.
  - b. Land uses shall be grouped in a well balanced pattern of land uses that are in proper relationship to each other, meet present and future community needs, and provide efficient, economical and environmentally practical land use
  - c. Redevelopment will be encouraged, consistent with other County goals supporting orderly planning and well-organized land use.
2. Positive elements of the Tuscola County general environment will be maintained and preserved to enhance the character and livability of the region. These efforts will be promoted through
  - a. Assisting local units of government to comply with PA 110, PA 33 and other legal requirements.
  - b. Reviewing local municipal Master Plans, zoning ordinances and ordinance changes for local continuity and county harmony.
  - c. Offering assistance and education regarding legal requirements required through the planning and zoning process.

- d. Providing guidance and assistance in managing, yet not inhibiting growth.
- e. Evaluating the availability and adequacy of community services and assist and promote their local development. These services include those supporting public safety, community facilities, public utilities, streets, disaster mitigation, emergency preparedness and other similar efforts for the general good.

### **Planning and Zoning Goal:**

The County Planning Commission will promote reliable and coordinated decision-making on all land use issues by county and local units of government that are consistent with Federal and State agencies and guidelines. Generally, the County Planning Commission retains the responsibility to advise local communities to prepare planning documents and zoning regulations.

The Tuscola County Planning Commission will:

1. Take a leadership role in providing local units of government with the planning and zoning data and techniques they need to properly deal with development or land use issues.
2. Promote consistent and coordinated decision-making on all land use issues by all Federal, State, and County agencies; as well as all local units of government.
3. Work with all local units of government to improve communication on land use and development matters of interest or concern to all County Residents and provide a recognized and respected forum for discussions on issues of common concern.
4. Encourage all local units of government to prepare or update land use plans and provide data, information or technical assistance for these master plans, where possible or when requested.
5. Study the feasibility of implementing a geographic information system within the County capable of meeting the needs of County departments and local units of government.
6. Establish a strategic program that will identify specific organizations, processes and a structure responsible for implementing the various plan proposals contained within this document.

### **Implementation Strategies:**

1. Shape the Tuscola County General Development Plan so that it is in part a traditional “county master plan,” but also a “Tuscola County Planning Guidebook,” providing tools, techniques, and references that both the County Planning Commission and local planning commissions can utilize.
2. Prepare an annual strategic work plan for non-capital tasks, to be undertaken by the Planning Commission, including such items as (1) grant writing, (2) zoning ordinance or zoning technique updates, (3) county-wide/regional training programs, (4) other community “outreach” efforts.
3. Utilize community taskforces for the study and planning that will be required to implement future plan proposals.
4. Maintain and develop information useful for the zoning and planning process for reference and disbursement to county and local municipal officials.

5. Review and revise as necessary the County Development Plan every five years as required by MCL 125.3845 MICHIGAN PLANNING ENABLING ACT - Act 33 of 2008
6. Recommend countywide surveys and analytical reports on a periodic basis to encourage and measure county development. In particular, the county should be encouraged to undertake a new County Wide Community Assessment. The previous assessment was undertaken in 2005.
7. Encourage municipalities, including the County, to begin or continue to plan large scale infrastructure investments using the Capital Improvement Program model.

## 3.0 Capital Improvements Program

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A capital expenditure can be defined as any outlay that produces benefits in periods beyond the current accounting period. Examples include buildings, bridges, motor vehicles, computers and other high cost (typically \$5,000 or more) items. A Capital Improvements Program (CIP) establishes a formal mechanism for consideration and implementation of capital expenditures within prevailing constraints covering a period of six (6) years, with the first year representing the current capital budget.

At the current time, CIP activities for Tuscola County are not managed within the Tuscola County Planning Commission. The following information is offered as best practices for county departments and local municipalities as they consider capital improvements.

### 3.1 Need for a CIP

The CIP is a strongly suggested part of municipal planning as indicated in the Michigan Planning Enabling Act of 2008. MCL 125.3865 indicates that *“Any township may prepare and adopt a capital improvement program. However, subsection (1) is only mandatory for a township if the township, alone or jointly with 1 or more other local units of government, owns or operates a water supply or sewage disposal system”*. None the less there are strong advantages to including a CIP with regular review into the development of a municipality’s future development. Some of these advantages are listed.

- There are strong equity advantages. Projects may be paid during the life of the project; thus, all users (existing and future populations) pay for the project.
- Capital budgets can help to balance the tax rates for large individual projects.
- In a single year budget, there usually is a bias against big-ticket items. A multi-year CIP can, therefore, improve the chances for a more reasoned response to a demand for public facilities and improvements.
- CIPs can help to regularize construction activity, avoid bunching of debt and to balance spending with the resources that are available.
- A CIP when used as an administrative tool and help to avoid mismanagement of programs and funds (i.e., paving a street one year only to tear it up the next year to construct a sewer).
- A CIP can allow improvement proposals to be tested against set policies and/or goals, objectives and plans of the community.

### 3.2 CIP Process

A seven (7) step process is used in preparing a CIP. Steps one and two identify the range of potential projects and financial support. Steps three through seven provide a methodical means of gathering facts, opinions and evaluation to assist in the decision making process.

#### Step 1: Identify Alternative Fiscal Resources

Funding can come from a variety of sources. These include the following:

- Current revenue (pay-as-you-go from current revenues such as general taxation, fees, service charges, or special funds)
- Reserve funds (surplus funds, depreciation reserves, or sale of capital assets)

- General obligation bonds
- Revenue bonds
- Lease-purchase
- Authorities and special districts
- Special assessments/Business Development Districts
- Tax increment financing
- State and federal grants are also available to fund capital projects

## **Step 2: Solicit Projects from Department Heads**

Project requests should be collected using a Project Request Form. Such requests should identify, at a minimum, the following information for each requested project:

- Cost estimates
- Funding source
- Project description
- Priority of project

Projects should evolve from Program Plans prepared by department heads. It should be more than a schedule of projects. It should be drafted based upon stated policies, criteria, standards and priorities.

## **Step 3: Prioritize Projects**

It is important to rank competing projects, given limited resources (financial, administrative capacity to implement, etc.) that are available.

Projects may be segregated by project type:

- Essential projects
- Desirable projects
- Acceptable projects
- Deferrable projects
- Projects which contribute to public safety, prevents hazards, satisfies a critical need, or would be of benefit but not essential
- Projects that provide protection of life, maintain public health, conserve natural resources, or replace obsolete facilities and/or items.

## **Step 4: Conduct Financial Analysis of Prioritized Projects Based Upon Community's Capability of funding.**

Each project should maintain a list of factual elements that can be used in the decision making process. These items include in part:

- Inventory of Facilities

There should be a comprehensive inventory of the facilities in the program area. Include only those facilities that meet the CIP definition of a capital improvement. At a minimum, this inventory should identify basic data on the location and size of all the facilities. Additional information should include:

- date of the original construction, or the latest major rehabilitation
  - condition (see below)
  - capacity
  - an estimate of its value
  - type of material from which facility is constructed
- Evaluation of Condition.

An assessment of needs, based on the condition of the facility, should be prepared. Information that may be helpful includes:

- frequency of repair
  - breaks in service/down time
  - time since last major repair/rehabilitation or original construction
  - reduction in capacity, percentage of capacity available for use
  - increase in unit operating costs or repair costs
- Standards Used in Assessing Need.

Often the assessment of need is based on technical standards. The standards may be established by national, regional, technical, professional, or trade associations. Some standards may result from formal evaluations by such associations (e.g., to achieve or retain accreditation). The standards may be simply recognized practice, such as “good engineering practice,” or accepted industry standards.

- Repair/Replacement Schedule.

The facilities listed in the inventory should be on a schedule for repair or replacement. How many facilities are beyond the repair/replacement period recommended in technical (or locally developed) standards? What are the procedures and major policies by which you determine priorities for the program plan? the CIP?

- Need for New (or Substantially Expanded) Facilities.

For proposed new or substantially expanded facilities, indicate the location, size, and capacity of the facility. There should be an analysis of the current demand and projected change in the demand for the facilities. For proposed new or substantially expanded facilities, what alternatives are available? Some state-federal programs require an alternatives analysis.

### **Step 5: Review Capital Improvements to Ensure Projects are Consistent with Community Development Objectives**

Desired capital improvements should be evaluated to ensure compatibility with the controlling master plan. The governing Planning Commission is a natural body to conduct such an investigation.

## **Step 6: Conduct Public Information Meeting**

Best practices suggest that projects be exposed to public scrutiny to gauge the level of support. This step also helps to identify consideration errors.

## **Step 7: Project Comparison**

Information collected in Steps 3-6 is then used to compare projects. Often, an evaluation form is used to rank each aspect of the projects.

The final CIP report assembles the collected data and recommendations into a Schedule of Revenue Expenditure. All relevant decision making information should be included for the submission to the legislative body. In turn, the legislative body adopts a Capital Budget covering only the ensuing year. It is important that multi-year projects be clearly identified.

### **3.3 Best Practices**

When developing or maintaining a CIP, the body maintaining the CIP should consider the following:

- The CIP should be revisited on an annual basis.
- Previous approved projects should be included in future project evaluation processes especially if delayed or not completed.
- The CIP process from evaluation to final implementation normally takes 4-6 months.
- Developing a balance between meeting community's needs and its ability to fund is difficult. Usually needs exceed ability to fund.
- Selecting an appropriate level of public participation. Key is, however, including public review prior to formal submittal to the legislative body.

## 4.0 Planning: Status and Considerations

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### 4.1 Existing Land Use Assessment

The rational application of the planning process for the County is possible only when there is a basic understanding of existing conditions and relationships between land uses. The existing land use serves as a basis for the future goals and recommendations of the County. It should also be noted that according to the State of Michigan's DNR-PILT roll, Tuscola County maintains 29,625 acres (5.7% of all taxable acres) of Michigan Department of Natural Resources land. These acres are distributed into either the Agricultural or Residential categories in the table below.

Table 1 Existing Land Use Acreage

Land Use Category of Assessed Acreage	2022 Acres	2022 %
Agriculture	349,083	71.62
Residential	152,683	29.36
Commercial	10,000	1.92
Industrial	3,360	.65
Water, Vacant and other uses.	4,874	.94
Totals	520,000	100.0

Data from Tuscola County Equalization

### 4.2. Plan Development

Tuscola County communities are actively involved in shaping their future through local planning. The county role is to assist local efforts, provide guidance, education and deconflict local planning elements.

#### 4.2.1 Community Assessment Team (CAT)

The last community assessment was made in December 2005. The CAT process began with an application from members of the community to MSU Extension. The application described the community's situation and listed questions that community members wanted the CAT to address. The CAT advisory committee reviewed the application and sent a small delegation to meet with the application committee to clarify questions raised in the application. The full CAT visit involved two days of input gathering from a variety of small and large meetings with residents and tours of the community. After analysis, the CAT produced a final report. The full report is available on the Planning Commission's webpage on the Tuscola County website. Portions of the report are included here.

The major focus of Tuscola County's application and subsequent questions addressed ways to improve and enhance its economic development. In general, the CAT found that Tuscola County is doing an excellent job with traditional approaches to economic development and recommends that these activities continue. In addition to the current economic development tools and strategies, new methods for reenergizing the economic development base have emerged in recent years. Such new methods include but are not limited to entrepreneurship, intergovernmental cooperation and enhancing quality of life. It was stressed that quality of life issues should not be overlooked

as important factors for rebuilding, sustaining and maintaining an economically viable and vibrant community. A more inclusive approach was recommended to help Tuscola County achieve its economic development goals while strengthening other, non-economic aspects of the community.

During the CAT visit, it was noted that the major economic development arm for Tuscola County is the Tuscola County Economic Development Corporation (EDC). The CAT recommends that the Tuscola County EDC Board of Directors provide leadership, overall guidance, and direction for implementation and evaluation of the recommendations contained in the CAT report. During the visit, it was evident as well that various public and private entities should be invited to partner with the Tuscola County EDC in its quest to evaluate and implement the recommendations contained in this strategic master plan.

Potential partners include but are not limited to various local, state and federal government agencies including those at the township, village and city level. Partners should reflect the pillars of community and include elements of education, housing, employment, health, religion, financial and recreation. Local community-based and faith-based organizations should also not be overlooked.

#### **4.2.2 Local Master Plans**

Local municipalities have done well constructing and updating a forward looking community plan. Most of Tuscola County's thirty-four township jurisdictions have master plans. The majority have had an update in the last decade. Local Master Plan future state maps are located in Appendix A and includes the date of their last update. In addition, nearly all of Tuscola County's Villages and Cities have a current master plan on file with the county. These are also located in Appendix A. Finally, The Tuscola Area Airport, a municipal airport owned by the City of Caro and provided additional support from the townships of Almer and Ellington, has a master plan on file from 1999.

The Michigan Planning Enabling Act, Act 33 of 2008 Section 41, (2) and Section 43, (5) requires municipal entities to submit master plans to the county planning commission for review and retention.

#### **4.2.3 Community Profile**

The characteristics and resources that currently exist in the county are an important part of developing a future vision. Those factors, found in Chapter 5, "County Profile", impact the potential County future state and are taken into consideration.

#### **4.2.4 Land Assessment**

Future land use and development is determined, in part, by soil type and the general geography of the county. Land characteristics impact the planning and zoning choices available to the townships and the county as a whole. The carrying capacity of the land is shown on Figure 3.

The plan recommends percentages for six broad land use categories. These percentage goals (table 2) suggest a reasonable balance between the county desired vision and the county resources.

Figure 3 Carrying Capacity

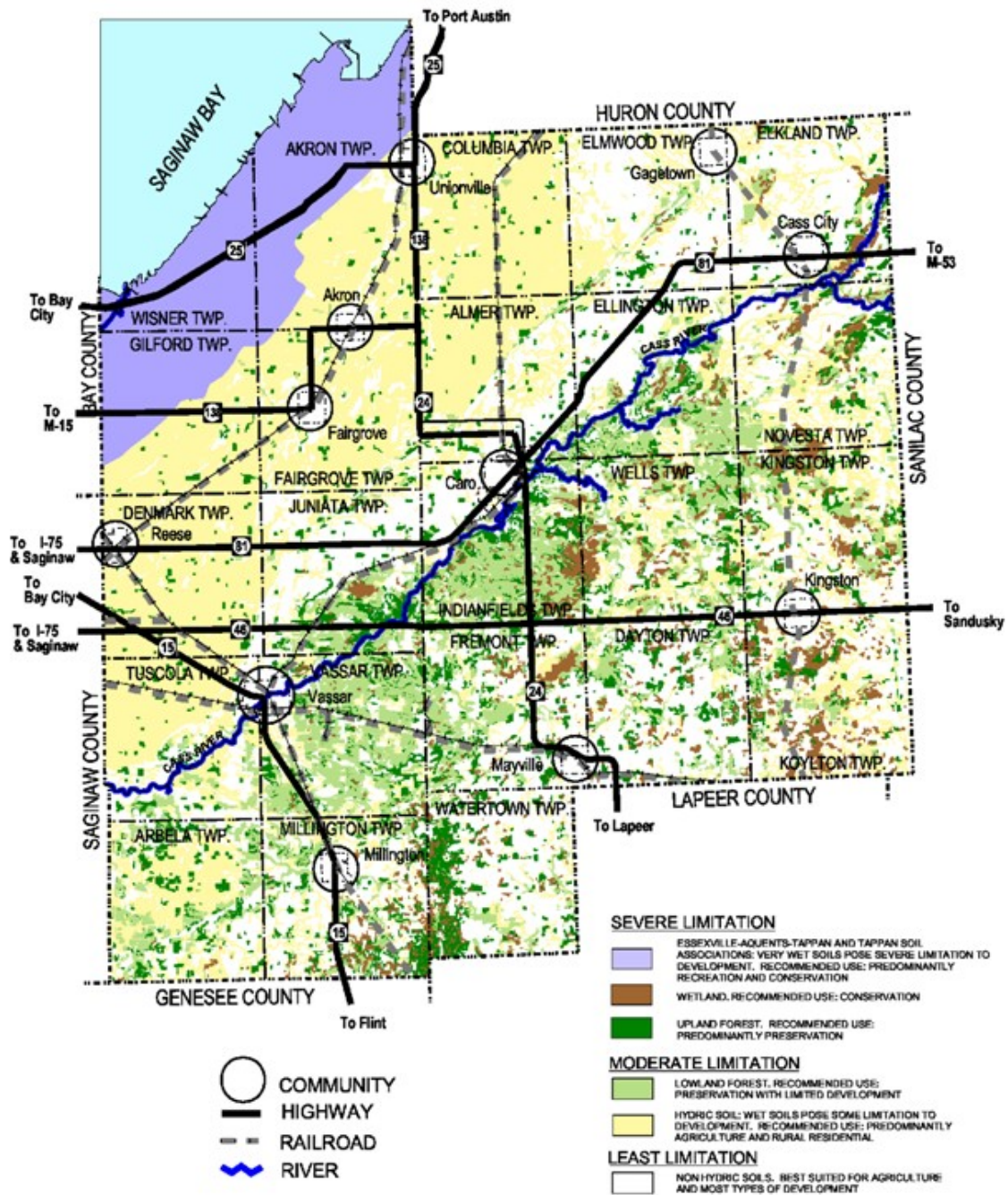


Table 2 Future Land Use Acreage - Tuscola County

Land Use Category	Targeted Minimum Future Acres	Percent of Future State County
1. Agricultural	255,000	49.0
1-A Prime Agricultural	145,000	27.9
1-B Agricultural Estate	110,000	21.1
2. Residential	150,000	28.8
2-A Country Residential	110,000	21.2
2-B Rural Residential	20,000	3.8
2-3 Resort Residential	20,000	3.8
3. Urban Service Area	18,000	3.5
3-A Tier I Urban Service	10,000	1.9
3-B Tier II Urban Service	8,000	1.6
4. Business Corridor	5,000	1.0
5. Industrial	2,000	0.4
6. Recreation/etc	90,000	17.3
Total	520,000	100.0

### **4.3 The General Development Plan**

The General Development Plan presents guidelines for development covering seven distinct use types. Six originate in table 2 and including specific targeted uses as a seventh planning consideration. The proposed future locations are included on the General Development Plan Figure 4.

#### **4.3.1 Agricultural**

Agriculture is Tuscola County's greatest resource. At present, two-thirds of the County land is actively used for agricultural uses. The Plan recognizes this by designating the largest future land use category as agriculture. For planning purposes, future agriculture should account for 255,000 acres or 49% of the County.

##### **1-A Prime Agriculture.**

The Northwest portion of the County is designated as Prime Agriculture. It covers 145,000 acres or 27.9% of the County. This area includes the most productive soils in the County and should be retained for agricultural purposes. Recommended principal uses are:

- Farms under active cultivation
- Farmsteads and accessory structures
- Agriculture-related industries

Single-family homes on a minimum one-acre lot, which are part of a larger parent parcel, with the number of buildable divisions allowed being correlated to the parent parcel size. No one-acre lot subdivisions would be allowed.

##### **1-B Agricultural Estate.**

The Agricultural Estate district covers the northeast portion of the County and accounts for 110,000 acres or 21.1% of the County. This area also contains rich productive soils that should be preserved as much as possible. Recommended uses are:

- Agriculture and related uses
- Single-family homes on minimum 10-acre lots.
- Complementary uses such as churches, schools and parks.

#### **4.3.2 Residential**

To provide for the existing and future population needs and to offer a wide variety of housing choices, the Plan allocates 150,000 acres or 28.8% of the County for residential purposes. Much of the residential use covers the south-central portion of the County.

## 2-A County Residential

County Residential is the largest residential category in Tuscola County and covers 110,000 acres or 21.2% of the County. Recommended uses are:

- Single-family homes on minimum size one acre lots.
- Complementary uses such a churches, schools and parks.

## 2-B Rural Residential

A total of 20,000 acres (3.8%) is designated for Rural Residential. This district offers the largest choice by housing types in the County outside the designated Urban Service Areas. It covers an area along the M -15 corridor, between Vassar and Tuscola County-Genesee County Line and a small area in the vicinity of the M-46 and M-24 intersection. Due to its proximity to Birch Run and Frankenmuth and growth pressure along M-15 from the south, this area is expected to experience the greatest growth potential in the County. This district will expect to be served by public utilities. Recommended uses are:

- Single-family homes on a minimum one-quarter acre lot
- Duplexes on a minimum one-quarter acre lot
- Townhouses between seven to 10 units per acre
- Garden apartments between 10 to 15 units per acre

It should be noted that Public Act 288 of 1967, as amended, requires lots be a minimum of 1 acre in size unless public water and sewer are available or health department approval of an on-site water supply and septic is given.

## 2-C Resort Residential

Tuscola County is very fortunate to have access to several water bodies. It has more than 17 miles of shoreline on Saginaw Bay. The Cass River traverses the entire County from northeast to southwest. A network of lakes dot the southern portion of the county. To capitalize on this unique asset, the Plan recommends a water-oriented district, named Resort Residential.

The recommended 20,000 acre district is spread along various locations: along Saginaw Bay, along Cass River, between Tuscola County-Saginaw County Line, and around Cat Lake, Harmon Lake, Evergreen Lake and Shay Lake in Dayton Township, and Murphy Lake in Millington and Watertown Townships.

All new development in this district should be subject to strict regulations required for the protection of environmental features of the site. Features to be protected are surface and underground water resources, soil erosion, wetland, woodland, and any other feature present at the site. The Tuscola County Health Department will regulate the minimum lot size needed for a septic tank field. The following uses are recommended:

- Single-family homes
- Seasonal homes
- Tourism commercial
- Parks and marinas

### **4.3.3 Urban Service Area**

Tuscola County has two cities and 9 villages within its borders. All of these communities serve as a center of commerce, services and housing for their surrounding areas. To promote compact growth, protect agricultural and environmentally sensitive land, and to provide public amenities in a most cost-effective manner, the Plan recommends that all of these 11 communities be designated as Urban Service Areas (USA).

Most of the new urban growth, including residential, commercial and industrial, should be encouraged to locate within these centers. Each center would contain a central business district, with its unique character, surrounded by all other uses. Each center would expand in response to market demands, provided public utilities can be extended in a cost-effective manner.

#### **Tier I – Urban Service Area**

- Full service
- Regional market
- Employment and services
- Destination
- Critical mass
- Multiple centers of commerce

#### **Tier II – Urban Service Area**

- Local market area
- Limited commerce and services

### **4.3.4 Business Corridor**

As the County continues to grow, businesses will likely want to locate all over the County in response to market demands. In order to promote compact growth and preserve the rural character of Tuscola County, the Plan recommends against this kind of haphazard commercial growth. Most of the local and regional retail and service establishments should locate within the designated Urban Service Areas. Highway-oriented businesses should be located in the designated Business Corridors and be subject to specific design controls and access management standards.

Each corridor should be approximately 600 feet deep on each side of the road. Each corridor is based upon its location on a high traffic route to provide maximum visibility or its proximity to a large population, or high growth area. The Plan recommends the following corridors:

- Along M -81, west of Cass City
- Along M-81, northeast of Caro
- Along M-15, between Vassar and Millington

At the intersection of M-46 and M-24 Recommended uses are:

- Highway oriented commercial such as auto dealers, service stations, and fast food restaurants.
- Heavy commercial such as lumberyards, lawn and garden centers, “big box” retailers, heavy equipment sales and service, and contractor establishments.
- Offices such as bank and credit union branch offices and real estate offices.

#### **4.3.5 Industrial**

One of the major goals for the County is to attract new industry to provide job opportunities for the local population and increase tax revenues for governmental units. Many of the new industries will locate within the existing Urban Service Centers. However, in order to provide cost-effective public utilities and sites in close proximity to the labor pool, the Plan recommends the following three industrial areas:

- Along M-81, southwest of Caro and in close proximity to the Tuscola Area Airport
- Along M-24, west of Mayville
- Along M-15, north of Millington

South of M-81 in the southwest corner of Cass City Recommended uses are:

- Agricultural related industry such as food processing, energy production, agriculture research and agricultural products distribution
- Warehousing
- Light industry

#### **4.3.6 Recreation and Conservation**

Tuscola County is rich in water and other environmental resources. With proper planning and resource management, the County can become a major regional destination for recreational opportunities and a leader in resource conservation. The Plan recommends a large portion of the County (90,000 acres, 17.3%) as Recreation and Conservation District. Recommended uses for the district are:

- Single family homes
- Golf courses
- Parks
- Water-related facilities
- State land (approximately 30,000 acres)
- Environmentally sensitive areas

The district also includes a network of greenways. Greenways are designed for walking, hiking, bicycling, snowmobiling or other recreational purposes. All greenways in the County are proposed along water channels and abandoned railroad right-of-ways.

Tuscola County also supports partnerships with various conservation and natural resource protection entities such as the State of Michigan Department of Natural Resources, Saginaw Bay Cooperative Invasive Species Management Area (CISMA), and Cass River Greenways

## 4.3.7 Other Uses

### 7-A Senior Living Campus

To meet the needs of the quickly aging population of the County, the Plan recommends the continued development of Senior Living Campuses at the following locations:

- Northwest of Unionville
- Northwest of Cass City
- North of Caro

In addition, development of Senior Living Campuses should be considered in the Millington and /or Vassar areas.

### 7-B Manufactured Home Park

To provide for affordable housing or for an alternative choice in housing, the Plan supports the development of a manufactured housing community along M24, north of Mayville, and in Watertown Township, an area projected to be subject to continued in-migration of new residents during the next 20 years.

## 4.4 Tuscola County Citizen Vision for a Better Future

### Community Development Vision:

The residents of Tuscola County visualize a thriving industrial base that capitalizes on local community development, training opportunities, and a vital agricultural base that will lead economic expansion.

### Agriculture Vision:

The Community visualizes a Tuscola County that has maintained its rich agricultural heritage, retained its best farms and farmlands, provided ag-industry markets for local, regional, and global suppliers, and balanced farm retention goals with the need to accommodate growth.

### Community Vision:

The area residents visualize a Tuscola County where the municipalities each have their own character and identity and experience a rebirth and expansion of business, entertainment opportunities and tourism, as well as growth or revitalization of neighborhoods.

### Intergovernmental Vision:

The residents of Tuscola County visualize intergovernmental co-operation among our townships, cities, and the surrounding counties for the mutual benefit of all, be it a strengthened standing with the federal and state governments to gain funding or better relationships within the county.

#### Transportation Vision:

The citizens within Tuscola County visualize an improved and integrated transportation system that includes a top-quality roadway network, county-wide recognition and support for an appropriate form of public transportation, an operational airport and an active, vital rail system.

#### Environmental Vision:

The residents visualize a Tuscola County that has implemented various initiatives intended to protect and promote local valuable and unique environmental resources. This includes protection of flood plain areas, improved soil erosion practices, guidelines for river and lake shoreline development, and protection of local groundwater supplies from contamination.

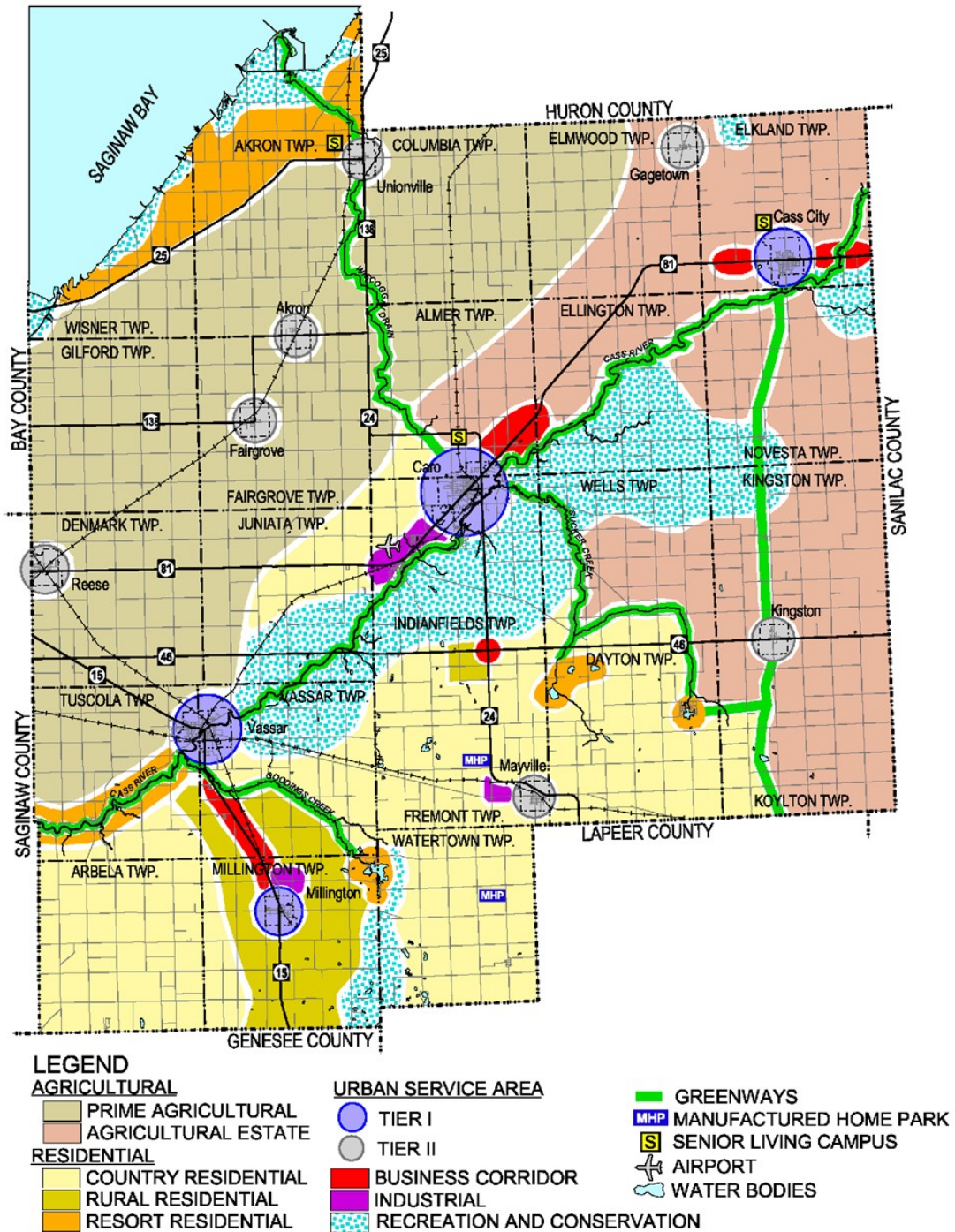
#### Recreation and Tourism Vision:

Young and old alike envision a Tuscola County that has improved recreational facilities for all its residents and has developed a regional expansion and promotion of its tourism sector.

#### Future Vision:

The residents of Tuscola County visualize a community that has a direction and purpose for its actions, a vision for its future, and has become a better place for all its citizens.

Figure 4 General Development Plan



## 5.0 County Profile

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Figure 5 Indian Trails (before Tipsico) and Petroglyphs



Native Americans set up camps along creeks and rivers in the Thumb of Michigan thousands of years before the first settlers came.



This image is of one of the carvings shows a man with bow and arrow, identifiable in Darrel Richards's drawing of the Sanilac petroglyphs. Photograph via Michigan Department of Natural Resources.

## 5.1 History of Tuscola County

Tuscola County is located in Michigan's Thumb Region. The name Tuscola is attributed to the Indian Agent and ethnographer, Henry R. Schoolcraft. There are several early histories of the County that claim the name was of Indian origin, but more precise scholarship credits the name, Tuscola, to the inventiveness and ingenuity of Mr. Schoolcraft.

The first recorded people were Ojibwa (Chippewa) Indians, who came prior to 1400 A.D. Numerous areas demonstrate evidence of this early period including the Sanilac petroglyphs. An Indian trail system serving the region has been identified. (See red colored trails in Figure 5).

The first white settlers to the County came from western New York. Ebenezer Davis started the first settlement in 1835 in the present township of Tuscola. Further settlement continued during the next two years. However, between 1838 and 1850, the growth was small. A period of general growth began again in 1850 with the opening of a lumber operation by Messrs. North and Edmunds in present day Vassar. This operation started a long and rich history of lumbering in the County. The Cass River, which empties into the Saginaw Bay, for many years served as a great highway for logs. In the 1800s, Tuscola produced Cork Pine, a term used to refer to the highest quality of White pine. By 1864, the County was producing 40 million feet of logs. Log production peaked to 100.5 million feet by 1873.

The civil history of the County began on April 1, 1840, when the State legislature carved away a portion of Sanilac County to create Tuscola County. The new County was attached to Saginaw County for judicial and representative purposes until 1850, when on March 2, 1850, through an act of State legislature; Tuscola County was organized as an independent County. The first general election was held on November 5, 1850. A total of 83 votes were cast to elect the first Board of County Canvassers. John H. Richardson was chosen as the secretary and chairman of the Board. Later, the first Board of Supervisors was elected and held its first meeting in Vassar on January 24, 1851. Mr. Richardson was the only member of this Board and served as Acting Supervisor.

Tuscola County has a long and controversial history of locating the County seat. During the earliest years, both Watrousville and Vassar took their turn standing as a meeting place of commerce and government. Yet the shifting demographics of the county dictated moving the county seat. Many suggested a more

*Chief Jacob Tipsico was a respected Native American who was known throughout Tuscola County and beyond. He aided and was a friend to the early settlers.*

OLD TIP-SI-CO WAS KNOWN IN TUSCOLA

Great Indian Athlete now in Poverty is Remembered as a Wonderful Indian Character

An exchange relates an account of the present condition of the well known Indian, old Tip-si-co, which is exceedingly interesting to many residents of the county, who figured in the pioneer history of the days when Indians were plentiful. The old indian, who is now spending his old age near Mt. Pleasant in very meagre circumstances, if not in actual poverty, was a familiar figure all over the Thumb within the memory of some of our old residents. His reputation as an athlete was widespread and the accounts told of his wonderful feats, are well sustained by the facts as witnessed by those who often saw him. Tip-si-co weighed 225 lbs. and still was not more than exactly proportioned according to his stature. He was muscular every inch, tall and straight, and his strength made him a veritable Sampson.

In running, jumping, and wrestling he was a phenomenon. In standing broad jump, his record was 14-1/2 feet forward and 13-1/2 backward; standing high jump, 5 ft., 10 inches; running high jump 8 feet. In a short run, he made 22 rods in 8 seconds and could make 25 feet in a running broad jump. But some of his most remarkable feats were the long journeys across the country in fast time. He often made the 60 mile trip from Mt. Pleasant to Saginaw in a single day on foot and in long distances took delight in beating out travelers who went on horse back. A story is related by one of our old residents of how Tip-si-co used to go hunting deer without any weapon except his fleet feet and strong arms. He would take a trail and run down the game, taking it alive. On one occasion in this vicinity, he captured two deer in this way on a single hunt. The first one he tied down with a strong bark rope on the spot. When he overtook the second, he made it fast, he returned to the first to find that dogs had followed and nearly killed the animal.

The old Indian now ekes out a slim livelihood selling pictures of himself having, like many of his fellows, lost the property which once came to him from the hands of the Government.

Source: Tuscola Co. Courier, Feb., 1906

central location would better serve the citizens as they expanded eastward. After more than six years of uncertainty, numerous votes and sometimes vicious discussions, the county seat was moved in 1866 to a more central location. Centerville, later renamed Caro, became the county seat.

The present County Courthouse building sits on the original grounds where the first county courthouse building was constructed in 1873. The original building was deemed inadequate in 1925 prompting a county wide effort to construct a new building.

Between 1925 and 1932, the present art deco courthouse building was built (completed 1933). In 1998, County voters turned down building an addition to the historical courthouse to solve a need for more government administrative space. As a result, county government now has offices in several locations throughout the city of Caro.

Tuscola County grew markedly during the timbering era of the mid 1800s. In particular the White Pine of the Vassar area was greatly prized. As timbering waned, the county was inflicted with two massive and consequential disasters. The forest fire of 1871 ravaged many timbering areas of the county but paled in comparison to the reach of the 1881 blaze. Still, these events resulted in exposing one of Tuscola County's greatest assets, some of the finest agricultural land in the country. The land north and west of the Cass River is of particularly fine quality. The land south and east of the Cass River is more varied. Sandy, droughty soils have primarily been returned to forested land managed by the MDNR. Rolling hills with sandy loam and loam soils originally were used for dairy and beef cattle farms. Other acres with flatter topography and favorable soils occurring together were farmed for crops. The timber of the uplands along the Cass River and south of Caro provided the initial wealth that drove the economy and society of Tuscola County.

This wealth was used in the latter part of the 19<sup>th</sup> century to drain the area to the north of the river, changing it from an area of swamps and low ridges to the most productive farming area of the County.

Once the agricultural potential of the County was known, cash crops of wheat, corn, oats, and beans became staples. By 1899, a new crop of sugar beets had been introduced to Tuscola County, a gift from our German settlers. The sugar industry found the soil, climate and conditions right for growing beets. Several sugar processing plants were built in the Thumb area. Caro's plant, built in 1899, is currently the oldest operating sugar beet processing plant in the country.

For those townships in the southern and eastern portion of the County where cash-crop farming was not feasible, dairy and pasturage continue to add agricultural input.

## **Historic Buildings**

Part of Tuscola County's rich history is its numerous historic buildings listed on the State and National Registers of Historic Buildings. The State Historic Preservation Office recognizes Tuscola County history through both the inclusion of many buildings, historical markers and informational history signs in the county. Each building or marker helps to highlight the unique history of the county over the last 200+ years.

The county has fifty-four historic buildings and markers. The state marker program identifies historical significant areas even if a historical structure is no longer present. The National Registry of Historic Places identifies buildings that have received heightened recognition and protections from the federal government. While these markers and significant structures are located throughout the county several

locations have significant recognition. These include the City of Vassar with fourteen locations; the City of Caro with ten locations; the historic location of Watrousville with six historical markers and the Village of Cass City with four locators.

**Table 3 Tuscola County Historical Structures and Markers**

Name	Historical Marker Timeframe	Location	State Listing Date	National Registry of Historic Places
A. B. Markham House		Mayville	1974	
Anson Berney Home		Cass City	1974	
Caro Masonic Temple	4	Caro	1986	
Daniel G. Wilder House		Watrousville	1974	
Dorus Healy Clark Farm		Almer Township	1996	
Elkland Township Hall	4	Cass City	1979	
First Presbyterian Church Marker	4	Caro	1985	
First Presbyterian Church†	4	Cass City	2009	2006
First United Methodist Church of Vassar		Vassar	1974	
Frankenhilf Marker	2	Richville	1977	
Gagetown Marker	3	Gagetown		
Gilford United Methodist Church	4	Reese	1989	
Hotel Columbia†		Vassar	1989	1992
Hotel Montague		Caro		1991
I. J. B. McKenney House		Ellington Township	1990	
Indian Dave Stocker Marker	1	Wisner Township	1979	
J. C. Laing Home		Cass City	1974	
Juniata House	2	Watrousville		
Lovira Hart, Jr., and Esther Maria Parker Farm		Tuscola Township		2004
Mathias Ringle House		Fairgrove Vicinity	1974	
McKinley School†		Vassar	1971	1972
Michigan's Bean Production		Richville	1959	
Miller Grist Mill		Vassar	1974	
Millington Bank Building†		Millington	1996	1995
Millington School District No. 2 Marker	2	Millington	1994	
Moravian Church		Unionville	1974	
Old Unionville High School Building		Unionville	1974	
Peninsular Sugar Company	4	Caro	1974	
Port Huron & Northwestern-Pere Marquette Rail Depot		Mayville Vicinity	1987	
Purdy Bank Building		Gagetown	1974	
R. S. Weaver House		Watrousville	1974	
Richard C. Burtis House†		Watrousville	1973	1975

Seventh Day Adventist Church		Vassar	1974	
Silas A. Lane House		Vassar	1972	
Smith House†		Vassar	1971	1972
St. Michael's Lutheran Church		Richville	1977	
State Reward Road No. 1	4	Cass City		
The Purdy Barn (octagonal)/round barn		Gagetown	1977	
The Tuscola Advertiser Marker	3	Caro	1986	
Townsend North House†		Vassar	1974	1977
Trinity Episcopal Church†	3	Caro	1974	1975
Tuscola Community Church		Tuscola	1974	
Tuscola County Courthouse†	5	Caro	1982	1996
Tuscola County Fairgrounds	4	Caro	1981	
Vassar Pioneer Times Building		Vassar	1974	
Vassar Theater		Vassar	1988	
Vassar's Logging Era Marker	2	Vassar	1965	
Watrous General Store†	3	Watrousville	1973	1974
Watrousville United Methodist Church Marker	2	Watrousville	1987	
Wellemeier House		Vassar	1972	
Wightman Building		Vassar	1997	
William H. Carson House		Caro	1977	
William Kirk Home		Fairgrove	1974	
William Randall House†		Mayville Vicinity	1973	1976

Table 4 State of Michigan Historical Marker Time Periods

#	Marker Time Periods
1	Revolution and War (1760-1815)
2	Statehood Era (1815-1860)
3	Civil War and After (1860-1875)
4	Industry and Invention (1875-1915)
5	Two World Wars and the Depression (1915-1945)

## 5.2 Physical Profile

The development of land can significantly impact, and in turn be impacted by the natural environment. Thus, when preparing a future land use plan, it is important to determine the extent of environmentally sensitive areas within the community.

Environmentally sensitive areas are lands whose destruction or disturbance will immediately affect the life of a community by either: 1) creating hazards such as flooding or slope erosion; 2) destroying important public resources such as groundwater supplies and surface water bodies; or 3) wasting productive lands

and non-renewable resources such as prime farmland. Each of these affects is detrimental to the general welfare of a community and may result in an economic loss.

The purpose of this section is twofold. First, it identifies the areas in the County that are most suitable for development; specifically, those areas that will minimize development costs and provide amenities without adversely impacting existing natural systems. Second, it identifies land that should be conserved in its natural state and land most suitable for agricultural, open space or recreation purposes.

Geology, soils, topography, vegetation, and water resources are among the most important natural features that will impact land use. Descriptions of these features follow.

### **5.2.1 Climate**

A climate summary allows residents of Tuscola County to better understand the environment affecting their daily lives. Weather data has been collected and summarized in Caro from 1961 through 1990 by the Midwest Climate Center. The average summer temperature is 68.5 degrees Fahrenheit while the average winter temperature is 23.5 degrees Fahrenheit. The average annual precipitation is 29.85 inches. September tends to be the wettest month, averaging 4.08 inches, while February is often the driest, averaging 1.11 inches. Annual snowfall accumulation tends to be mild, about 36.5 inches on average, with the month of January recording the most snowfall at 10.2 inches on average.

Understanding the nature of the growing season is important for many residents who depend on the agricultural industry for their economic well-being. Over a 30-year period (1961–1990), the growing season had a median value of 120 days between the final frost in the spring and the first frost in the fall. While most seasons averaged about 147 days, accounting for 90% of the total, 10% of the seasons averaged 103 days. Ninety percent of the time the final frost occurred on or prior to May 7<sup>th</sup> while the first frost most frequently occurred on or after October 8<sup>th</sup>.

### **5.2.2 Geology**

The geology of Tuscola County will be described in terms of surface geology or quaternary geology (materials deposited by continental glaciers) and bedrock geology (sedimentary rocks and underlying deposits).

The Quaternary Geology Map of Southern Michigan, provided by the University of Michigan, displays how the features of glacial deposition affect the landscape today. As the glaciers receded, melt water was laden with fine soil particles, which eventually settled to the bottom and are called Lacustrine deposits. Glacial melt water streams also deposited fine sands and loams often associated with the presence of **Lacustrine** material. The northeastern, north central, and central parts of the County are dominated by this type of soil material.

The next soil type is found along a line extending through Unionville, Akron, Gilford, and Reese characterizing an area affected by an end moraine of medium-textured till. End moraines were created by the melting of the ice sheet as it advanced or retreated. The debris-laden ice deposited large amounts of material along this area due to the glacier edge melting as fast as it advanced from the polar ice cap.

Another ground moraine feature is characterized as fine-textured glacial till. It is found along a line extending from Cass City, Elmwood, Caro, and Vassar. The thickness of these deposits varies locally from 30 to 90 feet in depth. Soils tend to be dominated by clay with textures mixed with loam and silt.

Located along the present Saginaw Bay shoreline and discontinuously along a diagonal line from the east central to the southwestern part of the County are dune sands. This well-sorted, fine to medium sand is composed mainly of quartz. These areas can be subject to wind erosion where vegetation is disturbed, especially along present day coasts.

The southern part of the County is chiefly composed of end moraines of medium-texture till. It is mostly loam and silt-loam in texture and may also contain small areas of outwash material (deposits made by running water from the glaciers). Thickness of these layers varies locally, but tend to be 60 to 90 feet in depth.

The sub-surface geology of Tuscola County is primarily bedrock that was laid down during the Pennsylvanian and Mississippian ages of the Paleozoic Era about 300 and 330 million years ago respectively. Bedrock is covered by glacial deposits and generally, depending upon the thickness of the deposits, is located at a depth 40 to 300 feet below the surface. The bedrock was formed by ancient seas, which covered the area some 250 to 600 million years ago. During the time the bedrock was forming, these seas began to withdraw from the area leaving sediments from deltas as the land drained.

Over time, the seas re-advanced and finally receding to create the current land formation on the eastern half of the County. The shallow marine seas deposited layers of silt, clay, sediments, marine animals, plants, coral, and other calcareous materials. These deposits formed sandstone, shale, coal and limestone bedrock.

The earlier Pennsylvanian age influenced the bedrock in northern and western Tuscola County. The Saginaw Formation, developed during this age, is marked by shale, clay, and limestone deposits. Geologists have determined that large wetland areas formed where the shallow seas finally receded. The wetland forest decay was minimal due to the presence of stagnant water. This allowed large carbon deposits to form and produce coal. As a result, Tuscola County was one of many counties in southern Michigan to be mined from the 1830s until the late 1940s.

### **5.2.3 Topography**

The topography of Tuscola County is largely influenced by glacial action as described in the previous section. Elevations range from a low of 581 feet above sea level along the Saginaw Bay shoreline to a high of 950 feet along a ridge moraine in the southeast corner of the County.

The northwestern portion of the County is a nearly level lake plain, northwest of a line generally between Reese and Gagetown. A glacial moraine marks a ridgeline running northeast-southwest, which bisects the County evenly into northwest and southeast portions and runs generally parallel to the Cass River (Figure 6). The ridgeline elevations range from 800 feet in the northeast corner, to 750 feet in the southwest corner. All water in the northwest portion of the County drains into the Saginaw Bay.

The southeastern portion includes areas of nearly level to rolling outwash plains. Another ridgeline is formed in the southeast corner, running parallel to the first ridgeline, generally between Kingston and the

south borderline between Millington and Watertown Townships. Elevations of this ridge range between 800 feet in the northeast to 950 feet in the southwest.

Figure 6 also illustrates slopes in the County greater than 12%. Most of these slopes are located in the southeastern corner of the County, along the ridgeline. Typically slopes greater than 12% pose some restrictions to development.



## 5.2.4 Soil Conditions

Soil characteristics help to define the land capacity to support certain types of land uses. Soils most suitable for development purposes are well drained and are not subject to a high water table. Adequate drainage is important to minimizing storm water impacts and the efficient operation of septic drain fields. Adequate depth to the water table is necessary to prevent groundwater contamination from septic systems. A high water table also limits the construction of basements. Though civil engineering techniques can be employed to improve drainage and maintain adequate separation from the water table, such techniques can be expensive to construct and maintain.

Soils play an important role in the food supply system. The Natural Resource Conservation Service identifies soils that are well or uniquely suited to crop production. When making land use decisions, it is important to consider the value of certain soils for agricultural purposes. Once land is converted from agricultural uses to urban uses, the soils are permanently altered and their ability to support agricultural production is greatly diminished, if not destroyed. The agriculture industry is important to the local economy. Planners and public officials should carefully consider any development proposal that threatens this non-renewable resource.

According to the General Soils Map provided by the Natural Resources Conservation Service, there are ten soil associations within Tuscola County (Figure 7). The map is not designed for site-specific applications. Rather, it can be used to compare land suitability for large areas. Each association is composed of several soil series. Each series has a distinctive pattern of major soil types, relief, and drainage characteristics. A series making up one association may occur in another, but in a different pattern and/or combination. The associations within Tuscola County include the following:

### 1. Essexville-Aquents-Tappan Association

This group composes about 4% of the county and is all poorly drained. Poorly drained soils are defined by the Tuscola County Soil Survey as soils that remove water so slowly that the soil is saturated for extended periods during the growing season, often marked by standing water. This can result from one or all of the following: a high water table, the slow movement of water through the soil (seepage), and/or nearly continuous rainfall.

### 2. Tappan Association

Soils in this class make up 5% of the land area within the County. The Tappan series makes up 80% of the class and is recognized by its dark gray, calcareous loam surface layer about 11 inches thick. Soils comprising the other 20% are composed of four other series, which are characterized as poorly drained. This land is most suitable for cultivating crops including corn, wheat, beans, and sugar beets. Building development is severely hindered due to wetness and ponding in low areas.

### 3. Tappan-Londo-Avooca Association

Soils within this group compose 25% of the County land area. The Tappan series accounts for 50% of the group. It is poorly drained and can usually be found on low, broad flats and in drainage ways. The Londo soils are somewhat poorly drained. Somewhat poorly drained soils are defined as water being removed from the soil slowly enough so that the soil is wet for significant periods during the growing season. Like poorly drained soils, attributing factors include a shallow water table, extended

periods of continuous rainfall, seepage, or a combination of all. Distinguished by its dark, grayish-brown loam surface layer, Londo soils tend to be about ten inches thick.

Avoca soils are somewhat poorly drained containing dark brown loamy fine sand about 11 inches thick. The Londo and Avoca groups can be found on flats and on low ridges or knolls. Most areas under this class are well suited for cultivated crops. However wetness, compaction, and wind erosion are major agricultural limitations. The soils described are poorly suited for sanitary facilities and building site developments.

#### 4. Metamora-Capac-Corunna Association

This group only composes 3% of the County. Each series comprises 18%, 22%, and 30% respectively, with 30% of soils in several other classes. Metamora soils are nearly level and gently undulating. Recognized by its very dark grayish brown sandy loam qualities, it is somewhat poorly drained.

Capac soils are similar to Metamora in slope and drainage character. Corunna soils are nearly level and poorly drained. They have a very dark grayish brown surface layer composed of sandy loam about ten inches in thickness. Those in the mixed classes are somewhat poorly drained. Cultivated crop suitability is good yet removing excess water during wet periods is a major management concern. Suitability of the major soils is poor for both sanitary and building facilities with wetness being a major limitation.

#### 5. Wixom-Wolcott-Pipestone Association

This association makes up 8% of the County. The class is composed of 30% Wixom, 25% Wolcott, and 15% Pipestone Series. The Wixom and Pipestone are typically found on broad flats and on low ridges. Wixom soils are found on nearly level and gently undulating slopes and are somewhat poorly drained. The soils of the Wolcott soil group are normally found in low, broad areas, depressions, and drainage ways. They are very poorly drained. Very poorly drained soils are defined by free water remaining at or on the surface during most of the growing season. Pipestone soils are nearly level and gently undulating and are somewhat poorly drained.

The other 30% of the soils are well combined with the somewhat poorly drained Capac and the poorly drained Belleville soils. Cultivated cropland tends to be the primary use of this class with wetness being the key challenge to overcome. The major soils are poorly suited to sanitary facilities due to poor filtration, slow percolation, and ponding. Building development is precluded due to wetness.

#### 6. Guelph-Londo-Tappan Association

Covering 12% of the County, this class is composed chiefly of Guelph series soils (60%). This series is nearly level to rolling and are moderately well drained or well drained. Soils with well-drained qualities allow water to be absorbed readily during most periods. Moderately well drained soils tend to absorb water slowly during some periods, yet are only wet for short periods during the growing season. Measures should be considered to overcome potential water erosion and slopes. However, building limitations are moderate for basements and moderate for septic absorption fields (greater for sloping areas).

Londo soils (20% of group) are nearly level and somewhat poorly drained as earlier described. Tappan soils (10% of group) are nearly level and poorly drained as mentioned before. The wetness of the Londo and Tappan is the primary concern for farming. Both are poorly suited for sanitary facilities and building site development due to poor drainage. Guelph soils are rated fair to poor for these uses with permeability and slope being a concern during site-specific analysis.

#### 7. Perrin-Wasepi-Gilford Association

This association covers 10% of the County land area. Perrin soils (35% of class) are nearly level and gently undulating. They tend to be moderately well drained. Measures to prevent wind erosion, water erosion, and seasonal drought should be considered. Wasepi (30% of class) are generally found on the lower side of slopes and on ridges. They are nearly level and somewhat poorly drained. Gilford (10% of class) are nearly level and very poorly drained.

The rest of the class (25%) is mixed with the well-drained Spinks and Boyer soils, and the Londo, Metamora, Tappan, and Wixom soils that are poorly drained. Most areas of this association are used as woodland and cropland. Some sand and gravel extractive operations are present as well. Cultivated crop suitability is fair with corn, beans, and wheat often comprising the main crops. Building development on Perrin soils is fair to poor due to local wetness conditions. The other major classes preclude development due to poor drainage. All major soil series are severely limited for sanitary facilities, as poor filtration and wetness are typical.

#### 8. Pipestone-Granby-Chelsea Association

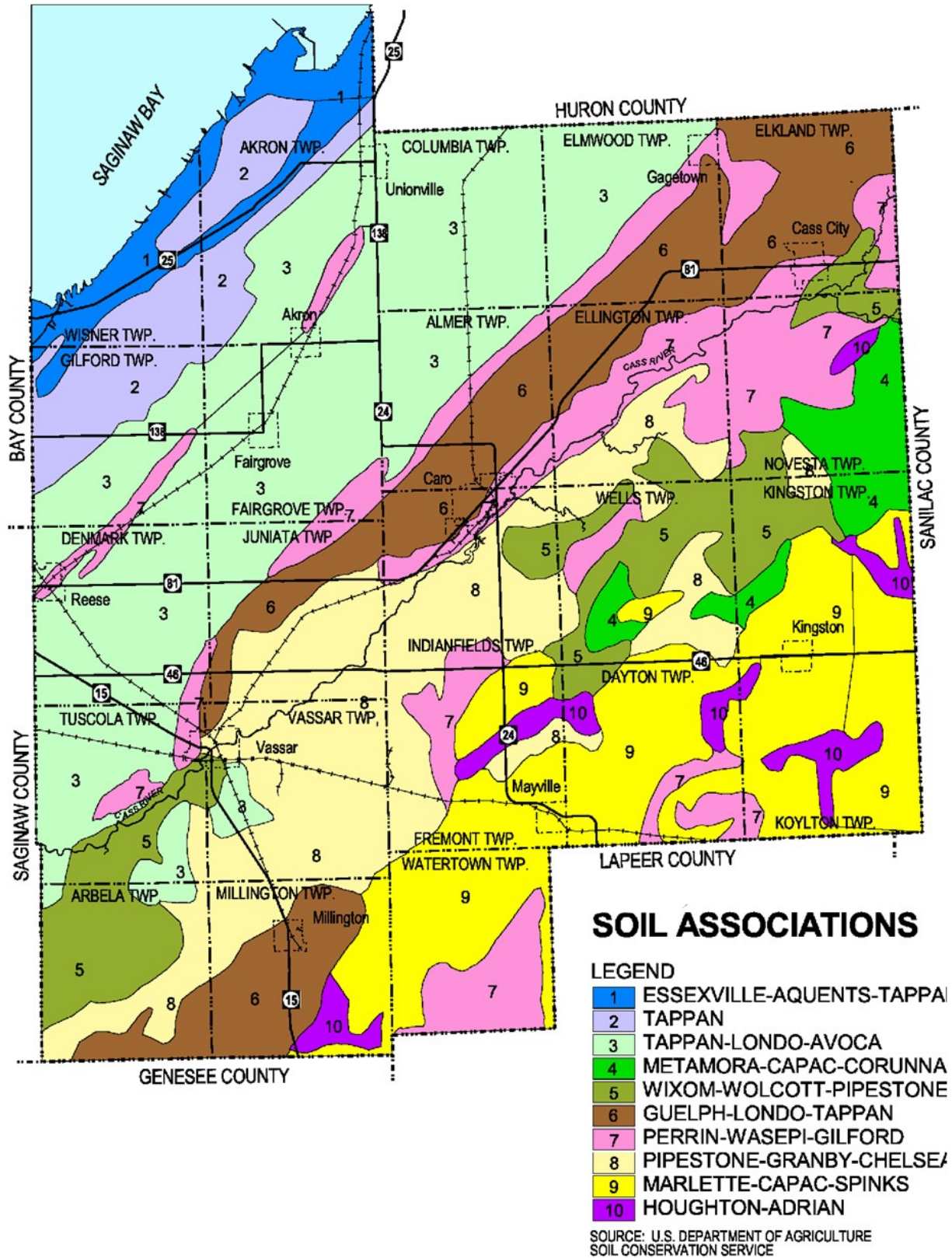
These series compose about 16% of the County. Pipestone (40%) soils tend to be somewhat poorly drained, as mentioned earlier. Granby soils (20%) are found on nearly level slopes and are typically poorly drained. This type can be visually identified by its black, loamy fine sand about 11 inches thick. The Chelsea (16%) series is found on nearly level to gently rolling slopes and is generally well drained. Its surface layer tends to be composed of dark, gray-brown fine sand about five inches thick.

The other series or minor extent (24%) are somewhat poorly drained Wixom and very poorly drained Wolcott soils. Most areas of this association are used for cultivated crops, pasture, or woodland. While the wetness of the Granby and Pipestone soils is the main farming limitation, the whole class is fairly suited for cultivation. Wind erosion, organic matter content, and seasonal drought are added management concerns. While the Chelsea soils are well suited for building development, the other soil series are poorly suited. Sanitary facilities are limited with the poor filtering and wet characteristics of all the major soil groups involved.

#### 9. Marlette-Capac-Spinks Association

This soil association comprises 15% of the County. It is composed of the Marlette (42%), Capac (15%), and Spinks (12%) soil series. While the Marlette and Spinks are often located on high ridges and knolls and in broad, undulating areas, the Capac is normally found in lower areas. Marlette soils tend to be well drained and are found on steep to undulating slopes. The surface layer is dark grayish brown composed of sandy loam. This series has only slight limitations for building yet has severe restrictions on sanitary uses due to slow percolation. It is also subject to water erosion.

Figure 7 Soil Associations and Types



Capac soils were earlier described and are somewhat poorly drained. Methods for removing excess water are often needed. Spinks tends to be well drained with a fine, loamy-sand surface layer about seven inches thick. Control measures to prevent soil blowing should be considered. Septic absorption varies from fair to very poor, depending on the site.

The other minor extents or other soil groups (31%) combine the well-drained Boyer and Metea soils, which are found on slopes similar to the Marlette and Spinks. Also, the poorly drained Metamora, Wixom, and Wolcott soils are present and often found on low, broad flats, and in depressions of drainage ways. Wetness, slope, water erosion, and wind erosion are farming management concerns. Building limitations include greater slopes, often shallow depth to the water table, and poor permeability. Generally, this association is suitable for cultivated crops, pasture, or woodlands.

#### 10. Houghton-Adrian Association

Comprising 2% of the County's land area, this group is found in bogs and depressions located on flood plains. The Houghton series makes up 30% of the group characterized by black muck extending to a depth of 51 inches. The Adrian series composes 30% made up of a shallow muck of only 11 inches. The rest of the class (40%) is a mixture of poorly drained Marlette, Capac, Pipestone, and Wolcott soils. Most areas of this association are used as woodlands or wildlife habitat. The major soil series are generally unsuited to cultivated crops, sanitary facilities, and building development due to frequent ponding.

### 5.2.5 Soil Moisture Characteristics

About 43.8% of the County is classified as hydric soils. These soils are defined as soils that are saturated, flooded, or tend to pond during part of the growing season. They are classified as poorly drained and very poorly drained. Hydric soils generally have poor potential for building site development and sanitary facilities. Wetness and frequent ponding are severe problems that can be difficult and costly to overcome. Sites with high water tables may be classified as wetlands and a wetlands permit would be required to develop these areas. Figure 8 exhibits the soils classified as hydric by the Natural Resources Conservation Service.

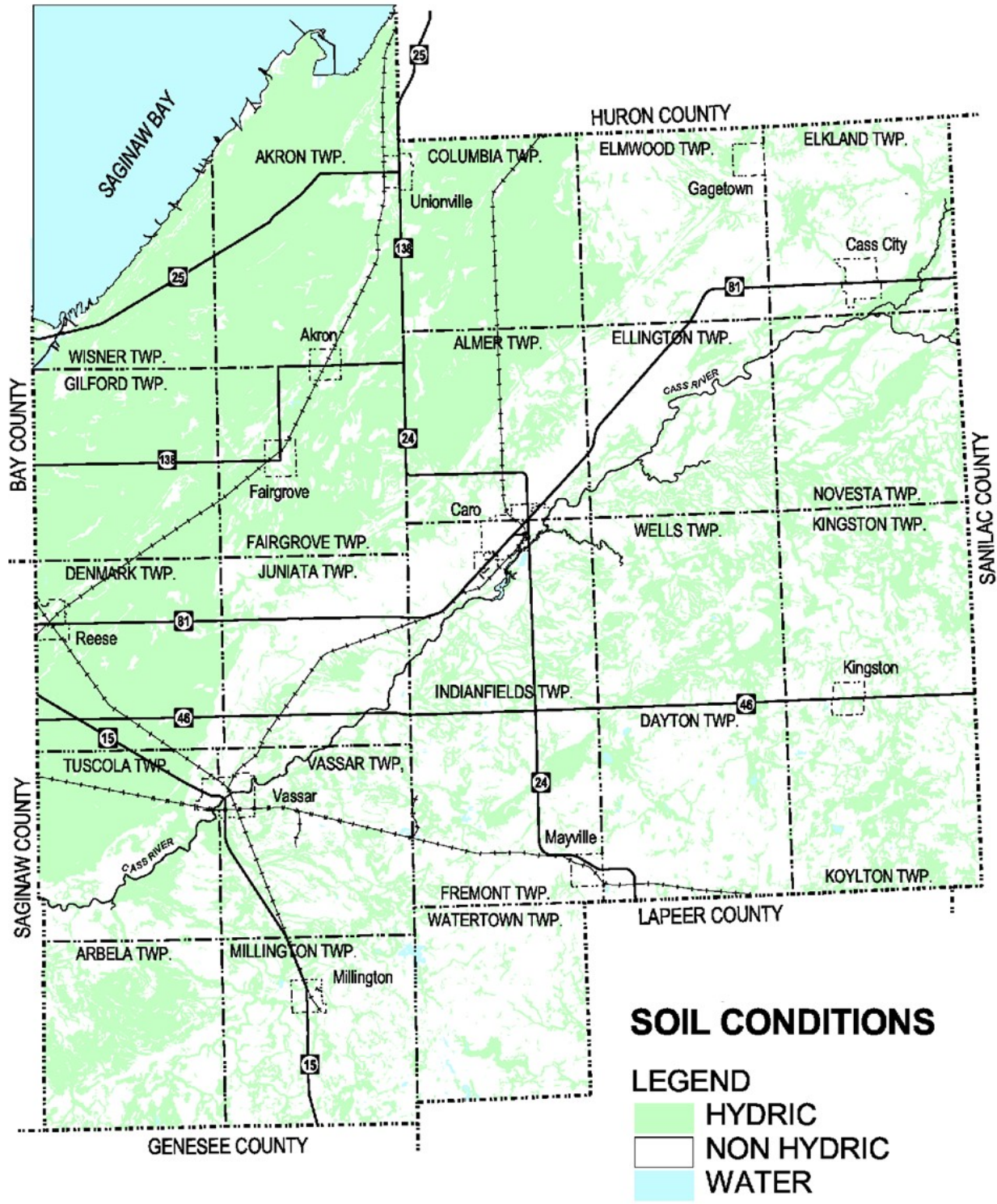
Non-hydric soils are defined as being well drained or moderately well drained. These types tend to show wetness or flooding only after significant periods of rainfall or during the seasonal spring thaw.

### 5.2.6 Wetlands

Michigan's Wetland Protection Act defines wetlands as "land characterized by the presence of water at a frequency and duration sufficient to support, and that under normal circumstances does support wetland vegetation or aquatic life and is commonly referred to as a bog, swamp or marsh." The Act further specifies State jurisdiction over certain wetlands depending upon their proximity to a lake, stream, pond, or Great Lake, and/or having a direct hydrological relationship with it. Wetlands, which meet the statute criteria, are considered regulated and require a permit before draining, filling, dredging or constructing upon.

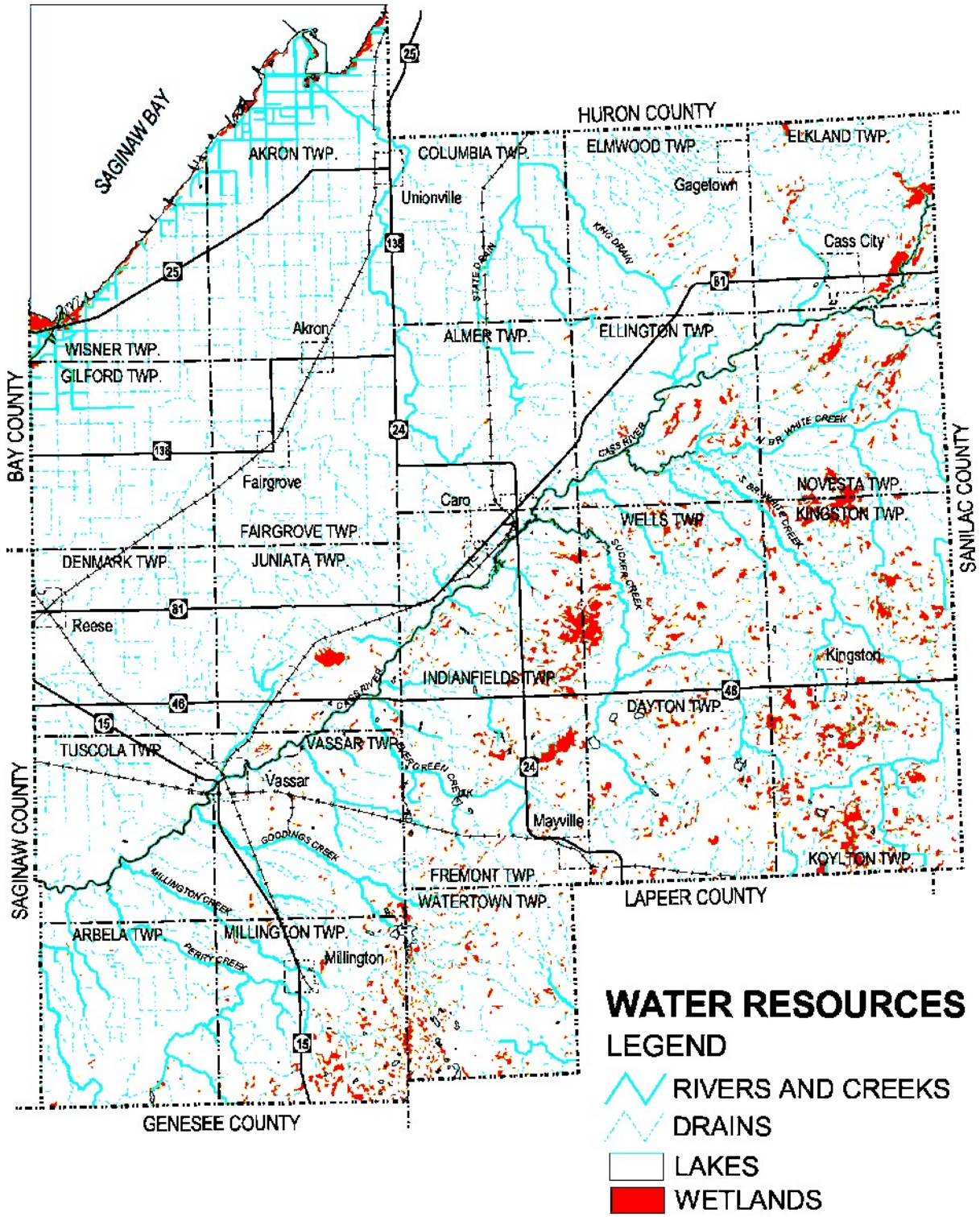
The MIRIS land use and land cover information provides spatial reference to the wetland areas in Tuscola County (Figure 9). These areas make up 3.7% of the total land area of the County. Wetlands are unique and diverse ecosystems where water is found, either on the surface or near the surface, at various times of the year. These areas often contain very poorly drained soils, which support water-loving vegetation.

Figure 8 Soil Conditions



SOURCE: MICHIGAN RESOURCE INFORMATION SYSTEM (MIRIS) LAND COVER

Figure 9 Water Resources



SOURCE: MICHIGAN RESOURCE INFORMATION SYSTEM (MIRIS)  
 MICHIGAN DEPARTMENT OF NATURAL RESOURCES (MDNR)

Several state wildlife areas are located in wetland areas providing managed game and habitat for waterfowl and other wildlife. Fish Point State Wildlife Area located along most of the Saginaw Bay shoreline in the County attracts many outdoor enthusiasts. The Deford, Tuscola, Cass City, and Vassar State Game Areas are also examples of wildlife habitat available to the public in central Tuscola County.

## **5.2.7 Water Resources**

Both groundwater and surface water are vital resources within Tuscola County. The primary watersheds in the County include the Saginaw Bay Watershed and the Cass River Watershed. The waterways are important scenic and recreation resources. Equally important are groundwater resources, as most County residents must rely on individual wells for drinking water. It is, therefore, important that all water resources be protected and managed in a manner, which would ensure their quality.

### **Groundwater**

Important factors in the evaluation of groundwater are the quantity and quality of the water. The geologic and hydrologic features of the County provide residents with sufficient water quantities. However, potable water availability in certain areas is limited.

According to the Tuscola County Health Department, there are two areas in the County facing water quality problems. The first is located in the Townships of Wisner, northern Gilford, and northern Akron. Here, concentrations of natural brine from the subsurface rock are high. As a result, many municipalities in these areas are drawing water from the Saginaw Bay instead of groundwater wells.

The second area is located in the extreme eastern and northeastern portions of the County where a geological formation (Marshal Sandstone) has natural arsenic associations. The Villages of Gagetown and Cass City are within this area. The water from the municipal wells is regularly tested and is within acceptable tolerances for safety. However, local wells in this area should be tested to ensure arsenic concentrations are within safe levels. In 2007, the Village of Cass City completed construction of an arsenic treatment facility that exceeds federal requirements for removal of arsenic from their water.

The rest of the county is fortunate to have an adequate groundwater resource generally within 100 feet of the surface. The vulnerability of drinking water aquifers to surface contamination is moderate to relatively safe in the County. However, this discussion is limited to general planning purposes and not site-specific analysis. Local site reviews are always necessary when assessing the vulnerability of a particular location.

A review of the Aquifer Vulnerability to Surface Contamination on a Michigan Map prepared by the Center for Remote Sensing and Department of Geography at Michigan State University shows a range of vulnerability classifications. Over 50% of the County is classified as moderate and slow permeable soils over the least sensitive drift lithology. Groundwater and potential contaminants do not move as quickly through these finer soils, sandy loam and sandy clay loam, as they do through coarse sandy soils. In addition, the Tuscola County Health Department describes the aquifer in most of the County as located below an impermeable clay layer and above an impermeable bedrock (shale) layer. This would provide added protection should a point source pollutant be released. However, two areas in the County are at a greater risk. The first is along the immediate lakeshore where the soils become sandier. This increases the risk of contamination, as the sand is highly permeable. This is also true along the glacial moraine ridge (noted earlier) where the permeability is also high.

## Surface Water

As mentioned earlier, the County is located within two major watersheds, the Cass River and the Saginaw Bay. A major regional water resource, the Cass River runs 55 miles through the center of the County, flowing from the northeast to the southwest. The extent of the Cass River Basin and watershed is shown in Figure 10. In total, the watershed drains 890 square miles in five counties.

The Cass River is a part of the Saginaw River system connecting, via the Shiawassee River, to the Saginaw River, which then empties into the Saginaw Bay.

The glacial moraine ridge, earlier described, divides the Saginaw Bay and Cass River watersheds. Surface water flowing north of the ridge is part of the Saginaw Bay watershed, whereas water flow south of the ridge enters the Cass River watershed.

The County Drain Commissioner is charged with the responsibility of maintaining the County drains. The maintenance costs for the county drains are assessed to landowners in each drainage district. Dredging and straightening existing creeks created the drains. Drainage ditches were formed by digging through natural drainage ways and low areas. The purpose for creating county drains and private farm drains is to improve soil drainage by increasing the flow of water from the landscape. Drainage tile systems have been buried in most farm fields and connect to the drainage ditches to further improve soil and growing conditions. These drainage systems also enable the County Road Commission to construct and to maintain the existing County road network. Since a substantial number of soils tend to be poorly drained in the County, these improvements allow for adequate water removal enabling current land uses to continue.

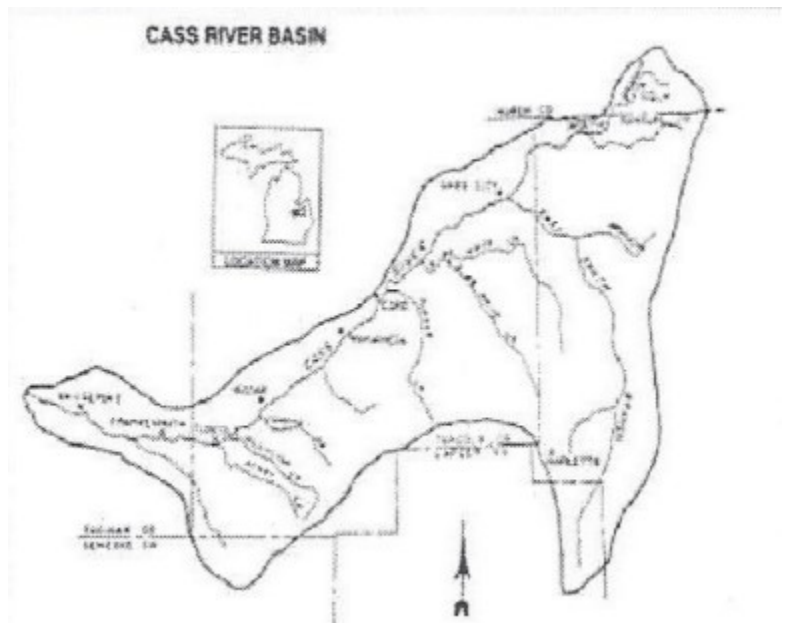
There are only a few lakes in the County, primarily located in the southern townships. They were formed in depressions left by irregular glacial melting and scouring as the glacial ice sheets advanced and retreated. Water quality of these lakes has been acceptable for all types of recreation for many years. Figure 9 shows the locations of county drains and other bodies of water in Tuscola County.

### 5.2.8 Woodlands

Woodland information for Tuscola County is derived from the Michigan Resource Information System (MIRIS) land use/cover information (Figure 11).

Approximately 18% of Tuscola County is wooded. The predominant woodland type is lowland woodland, which covers 10.9% of the County. Lowland tree species include red maple, silver maple, green ash, cottonwood, elm and basswood. These species tend to grow on poorly drained soils with high water tables.

Figure 10 Cass River Watershed



Upland tree species cover 7.4% of the County. The upland trees include aspen-white birch, northern hardwoods (sugar/red maple, American beech, cherry, and basswood) and pine (jack, white and red). **Table 5** summarizes the woodland cover types by township.

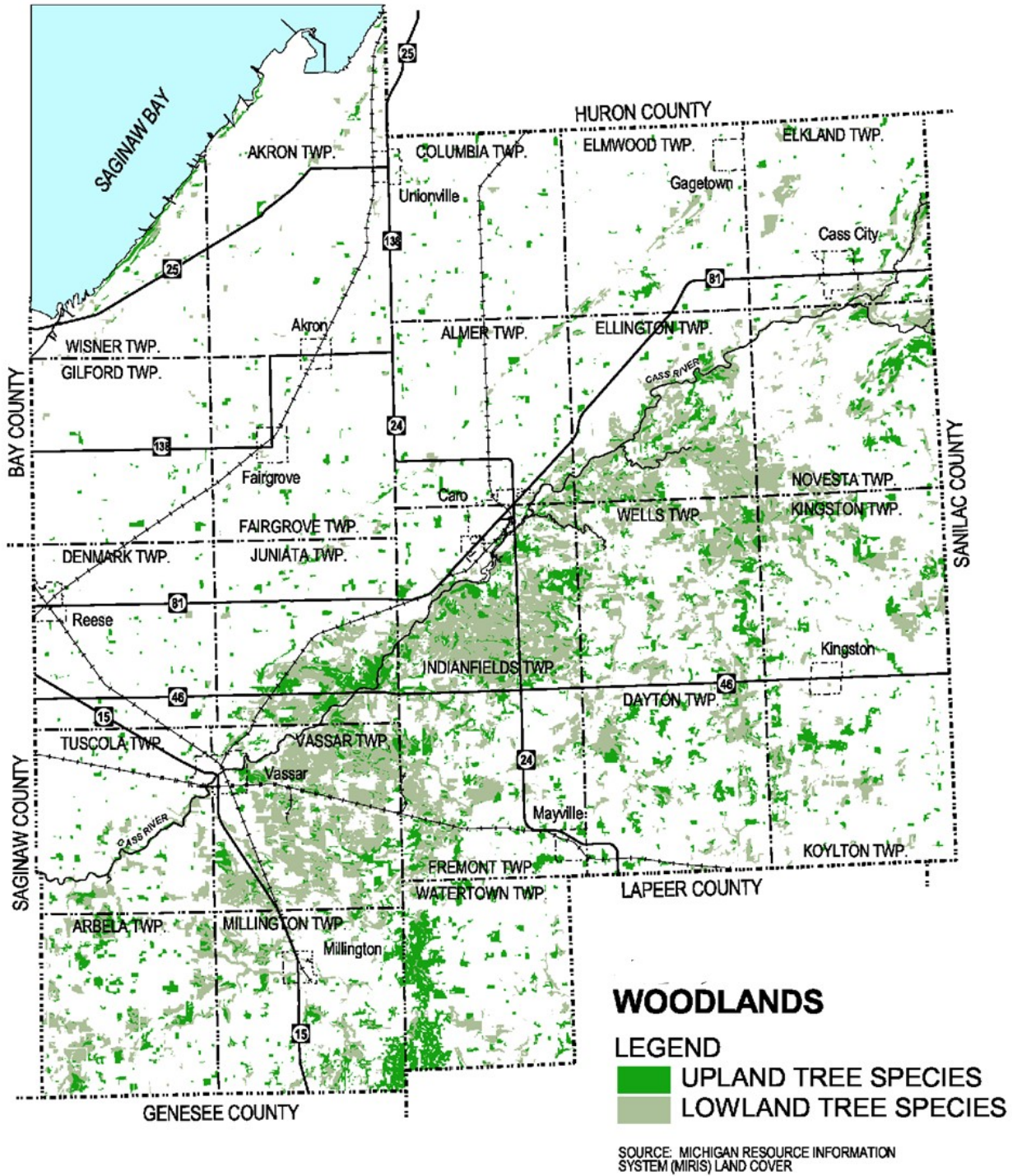
Woodland areas are complex ecological systems and consequently, provide multiple benefits to the environment and its wildlife and human inhabitants. Woodlands also reduce air pollutants by absorbing certain air borne particles. In addition to providing wildlife habitat, woodland vegetation moderates the effects of winds and temperatures while stabilizing and enriching the soil. For human inhabitants, woodland areas offer scenic contrasts within the landscape and with the changing of the seasons. Woodlands act as buffers from noise on heavily traveled roads. Primary non-preservation uses of woodlands are the production of forest products and woodland recreation.

Recreation activities include small and large game hunting. Wildlife species include deer, turkey, rabbit, and ruffed grouse.

**Table 5 Summary of Woodland Coverage**

Township	Upland Tree Acreage	% Of Township	Lowland Tree Acreage	% Of Township	Wetland Acreage	% Of Township
Akron	588	1.8%	546	1.7%	1,277	4.0%
Almer	1,051	4.8%	714	3.3%	46	0.2%
Arbela	2,333	10.4%	2,996	13.4%	125	0.6%
Columbia	608	2.6%	83	0.4%	0	0.0%
Dayton	2,413	10.5%	2,338	10.2%	1,217	5.3%
Denmark	474	2.1%	111	0.5%	0	0.0%
Elkland	946	4.3%	1,350	6.1%	1,026	4.6%
Ellington	2,256	9.4%	5,493	22.9%	648	2.7%
Elmwood	615	2.6%	609	2.6%	172	0.7%
Fairgrove	620	2.7%	291	1.3%	3	0.0%
Fremont	2,562	11.3%	3,867	17.1%	1,027	4.5%
Gilford	368	1.7%	54	0.2%	23	0.1%
Indianfields	3,465	16.6%	7,532	36.0%	1,334	6.4%
Juniata	2,599	11.3%	3,221	14.0%	392	1.7%
Kingston	1,877	8.3%	3,003	13.3%	1,882	8.3%
Koylton	1,474	6.4%	1,268	5.5%	2,982	13.0%
Millington	2,782	12.2%	2,515	11.0%	1,339	5.9%
Novesta	1,482	6.5%	2,920	12.7%	1,328	5.8%
Tuscola	996	4.9%	1,626	8.0%	0	0.0%
Vassar	2,649	11.4%	9,091	39.1%	337	1.5%
Watertown	3,400	15.0%	1,225	5.4%	1,047	4.6%
Wells	2,494	11.9%	5,216	24.9%	1,722	8.2%
Wisner	461	3.7%	363	2.9%	1,046	8.4%
<b>County</b>	<b>38,513</b>	<b>7.4%</b>	<b>56,432</b>	<b>10.9%</b>	<b>18,973</b>	<b>3.7%</b>

Figure 11 Woodlands



## 5.2.9 Farmland

Tuscola County's most valued natural resource is its highly productive soil. Farming began in the early 1850's with 13 working farms and today has grown to include nearly 300,000 acres of land. According to the Tuscola County Soil Survey, the County is one of the top agricultural areas in the State. Wise utilization of this valuable resource by emphasizing proper management practices and promoting farmland retention will sustain this economic base for future years.

The United States Department of Agriculture (USDA) has classified a large portion of the County's arable land as prime farmland. This land is best suited for food, feed, forage, fiber, and oilseed crops. Generally, prime farmland produces the highest yield with minimal inputs of energy and economic resources.

The USDA Soil Survey indicates nearly two-thirds of County land is prime farmland. Officials at the USDA Farm Service Agency use the General Soils Map (Figure 7) to display the general location of land most suitable for agriculture. Soil associations one through five are rated the best locations for prime farmland followed by six through eight as reasonable, depending on the locality. Association nine is less preferred due to being well drained and association ten is least preferred due to very poor drainage qualities. Poorly drained or very poorly drained lands are included in the prime category only where improvements like drains or flood controls are in place. Artificial improvements to these areas are in place across most of the County.

In 1983, the Soil Conservation Service determined 359,000 acres, 69% of the total land area, were being farmed. According to the 1992 Census of Commerce, 324,111 acres were being farmed in the County accounting for roughly 62% of the total land area. In 2017, The USDA reported 298,460 acres being farmed. The reason for this decrease are many and includes conversion of land to urban or industrial uses, lower comparable commodity returns vs. production costs, and field renewal or farm use modification practices.

Economic issues aside, Tuscola County is an active participant in the PA 116 Farm land preservation program. This program offers tax incentives for farmers who agree not to sell their land for non-agricultural uses. This contractual agreement lasts for ten years. In 2012, 204,619 acres were registered with the PA 116 program. This number decreased to 183,933 acres in 2022. Chapter 6 provides a township breakdown of PA116 agreements registered with the State of Michigan.

Tuscola County ranks among the top 5 counties in rental rates for non-irrigated farmland. Huron County consistently ranks number one with Tuscola generally ranking second. The county does lag in irrigated farmland rates. This is likely due to irrigated farmland representing a small portion of rented cropland. Rented farmland data was gathered from the USDA- NASS. A comparison of rental crop rates is located in Table 6.

Table 7 offers an agricultural snapshot of Tuscola County while the percentage of real property value to agricultural taxable value is presented in Table 8. Finally, Table 9 presents agricultural real property tax contributions to the county. It should be noted that this table does not include real property contributions to local villages, school districts or library millages. It does also not attempt to take personal property taxable valuations related to agriculture into account.

Table 6 Rental Rates of Cropland in \$ per Acre

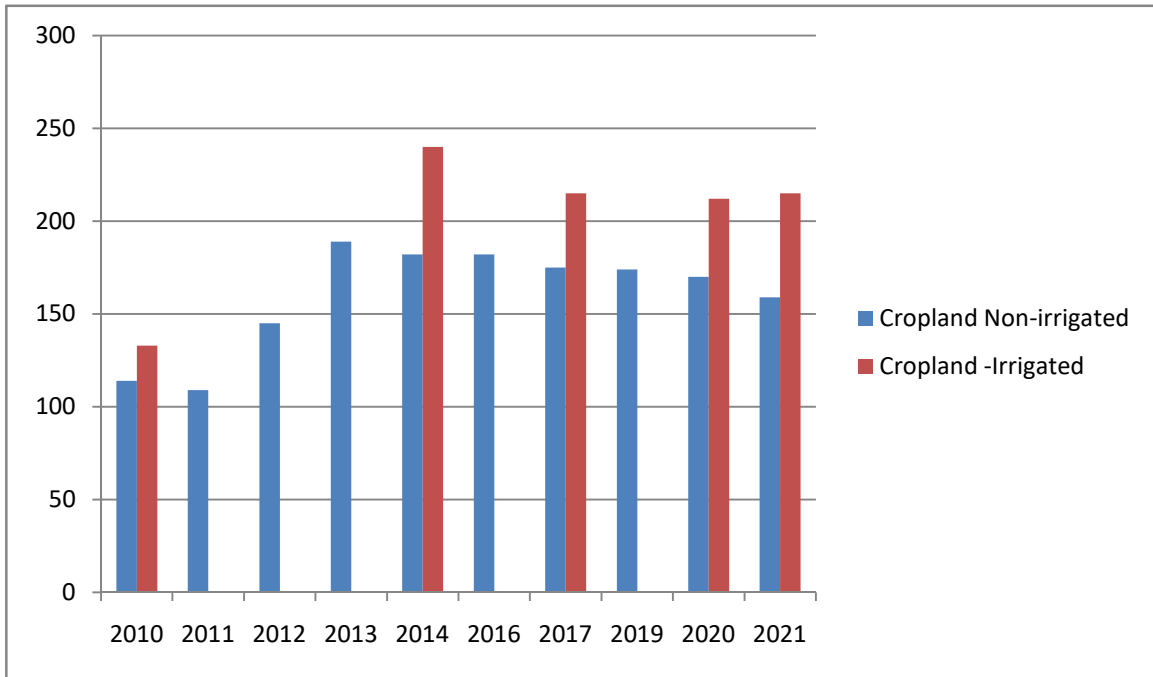


Table 7 Tuscola County Agriculture Overview

	2002	2017
Number of farms	1292	1241
Average size of farms:	260 acre	266 acre
Average value of agricultural products sold per farm:	72,599	159,541
1-9 acres	56	116
10-49 acres	408	410
50-179 acres	460	352
180-499 acres	193	179
500-999 acres	89	103
1000 acres or more	86	81
Total cropland in acres	335,542	329,785
Market value of agricultural products sold per 1000 dollars	93,797	230,955
Crops including nursery and greenhouse	72,801	160,315
Livestock, poultry and related products	20,997	70,639
Beef and calves inventory -number	18,137	26,120
Beef cows	*	2,580
Milk cows	*	9,564
Cattle and calves sold	*	22,113
Hogs and pigs sold	13,618	73,850
Total farm production expenses per 1000 dollars	90,563	197,990
Crops harvested		
Corn for grain acres/bushels	79,706	81,008/13,378,127
Corn for silage acres/tons	*	5,288/104,853
Wheat for grain acres/bushels	19,450/*	33,521/2,759,305
Sorghum for grain acres/tons	*	6,026/150
Soybeans acres/bushels	77,296/*	84,455/3,707,205
Number of farms operated as principle occupation	764	1,025
Average age of principal farm operators:	53 years	56.4
Dry beans (exclude chickpeas)acre/cwt	41,047/*	41,466/808,977
Forage acres/tons	*	15,923/43,422
Sugarbeets acres/tons	25,861/*	15,760/401,944
Land in orchards farms/acres	*	21/65

- 2002 & 2017 Census of Agriculture -USDA National Agricultural Statistics Service.

Table 8 Agricultural Percentage of Real Property

Purpose	2022 Real Property Agricultural	2022 Total Real Property	Percentage of Real Property Taxable Valuation.
Akron Twp	41,604,468	66,836,298	62.25
Almer Twp	22,476,262	64,996,762	34.58
Arbela Twp	19,283,479	74,648,574	25.83
Columbia Twp	35,394,348	54,140,679	65.37
Dayton Twp	14,722,741	58,633,262	25.11
Denmark Twp	36,161,371	98,964,924	36.54
Elkland Twp	20,199,167	93,055,613	21.71
Ellington Twp	11,496,033	43,147,347	26.64
Elmwood Twp	23,117,440	42,324,525	54.62
Fairgrove Twp	32,694,446	55,976,648	58.41
Fremont Twp	10,278,039	80,543,639	12.76
Gilford Twp	35,324,888	47,321,468	74.65
Indianfields Twp	3,397,652	59,922,378	5.67
Juniata Twp	14,390,263	50,378,332	28.56
Kingston Twp	12,216,284	40,953,377	29.83
Koylton Twp	11,951,560	50,096,650	23.86
Millington Twp	14,327,846	120,651,465	11.88
Novesta Twp	15,287,037	41,776,271	36.59
Tuscola Twp	24,436,319	75,723,801	32.27
Vassar Twp	4,777,205	92,933,144	5.14
Watertown Twp	9,673,687	57,023,497	16.96
Wells Twp	9,976,171	47,622,225	20.95
Wisner Twp	15,750,993	27,455,162	57.37
City of Vassar	102,856	42,622,842	0.24
City Of Caro	0	87,102,843	0.00
County Total	439,040,555	1,574,851,726	27.88

2022 Tuscola County Apportionment Report

Table 9 Agricultural Taxable Contributions (Does not include local Library, School or Village Millages)

Purpose	2022 Real Property Agricultural Taxable Valuation	2022 Total Real Property Taxable Valuation	2022 Millage Rates	2022 Agricultural Estimated Real Property Tax Contribution
Akron Twp	41,604,468	66,836,298	5.2224	217,275
Almer Twp	22,476,262	64,996,762	3.4364	77,237
Arbela Twp	19,283,479	74,648,574	3.7652	72,606
Columbia Twp	35,394,348	54,140,679	6.3912	226,212
Dayton Twp	14,722,741	58,633,262	3.1431	46,275
Denmark Twp	36,161,371	98,964,924	3.4518	124,822
Elkland Twp	20,199,167	93,055,613	3.6374	73,472
Ellington Twp	11,496,033	43,147,347	4.7563	54,679
Elmwood Twp	23,117,440	42,324,525	7.0705	163,452
Fairgrove Twp	32,694,446	55,976,648	5.1263	167,602
Fremont Twp	10,278,039	80,543,639	1.3135	13,500
Gilford Twp	35,324,888	47,321,468	4.3553	153,850
Indianfields Twp	3,397,652	59,922,378	4.3062	14,631
Juniata Twp	14,390,263	50,378,332	4.4319	63,776
Kingston Twp	12,216,284	40,953,377	3.2867	40,151
Koylton Twp	11,951,560	50,096,650	4.9786	59,502
Millington Twp	14,327,846	120,651,465	2.1133	30,279
Novesta Twp	15,287,037	41,776,271	4.2648	65,196
Tuscola Twp	24,436,319	75,723,801	1.5265	37,302
Vassar Twp	4,777,205	92,933,144	1.0000	4,777
Watertown Twp	9,673,687	57,023,497	1.0660	10,312
Wells Twp	9,976,171	47,622,225	3.1560	31,485
Wisner Twp	15,750,993	27,455,162	5.0197	79,065
City of Vassar	102,856	42,622,842	17.0000	1,749
City Of Caro	0	87,102,843	16.1643	0
State Education Tax	439,040,555	2,092,131,408	6.0000	2,634,243
General Operating	439,040,555	2,092,131,408	3.9100	1,718,449
Bridge/Streets	439,040,555	2,092,131,408	0.4800	211,047
Senior Citizens	439,040,555	2,092,131,408	0.3200	140,493
Medical Care	439,040,555	2,092,131,408	0.2500	109,760
Road Patrol	439,040,555	2,092,131,408	1.3300	583,924
Primary Road Imp.	439,040,555	2,092,131,408	0.9700	423,981
Mosquito Abatement	439,040,555	2,092,131,408	0.6300	277,298
Recycling	439,040,555	2,092,131,408	0.1500	65,856
MSU Extension	439,040,555	2,092,131,408	0.1000	43,904

### 5.3 Socioeconomic Profile

Getting a better understanding of the County through socioeconomic data is an important component of the comprehensive planning process. A good socio-economic profile will include information on population, housing, and economy. These aspects of the County have direct impacts and influences on future land use decisions. Table 10 shows the township population trend across time. Table 11 provides a demographic snapshot.

The population of Tuscola County is primarily married with Tuscola County ranking 9<sup>th</sup> by population among Michigan Counties. Columbia Township has the highest number of married individuals with 63%. The City of Caro has the lowest percentage of married individuals at 43%.

Table 12 shows the persons per household trends for Tuscola County from 1970 to 2020. As shown in the table, the persons per household numbers have declined across the past 50 years and are expected to decline further during the next 20 years.

Table 10 Population Trends

Place	2000	2005	2020
<b>City</b>			
Caro (Almer & Indianfields Twps.)	4,265	4,193	4,358
Vassar	2,823	2,776	2,773
<b>Village</b>			
Akron (Akron & Fairgrove Twps.)	461	452	373
Cass City (Elkland Twp.)	2,643	2,606	2,529
Fairgrove (Fairgrove Twp.)	627	619	535
Gagetown (Elmwood Twp.)	389	384	322
Kingston (Kingston & Koylton Twps.)	450	442	400
Mayville (Fremont Twp.)	1,055	1,034	925
Millington (Millington Twp.)	1,137	1,115	1,031
Reese (Denmark Twp.)	1,375	1,365	1,255
Unionville (Columbia Twp.)	605	594	491
<b>Township*</b>			
Akron	1,589	1,609	1,373
Almer	3,023	3,029	1,984
Arbela	3,219	3,338	2,800
Columbia	1,419	1,433	1,225
Dayton	1,869	1,879	1,918
Denmark	3,249	3,258	2,735
Elkland	3,659	3,645	3,542
Ellington	1,304	1,336	1,326
Elmwood	1,213	1,235	1,056
Fairgrove	1,749	1,759	1,552
Fremont	3,559	3,568	3,163
Gilford	833	875	736
Indianfields	6,392	6,362	2,513
Juniata	1,673	1,701	1,552
Kingston	1,615	1,640	1,470
Koylton	1,579	1,607	1,478
Millington	4,459	4,432	4,223
Novesta	1,606	1,635	1,436
Tuscola	2,152	2,151	1,971
Vassar	4,356	4,403	3,867
Watertown	2,231	2,242	2,086
Wells	1,946	1,776	1,581
Wisner	749	757	602
<b>Tuscola County</b>	<b>58,266</b>	<b>58,428</b>	<b>53,323</b>

\*Township population includes Village population. Source: U.S. Census (2021). Incorporated Places and Minor Civil Division Datasets: Subcounty. Resident Population Estimate.

Table 11 Tuscola County 2020 Census Data

<b>Population</b>	<b>Tuscola</b>	<b>Michigan</b>
Population: 2010	55,729	9,903,640
Population 2020	53,323	10,77,331
Population: Percent change from 2010 to 2020	-4.3%	2%
Persons under 5 years	5.0%	5.5%
Persons under 18 years	20.2%	21.4%
Persons 65 years and older	21.5%	18.1%
Female persons	49.3%	50.4%
Households:	21,719	*
Persons per household:	2.37	*
<b>Race/Ethnicity</b>		
White persons	96.1%	79.2%
White persons not Hispanic	92.7%	74.2%
Persons of Hispanic or Latino origin	3.9%	5.6%
Black persons	1.3%	14.1%
American Indian and Alaska Native persons	0.7%	0.7%
Asian persons	0.4%	3.4%
Persons of two or more races	1.4%	2.7%
<b>Demographics</b>		
Persons living in same house: 5 years old +	89.8%	86.6%
Foreign born persons:	0.8%	6.9%
Language other than English spoken in home: 00: 5 years old+	2.1%	9.7%
High school graduates, 25 years and older:	90.1%	91.3%
Bachelor's degree or higher:	13.5%	30.3%
Persons with a disability, age 5 years +:	14.4%	10.2%
Mean travel time to work; in minutes:	30.2	24.6
<b>Housing</b>		
Housing units	23,976	4,590,528
Building permits:	34	21,732
Homeownership rate:	83.7%	71.7%
Median value owner-occupied housing units:	\$108,200	\$162,600
<b>Income</b>		
Median household income:	\$51,891	\$59,234
Per capita money income:	\$26,905	\$32,854
Persons below poverty:	11.4%	12.6%
<b>Geography</b>		
Land Area: 2000 (square miles)	812.43	56,803.82
Persons per square mile:	66.3	178.0

Source: U.S. Census (2021). Incorporated Places and Minor Civil Division Datasets: Sub-county, Resident Population Estimate.

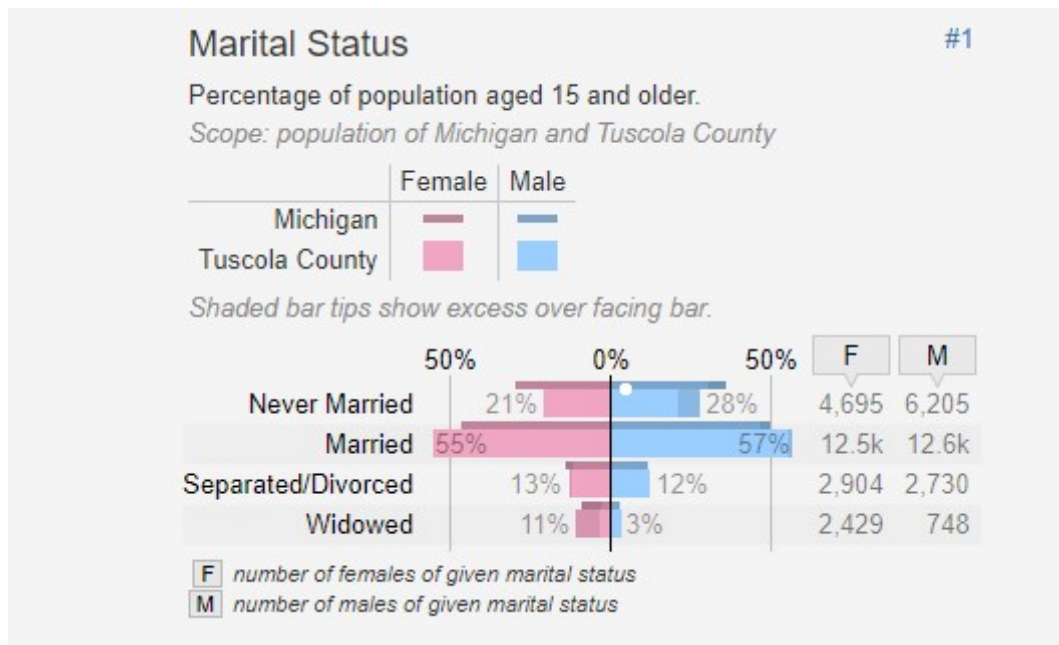
### 5.3.1 Household Characteristics

For Tuscola County as a whole, 2020 married couple families make up 55.8% of county households. This is down from 61.2% of the 2000 households. The State of Michigan also shows a marked decline of married household decreasing from 51.4% in 2000 to 47% in 2020. Tuscola County ranks ninth for the highest married county populations in the state. The highest percentage of married households, 67%, can be found in Arbela Township. The lowest percentage of married couple family households can be found in the Villages of Mayville (36%), Millington (37%) and the City of Caro, 39%. This is unsurprising as these locations also tend to have the smallest percentage of married population.

Tables 12, 13, and 14 provides marital status by gender, and an overview of married population and married households by government entity. General trends indicate that while married status remains high in many areas, the number of married households is steadily declining as a percentage of overall households. Potential reasons could include increasing age of married individual that are no longer maintaining a household and increasing single individual households.

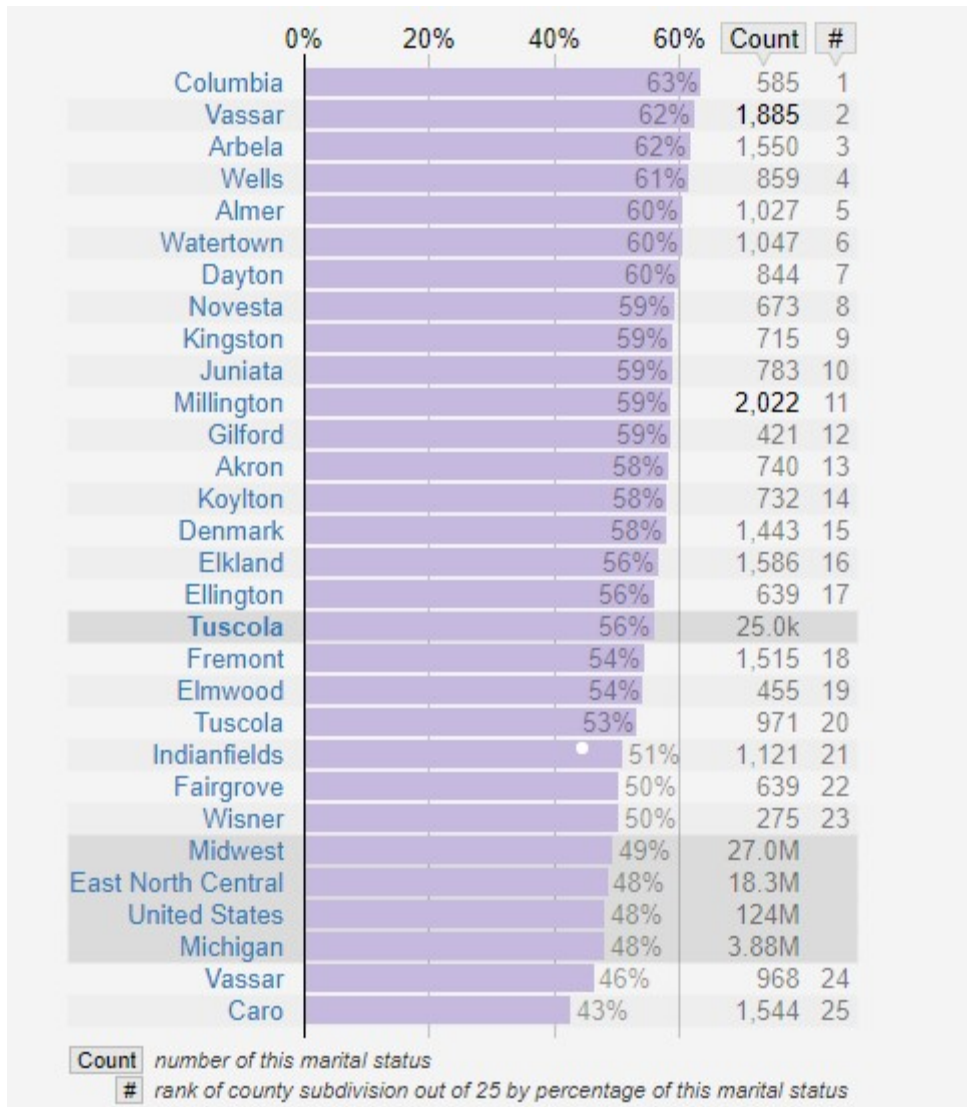
Table 15, Persons per household, indicates that over the past 50 years there has been a 30% decline in the number of individuals within a household.

Table 12 Marital Status



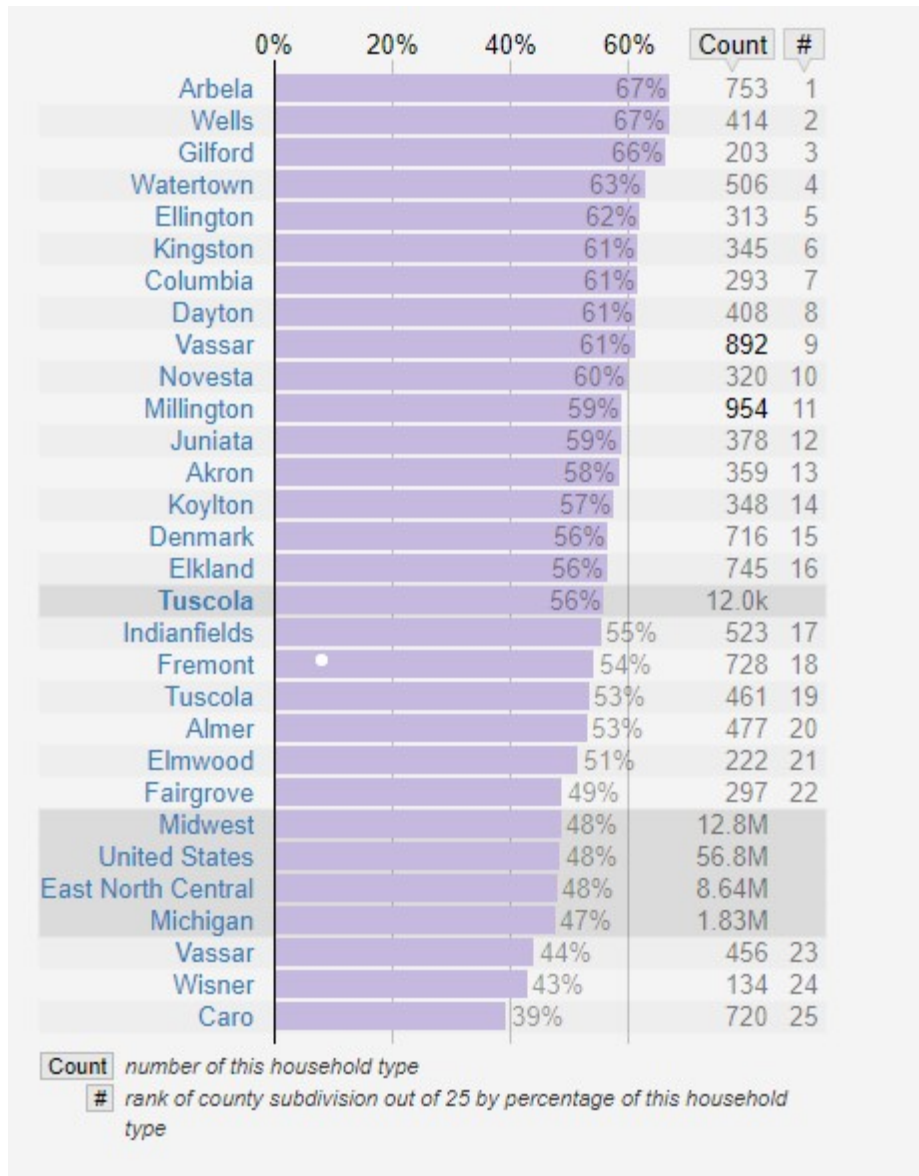
Source: U.S. Census (2021). Incorporated Places and Minor Civil Division Datasets: Sub-county, Marital Status Estimate.

Table 13 Marital Status by Government Subdivision



Source: U.S. Census (2021). Incorporated Places and Minor Civil Division Datasets: Sub-county, Marital Status Estimate.

Table 14 Marital Status by Household



Source: U.S. Census (2021). Incorporated Places and Minor Civil Division Datasets: Sub-county, Resident Household Estimate.

Table 15 Persons per Household

Year	Persons Per Household
1970	3.41
1980	3.05
1990	2.79
2000	2.65
2020	2.37
<b>Percent Change, 1970 – 2020</b>	<b>-30.5%</b>

\*Persons per Household projection derived from Woods & Poole Economics, Inc. Source: U.S. Census Reports, 1970-2000. Woods & Poole Economics, Inc. 2001 Data Pamphlet. 2020 Census Data.

### 5.3.2 Income and Education

Average income statistics, as depicted in Table 16 compares medium county income over time to the State of Michigan and the United States. County income statistics is substantially lower than averages for the State and nation. Over the past 20 years, the County median income has continued to lose ground in this statistic.

Table 17 offers an more detailed examination of medium income levels for families, households and per capita. The lowest per capita incomes are found in the Village of Fairgrove, the Village of Gagetown, and among townships, Gilford and Indianfields rank among the lowest figures. The highest per capita incomes are found in the Village of Reese, the Village of Kingston, Denmark Township, Columbia Township and Wisner Township.

Overall, the percentage of people living in poverty is estimated at 13.1%, just behind the overall state percentage of poverty at 13.7 percent. Unsurprisingly, cities and villages tend to have a higher percentage of people living in poverty. The City of Caro has 21.5% living in poverty followed by the Village of Akron at 19.9%, and the City of Vassar at 19%. Among townships, those with the highest levels of poverty include Indianfields, Juniata and Vassar. Those townships with the lowest rates are Columbia (5.1%), Gilford (6.3%), and Tuscola (7.5%).

Table 16 Median Income Tuscola County, State of Michigan and United States.

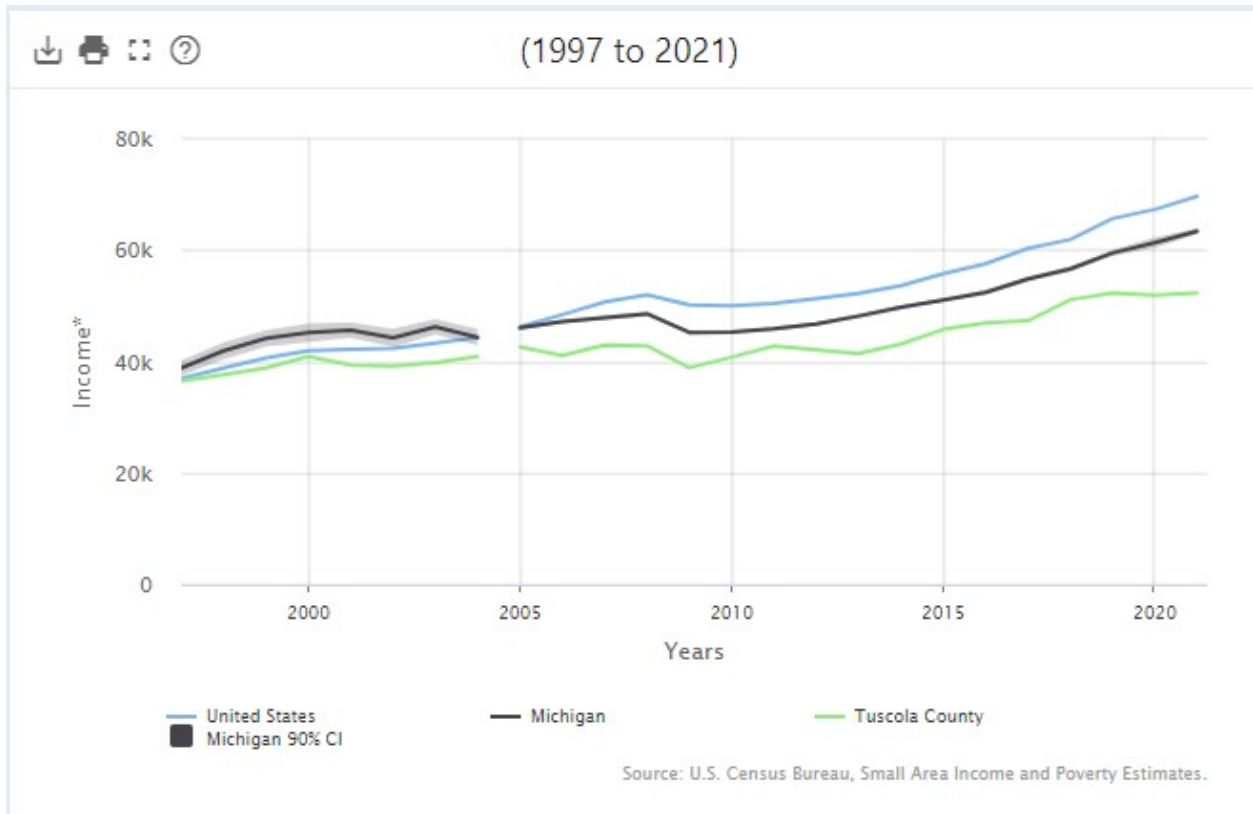


Table 17 Income and Poverty Status - Medium Incomes

Place	2020 Family Income	2020 Household Income	2020 Per Capita Income	2020 % of Families Below Poverty*	2020 % of individuals Below poverty*
<b>City</b>					
Caro	56,667	34,491	25,203	8.6	21.5
Vassar	52,422	40,919	21,414	11.3	19.0
<b>Village</b>					
Akron	51,563	40,833	19,874	12.0	19.9
Cass City	66,480	49,226	26,320	8.5	12
Fairgrove	54,733	38,611	19,019	7.7	15.5
Gagetown	60,179	33,958	18,939	13.6	16.5
Kingston	68,333	53,250	32,854	9.2	13.7
Mayville	50,833	34,808	21,549	12.0	17.0
Millington	50,750	38,542	23,559	16.9	14.1
Reese	88,558	71,429	38,113	4.2	9.3
Unionville	67,500	64,207	28,875	3.5	7.9
<b>Township</b>					
Akron	59,750	53,056	26,233	8.8	12.1
Almer	85,682	50,417	30,235	2.0	14.3
Arbela	55,714	49,981	23,742	12.5	17.2
Columbia	75,114	64,489	33,367	3.2	5.1
Dayton	61,194	52,866	27,807	8.4	14.9
Denmark	83,313	61,591	39,074	4.6	8.6
Elkland	65,954	52,823	25,302	5.9	8.8
Ellington	76,250	62,500	30,100	7.6	7.9
Elmwood	57,708	47,014	25,891	10.1	14.7
Fairgrove	58,000	47,629	24,368	6.4	12.2
Fremont	49,752	42,112	27,602	8.2	12.4
Gilford	44,886	41,591	20,835	3.5	6.3
Indianfields	59,643	49,231	23,475	5.7	21.3
Juniata	62,727	52,432	28,981	9.5	18.6
Kingston	61,364	48,667	24,378	4.4	9.8
Koylton	54,338	53,625	24,094	8.7	14.3
Millington	63,750	54,792	25,958	7.5	7.8
Novesta	61,750	50,156	28,487	10.0	11.1
Tuscola	76,838	62,019	28,205	3.1	7.5
Vassar	53,670	50,132	24,875	10.8	15.3
Watertown	75,363	71,094	27,311	8.1	12.4
Wells	62,313	60,648	28,232	7.1	8.8
Wisner	72,955	46,979	34,147	2.7	8.1
<b>Tuscola</b>	63,976	51,891	26,905	7.9	13.1
<b>State of Michigan</b>	75,470	59,234	32,854	9.2	13.7

\*Previous 12 months.

Source: U.S. Census (2021). Incorporated Places and Minor Civil Division Datasets: Sub-county. Resident Income Estimate. Note Median Values

### 5.3.3 Housing

Of the 23,379 housing units in Tuscola County at the time of the 2000 Census, 79.9% were single-family units, 3.6% were 2-4 unit structures, 1.9% were 5-9 unit structures, and 1.3% were more than 10 unit structures (Table 18). Mobile homes accounted for 13.3% of County dwelling units. The greatest proportion (97.3%) of single-family units was found in Tuscola Township, and the least (62.2%) in Vassar Township. Mobile homes were most prevalent in Vassar Township, and the least in the Village of Mayville and Tuscola Township.

The 2020 Report of the US Census (Table 18) indicates that single family units in Tuscola County has increased to 82.68% while 2-4 unit structures and mobile homes has decreased. Gilford Township has the highest percentage of single unit homes at 97.65%. Tuscola Township has fallen to third (94.66) behind Tuscola and Columbia Township (96.52). Mobile homes continue to be a major source of housing for Vassar Township (28.38%), Almer (21.45%), Indianfields (22.89%), Wells (25.9%), and the Village of Reese (10.39%).

Owner occupied housing remains high and has increased since 2000. In 2020, 83.72% of Tuscola County housing is owner occupied. Significant pockets of rental properties exist in the cities of Caro (38.64%) and Vassar (40.16%), the Village of Millington (38.53%) and the townships of Elmwood (22.22%), Elkland (22.13%) and Kingston (20.38%).

In 2020, the vacancy rate in the State of Michigan is 13.7 percent and indicates a bear housing market. Tuscola County is slightly better at 11.26%. However, the townships of Elkland (18.33%), Dayton (22.94%), Akron (19.78%), and Wisner (20.24%) show high vacancy rates. The City of Vassar (4.53%) and Village of Reese (4.5%) demonstrate characteristics of a tight housing market.

Overall, Tuscola County lags behind the State of Michigan in the age of housing. Table 20 indicates that 46% of state housing structures has been built since 1980 while just 30% have been constructed in the county. Leading the 2001- 2020 construction are the townships of Wells (16.27%), Ellington (15.82%), Vassar (15.70%) and Koylton (14.88%). The Village of Mayville (49.29%), and the Townships of Columbia (45.41%), Gilford (42.82%), Freemont (36.75%) and Elmwood (35.97%) have the highest level of housing structures that date before 1939.

Table 18 Types of Housing Structures -2020

Place	1 Unit Structures		2-4 Unit Structures		5-9 Unit Structures		10+ Unit Structures		Mobile Homes		Total Units
	#	%	#	%	#	%	#	%	#	%	#
<b>City</b>											
Caro	1,481	72.78	130	6.39	151	7.42	148	7.27	125	6.14	2,035
Vassar	731	69.03	139	13.13	81	7.65	64	6.04	44	4.15	1,059
<b>Village</b>											
Akron	172	94.51	6	3.30	0	0	0	0	4	2.20	182
Cass City	813	75.00	94	8.67	73	6.73	33	3.04	71	6.55	1,084
Fairgrove	213	87.30	7	2.87	3	1.23	0	0	21	8.61	244
Gagetown	140	81.87	7	4.09	4	2.34	15	8.77	5	2.92	171
Kingston	147	86.47	7	4.12	8	4.71	7	4.12	1	0.59	170
Mayville	320	75.47	67	15.80	33	7.78	4	0.94	0	0	424
Millington	373	74.30	52	10.36	69	13.75	0	0	8	1.59	502
Reese	513	79.53	41	6.36	21	3.26	3	0.47	67	10.39	645
Unionville	286	94.70	2	0.66	14	4.64	0	0	0	0	302
<b>Township*</b>											
Akron	690	92.87	6	0.81	2	0.27	0	0	45	6.06	743
Almer	695	69.99	25	2.52	12	1.21	48	4.83	213	21.45	993
Arbela	1,101	91.98	8	0.67	0	0	0	0	88	7.35	1,197
Columbia	610	96.52	2	0.32	14	2.22	0	0	6	0.95	632
Dayton	1,008	90.32	0	0	9	0.81	0	0	99	8.87	1,116
Denmark	1,143	82.41	54	3.89	41	2.96	3	0.22	146	10.53	1,387
Elkland	1,249	79.20	108	6.85	73	4.63	33	2.09	114	7.23	1,577
Ellington	413	83.77	0	0	3	0.61	4	0.81	73	14.81	493
Elmwood	516	86.72	18	3.03	4	0.67	15	2.52	42	7.06	595
Fairgrove	646	89.35	7	0.97	3	0.41	0	0	67	9.27	723
Fremont	1,436	90.20	67	4.21	33	2.07	4	0.25	52	3.27	1,592
Gilford	333	97.65	0	0	0	0	0	0	8	2.35	341
Indianfields	673	73.71	29	3.18	2	0.22	0	0	209	22.89	913
Juniata	615	81.13	11	1.45	0	0	0	0	132	17.41	758
Kingston	516	85.71	20	3.32	8	1.33	7	1.16	51	8.47	602
Koylton	509	81.44	1	0.16	0	0	0	0	115	18.40	625
Millington	1,658	88.29	77	4.10	80	4.26	0	0	63	3.35	1,878
Novesta	554	87.24	0	0	0	0	0	0	81	12.76	635
Tuscola	816	94.66	28	3.25	6	0.70	0	0	12	1.39	862
Vassar	1,222	66.70	80	4.37	0	0	10	0.55	520	28.38	1,832
Watertown	822	92.15	14	1.57	0	0	0	0	56	6.28	892
Wells	492	74.10	0	0	0	0	0	0	172	25.90	664
Wisner	308	91.67	0	0	0	0	0	0	28	8.33	336
<b>Tuscola County</b>	<b>20,237</b>	<b>82.68</b>	<b>824</b>	<b>3.37</b>	<b>528</b>	<b>2.16</b>	<b>326</b>	<b>1.33</b>	<b>2,561</b>	<b>10.46</b>	<b>24,476</b>

\*Township numbers include Village numbers.

\*\*Specified housing units include only one-family houses on less than ten acres without a commercial establishment or medical office on the property Source: U.S. Bureau of the Census

Table 19 Housing Occupancy Characteristics -2020

Place	Occupied		Vacant		Owner Occupied		Renter Occupied		Total Unit
	#	%	#	%	#	%	#	%	
<b>City</b>									
Caro	1,861	91.45	174	8.55	1142	61.36	719	38.64	2,035
Vassar	1011	95.47	48	4.53	605	59.84	406	40.16	1059
<b>Village</b>									
Akron	148	81.32	34	18.68	123	83.11	25	16.89	182
Cass City	915	84.41	169	15.59	714	78.03	201	21.97	1084
Fairgrove	210	86.07	34	13.93	182	86.67	28	13.33	244
Gagetown	133	77.78	38	22.22	110	82.71	23	17.29	171
Kingston	141	82.94	29	17.06	99	70.21	42	29.79	170
Mayville	374	88.21	50	11.79	267	71.39	107	28.61	424
Millington	449	89.44	53	10.56	276	61.47	173	38.53	502
Reese	616	95.50	29	4.50	513	83.28	103	16.72	645
Unionville	280	92.72	22	7.28	231	82.50	49	17.50	302
<b>Township</b>									
Akron	596	80.22	147	19.78	525	88.09	71	11.91	743
Almer	960	96.68	33	3.32	842	87.71	118	12.29	993
Arbela	1,153	96.32	44	3.68	1,022	88.64	131	11.36	1,197
Columbia	580	91.77	52	8.23	487	83.97	93	16.03	632
Dayton	860	77.06	256	22.94	764	88.84	96	11.16	1,116
Denmark	1,304	94.02	83	5.98	1,140	87.42	164	12.58	1,387
Elkland	1,288	81.67	289	18.33	1,003	77.87	285	22.13	1,577
Ellington	456	92.49	37	7.51	425	93.20	31	6.80	493
Elmwood	531	89.24	64	10.76	413	77.78	118	22.22	595
Fairgrove	611	84.51	112	15.49	518	84.78	93	15.22	723
Fremont	1,434	90.08	158	9.92	1,271	88.63	163	11.37	1,592
Gilford	290	85.04	51	14.96	255	87.93	35	12.07	341
Indianfields	822	90.03	91	9.97	674	82.00	148	18.00	913
Juniata	666	87.86	92	12.14	615	92.34	51	7.66	758
Kingston	530	88.04	72	11.96	422	79.62	108	20.38	602
Koylton	526	84.16	99	15.84	458	87.07	68	12.93	625
Millington	1,684	89.67	194	10.33	1,383	82.13	301	17.87	1,878
Novesta	570	89.76	65	10.24	519	91.05	51	8.95	635
Tuscola	795	92.23	67	7.77	723	90.94	72	9.06	862
Vassar	1,544	84.74	278	15.26	1,488	96.37	56	3.63	1,822
Watertown	782	87.08	116	12.92	728	93.09	54	6.91	898
Wells	597	89.91	67	10.09	538	90.12	59	9.88	664
Wisner	268	79.76	68	20.24	224	83.58	44	16.42	336
<b>Tuscola County</b>	<b>21,719</b>	<b>88.74</b>	<b>2,757</b>	<b>11.26</b>	<b>18,184</b>	<b>83.72</b>	<b>3,535</b>	<b>16.28</b>	<b>24,476</b>

\* Township numbers include Village numbers.

\*\*Specified housing units include only one-family houses on less than ten acres without a commercial establishment or medical office on the property Source: U.S. Bureau of the Census-

Table 20 Age of Structures - 2020

Place	Year Built 2001-2020	%	Year Built 1980-1999	%	Year Built 1979-1960	%	Year Built 1940-1959	%	Year Built 1939 or Earlier	%	Total Units
<b>City</b>											
Caro	241	11.84	274	13.46	582	28.60	564	27.71	374	18.38	2,035
Vassar	58	5.48	226	21.34	281	26.53	277	26.16	217	20.49	1059
<b>Village</b>											
Akron	8	4.40	29	15.93	20	10.99	65	35.71	60	32.97	182
Cass City	77	7.10	289	26.66	276	25.46	242	22.32	200	18.45	1084
Fairgrove	3	1.23	21	8.61	97	39.75	48	19.67	75	30.74	244
Gagetown	5	2.92	11	6.43	46	26.90	30	17.54	79	46.20	171
Kingston	3	1.76	21	12.35	48	28.24	49	28.82	49	28.82	170
Mayville	19	4.48	57	13.44	52	12.26	87	20.52	209	49.29	424
Millington	0	0	47	9.36	127	25.30	119	23.71	209	41.63	502
Reese	72	9.66	220	29.53	275	36.91	99	13.29	79	10.60	645
Unionville	10	3.31	10	3.31	81	26.82	82	27.15	119	39.40	302
<b>Township</b>											
Akron	39	5.25	85	11.44	215	28.94	227	30.55	177	23.82	743
Almer	119	11.98	328	33.03	296	29.81	176	17.72	74	7.45	993
Arbela	85	7.10	272	22.72	560	46.78	93	7.77	187	15.62	1,197
Columbia	26	4.11	69	10.92	122	19.30	128	20.25	287	45.41	632
Dayton	145	12.99	250	22.40	368	32.97	220	19.71	133	11.92	1,116
Denmark	140	10.09	228	16.44	467	33.67	168	12.11	384	27.69	1,387
Elkland	139	8.81	353	22.38	397	25.17	325	20.61	363	23.02	1,577
Ellington	78	15.82	158	32.05	132	26.77	62	12.58	63	12.78	493
Elmwood	64	10.76	80	13.45	124	20.84	113	18.99	214	35.97	595
Fairgrove	36	4.98	69	9.54	240	33.20	148	20.47	230	31.81	723
Fremont	114	7.16	298	18.72	280	17.59	315	19.79	585	36.75	1,592
Gilford	8	2.35	26	7.62	62	18.18	99	29.03	146	42.82	341
Indianfields	101	11.06	310	33.95	327	35.82	87	9.53	88	9.64	913
Juniata	84	11.08	173	22.82	323	42.61	74	9.76	104	13.72	758
Kingston	51	8.47	116	19.27	167	27.74	77	12.79	191	31.73	602
Koylton	93	14.88	194	31.04	198	31.68	77	12.32	63	10.08	625
Millington	131	6.98	403	21.46	576	30.67	382	20.34	386	20.55	1,878
Novesta	62	9.76	172	27.09	143	22.52	86	13.54	172	27.09	635
Tuscola	79	9.16	122	14.15	292	33.87	162	18.79	207	24.01	862
Vassar	286	15.70	515	28.27	634	34.80	275	15.09	112	6.15	1,822
Watertown	122	13.59	215	23.94	166	18.49	191	21.27	204	22.72	898
Wells	108	16.27	231	34.79	174	26.20	70	10.54	81	12.20	664
Wisner	6	1.79	51	15.18	92	27.38	141	41.96	46	13.69	336
Tuscola County	2,415	9.87	5,218	21.32	7,218	29.49	4,537	18.54	5088	20.79	24,476
State of Michigan	594,516	12.89	1,066,396	23.12	1,252,782	27.16	1,024,323	22.21	673,896	14.61	4,611,913

\*Township numbers include Village numbers.

\*\*Specified housing units include only one-family houses on less than ten acres without a commercial establishment or medical office on the property Source: U.S. Bureau of the Census

Table 21 Distribution of State Equalized Values -2022

Place	Ag.	Comm.	Ind.	Ind. Resid.	Personal	Total	% Co. Total
<b>City</b>							
Caro	0*	27,296,722	11,359,605	48,446,516	6,620,232	93,723,075	3.23
Vassar	102,856	8,447,549	1,182,190	32,890,247	5,217,100	47,839,942	
<b>Village</b>							
Akron	*	*	*	*	*	6967538*	*
Cass City	*	*	*	*	*	51515357*	*
Fairgrove	*	*	*	*	*	7584716*	*
Gagetown	*	*	*	*	*	393970*	*
Kingston	*	*	*	*	*	6559496*	*
Mayville	*	*	*	*	*	17136315*	*
Millington	*	*	*	*	*	20255724*	*
Reese	*	*	*	*	*	32294133*	*
Unionville	*	*	*	*	*	9476738*	*
<b>Township</b>							
Akron	41,604,468	721,912	2,723,313	21,786,605	76,575,300	143,411,598	3.89
Almer	22,476,262	5,918,732	0	36,601,768	3,417,700	68,414,462	5.07
Arbela	19,283,479	1,137,147	91,353	54,136,595	4,292,300	78,940,874	5.00
Columbia	35,394,348	992,341	287,667	17,466,323	114,817,200	168,957,879	2.64
Dayton	14,722,741	330,236	0	43,580,285	2,350,400	60,983,662	4.21
Denmark	36,161,371	4,370,010	1,884,138	56,549,405	15,797,600	114,762,524	5.51
Elkland	20,199,167	11,441,859	8,256,815	53,157,772	10,183,000	103,238,613	5.78
Ellington	11,496,033	448,969	0	31,202,345	1,550,600	44,697,947	2.66
Elmwood	23,117,440	354,205	117,709	18,735,171	2,550,600	44,875,125	2.41
Fairgrove	32,694,446	652,886	624,021	22,005,295	96,052,800	152,029,448	3.03
Fremont	10,278,039	6,533,514	525,471	63,206,615	5,420,300	85,963,939	6.10
Gilford	35,324,888	367,208	456,350	11,173,022	84,493,200	131,814,668	2.39
Indianfields	3,397,652	6,448,242	1,302,289	48,774,195	7,874,200	67,796,578	9.13
Juniata	14,390,263	1,009,448	14,791	34,963,830	40,283,800	90,662,132	3.11
Kingston	12,216,284	722,917	54,248	27,959,928	2,754,182	43,707,559	2.47
Koylton	11,951,560	721,359	47,747	37,375,984	3,013,600	53,110,250	3.64
Millington	14,327,846	5,613,809	2,591,543	98,118,267	6,091,100	126,742,565	7.96
Novesta	15,287,037	738,266	0	25,750,968	1,460,400	43,236,671	2.58
Tuscola	24,436,319	3,429,493	1,253,719	46,604,270	15,329,100	91,052,901	4.41
Vassar	4,777,205	3,491,278	3,604,969	81,059,692	8,237,420	101,170,564	5.92
Watertown	9,673,687	339,380	680,808	46,329,622	5,109,090	62,132,587	4.08
Wells	9,976,171	194,338	220,462	37,231,254	2,913,700	50,535,925	3.21
Wisner	15,750,993	504,125	0	11,200,044	2,074,000	29,529,162	1.48
<b>Tuscola County</b>	<b>439,040,555</b>	<b>92,225,945</b>	<b>37,279,208</b>	<b>1,006,306,018</b>	<b>524,478,924</b>	<b>2,099,330,650</b>	<b>100.00</b>

\*Township numbers include Village numbers. Source: 2022 Tuscola County Equalization Report.

### 5.3.4 State Equalized Value

Other characteristics of County property values and the local economy can be obtained by analysis of the State Equalized Value (SEV) figures. By law the SEV, which constitutes a community’s tax base, is equal to approximately one-half of the true market value of real property and certain taxable personal properties.

Table 22 shows the distribution of value among the different SEV categories for 2022, comparing the City, Townships, and Tuscola County. The majority of the County’s taxable property falls under the residential category (47.93%), followed by personal property (24.98%) and agricultural category (20.91). Commercial and industrial properties combined are just over six percent of the County’s total SEV.

It should be noted that since 2013 renewable energy production in the county has significantly altered taxable values. Of the top 10 owners ranked by State Equalized Value (SEV, nine are engaged in the energy industry notably with alternative energy projects such as wind, solar and biofuel. These same nine maintain the highest taxable valuations in the county. In 2022, wind energy is clearly making the largest impact.

**Table 22 2022 Tuscola County Top Ten Taxable Valuations**

Owner	Taxable Value	Number of Parcels
Consumers Energy Company	174,812,452	177
Pegasus Wind LLC	104,033,753	61
DTE Energy Company	55,818,503	655
International Transmission Co	53,834,612	53
Tuscola Bay Wind LLC	50,752,300	62
Tuscola Wind II LLC	31,565,800	36
Tuscola Bay Wind LLC	16,980,074	26
Poet Bio Refining –Caro LLC	10,684,465	6
Thumb Electric Co-Op	8,923,251	53
Dairy Farmers of America <sup>1</sup>	7,199,242	2

Source Tuscola County Equilization 2022

**Table 23 Taxable Personal Property Wind vs Non-Wind**

	Non-Wind Value	Percent	Wind Value	Percent
2019	148,689,759	33%	297,369,700	67%
2020	149,617,358	28%	385,083,000	72%
2021	149,401,439	27%	398,777,000	73%
2022	157,926,424	30%	366,552,500	70%

Source: 2022 Tuscola Country Equalization Report.

<sup>1</sup> Russell Family Land Co, LLC. Ranks #8 in State Equalization Value but #11 in actual taxable value. Dairy Farmers of America Ranks #12 in SEV and #10 in Taxable Value.

### **5.3.5 Employment and Economy**

The earliest white settlers, starting in 1835, were attracted to Tuscola County for its rich lumber resources. The lumber industry flourished during the second half of the 19<sup>th</sup> century as the main source of employment and income in the County. As the trees were harvested and not replanted, the lumbering industry began to decline at the turn of the 20<sup>th</sup> century. Agriculture took over as the main economic base of the County. Since 2013, renewable energy has presented a strong and driving force in the county. Its symbiotic relationship with agriculture promotes the county's continued focus on farmland preservation and production.

As a rural community, Tuscola County tends to focus industry into dedicated locations to better focus municipal services. Industrial parks in the county include: Caro Industrial Park at 73 acres; Cass City Industrial Park at 60 acres; the Millington Industrial Park at 60 acres; and the 23-acre Vassar Industrial Park. In 2020, the largest manufacturer in the County, Walbro accounted for 8.65% of county manufacturing jobs.

Walmart led the county in employment in the retail category. Their employment of 116 individuals in 2020 made them the tenth largest employer in the county and presented 4.12% of retail jobs. Other principle employers in the County tend to be focused in two categories, Government or Education and Healthcare. Tuscola County Government and the Human Development Commission employed the most individuals in the Government category, employing 47.38% and 14.63% respectively in that category. The largest employer in the County, the Caro Regional Health Center employs 398 individuals, 7.49% of all educational and healthcare positions.

Table 24 Tuscola County Top 10 Employers as Percent of Category

	Number of Employees	Percent of Federal Category
Caro Regional Health Center	398	7.49
Tuscola County Government	379	47.38
Walbro	365	8.65
Lighthouse	331	6.23
T-ISD	250	4.71
Hills and Dales Hospital	230	4.33
Caro Community School District	175	3.29
Vassar School District	125	2.35
Human Development Commission	117	14.26
Walmart	116	4.12

Source: 2020 Tuscola County Dashboard.

Table 25 Tuscola County Employment by Major Federal Category 2010-2020

	2020	%	2015	%	2010	%
Civilian employed population 16 years and over	22,601		23,074		23061	
Agriculture, forestry, fishing and hunting, and mining	851	3.77	979	4.24	710	3.08
Construction	2,036	9.01	1,519	6.58	1,576	6.83
Manufacturing	4,297	19.01	4,110	17.81	4,025	17.45
Wholesale trade	492	2.18	441	1.91	69	2.47
Retail trade	2,814	12.45	2,989	12.95	3,185	13.81
Transportation and warehousing, and utilities	1,145	5.07	1,229	5.33	1,024	4.44
Information	181	0.80	226	0.98	361	1.57
Finance and insurance, and real estate and rental and leasing	793	3.51	871	3.77	839	3.64
Professional, scientific, and management, and administrative and waste management services	1,244	5.50	1,423	6.17	1,010	4.38
Educational services, and health care and social assistance	5,312	23.50	5,806	25.16	5,913	25.64
Arts, entertainment, and recreation, and accommodation and food services	1,487	6.58	1,631	7.07	1,984	8.60
Other services, except public administration	1,149	5.08	1,136	4.92	1,104	4.79
Public administration	800	3.54	714	3.09	761	3.30

Source: US Census Bureau ACS 5- Year Estimates Data Profiles.

Over the past 30 years, the labor force in Tuscola County has declined from a high of just over 30,000 workers in 2003 to a post pandemic average hovering near 23,000. Closely reflecting the Labor Force calculation is the Employment rate. With the exception of the pandemic spike in 2020-2021, the delta between available labor and available employment hovers at roughly 6%

Figure 12 Labor Force, Employment, and Unemployment Rate 1990-2023



Source: US Department of Labor.

## 5.4 Transportation Profile

The County is easily accessible from I-75, which runs north-south, 10 miles west of the County. Close interstate proximity provides convenient access to many of the large mid-western population centers. Many large cities are within one-half day driving distance from the county, including:

<u>City</u>	<u>Miles</u>
Chicago	330
Cleveland	240
Detroit	90
Grand Rapids	135
Indianapolis	340
Lansing	90

Six State trunklines, M-15, M-24, M-25, M-46, M-81 and M-138, provide convenient access to all portions of the County and easy access to all parts of Michigan. M-15 and M-25 provide direct access to Bay City, M-46 and M-81 to Saginaw, M-15 to Flint, and M-15 and M-24 to the Detroit metropolitan area.

Numerous airports serve the region. MBS International in Freeland and Bishop International in Flint offer spoke passenger transportation to major airport hubs. Browne Airport in nearby Saginaw serves as both a cargo and small landing strip hub. Other General Aviation airports include those located in Bad Axe, Sandusky and Frankenmuth. Centrally located in the county and just 3 miles outside of Caro is the Tuscola Area Airport (TAA).

The Tuscola Area Airport is part of the National Plan of Integrated Airport Systems (NPIAS). It is identified as a non-primary or General Aviation airport and classified as a Local airport. As such, the TAA is expected to 'supplement local communities by providing access to markets within Michigan or the immediate region'. Most flying at TAA is by piston aircraft in support of business or personal needs.

Public transportation is available to residents in the Townships of Almer and Indianfields, and the Village of Caro through the Caro Thumbody Express. Initiated in 1984 by the Human Development Commission, the Thumbody Express provides limited local transportation with occasional transportation to Bay City and Saginaw as resources permit.

Table 26 Transportation in Tuscola County



## 5.5 Community Facilities Profile

Tuscola County boasts 2 area Hospitals, Hills and Dales General Hospital in Cass City, and Caro Community Hospital in Caro, plus many 24-hour clinics and other medical facilities. Three skilled nursing facilities, The Tuscola County Medical Care Facility in Caro, Tender Care in Cass City, and Fisher Convalescent Home in Mayville are available. Specialized facilities such as The Lighthouse serves as a neurological rehabilitation center and provides additional care. A large number of Adult Foster Care and Senior Housing facilities also serve the community.

The Caro Psychiatric Hospital also provides care to individuals with epilepsy, developmental disabilities; and beginning in 1973, mental illness.

### 5.5.1 Educational Facilities

The future of any community is knowledge and education. Tuscola County maintains a strong and diverse educational system.

Higher education facilities offer rich educational opportunities for the region. Numerous universities offer in person courses at the various university centers in Flint and Saginaw. For those that seek campus life, eight universities maintain a campus presence in the region. In addition, Tuscola Intermediate School District (ISD) provides a wide range of certification and training programs for both state and federal level education through the Tuscola Technology Center. Bayshire Beauty Academy also provides massage therapy, nail technician and cosmetology certifications and licensing at its Caro Campus.

Table 27 Higher Education and Certification Facilities near Tuscola County

Name	Campus Location
<b>Delta Collage</b>	University Center – Saginaw
<b>Saginaw Valley State University</b>	University Center- Saginaw
<b>Baker College</b>	Flint
<b>University of Michigan – Flint</b>	Flint Campus
<b>Mott Community College</b>	Flint
<b>Kettering University</b>	Flint
<b>Northwood University</b>	Midland
<b>St. Clair County Community College</b>	Port Austin
<b>Tuscola ISD</b>	Caro
<b>Bayside Beauty Academy</b>	Caro

Public and private secondary schools have a strong geographically separated presence as would be expected in a rural area. Tuscola ISD provides the majority of secondary education although both Saginaw ISD and Sanilac ISD also have schools that impact Tuscola County residents. Figure 13 offers a geographical representation of general school boundaries.

Figure 13 School Districts in Tuscola County

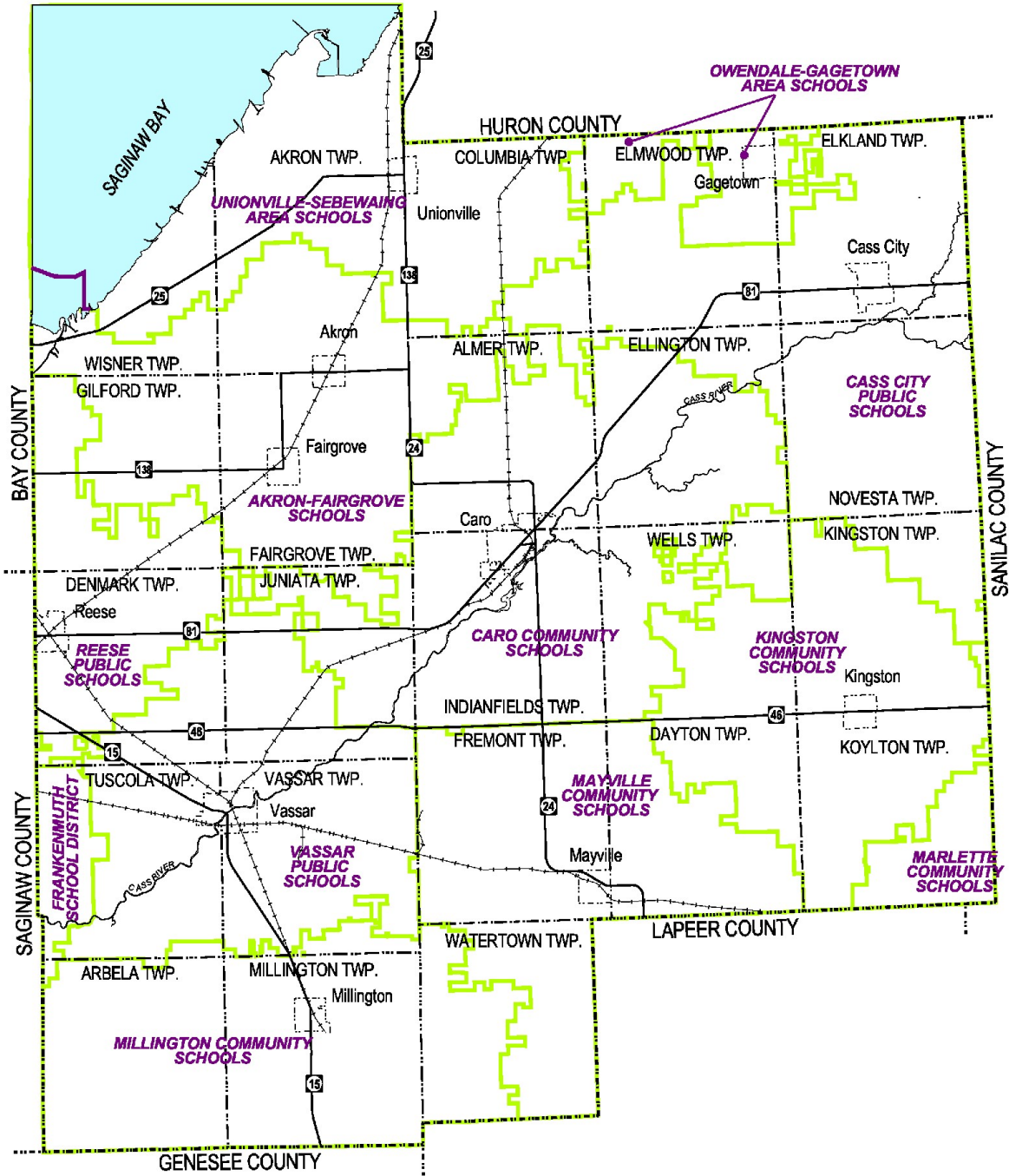


Figure 14 Public School District Listed and Map Legend

## LEGEND

 PUBLIC SCHOOL DISTRICT BOUNDARY

SOURCE: U.S. TIGER LINE SCHOOL DISTRICT BOUNDARIES, 1995. COMMON CORE OF DATA (CCD) PUBLIC SCHOOL INFORMATIONAL LISTING.

## PUBLIC SCHOOL LISTING

### **AKRON-FAIRGROVE SCHOOLS**

AKRON-FAIRGROVE ELEMENTARY SCHOOL  
AKRON-FAIRGROVE JR/SR HIGH SCHOOL

### **CARO COMMUNITY SCHOOLS**

CARO ALTERNATIVE EDUCATION  
CARO HIGH SCHOOL  
CARO MIDDLE SCHOOL  
FRANK E. SCHALL ELEM. SCHOOL  
MCCOMB ELEMENTARY SCHOOL

### **CASS CITY PUBLIC SCHOOLS**

CAMPBELL ELEMENTARY SCHOOL  
CASS CITY HIGH SCHOOL  
CASS CITY MIDDLE SCHOOL  
DEFORD ELEMENTARY SCHOOL

### **FRANKENMUTH SCHOOL DISTRICT**

E. F. RITTMUELLER MIDDLE SCHOOL  
FRANKENMUTH HIGH SCHOOL  
LORENZ C. LIST SCHOOL

### **KINGSTON COMMUNITY SCHOOLS**

KINGSTON ALTERNATIVE ED. CENTER  
KINGSTON ELEMENTARY SCHOOL  
KINGSTON HIGH SCHOOL

### **OWENDALE-GAGETOWN AREA SCHOOLS**

GAGETOWN ELEMENTARY SCHOOL  
OWEN-GAGE HIGH SCHOOL

### **MARLETTE COMMUNITY SCHOOLS**

BEA McDONALD SCHOOL  
MARLETTE HIGH SCHOOL  
MARLETTE MIDDLE SCHOOL

### **MAYVILLE COMMUNITY SCHOOLS**

MAYVILLE COMMUNITY HIGH SCHOOL  
MAYVILLE ELEMENTARY SCHOOL  
MAYVILLE MIDDLE SCHOOL

### **MILLINGTON COMMUNITY SCHOOLS**

GLAZA ELEMENTARY SCHOOL  
KIRK ELEMENTARY SCHOOL  
MEACHUM JUNIOR HIGH SCHOOL  
MILLINGTON HIGH SCHOOL

### **REESE PUBLIC SCHOOLS**

REESE ELEMENTARY SCHOOL  
REESE HIGH SCHOOL  
REESE MIDDLE SCHOOL

### **UNIONVILLE-SEBEWAING AREA SCHOOLS**

SEBEWAING MIDDLE SCHOOL  
UNIONVILLE ELEMENTARY SCHOOL  
UNIONVILLE-SEBEWAING HIGH SCHOOL

### **VASSAR PUBLIC SCHOOLS**

CENTRAL SCHOOL  
PIONEER WORK & LEARN CENTER  
TOWNSEND NORTH SCHOOL  
VASSAR JUNIOR HIGH SCHOOL  
VASSION SENIOR HIGH SCHOOL

Table 20 School Enrollment Figures

Name	Location	2011/2012 Enrollment	2020/ 2021 Enrollment
<b>Tuscola Intermediate School District</b>	<b>Tuscola County</b>	9,561	7,583
ISD-Tuscola Technology Center	Caro	223	427
Highland Pines School	Caro	240	148
Wolverine Education Center	Vassar		58
<b>Public Schools</b>			
Akron-Fairgrove Schools	Fairgrove	277	341
Akron-Fairgrove Jr. / Sr. High School	Fairgrove	135	170
Akron-Fairgrove Elementary School	Akron	142	171
<b>Caro Community Schools</b>	<b>Caro</b>	1,904	1,484
Caro High School	Caro	600	438
Caro Middle School	Caro	417	344
Frank E. Schall Elementary School	Caro	369	32
Ben H. McComb Elementary School	Caro	465	317
Caro Alternative High School	Caro	53	56
<b>Cass City Public Schools</b>	<b>Cass City</b>	1,141	931
Cass City High and Jr. High School	Cass City	--	436
Cambell Elementary School	Cass City	--	480
Cass City Transition Center	Cass City	--	1
<b>Frankenmuth Public Schools</b>	<b>Frankenmuth</b>	1,245	1,343
Frankenmuth High School	Frankenmuth	--	567
E.F. Rittmueller Middle School	Frankenmuth	--	346
Lorenz C List School	Frankenmuth	--	445
<b>Kingston Community Schools</b>	<b>Kingston</b>	632	657
Kingston High School	Kingston	339	325
Kingston Elementary School	Kingston	293	332
<b>Marlette Community Schools</b>	<b>Marlette</b>	1,023	727
Marlette Jr./Sr. High School	Marlette	--	348
Marlette Elementary School	Marlette	--	385
<b>Mayville Community Schools</b>	<b>Mayville</b>	792	571
Mayville High and Middle School	Mayville	452	327
Mayville Elementary School	Mayville	340	244
<b>Millington Municipal Schools</b>	<b>Millington</b>	1,431	1,083
Millington Central Middle High School	Millington	477	398
Millington Intermediate School	Millington	388	247
Millington Primary School	Millington	483	414
M.A/L/C	Millington	83	16
<b>Owendale-Gagetown Area Schools</b>	<b>Gagetown</b>	209	154
Gagetown Elementary School	Gagetown	--	71
Owen-G age High School	Owendale	--	83
<b>Reese Public Schools</b>	<b>Reese</b>	913	751

Reese High School	Reese	275	282
Reese Middle School	Reese	166	151
Reese Elementary School	Reese	333	318
<b>Unionville-Sebewaing Area Schools</b>	<b>Sebewaing</b>	<b>833</b>	<b>682</b>
USA High School	Sebewaing	226	241
USA Middle School	Sebewaing	153	129
USA Elementary School	Sebewaing	262	307
<b>Vassar Public Schools</b>	<b>Vassar</b>	<b>1,416</b>	<b>960</b>
Vassar Middle and High School	Vassar	616	489
Central Elementary School	Vassar	654	369
Vassar Alternative Education Pioneer Work and Learn Center- V.A.E.	Vassar	146	95
<b>Non-Public Schools</b>		<b>2011/2012 Enrollment</b>	<b>2022/2023 Enrollment</b>
Bethany Christian School	Decker	70	50
Christ the King Lutheran School	Sebewaing	165	185
Deford Christian Academy	Deford	25	44
Juniata Christian School	Vassar	108	150
New Salem Lutheran School	Sebewaing	----	11
St. Elizabeth Catholic School	Reese	79	57
St. Luke's Lutheran School	Vassar	----	30
St. Michael's Lutheran School	Richville	170	186
St. Paul Lutheran School	Millington	264	157
Thumb Amish Parochial School	Cass City	----	23
Trinity Lutheran School	Reese	93	97

Data from Michigan School Data Website.org and Private School Review

As expected from a county wide decrease in population, school enrollment has decreased over the last decade. Two notable anomalies are Frankenmuth Public Schools that saw a population increase as the Buena Vista School District (Saginaw County) closed. Akron-Fairgrove experienced a major increase in school funding from the installation of the townships' Wind Turbine field and change in school structure to a year-round model. In 2018, Akron-Fairgrove schools reached capacity and began seeking expansion opportunities.

Table 28 provides a comparable public school attendance by students that do not reside in the local school district but have enrolled in that district for education. The table also presents the number of resident students that do not attend their local district. It should be noted that due the COVID pandemic of 2020-2021 many students opted for on-line education. The most popular online institutions are listed in Table 29.

Table 28 Resident/Non-resident Enrollments

	Non-resident Enrolled 2011/2012	Non-resident Enrolled 2020/2021	Resident Enrolled Elsewhere 2011/2012	Resident Enrolled Elsewhere 2020/2021
Akron Fairgrove	25	0	217	15
Caro	287	0	111	31
Cass City	125	121	0	29
Kingston	95	99	0	4
Mayville	36	361	0	13
Millington	272	0	134	25
Reese	399	0	44	16
ISD	290	387	0	0

Data from Michigan School Data Website.org

Table 29 Popular Online Schools Utilized by Tuscola County Students

Popular Online Schools selected in the Tuscola County Region 2019-2022
MI Connections Academy
MI Virtual Charter Academy
Great Lakes Learning Academy
Michigan Great Lakes Virtual Academy
Highpoint Virtual Academy of Michigan
Michigan Online School
Lighthouse Connections Academy
Uplift Michigan Academy
Insight School of Michigan
Way Michigan
Michigan Intermediate Preparatory School
Saginaw Connect Academy

Table 30 Libraries in Tuscola County

Name	Location	Type
Bullard-Sanford Memorial Library	Vassar	District
Caro Area District Library	Caro	District
Columbia Township Library	Unionville	Local
Fairgrove District Library	Fairgrove	District
Jacqueline E. Opperman Memorial Library (Kingston High School Library)	Kingston	District
Mayville District Public Library	Mayville	District
Millington Township Library	Millington	Local
Rawson Memorial Library	Cass City	District
Unity District Library	Reese	District
Watertown Township Library	Fostoria	Local

The county also has a robustly supported library presence. These libraries are generally school district based, yet also serve the local community. While books are still a primary focus, these facilities provide much needed services including internet connectivity, educational services, meeting rooms and provides a center for community support. Table 30 lists these important public resources.

### **5.5.2 Recreational Facilities**

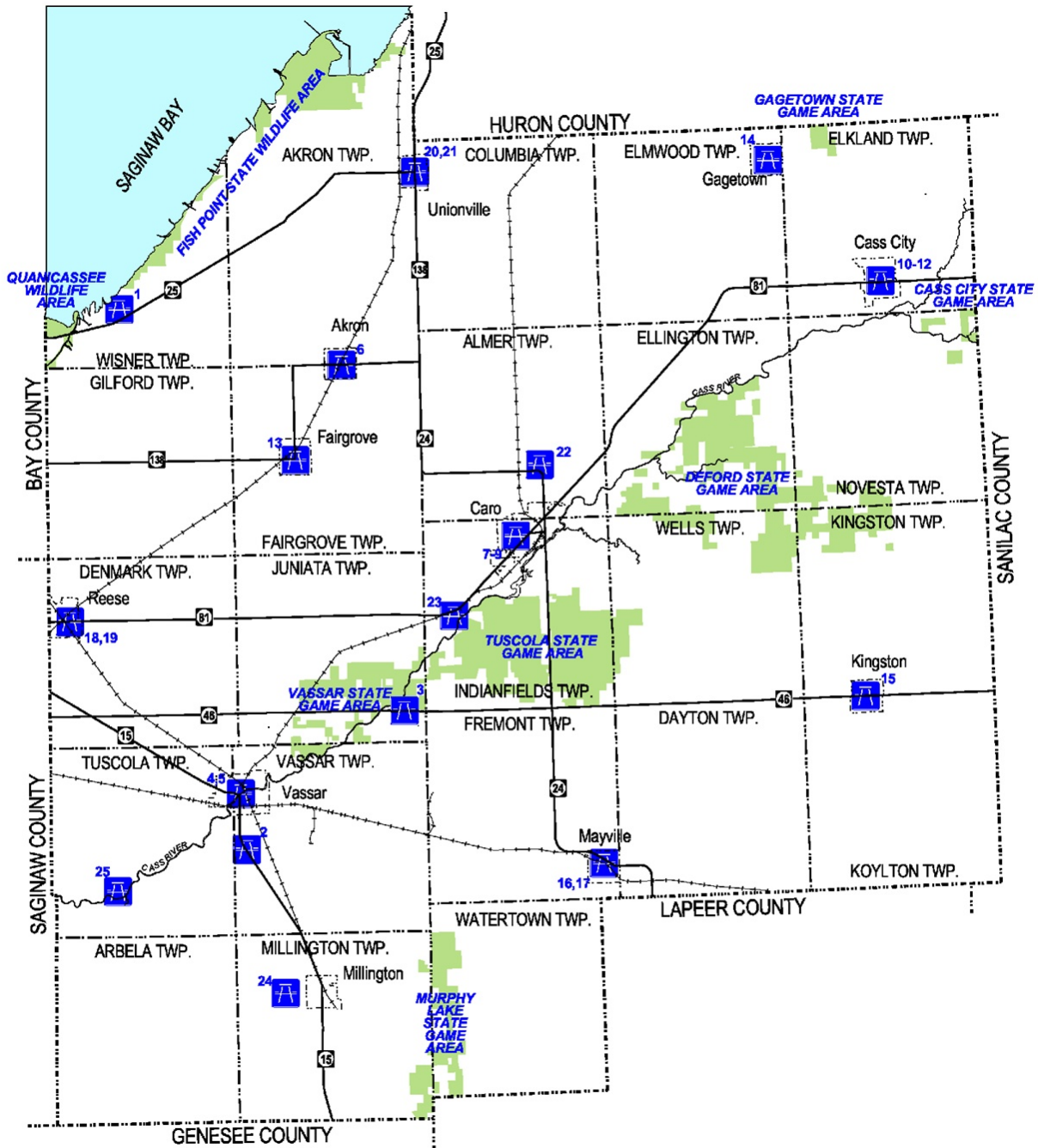
Figure 15 locates State and County owned recreation facilities in Tuscola County. These include eight State Game Areas, two County Park areas, and two roadside parks in the County. State Game areas and Roadside parks are maintained by the State of Michigan and offers opportunities for park activities, stopping locations for tourists and wide expanses of natural woodland areas for recreational hiking and hunting.

The County maintains two County park areas. The Tuscola County Parks and Recreation Committee was organized in 2006 to develop and improve Vanderbilt Park. In 2021, Tuscola County gained a large plot of land in Indianfields Township to develop as a county recreational area. In 2022, the County Parks and Recreation Committee is finalizing a master plan to continue the improvement of Vanderbilt Park and the new recreational area.

During the last decade, much work has been completed to improve and develop the Cass River by the Cass River Greenway Committee as a recreational opportunity. This group has been cleaning the river and working diligently to promote the waterway. As a result, numerous canoe launch sites have been installed to encourage the use of this natural resource. Canoe launches are located at the town of Tuscola, Caine Road and Watertown Bridge, in Juniata Township at the M-46 river crossing and at the City of Caro's Chippewa Landing.

One important feature of Tuscola County's Cass River is the Edison or Caro Dam. This feature was originally built in 1906 to provide water to the Pioneer Sugar Company. It was reconstructed in 1928 as a hydroelectric dam to provide power to the Caro community. While no longer providing power, this now privately held dam is known to be the reason behind the popular 109 acre Caro Lake. In April 2014, one of the two floodgates on the dam failed dramatically, decreasing water levels at Caro Lake and the Cass River (located between Caro and the M-46 river crossing). The Tuscola County Economic Development Corporation is currently developing plans to address the situation.

Figure 15 Recreational Areas in Tuscola County



## LEGEND



STATE GAME AREAS WITH NAME



PARK LOCATION (SEE LIST BELOW FOR PARK NAMES)

SOURCE: MICHIGAN DEPARTMENT OF NATURAL RESOURCES (MDNR), TUSCOLA COUNTY PHONE DIRECTORY, 2001, AND WADE-TRIM PHONE SURVEY OF JANUARY 2002

### **RECREATION FACILITY LISTING**

1. VANDERBILT COUNTY PARK
2. CLARK ROADSIDE PARK (MDOT)
3. ENOS ROADSIDE PARK (MDOT)
4. RIVERFRONT PARK
5. HARPER PARK
6. AKRON COMMUNITY PARK
7. COUNTY FAIRGROUNDS/BEITH PARK
8. CHIPPEWA LANDING PARK
9. ATWOOD PARK
10. CASS CITY RECREATION PARK
11. CEDAR WOOD PARK
12. RAILWAY LINEAR PARK
13. MULBERRY PARK
14. GAGETOWN PARK
15. MEMORIAL PARK (KINGSTON)
16. BODEIS PARK
17. OHMER PARK
18. MEMORIAL PARK (REESE)
19. REESE COMMUNITY PARK
20. UNIONVILLE VILLAGE PARK
21. KEMP MEMORIAL PARK
22. DARBEE FARMS PARK
23. INDIANFIELDS TOWNSHIP PARK
24. ARTHUR LATHUM PARK
25. TUSCOLA TOWNSHIP PARK

## **5.6 Existing Land Use**

### **5.6.1 Methodology**

The Existing Land Use Map (Figure 16) was prepared utilizing information from the MDNR's Michigan Resource Information System (MIRIS) for Tuscola County. The land use data shown on the map is intended for general planning purposes, and should not be used for site-specific uses. The land use data from the MDNR was updated by Wade-Trim through review of existing land use maps of individual municipalities.

## 5.6.2 Land Use Analysis

By far, the largest land use in the County is agricultural. The agricultural category includes such uses as croplands, orchards, tree farms, and confined feeding operations. Aside from the heavily wooded areas south of the Cass River, agricultural uses can be found spread throughout the County.

Agriculture has had a challenging history in Tuscola County. One disturbing trend identified was the rapid reduction of the number of individual farms and the emergence of large farming operations through the 1980s and 1990s. Tuscola County has focused on the preservation of farmland and recent numbers demonstrate a positive trend.

Table 31 Number and Size of Farms 1982-2020

	Number of farms	Average Farm Size
1982	1,483	232
1987	1,207	272
1992	1,128	287
2007	1,292	260
2020	1,247	266

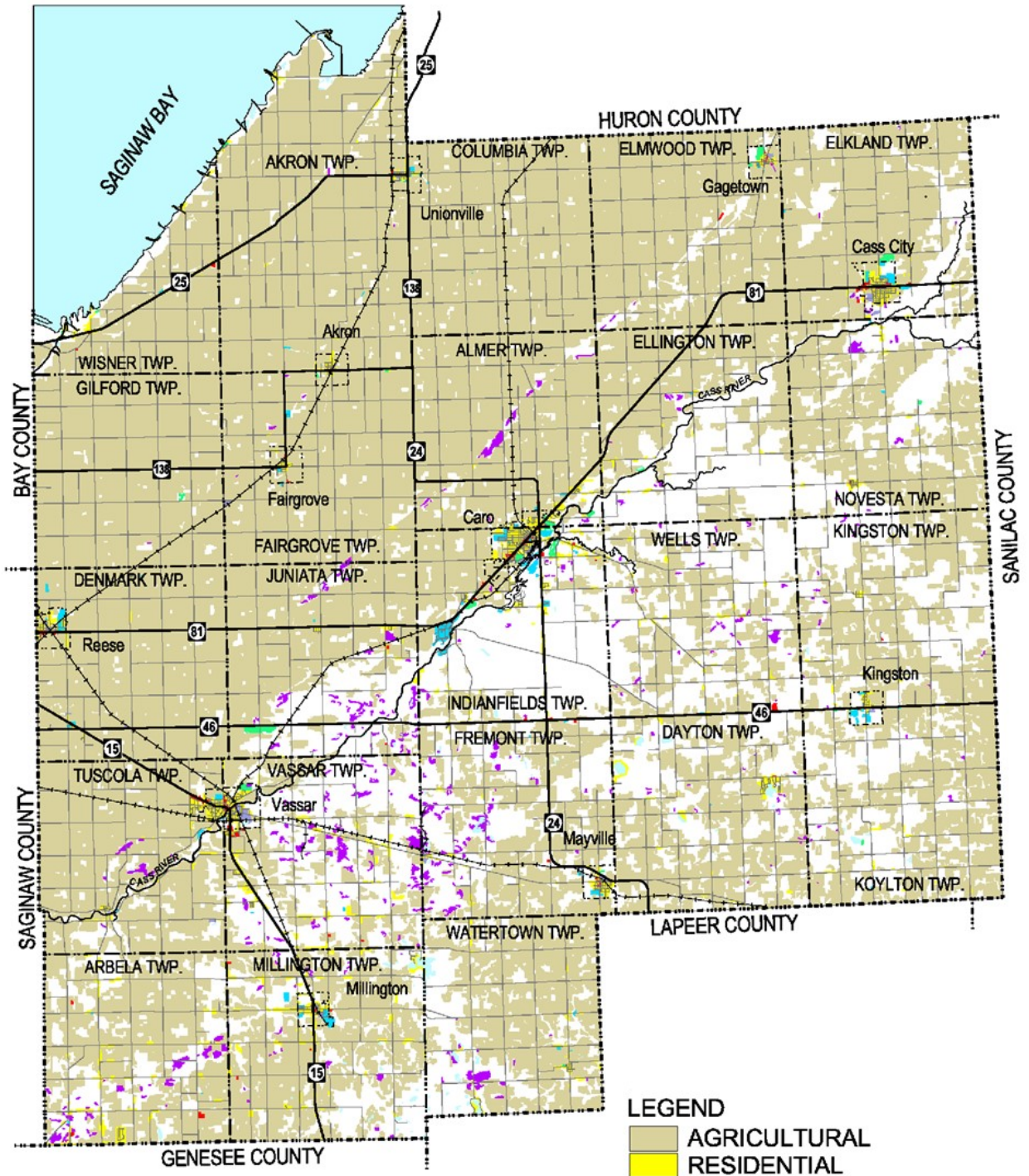
The second largest land use category in Tuscola County is Vacant (30.8%). The vacant category includes all undeveloped lands and open space lands in the County. Much of the vacant lands in the County contain heavy woodlands or wetlands. The vacant lands are most concentrated in the central portion of the County south of the Cass River. The Vacant land category includes 29,625 Acres owned by Michigan Department of Natural Resources (DNR).

Residential uses, which include single-family, two-family, multifamily, and mobile homes, comprise approximately 1.5% of the County. The residential uses are primarily concentrated within the eleven municipalities of Tuscola County.

The other six land use categories comprise less than 2% of Tuscola County. These land use categories are as follows:

- Commercial (0.1%). Uses include offices, general commercial establishments and central business districts.
- Industrial (0.1%). Individual industrial establishments and industrial parks are included in this category.
- Open Pit/Extractive (0.7%). This category includes all mineral extraction activities and open pits.
- Public/Semi-Public (0.2%). Uses include schools, public institutions, cemeteries, and utilities.
- Recreation (0.1%). All local parks and outdoor recreation facilities are included in this category.
- Water Bodies (0.3%).

Figure 16 Land Use Map



## **6.0 Farmland and Open Space Preservation**

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The Agriculture Vision: The Community visualizes a Tuscola County that has maintained its rich agricultural heritage, retained its best farms and farmlands, provided ag-industry markets for both local and regional suppliers, and balanced farm retention goals with the need to accommodate growth.

### **6.1 Required Farmland Components for a Comprehensive Land Use Plan**

The local unit of government has a comprehensive land use plan that has been adopted within the last 0 years and reviewed and/or updated within the last 5 years. [See Part 362 of the Natural Resources and Environmental Protection Act (MCL 324.36201 to 324.36207), and The Planning Act PA33 of 2008]. The comprehensive land use plan must contain an agricultural preservation component, consisting of:

- The areas intended for agricultural preservation are clearly depicted on the future land use map.
- A description of how and why the preservation area was selected. Goals for farmland preservation.
- Language indicating why farmland should be preserved in the community (cost of services studies, economic benefit to the community etc.)
- Text describing the strategies intended to be used in order to preserve the agricultural land, including Purchase of Development Rights (PDR) but should include other techniques.

\*\* The local unit of government may also be covered by a regional plan that has the agricultural preservation component described above, unless local unit of government has a PDR ordinance, then the comprehensive plan that is approved must be the plan on which the zoning ordinance is based.

### **6.2 Land Use Purpose**

Agriculture is an important part of the County's economy. In addition to jobs and contributing food and fiber production to society, agriculture preserves our heritage, provides a buffer between our unique landscapes and adds value to the quality of life for County residents.

### **6.3 Land Use in Tuscola County**

Residents recognize the importance of agricultural land not only for its addition to the County's economic viability, but also for the beauty and sense of place that it provides. As farmland diminishes wildlife habitats are lost, the potential for locally grown food declines and fragmented development occurs.

A report based on observations made by the Community Assessment Team (CAT) during its visit to Tuscola County in December of 2006 supplied the basic information reflecting the community members concerns regarding, among other things, pertinent agricultural and open space issues facing our citizens. The CAT process began with an application from members of the community to MSU Extension. The application described the community's situation and listed questions that community members wanted the CAT to address. The application was reviewed by the CAT advisory committee. The CAT then sent a small delegation to meet with the application committee to clarify questions raised in the application and recruited team members with skills appropriate to the community's needs. The full CAT visit involved two days of input and gathering from a variety of small and large meetings with residents and tours of the community. The team then analyzed, debated and categorized the information to produce a

preliminary verbal report to the community. The full report is available and accessible on [tuscolacounty.org](http://tuscolacounty.org)

## **6.4 Highlights of the CAT Report Concerning Farmland and Open Space Preservation**

The CAT report highlighted the following **elements as important to the County's** goal of farmland preservation.

### **VALUE-ADDED AGRICULTURE**

- Utilize an asset-mapping exercise to identify current agricultural assets and potential alternative value-added agriculture opportunities.
- Explore alternatives to sugar beet production, given current market and trade uncertainty.
- Capitalize on alternative energy opportunities.
- Explore opportunities to diversify agricultural production and processing.

### **LAND USE AND HOUSING**

- Use existing cross-jurisdictional cooperation agreements as models for other collaborative opportunities for intergovernmental cooperation within the county.
- Ensure zoning ordinances are consistent and up-to-date with the Tuscola County General Development Plan.
- Continue aggressive use of land use development tools, such as Brownfield remediation, to encourage redevelopment of underutilized sites in the county.
- Increase stewardship of the agricultural and natural resources within the county, especially water and soil conservation.
- Explore mechanisms to increase the variety of housing options available to current and future county residents at various stages of life.

## **6.5 Farmland and Open Space Preservation Progress**

The National Agricultural Statistics Service (NASS) 2002 Census of Agriculture County Profile for Tuscola County Michigan indicates that Tuscola County provides a strong and important area for farmland preservation and open space preservation. These identified areas offer both a present and future reserve of sustainable farmland and rural areas.

The County has a relatively strong agricultural economy despite facing a continuing decline in farming acreage. In 2002, Tuscola County's farm economy ranked 14<sup>th</sup> out of 83 Michigan counties. County farms were ranked 21<sup>st</sup> in livestock, poultry, and their products while ranking 12<sup>th</sup> in crops. By 2017, the importance of Tuscola County's farming programs to the State are even more significant. Tuscola County now ranks as the State's 10<sup>th</sup> farm economy.

**Table 32 Tuscola County Agricultural Rankings in the State of Michigan (Out of 83 Counties)**

	2002	2017
Overall rank	14th	10th
Livestock	21st	15th
Crops	12th	10th

- Between 1997 and 2002, Tuscola County lost 7,956 acres, or roughly 2.4% of its total farmland. The total farmland acreage for Tuscola County in 2002 was 335,542 acres. The 2017 Agricultural Census reports that Tuscola County farm land included 329,785 acres; a drop of just 5,757 acres. This was a 15 year drop of less than 2%.
- As shown in Table 7, increased fragmentation of farmland into smaller rural parcels is a large part of this trend. Farms of 1-9 acres more than doubled over the timeframe while farms of 50-499 acres decreased by nearly 19%. Increases in nursery and greenhouse crops, feedlot and other livestock based operations and other small acreage enterprises played a large role in increasing farming as a principle occupation. Up from 764 farms in 2002, the report indicated 1025 farms in 2017.

## **6.6 Mapping for Farmland and Open Space Preservation**

### **6.6.1 Mapping Criteria**

The Farmland and Open Space Preservation Map (table 17) illustrates lands that meet one of the following criteria:

- Contain Class I and II Soils, non-irrigated capability suitable for most field crops, which are the best soils available for farming in Tuscola County.
- Areas within local units of government’s master plans that are designated as “Agriculture” or “Open Space” in their respective future land use plans.
- Have been selected by their respective communities as being vital to the agricultural economy of the area.

### **6.6.2 Methodology for Area Selection**

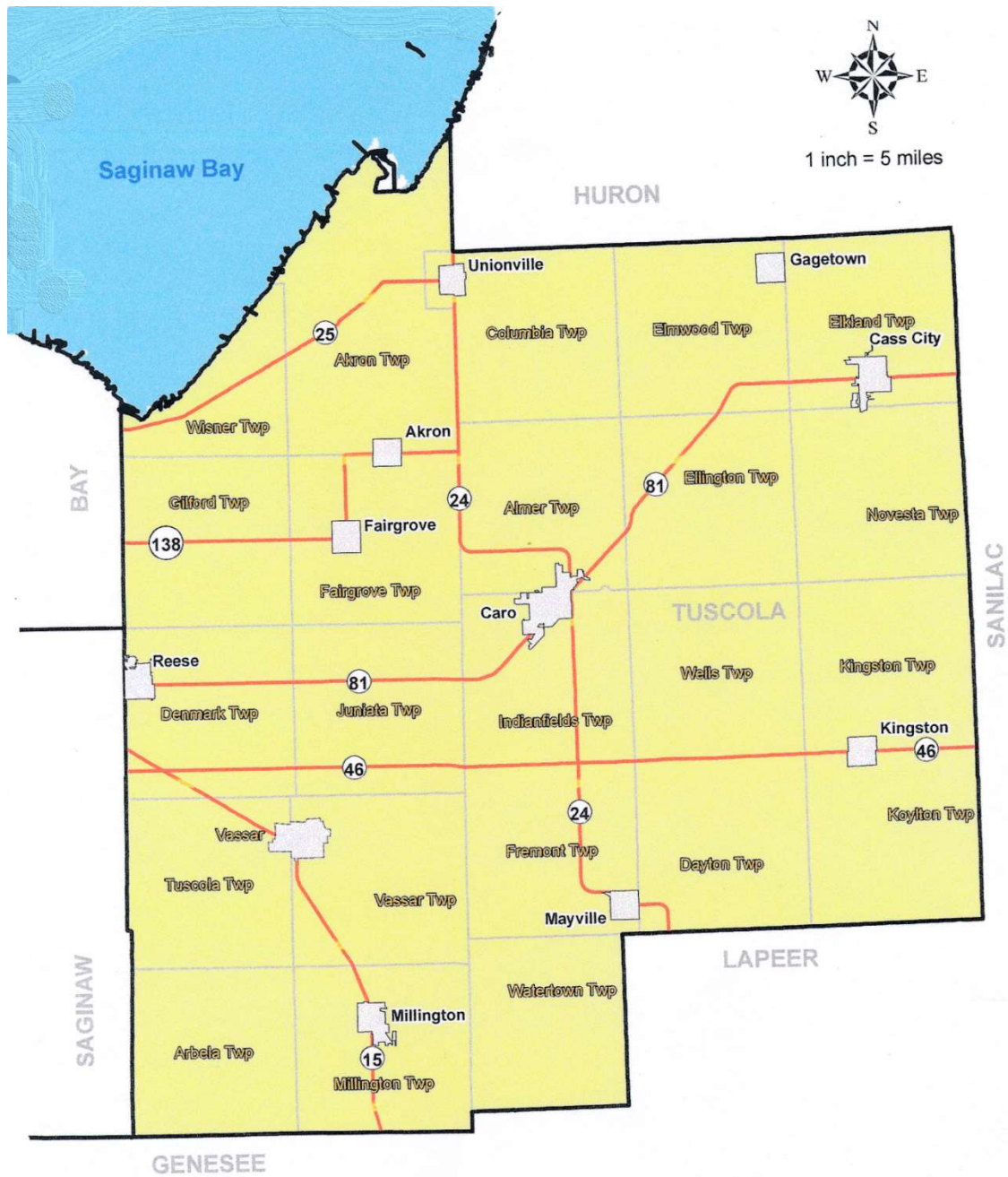
Various agricultural preservation areas were selected using the following criteria:

- The soils are rated by the USDA Natural Resources Conservation Service as Class II that are the highest soils for crop production in Tuscola County.
- The USDA Natural Resources Conservation Service also classifies most of the area as “Prime or Unique Farmland”.
- Many large parcels of land (20 acres or more) are located within the designated area.
- The land is classified as active agricultural land according to the latest East Central Michigan Planning and Development Regional Commission (ECMP&DR) land use inventory.

- Selected areas are designated as either “Agricultural/Open Space Preservation” or “Agriculture” within local unit master plans.
- The designated land is located outside of current, sewer service areas
- The land selected is located outside of all Potential Activity Centers.

The GOAL for Farmland and Open Space Preservation: To encourage and support programs that enhances the viability of Tuscola County’s agricultural sector.

Figure 17 Farmland and Open Spaces



**Legend**

- City or Village
- Farmland and Open Space Areas

GIS GPS Mapping Services, LLC

## **6.7 Methods for Preserving Farmland And Open Space**

### **6.7.1 New Agriculture Markets:**

Tuscola County's agricultural sector is changing. While the County has experienced a loss of farmland and its supporting infrastructure, new markets for agricultural products such as corn, wheat, oats, sugar beets, dry beans, and pickles provide opportunities for local farmers to be successful. A segment of the agricultural community has chosen organic farming with the potential for new market opportunities at a local, national and international level. Tuscola County desires to encourage new markets that could create additional employment in the community.

Tuscola County commodity producers have the availability of selling their products to the local Michigan Ethanol plant and according to MSU extension it is projected that a large percent of all the combined grain production in the nearby counties will be sold to this ethanol plant providing an economic opportunity to the agricultural sector.

Agricultural producers also grow sugar beets for processing at the local farmer owned Michigan Sugar Factory. The processing and marketing of locally grown dry beans is done in a neighboring county, farmer-owned plant that utilized a large vacant commercial building. Agricultural by-products from these and other commodities also supply some raw materials for value added industries within the community.

There has been an expansion of producers selling farm products directly to consumers. A number of these opportunities are being made available by word-of-mouth marketing. This direct producer-to-consumer delivery minimizes costs for both the producer and the consumer, and increases profits for the producer. For produce and nursery producers, many farmers' markets exist in the areas that allow producers to sell many of their products. A number of produce oriented farms include hobby and family entertainment aspects of their operations. These include farms that allow customers on their property for "u-pick" operations and agritourism efforts including hayrides, pumpkin patches and other public experience activities. These operations are providing multifaceted products and services to the growing urban market.

### **6.7.2 Supporting Infrastructure**

Farm economies, like all sectors of an economy, do not cease at county boundaries. Goods and services, and those seeking those goods and services commonly cross county boundaries to conduct business. Data from communication reports reveal that while the total number of agricultural support businesses has declined in Tuscola County and the neighboring counties of Bay, Genesee, Huron, Lapeer, Saginaw, and Sanilac, there still remains a significant base of agricultural support businesses and markets.

A number of farming organizations exist in Tuscola County. The purpose of these organizations is to provide an opportunity for consumers to purchase the rights to food before it is available on the market. In addition, local communities are increasingly embracing farmer's markets and roadside marketing operations to support local agricultural consumerism.

### **6.7.3 Agriculture as a Target Industry**

A primary goal of Tuscola County is to promote, support and retain the local agricultural economy. Local government development and support of new and enhanced markets for locally grown food are

important elements. The accompanying objectives and recommendations identify efforts to build social capital among an alliance of stakeholders, elevate locally grown food as a target industry with supporting infrastructure requirements, educate the public on the value of a localized food system and “jump-starting” the locally grown food economy by identifying and promoting markets in the short term.

**Objective 1 Encourage and support programs that will maintain the viability of agriculture through new and expanding markets for locally grown products.**

- New Market Opportunities

Develop a collaborative effort between Tuscola County, MSU Extension, UM Business School, local governments, surrounding counties, state government, and agricultural organizations to find new market opportunities for Tuscola County and the region’s agricultural sector. Opportunities include, but are not limited to, ethanol production, direct producer-to-consumer marketing of farm products, local food distribution network, grain elevators and livestock markets.

- New Market Zoning

Provide Educational Resources for the development of local zoning ordinance language that allows small agribusiness activities, such as processing, in agricultural zoning districts to add value to the products generated on Tuscola County farms.

- New Market Education

Support existing programs that encourage and educate producers on new entrepreneurial opportunities in the agricultural sector, including:

- Direct marketing to consumers (includes “community supported agriculture”).
- Adding value to the food (packaging, agri-entertainment, agri-tourism).]
- Promote the use of by-products from Agricultural commodities.
- Niche marketing of farm products (ethnic foods, organic foods, specialty farm products).

**Objective 2 Encourage and support agricultural operations through federal and state farmland preservation programs.**

- Farmland Preservation Funding

Encourage landowners to apply for state and federal programs and encourage local governments to identify funding methods for farmland preservation including the following public and private methods:

- Purchase of Development Rights Program
- Transfer of Development Rights (through non-contiguous PUDs and Joint Planning Commissions between 2 or more local governments)
- Purchase and Leaseback Program

- Land Trusts
- Land Donations/Reserved Life Estates
- Land Swaps

- PDR and Farmland Preservation

For the Purchase of Development Rights program at the state, county, or local unit of government level, Tuscola County will use the Farmlands and Open Space Preservation Areas Figure 16 as a guide for farmland preservation programs. This map reflects the possible lands in Tuscola County that should be preserved.

- Model PDR/TDR Ordinances

The county has developed a Purchase of Development Rights Ordinance and may develop in the future a Transfer of Development Rights Ordinance for local communities in Tuscola County.

**Objective 3 Encourage and support local planning and zoning tools, along with state and federal policies that promote the viability of the county’s and region’s agricultural sector.**

- Local Agricultural Ordinances

Assist in the development of local PDR ordinances and encourage the use of consistent land use and zoning tools at the township level.

- Agricultural Enabling Legislation

Advocate changes at the state level to promote farming including dedicated funding for PDR, agricultural tax incentives, taxing agricultural land for its use versus potential use, local revenue sources and land division act reform.

- Agricultural Impact Statement

Encourage local units of government to consider impacts on agricultural operations during the land use and development decision-making process by using the Farm Land and Open Space Preservation Area Map (Figure 16) as a guide for farmland and open space preservation programs.

**6.8 Agricultural Land Preservation Programs**

**6.8.1 State of Michigan Programs – Agricultural Land Preservation Programs**

The State of Michigan programs available to farmers, landowners, townships, local governments and counties include:

## **Farmland Development Rights (PA116) Agreements**

The PA 116 program is strongly supported and encouraged by both the State of Michigan and Tuscola County. It consists of a temporary restriction on the land via agreement between the State and a landowner, voluntarily entered into by a landowner, preserving their land for agriculture in exchange for certain tax benefits and exemptions for various special assessments.

Robust efforts to inform and maintain active PA 116 agreements have dramatically slowed the conversion of farmland acres to other uses. In recent years, the State of Michigan has also recognized the transitory and cooperative nature of renewable energy production such as wind turbines and (to a lesser extent) solar fields in maintaining farm land for current and future production.

## **Purchase of Development Rights**

Purchase of Development Rights (PDR) is a permanent restriction on the land between the state and a landowner. The restriction is voluntarily entered into by a landowner, preserving their land for agriculture in exchange for a cash payment for those rights. Currently this program is being restructured. At the present time the state has no provisions for funding this program.

## **6.8.2 The Federal Program – The Farm and Ranch Land Protection Program (FRPP)**

The Farm and Ranch Lands Protection Program (FRPP) is a voluntary program that helps farmers and ranchers keep their land in agriculture. The program provides matching funds to State, Tribal, or local governments and non-governmental organizations with existing farm and ranch land protection programs to purchase conservation easements. From 1996 through 2007, FRPP has enrolled over 533,000 acres in cooperation with more than 400 entities in 49 states. The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) manages this program.

Legislative Changes: FRPP was amended in the Food, Conservation, and Energy Act of 2008 (2008 Farm Bill). This new legislation expanded the purpose of the Farm and Ranch Lands Protection Program from "protecting topsoil" to "protecting agricultural use and related conservation values of the land."

The program now allows for long term agreements with cooperating entities. Such agreements may be 5 years in duration for certified entities and 3 years for eligible entities that are not certified. The 2008 Farm bill defines a "certified entity" as an eligible entity with a proven record of acquiring and monitoring conservation easements.

Entities may submit proposals to protect farm and ranch lands throughout the term of the agreement and changes the authority of the Secretary of Agriculture from purchasing conservation easements to facilitating the purchase of conservation easements.

\*Information taken from: Helping People Help the Land – May 2008

\*For more information and updates about the FRPP go to <http://www.nrcs.usda.gov/programs/frpp>.

### **6.8.3 Alternative Development**

Where possible, the county will investigate, evaluate and promote alternative development projects that will work in harmony with the county stated goals of farmland preservation, environmental preservation and community sustainably. These goals and projects will always be evaluated with an eye toward project sustainability, natural resource preservation and local quality of life evaluation and consideration.

Table 33 PA 116 Results

Township	2012		2022	
	Number	Acres	Number	Acres
Akron	405	26903	416	21874
Almer	188	13848	179	9797
Arbela	85	6040	114	6619
Columbia	314	18812	339	17030
Dayton	33	2531	44	2606
Denmark	245	17644	278	16084
Elkland	129	10599	131	8838
Ellington	86	6478	76	5714
Elmwood	211	13685	178	10409
Fairgrove	291	17966	303	15526
Fremont	12	881	26	1912
Gilford	308	19757	336	18199
Indianfields	14	1063	14	890
Juniata	114	8512	130	9768
Kingston	73	5572	99	6277
Koylton	31	2176	49	3228
Millington	45	3944	62	4349
Novesta	73	4448	76	4339
Tuscola	153	11315	120	7413
Vassar	4	272	15	928
Watertown	33	2096	24	1505
Wells	28	1825	34	1884
Wisner	139	8252	147	8714
City of Vassar	0	0	1	30
<b>Total Tuscola County</b>	<b>3014</b>	<b>204,619</b>	<b>3191</b>	<b>183933</b>
<b>Avg. acreage per Township</b>		<b>8896.5</b>		

Source: Farmland Open Space Preservation Environmental Stewardship Division, Michigan Department of Agriculture

## **6.9 Local Planning And Zoning Tools for the Preservation of Farmland and Open Space.**

Many of the townships in Tuscola County have decided to support or develop a farmland and open space component or element in their local master plan and/or zoning ordinance. Zoning techniques available to support the preservation of farmland and open space include:

- Sliding Scale Zoning.
- Quarter/Quarter Zoning.
- Large Lot Zoning (greater than 20 acre minimum lot size).
- Cluster development and planned unit development with appropriate design standards to provide open space buffer between residential and agricultural use.
- Voluntary Agricultural Security Areas (enables agricultural operators to have large blocks of land dedicated to farming operations).

Many effective and necessary farmland preservation tools exist in other states that are not available to County and local governments in Michigan. In order to complement and support an effective agricultural preservation program, several policy changes require advocacy at the state and federal levels including:

- Changes in the state tax structure to utilize a use-value taxing system.
- Enabling legislation that allows local jurisdictions and counties to use alternative sources of funding for purchase of development rights programs (i.e. sales taxes, excise taxes, impact fees, real estate transfer taxes, etc).
- Enabling legislation for local agricultural security area programs
- Dedicated funding of the State Purchase of Development Rights matching grant program.
- Changes in the Land Division Act that will minimize the impact of lot splits on farmland preservation efforts.

## **6.10 The Agriculture Vision:**

The community visualizes a Tuscola County that has maintained its rich agricultural heritage, retained its best farms and farmlands, provided ag-industry markets for both local and regional suppliers, and balanced farm retention goals with the need to accommodate growth.

The Tuscola County Planning Commission will...

- Continue to play a leadership role in providing information to local units of government and residents on techniques and tools to effectively deal with agricultural preservation and rural character maintenance.
- Identify and promote the protection of the best or unique agricultural parcels in the County from non-agricultural use.
- Promote efforts to improve soil erosion practices throughout the County, as a way of slowing soil loss.
- Address the issue of uncontrolled lot splits and subdivision development.
- Assess the current needs of the local agricultural economy, encourage and promote programs or policies to address those needs in conjunction with all applicable stakeholders (individuals and organizations).

## **Implementation:**

- Seek in-state assistance from Michigan State University Cooperative Extension Office and the Michigan Department of Agriculture for preparation of market studies that will provide assistance to the local or regional agricultural sector on possible future markets for local products.
- Provide an extensive self-help component for local planning commissions and elected boards on alternative agricultural preservation and zoning techniques.
- Promote the use of PA 116 in Tuscola County and provide assistance to State legislators and staff regarding better alternatives to PA 116 or opportunities to improve the current legislation. Research and implement the designation of “right to farm” areas within Tuscola County that offer protection to existing agricultural operations and educating the public on the meaning of “entering into a right to farm area”.
- Monitor and evaluate current and potential threats to the conservation of farmland.
- Seek to engage the Tuscola County Economic Development Commission to enable the development of County initiatives to promote economic development according to the developed master plan.

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## **Appendix A Master Plan Maps**

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These master plan maps are taken from the master plans each municipality has placed on file with the Tuscola County Planning Commission. Master Plan maps present the desired future state of each area and do not necessarily reflect the current status.

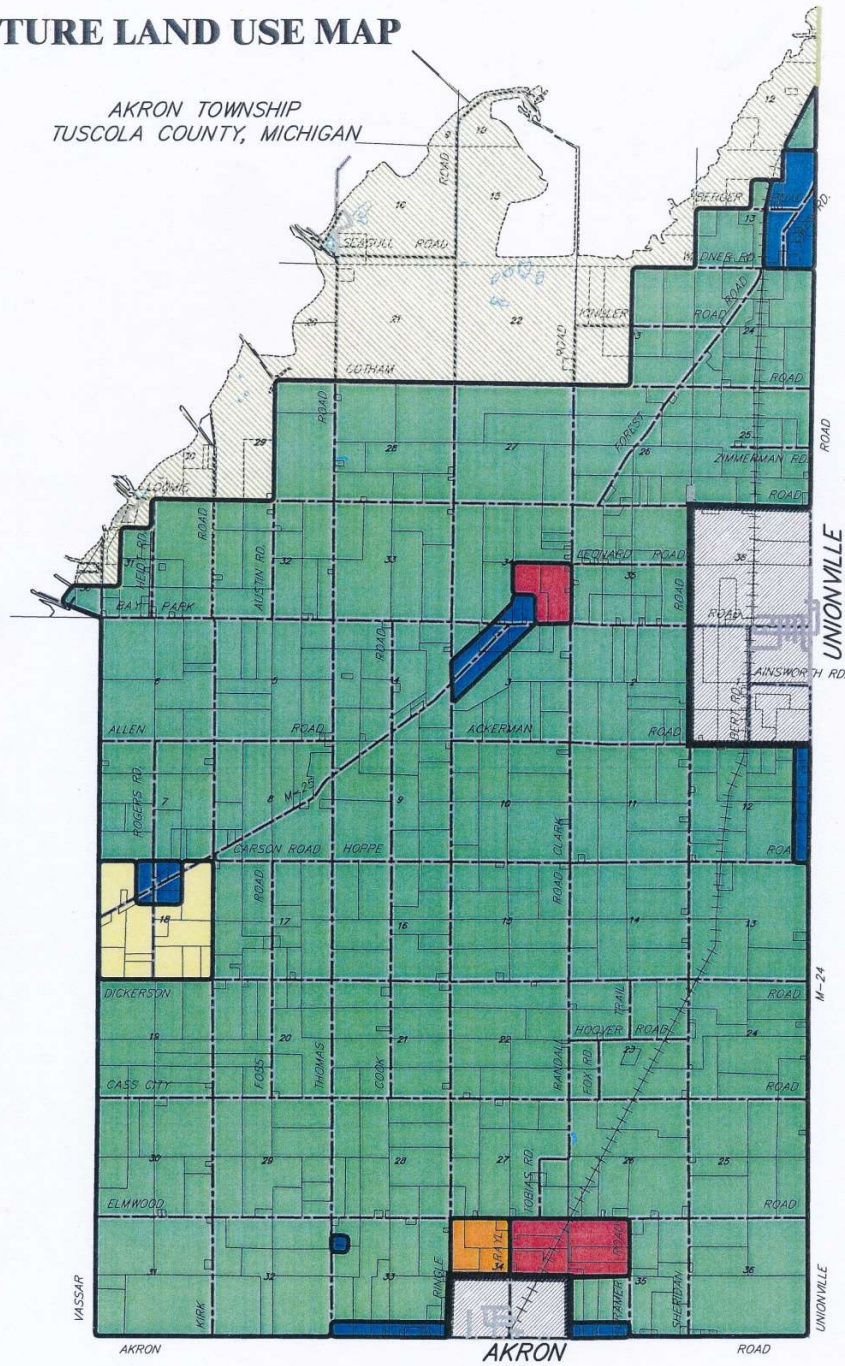
The date in parens is the date of the last received Master Plan from local municipalities by the Tuscola County Planning Commission and placed on file as required by Act 33 of 2008. (MCL 125.3841/125.3843) Master Plans should be reviewed every 5 years.

Dayton Township, the Village of Gagetown and the Village of Unionville do not have Master Plans on file with the county.







# Akron Township (2002)

## FUTURE LAND USE MAP

AKRON TOWNSHIP  
TUSCOLA COUNTY, MICHIGAN



### FUTURE LAND USE LEGEND

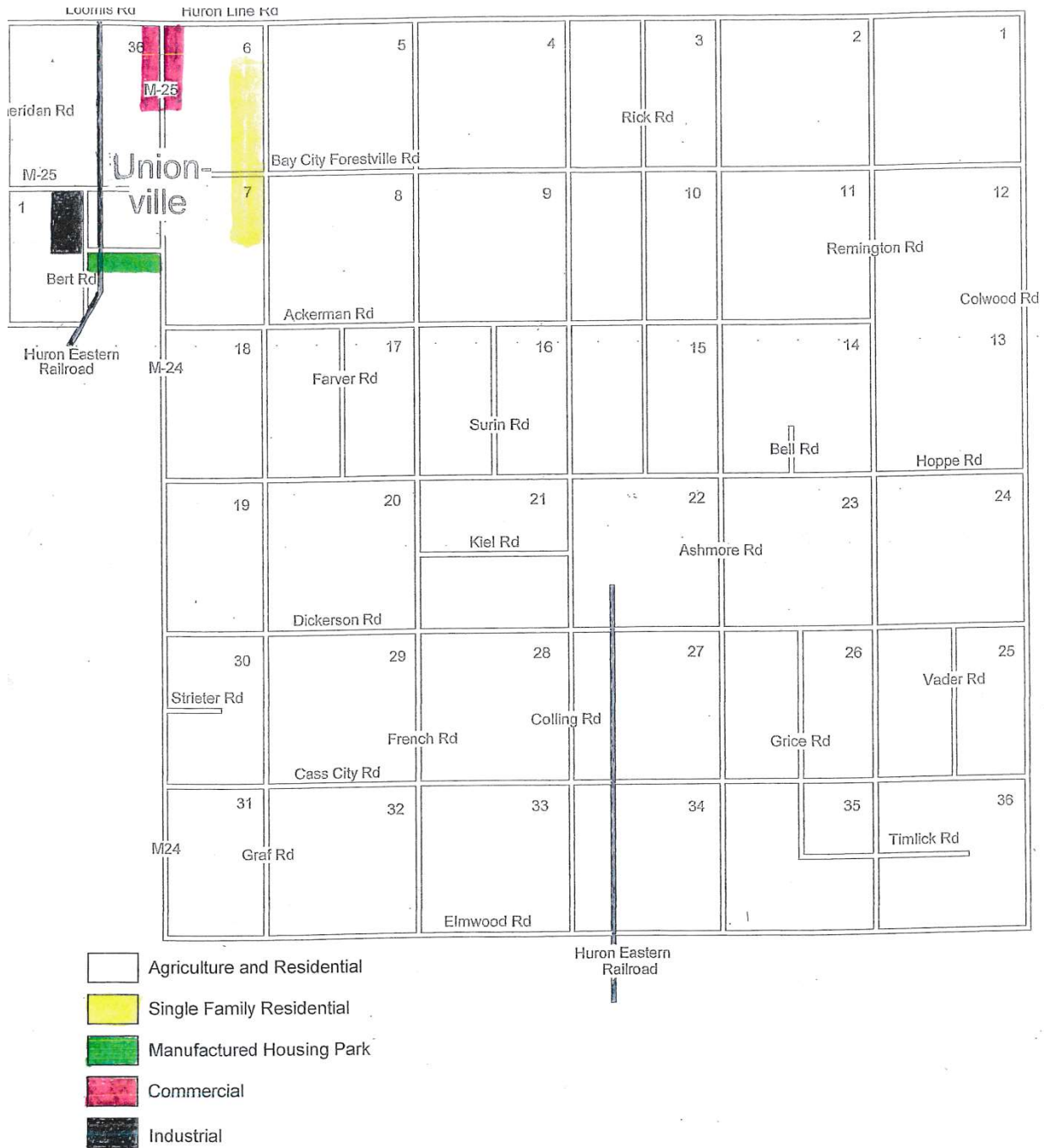
- |   |                |   |                        |
|---|----------------|---|------------------------|
|  | - AGRICULTURAL |  | - MANUFACTURED HOUSING |
|  | - COMMERCIAL   |  | - INDUSTRIAL           |
|  | - RESIDENTIAL  |  | - WILDLIFE AREA        |



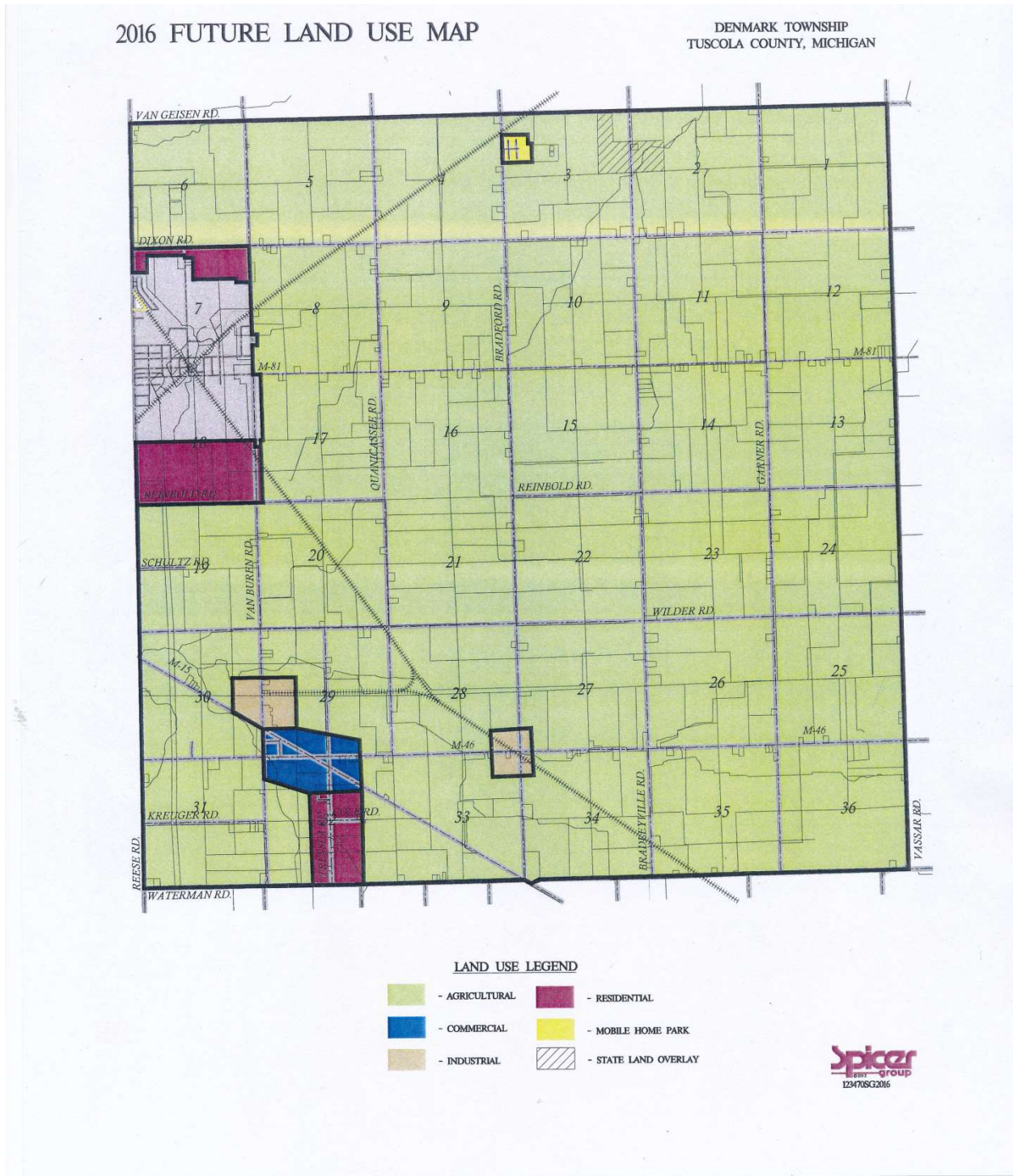




# Columbia Township (2014)

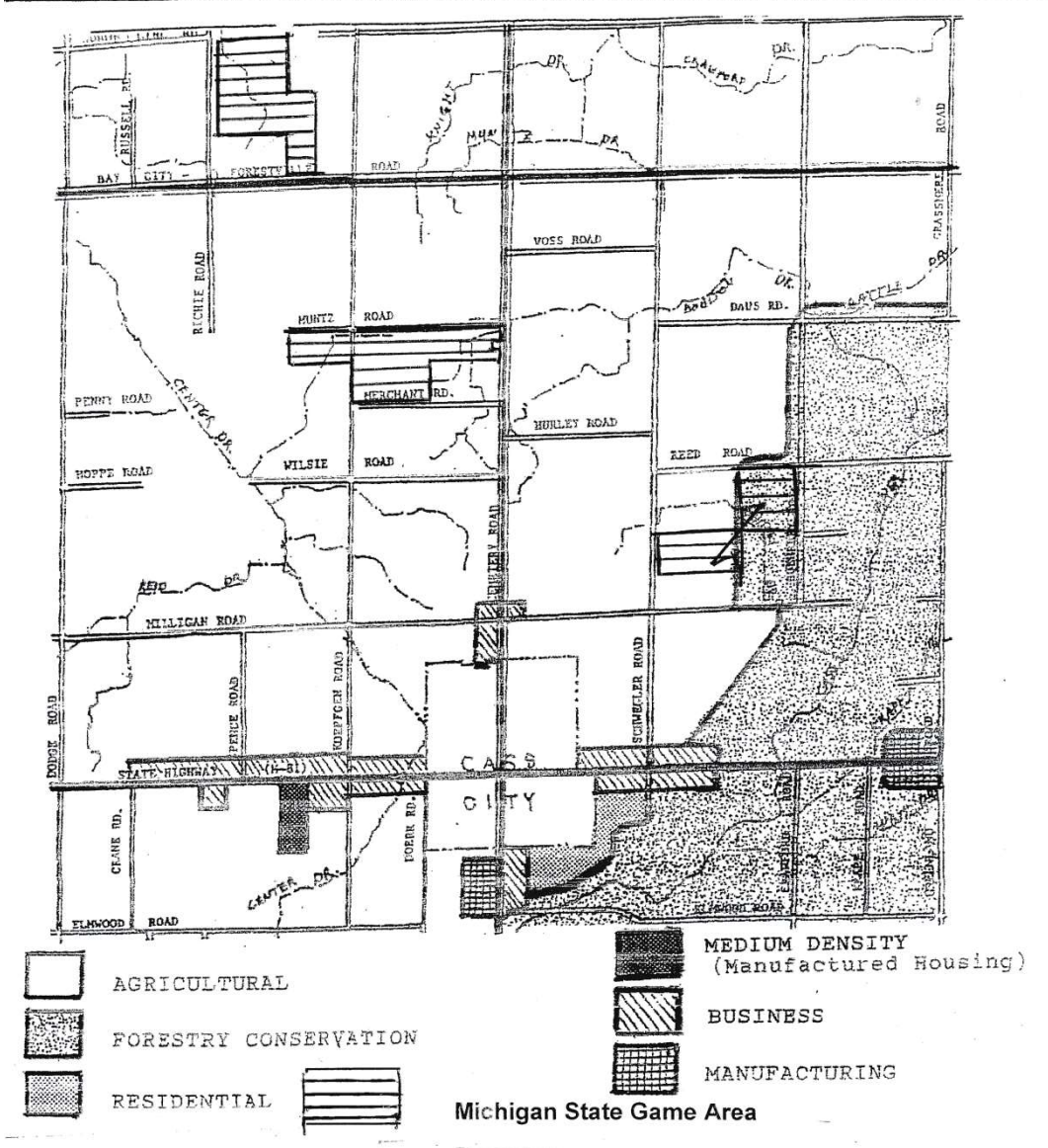


# Denmark Township (2016)

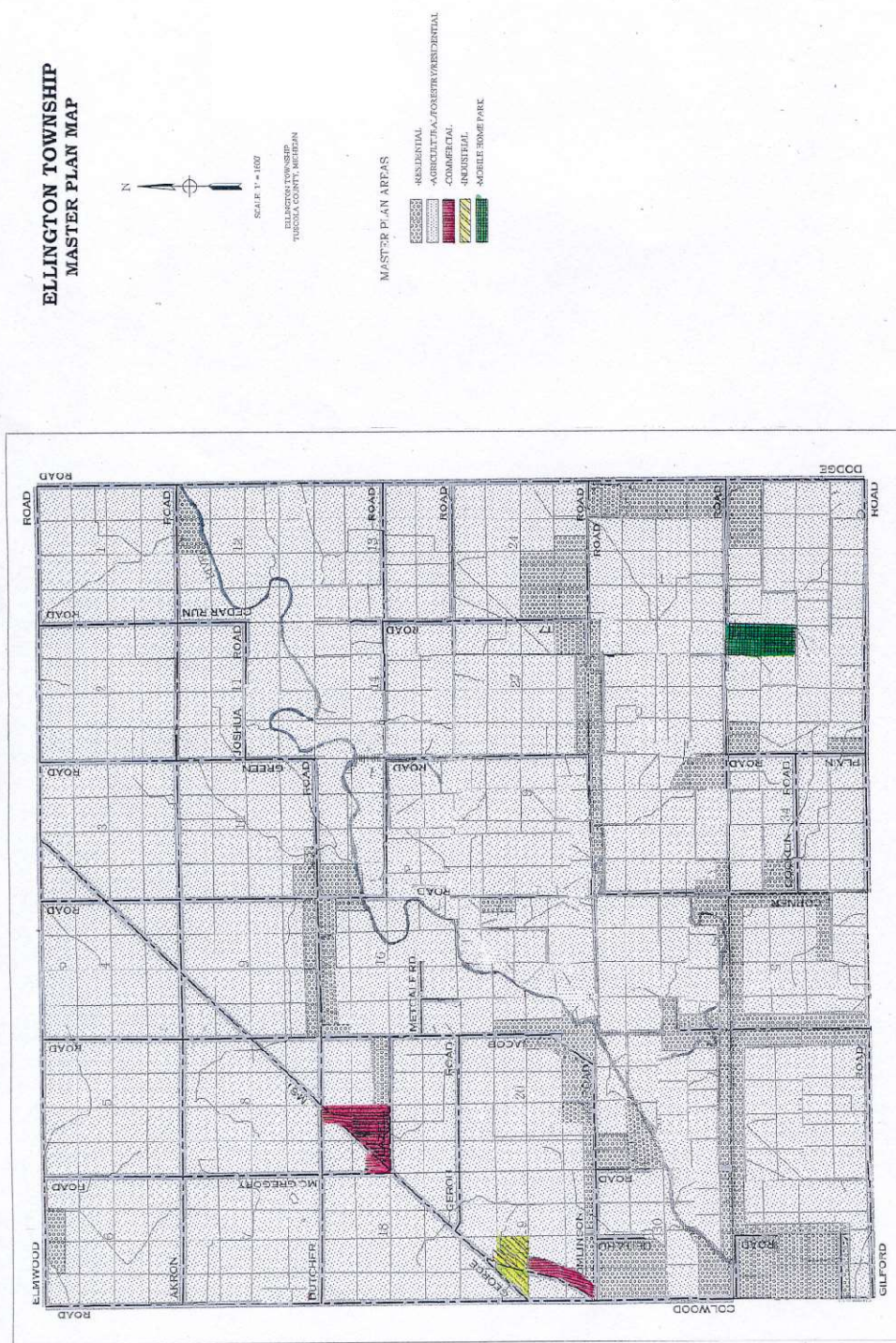


# Elkland Township (2013)

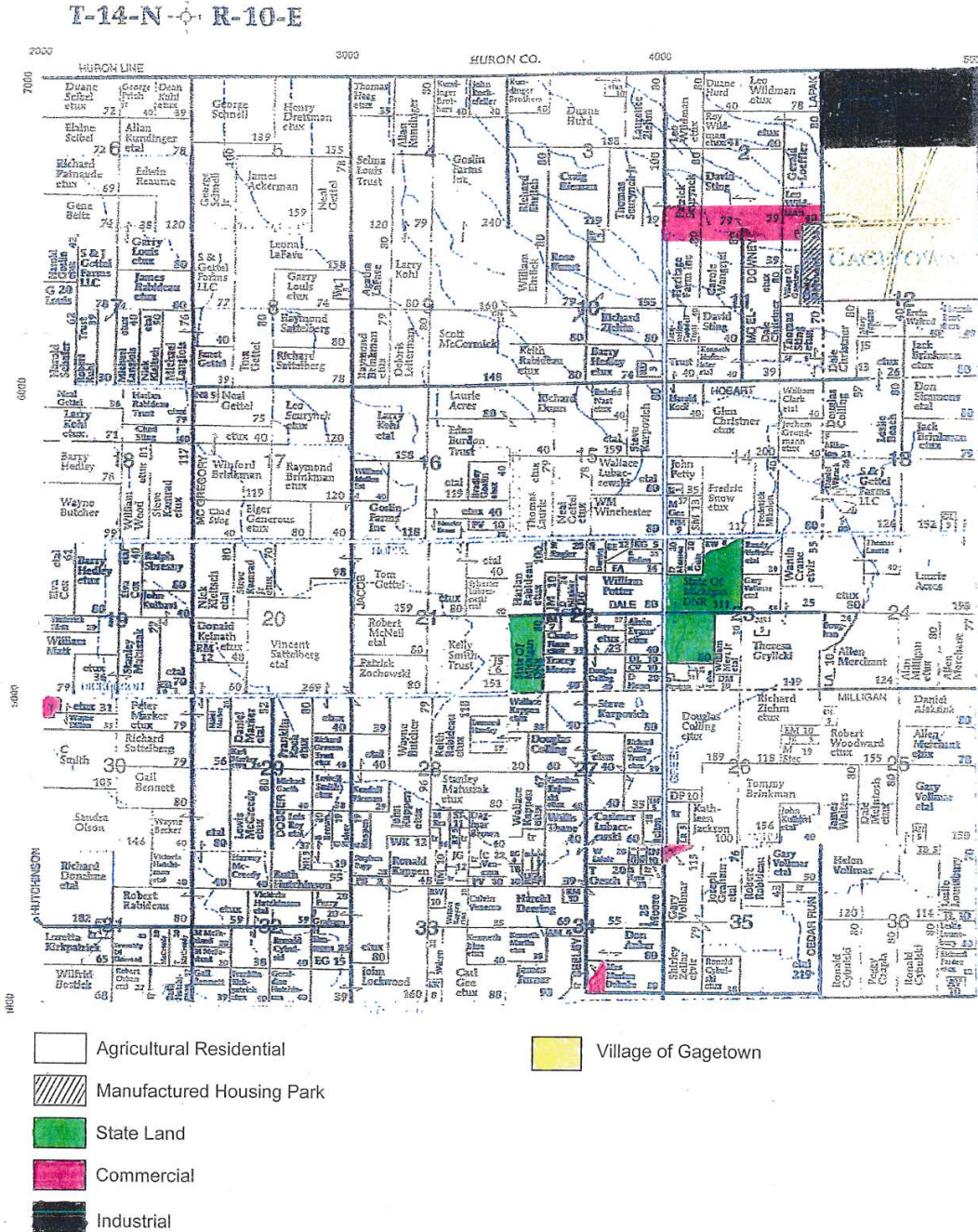
## FUTURE LAND USE MAP



# Ellington Township (2011)

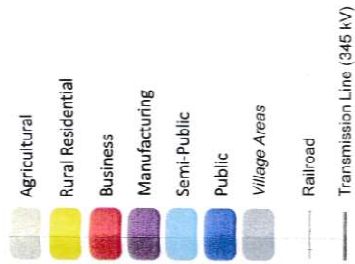


# Elmwood Township (2014)



# Fairgrove Township (2016)

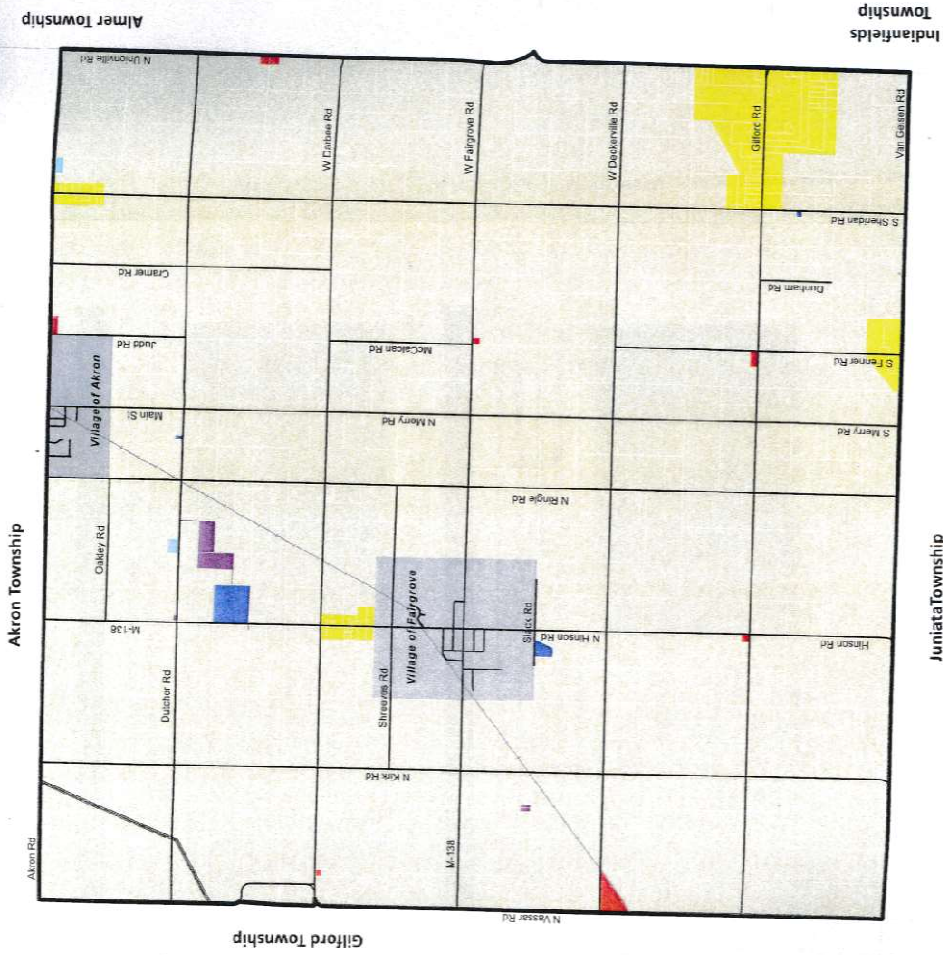
## Fairgrove Township Future Land Use



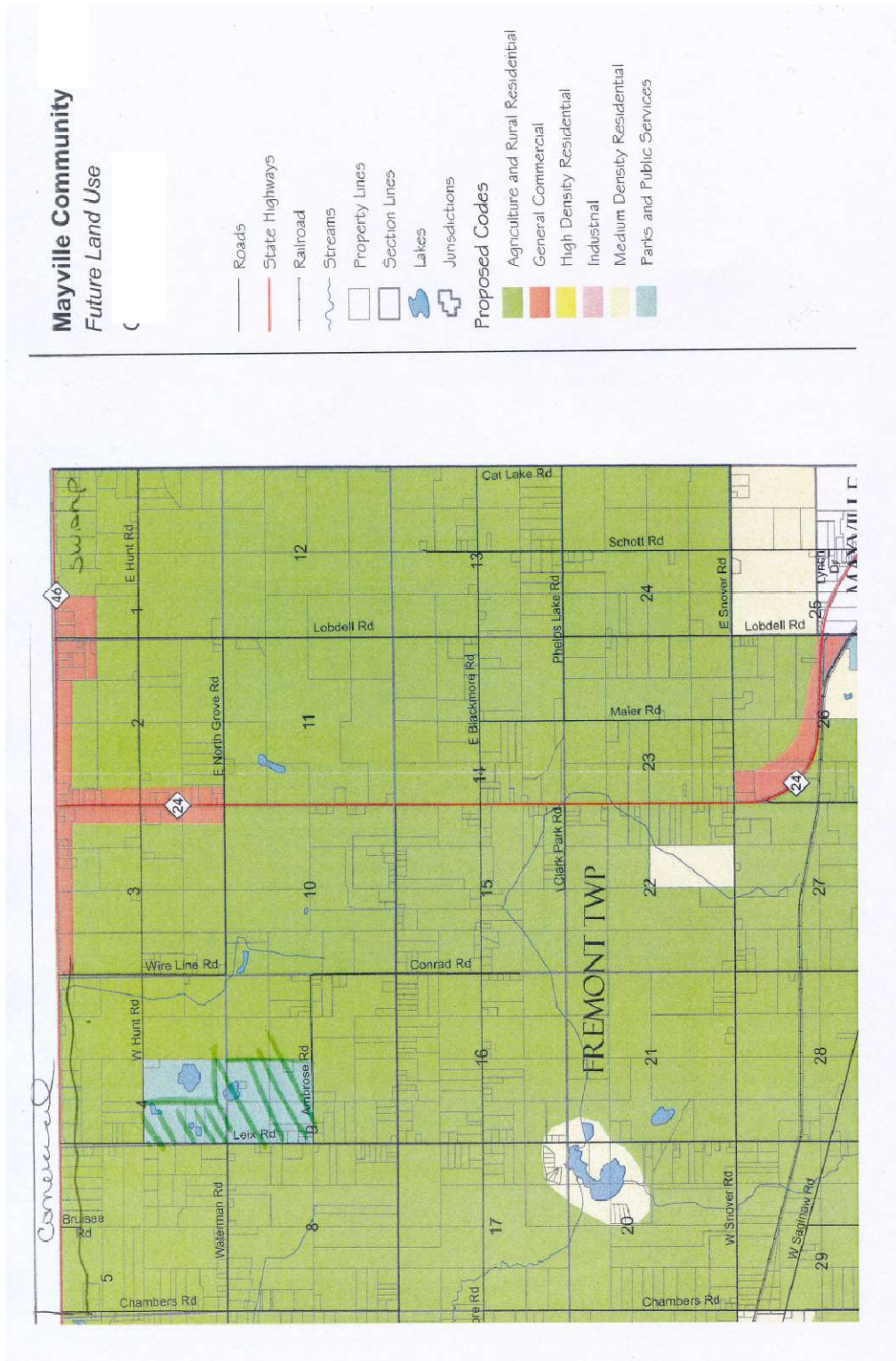
The Fairgrove Township Master Plan 2016 was approved by the Fairgrove Township Planning Commission on November 9, 2015, and accepted by resolution by the Fairgrove Township Board of Trustees on March 21, 2016, by authority of the Michigan Planning Enabling Act, Public Act 33 of 2008, after holding a public hearing for this Master Plan on November 9, 2015.

*Karen Goochill*  
 Karen Goochill  
 Clerk, Fairgrove Township

March 21, 2016



# Fremont Township (2006)



# Gilford Township (2015)

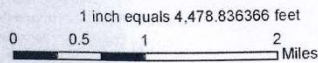
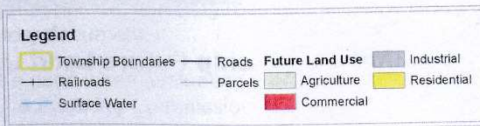


## Gilford Township Future Land Use

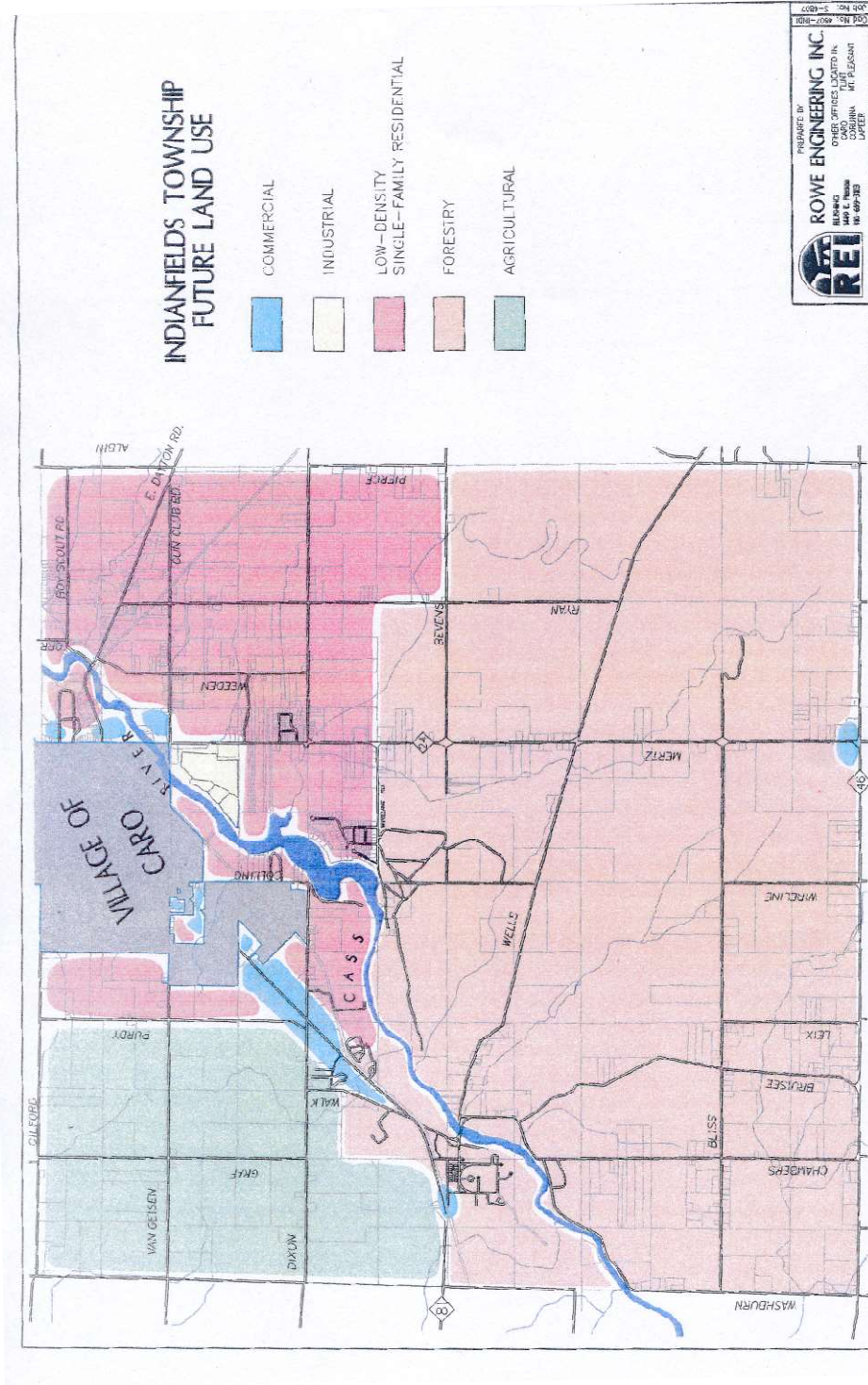
The *Gilford Township Master Plan* was adopted by resolution by the Gilford Township Planning Commission on January 19, 2015, by authority of the Michigan Planning Enabling Act, Public Act 33 of 2008, after holding a public hearing for this Master Plan on January 19, 2015.

*Tim Gruber*  
 Tim Gruber  
 Chair

Gilford Township Planning Commission



# Indianfields Township (2013)



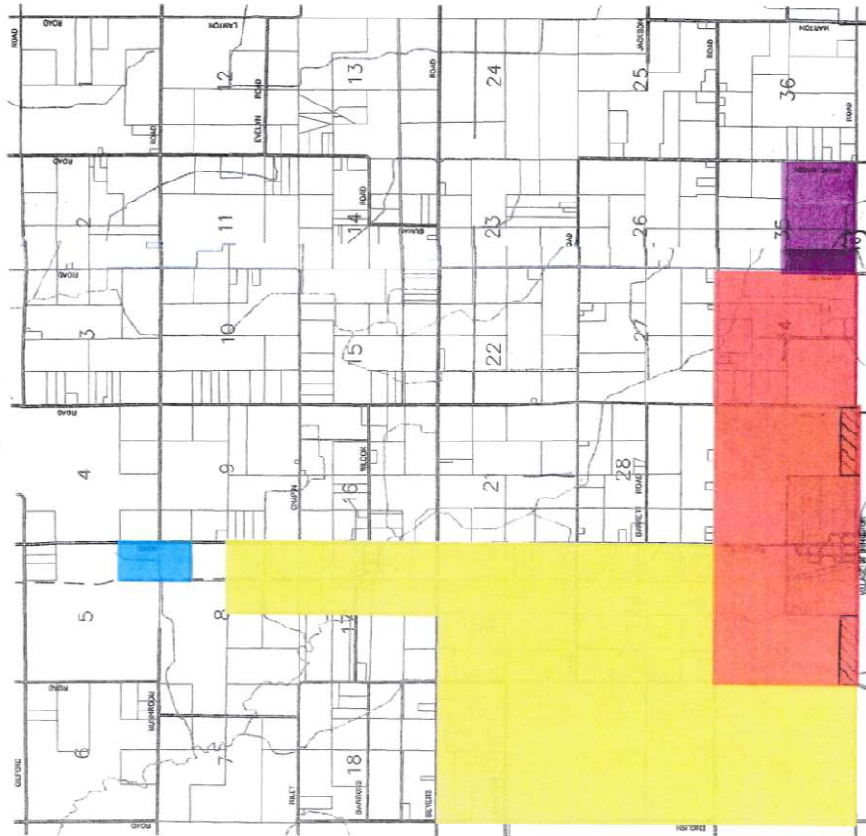


# Kingston Township (2011)

## FUTURE

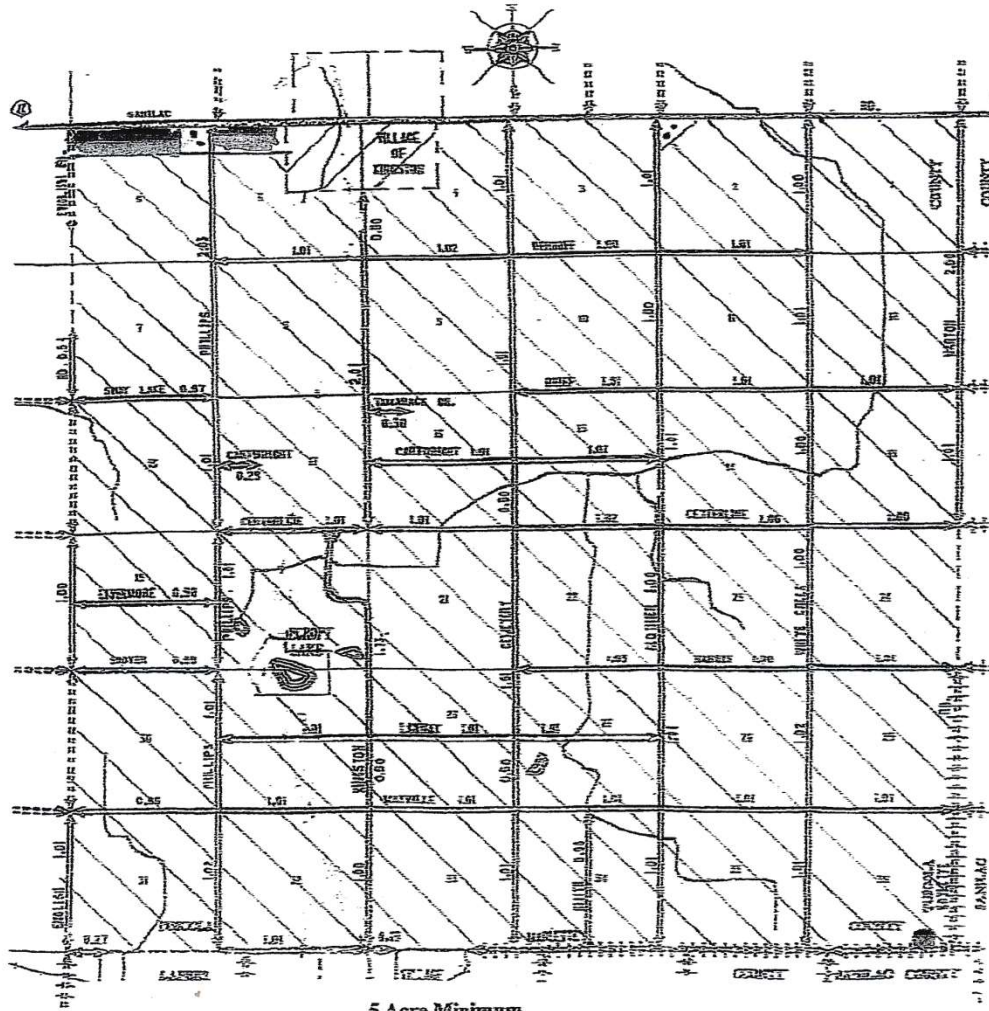
### KINGSTON TOWNSHIP ZONING DISTRICT MAP

- AG AGRICULTURE
- R-1 SINGLE FAMILY RESIDENTIAL
- R-2 SINGLE FAMILY RESIDENTIAL
- MHP MOBILE HOME PARK RESIDENTIAL
- C-1 COMMERCIAL
- I-1 INDUSTRIAL



# Koylton Township (2010)

## Long Range Land Use Plan

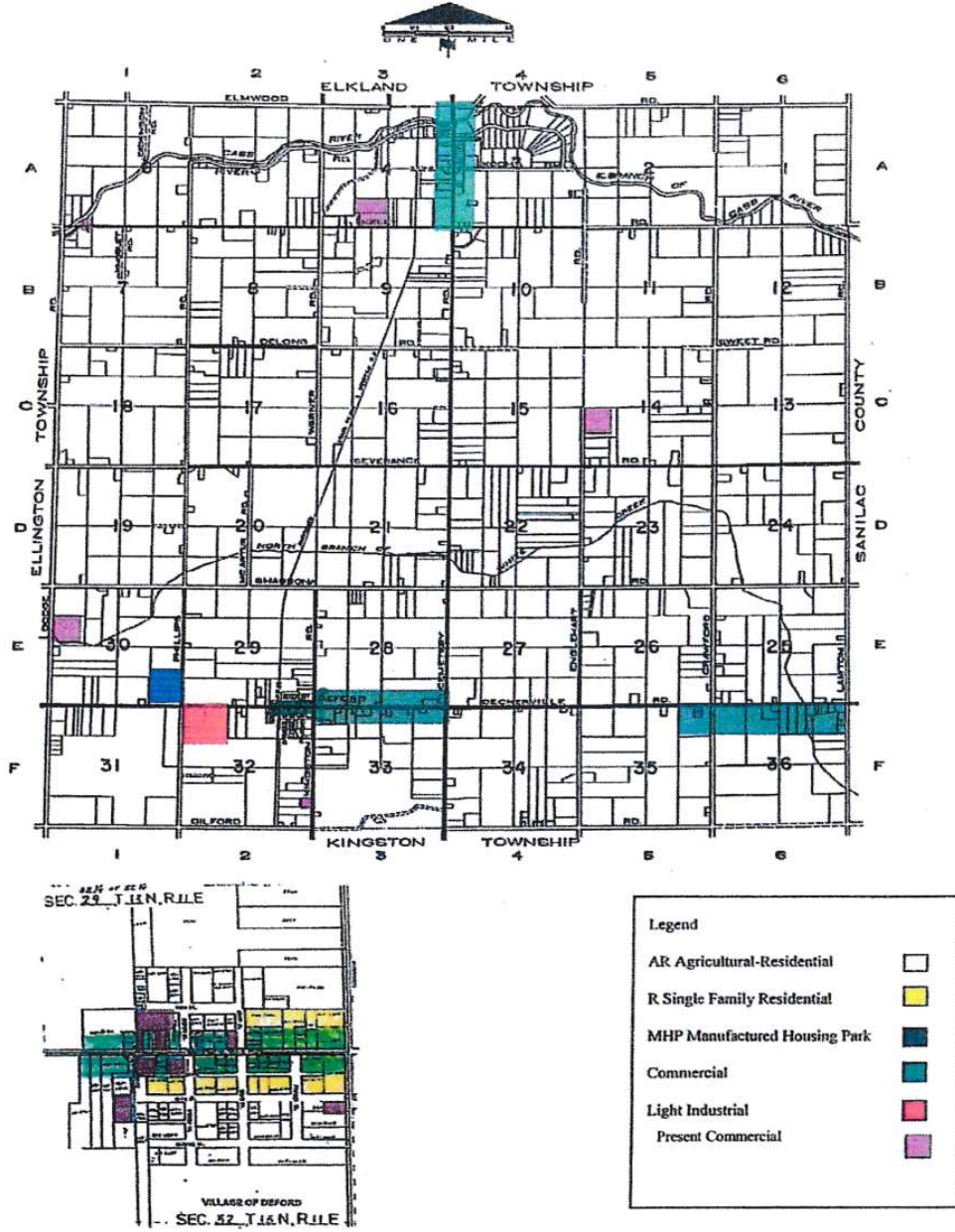


5 Acre Minimum  
 Industrial Commercial Agricultural-Residential Residential-Lake Village of Kingston





# Novesta Township (2016)



# Tuscola Township (2015)

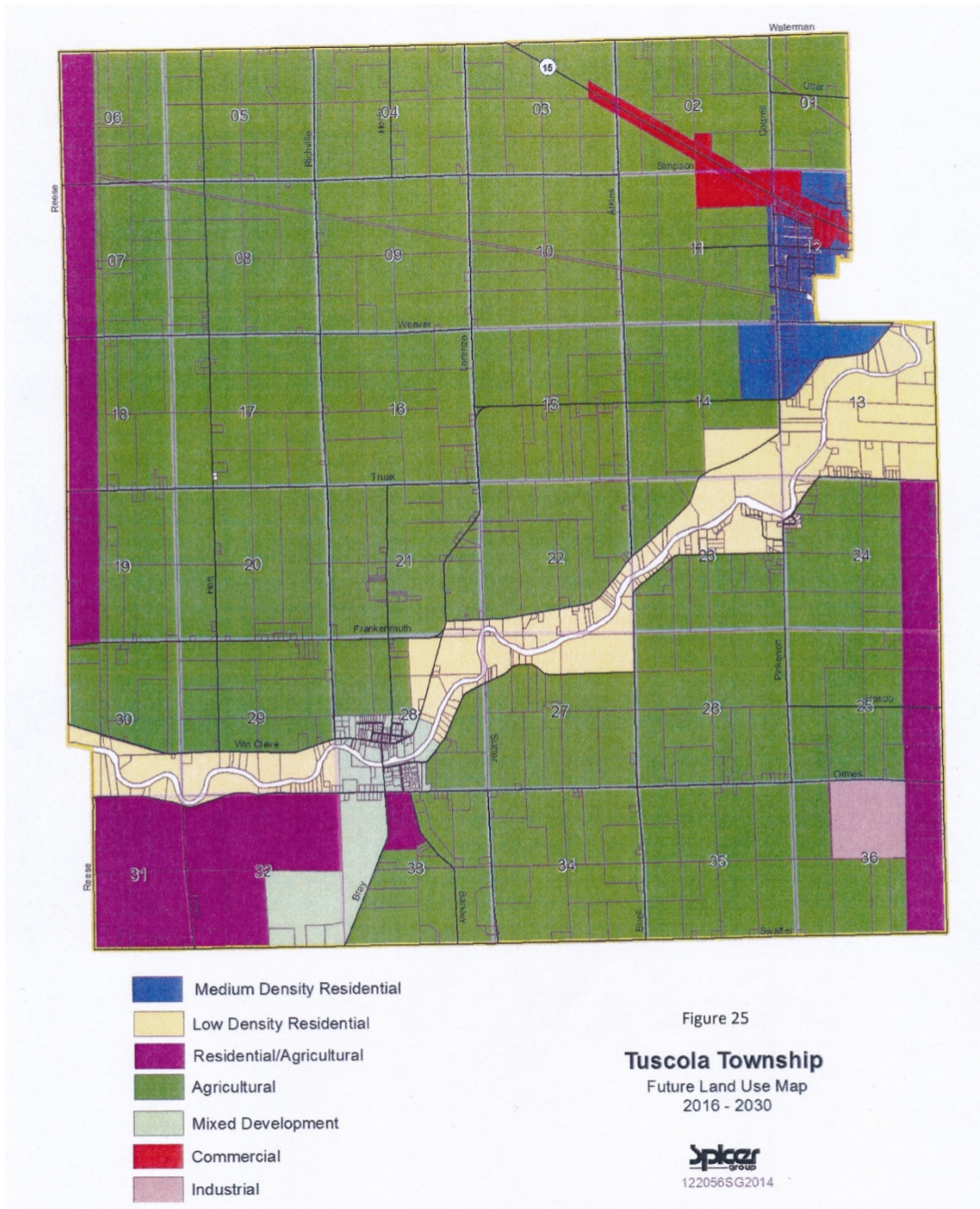
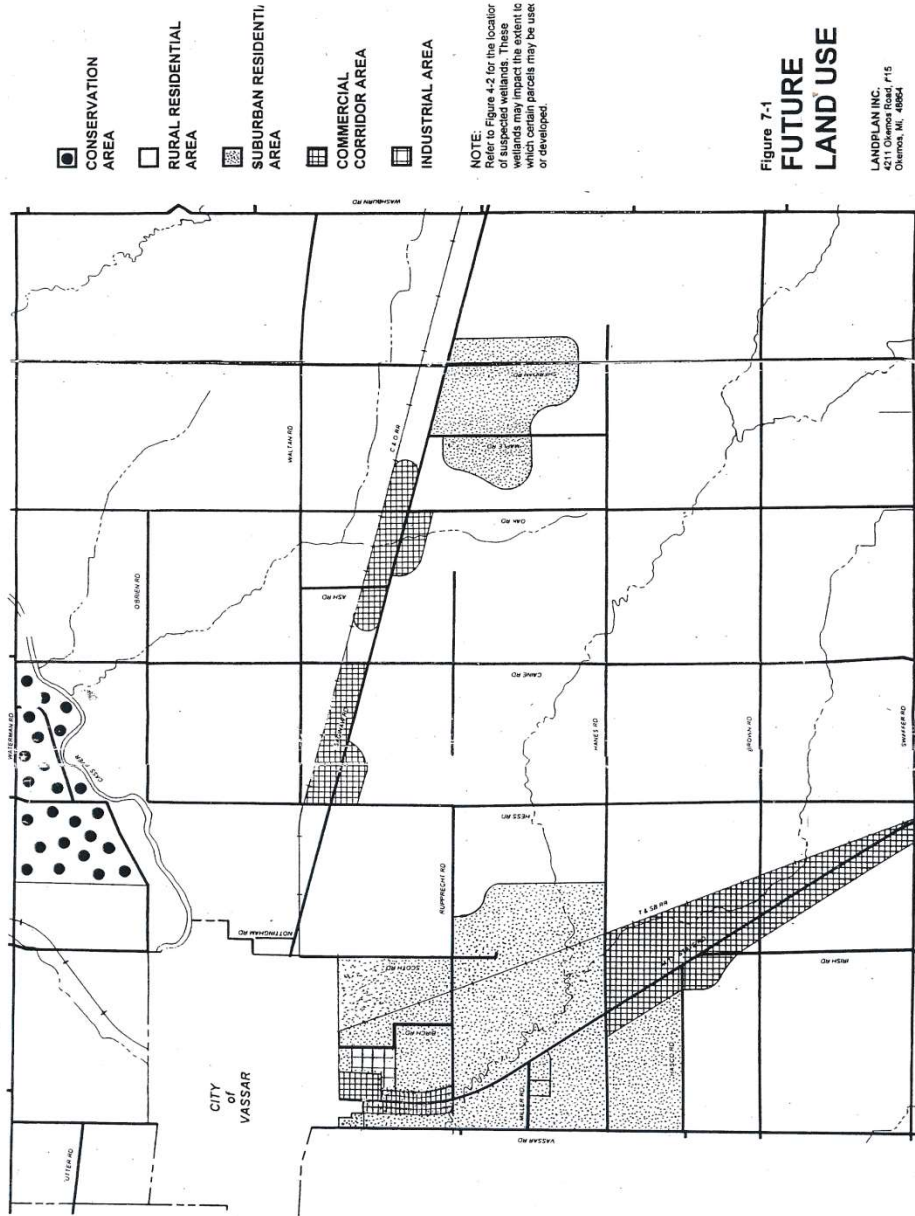


Figure 25

**Tuscola Township**  
Future Land Use Map  
2016 - 2030

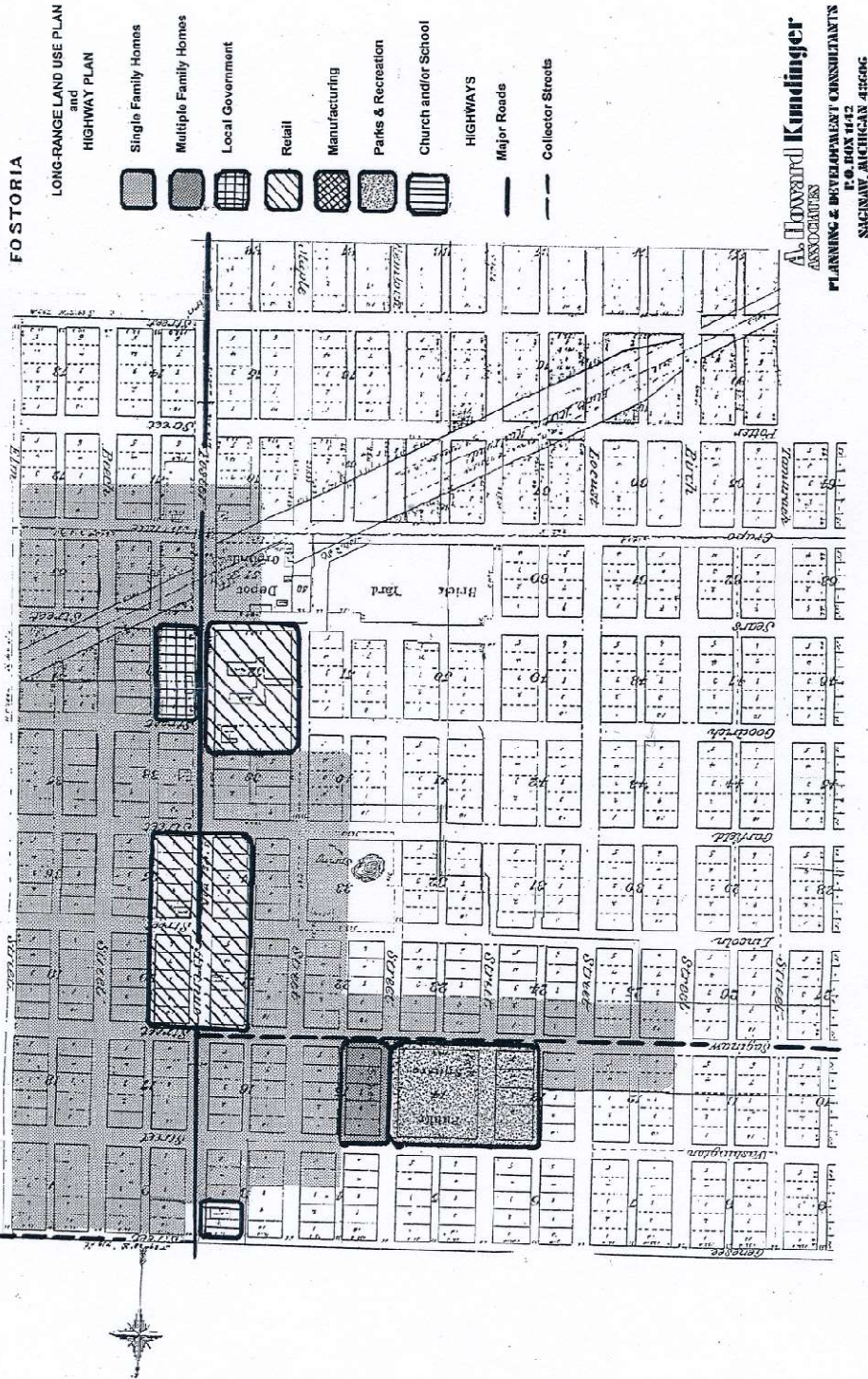
**Spitzer**  
group  
122056SG2014

# Vassar Township (2003)

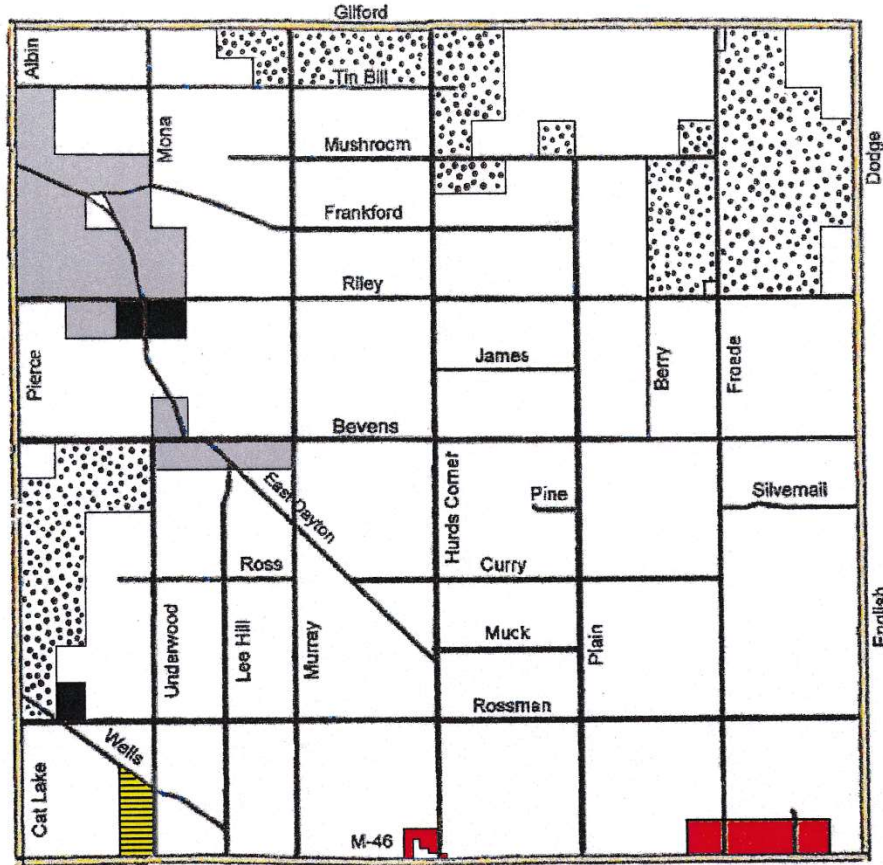


# Watertown Township (2013)

## WATERTOWN TOWNSHIP

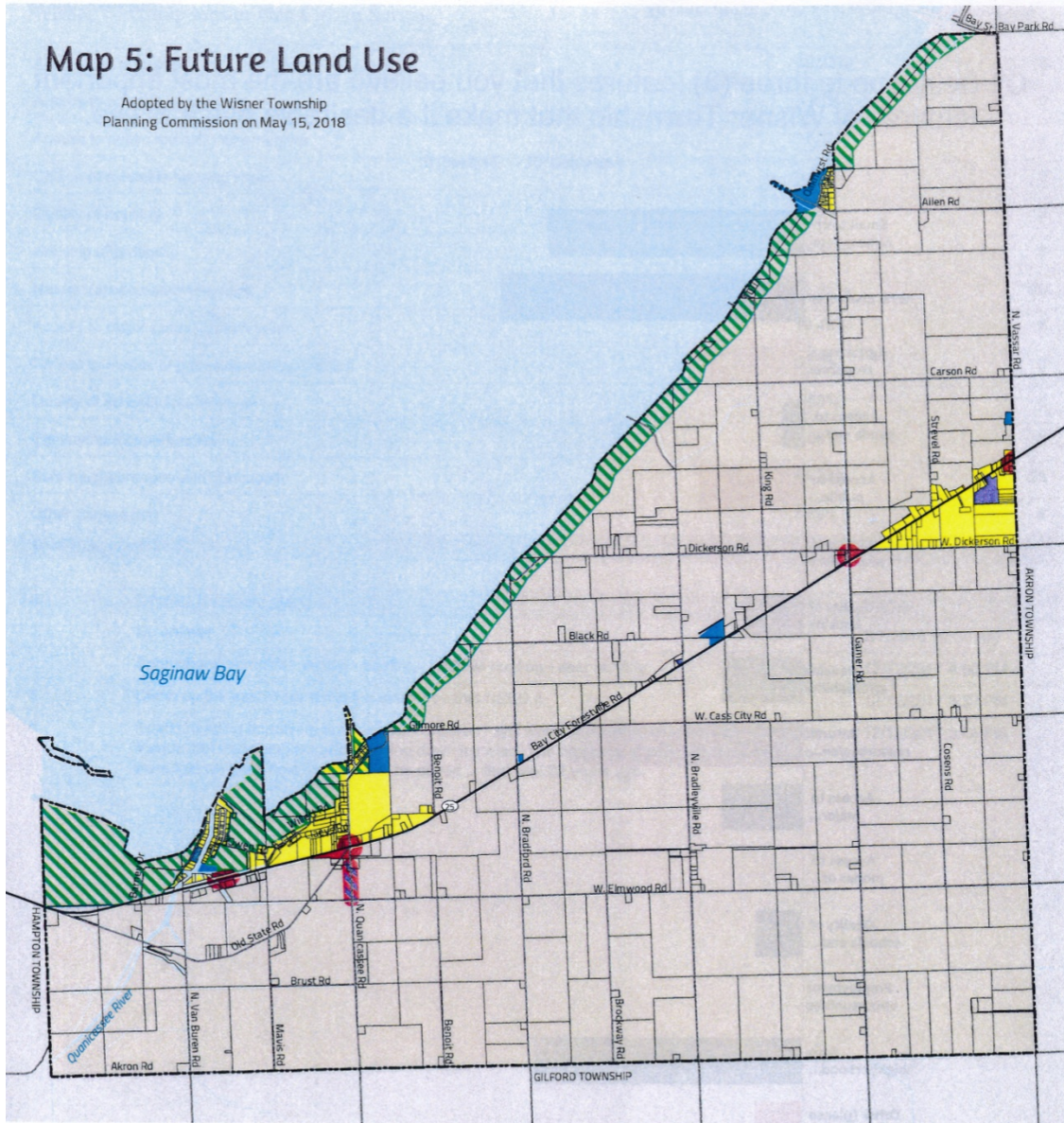


# Wells Township (2016)



Note: State of Michigan Game Areas are shown as  and are part of the Agricultural/Rural Residential category.

# Wisner Township (2018)

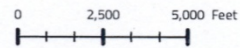


**Base Data**

- State Roads
- Streets
- Rivers and Streams
- Water Bodies
- Parcels
- ▭ Township Boundary
- ▭ Other Municipalities

**Future Land Use Categories**

- Agricultural/Rural Residential
- Medium Density Residential
- Commercial
- Industrial
- Public/Semi-Public/Recreation
- Conservation Overlay

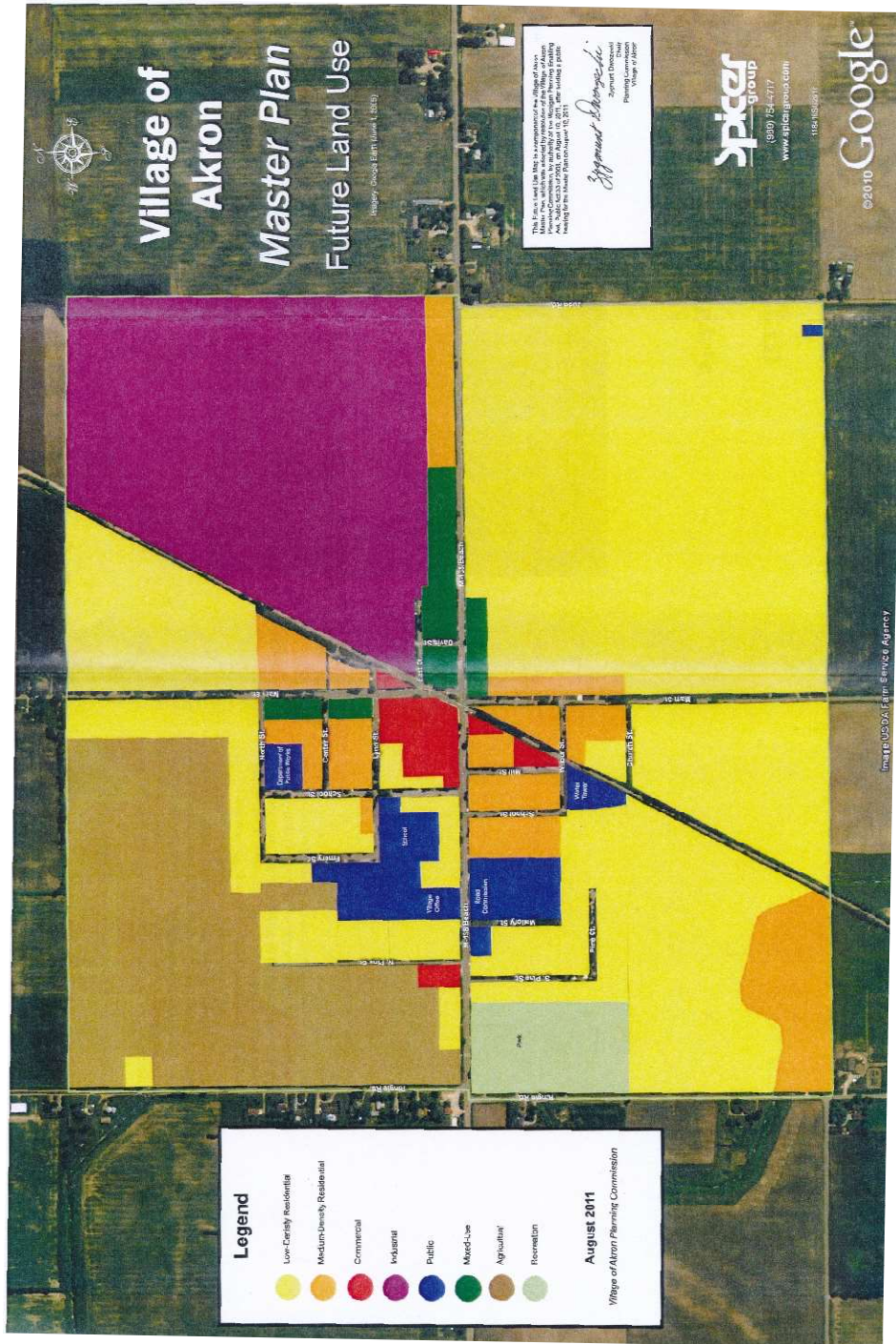


**Wisner Township Master Plan, 2018**  
Tuscola County, Michigan

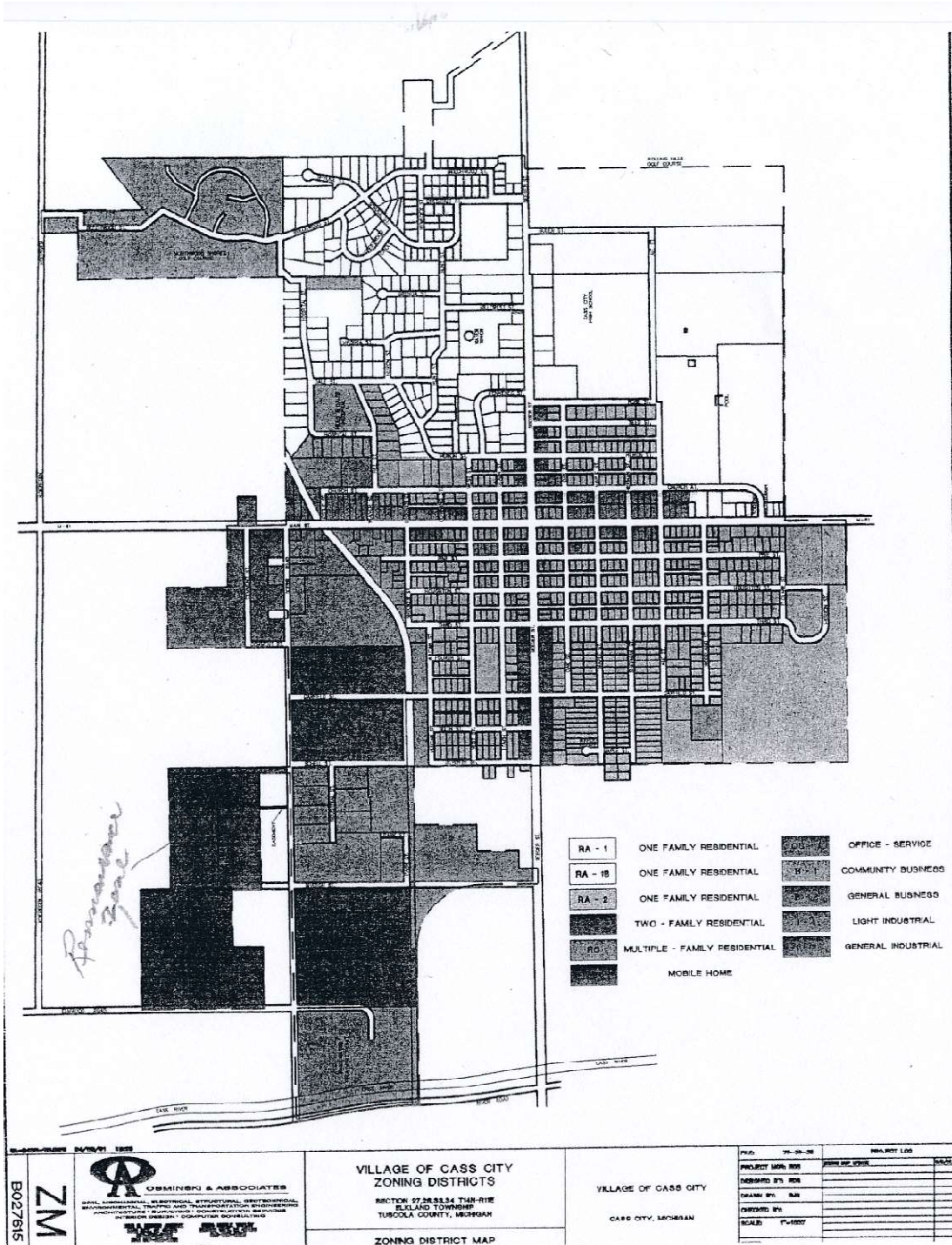


# Tuscola County Local Villages Information

## Village of Akron (2011)



# Village of Cass City (1999)



**ZM**  
B027615

**OSMINER & ASSOCIATES**  
ARCHITECTURAL, SURVEYING, ENGINEERING, ENVIRONMENTAL, PLANNING AND INTERIOR DESIGN SERVICES  
10000 N. HUNTERS TRAIL, SUITE 100, OKLAHOMA CITY, OKLAHOMA 73162  
(405) 761-1111

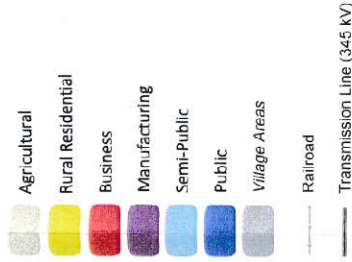
VILLAGE OF CASS CITY  
ZONING DISTRICTS  
SECTION 27.36.53.34 TIAN-RITE  
BULLARD TOWNSHIP  
TUSCOLOA COUNTY, MICHIGAN  
ZONING DISTRICT MAP

VILLAGE OF CASS CITY  
CASS CITY, MICHIGAN

FILED	99-08-26	REGISTRY LOG
PROJECT NO.	99-08-26	DATE
DESIGNED BY	BLM	
DRAWN BY	BLM	
CHECKED BY		
SCALE	1"=100'	

# Village of Fairgrove (2000)

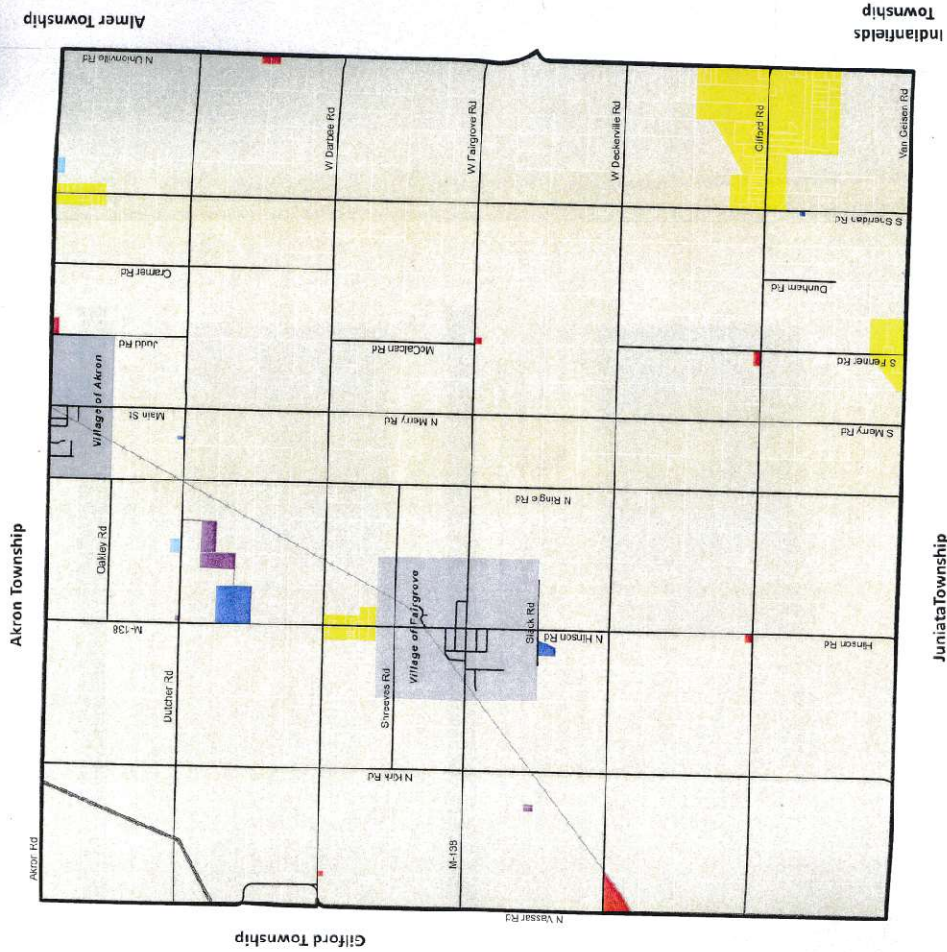
## Fairgrove Township Future Land Use



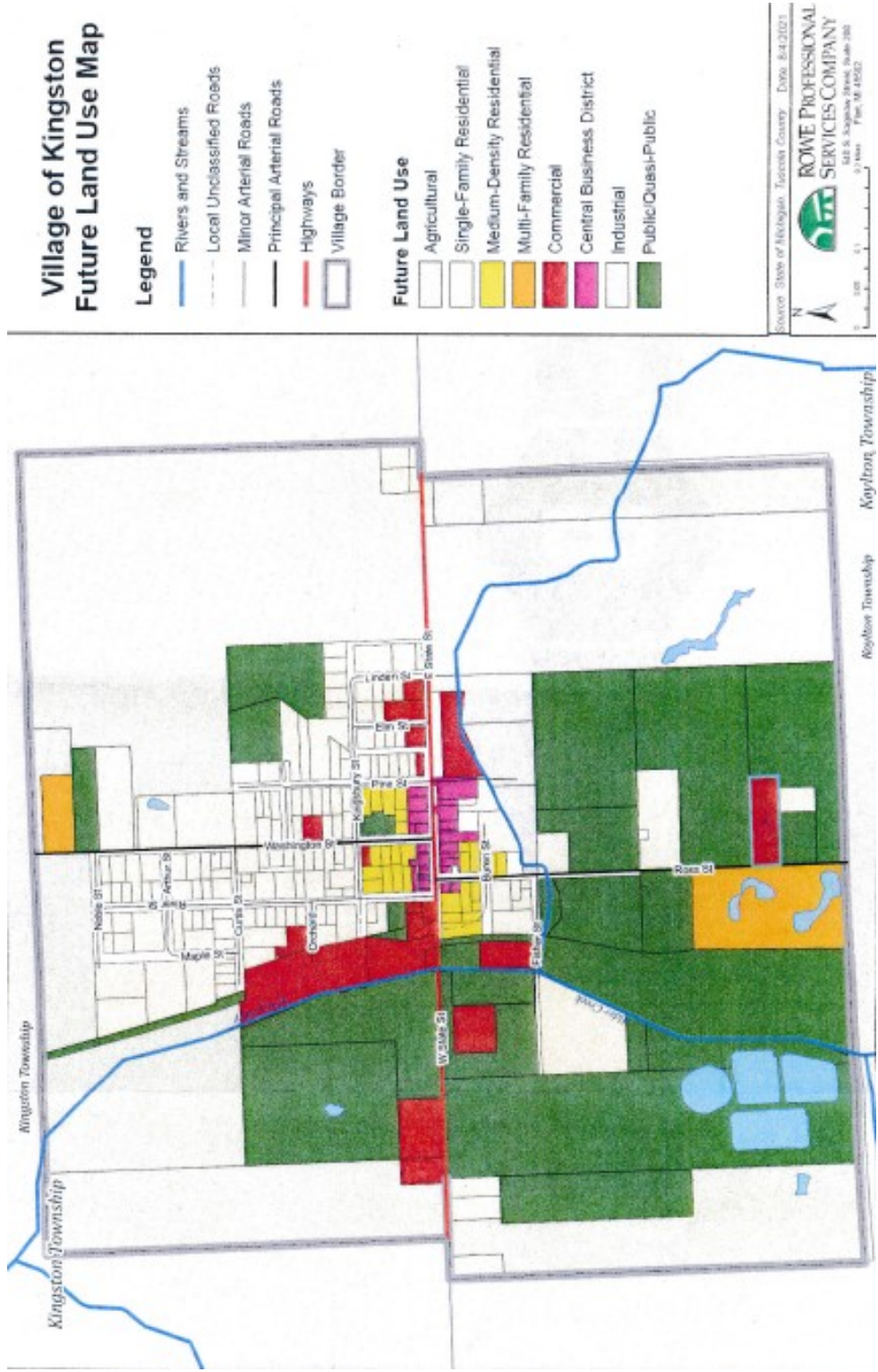
The Fairgrove Township Master Plan 2016 was approved by the Fairgrove Township Planning Commission on November 9, 2015, and adopted by resolution by the Fairgrove Township Board of Trustees on March 21, 2015, by authority of the Michigan Planning Enabling Act, Public Act 33 of 2008, after holding a public hearing for this Master Plan on November 9, 2015.

*Karen Goodchild*  
 Karen Goodchild  
 Clerk, Fairgrove Township

March 21, 2016

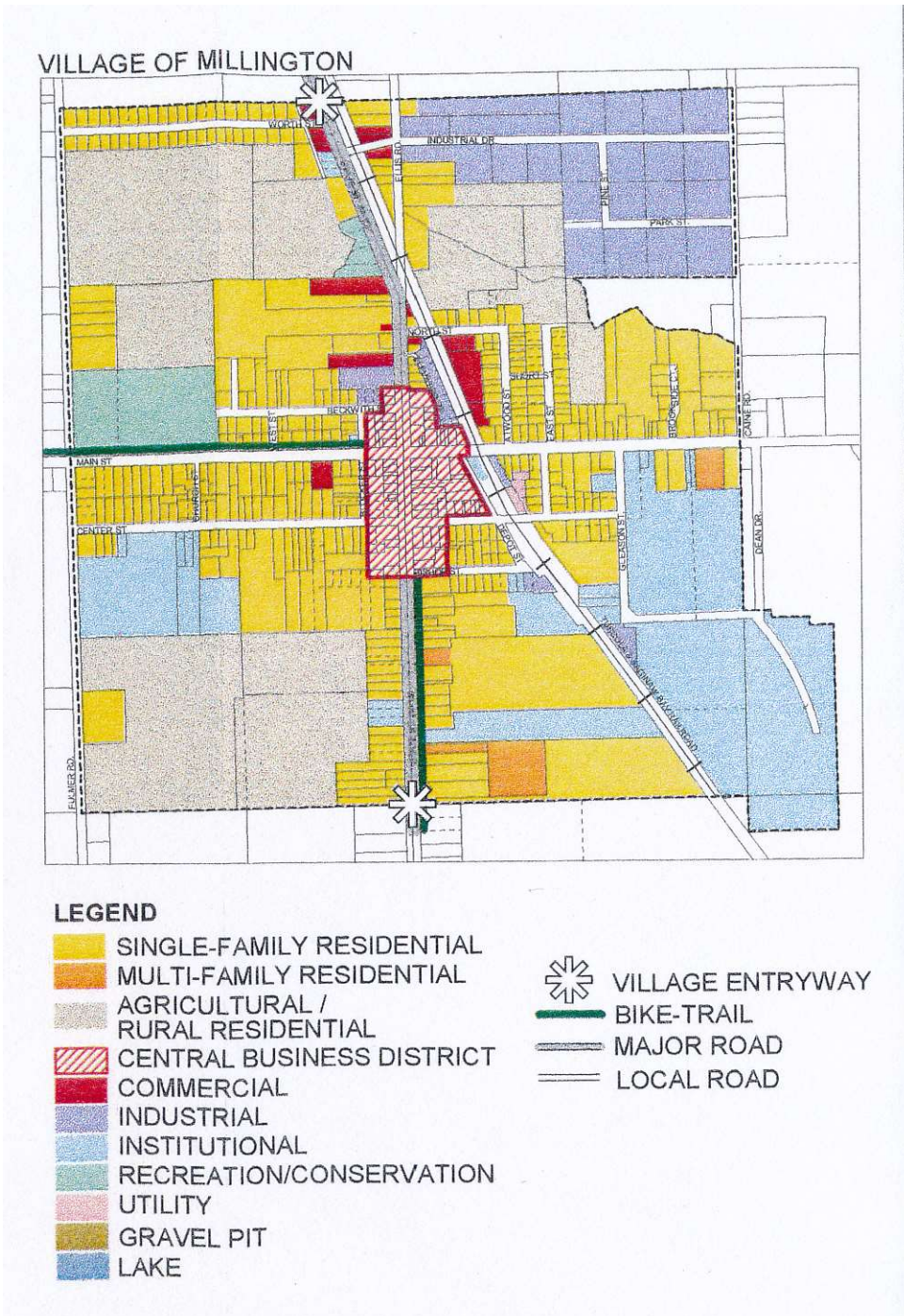


# Village of Kingston (2021)











**Village of Millington (2021)\***  
 \*From Millington Township Master Plan



# Village of Reese (2012)

## VILLAGE OF REESE FUTURE LAND USE MAP

### LEGEND

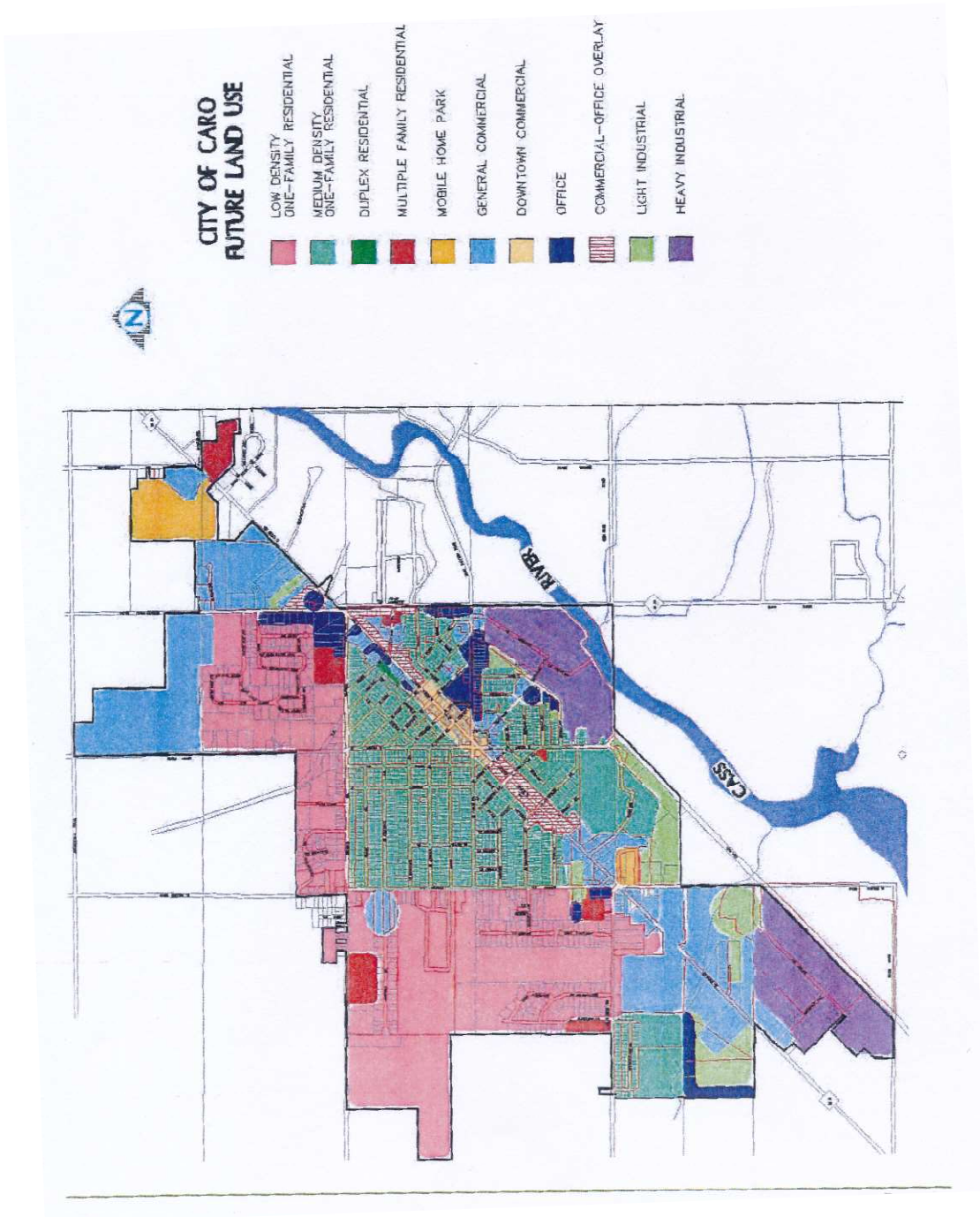
-  LOW DENSITY ONE-FAMILY RESIDENTIAL
-  MEDIUM DENSITY ONE-FAMILY RESIDENTIAL
-  MULTIPLE FAMILY RESIDENTIAL
-  MOBILE HOME PARK
-  COMMERCIAL
-  LIGHT INDUSTRIAL
-  RECREATIONAL



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 The ROWE Building  
 540 S. Sycamore St., Ste. 200, P.O. Box 3748  
 Flint, MI 48924  
 G: (810) 341-7566  
 F: (810) 341-2577  
 www.roweps.com

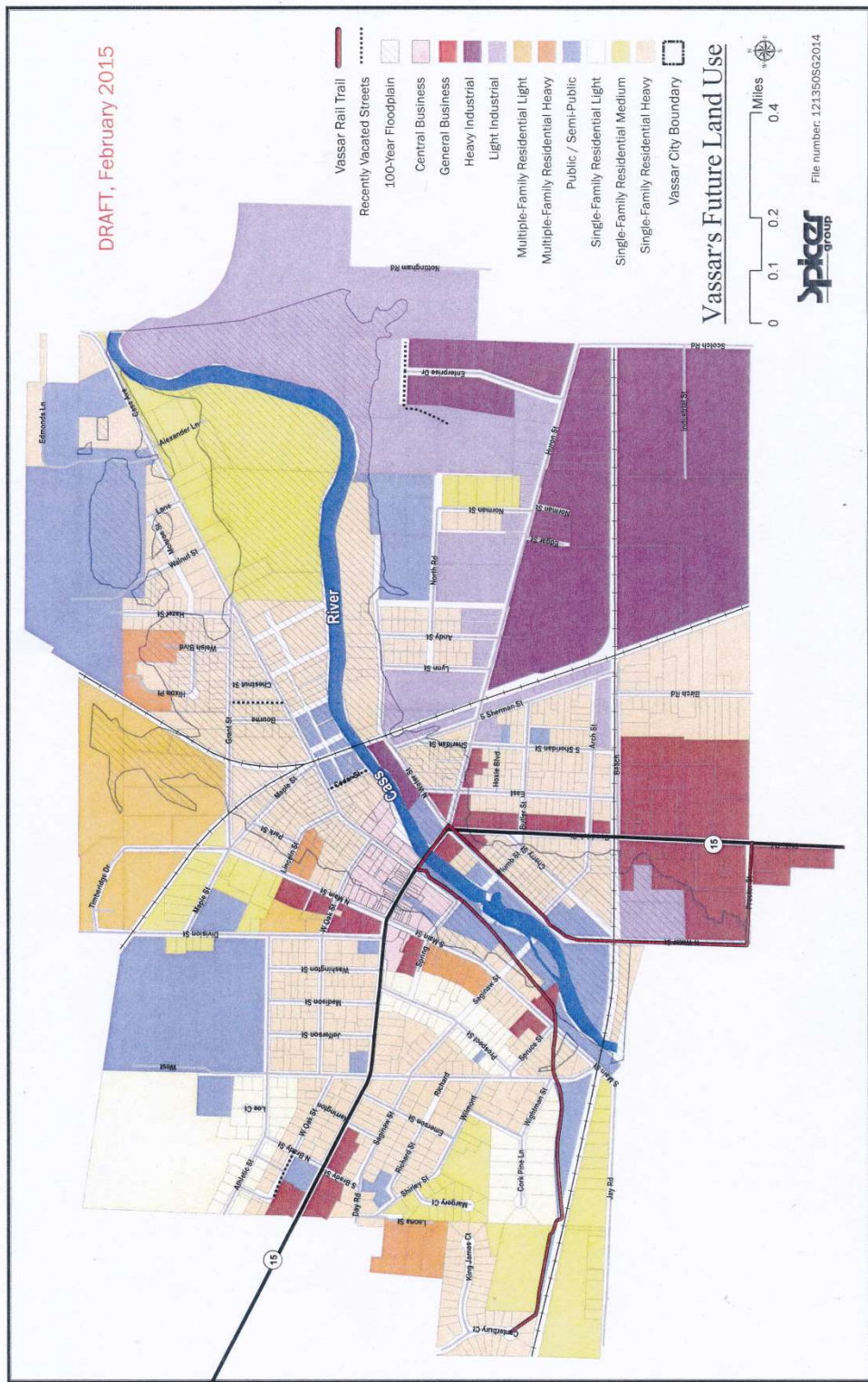
# Tuscola County Local Cities Information

## City of Caro (2014)



# City of Vassar (2015)

DRAFT, February 2015





## **Appendix B - Government Funded Services**

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Tuscola County maintains numerous taxpayer funded initiatives. These fall into two categories. The first are funded through the direction of the county general fund and include local county government initiatives. The second group contains special purpose programs funded by dedicated taxpayer millages.

### **1.0 Government Initiatives**

#### **Tuscola County Economic Development Corporation**

The Tuscola County Economic Development Corporation is a county government supported, non-profit organization dedicated to raising the quality of life in Tuscola County through economic development. Success of this organization is measured through job retention and creation, business counseling and retention, and business loans and grants. The Tuscola County EDC is designed to help develop and keep business enterprises on a successful track.

#### **Thumb Community Health Partnership**

The Thumb Community Health Partnership is an initiative that brings together 20 organizations across four counties, Tuscola, Huron, Sanilac and Lapeer. The partnership focuses on creating unified and consistent messaging about health issues across the thumb. Tuscola members include the Human Development Commission, Tuscola Behavioral Health Systems, List Psychological Services and local hospitals, McLaren- Caro, and Hills and Dales -Cass City.

### **2.0 Special Purpose Millage Programs**

Table 34 Tuscola County Millage Programs

	Current approval	Current period
SPEC. EDUCATION	2.6 MILLS	INDEFINITE
VOC. EDUCATION	1.75 MILLS	INDEFINITE
MEDICAL CARE FACILITY	.25 MILLS	2018-2028
SENIOR CITIZENS	.32 MILLS	2017-2024
MSU EXTENSION	.1 MILLS	2022-2027
VETERANS	.17 MILLS	2021-2026
ROAD PATROL	1.33 MILLS	2017-2024
RECYCLING	.15 MILLS	2017-2024
MOSQUITO CONTROL	.6316 MILLS	2020-2025
BRIDGES & STREETS	.4807 MILLS	2016-2023
ROAD IMPROVEMENT	.9657 MILLS	2016-2023

#### **Tuscola County Medical Care Facility**

The Tuscola County Medical Care Facility millage provides funds to support facility operations within the county. Through the Tuscola County Medical Care Community, resident care is available for a wide variety of medical needs as well as convalescence for post operative

recovery and short or long term illnesses. The facility received an estimated \$ 434,465 for the first year, 2019. The millage currently runs through 2028.

### **Senior Citizen Programs**

The senior program millage has been in place for more than two decades. This dedicated funding source supports a wide variety of health and quality-of-life programs provided by the Human Development Commission and health services by the Tuscola County Health Department. These include such services such as vaccinations and health screenings for county residents who are 60 years old or older.

The 2017 renewal of the Senior Citizens Millage increased the proposal from .2 mills to .32 mills and raised an estimated \$556,000 in 2017.

### **Michigan State University Extension**

Tuscola County continues to strongly support the Michigan State University (MSU) Extension Office. MSU-Extension operates programs to sustain 4-H youth development, agriculture and agribusiness, health and nutrition, horticulture and other community education programs. The most recent renewal of the MSU-Extension millage is estimated to raise 173,094 in the 2022 fiscal year.

MSU provides an annual report outlining the programs and outreach conducted for Tuscola County during each year. The 2020 report can be located at the following web address.  
[https://www.canr.msu.edu/tuscola/uploads/files/2020Tuscola\\_Annual\\_Report.2-final.pdf](https://www.canr.msu.edu/tuscola/uploads/files/2020Tuscola_Annual_Report.2-final.pdf)

### **Veterans' Affairs Office**

The County Office of Veteran Affairs is the first point of contact by Veterans and their families who seek assistance with Federal, State, and County benefits. Veteran Affairs estimates there are 5300 veterans in Tuscola County. In 2016, the veteran's millage was passed to make the veteran's office full rather than part time. The current millage rate of .17 mills is directed to provide dedicated services to US military veterans and their families. This levy is estimated to raise \$316,375 in 2020.

### **Bridge and Street Improvement**

The Tuscola County Road Commission sponsors two millages to improve the county's transportation system. The first of these millages provides funding specifically for improvement to local bridges, roads and streets within Tuscola County. In 2016, this millage raised an estimated \$833,300. It was renewed in 2022, this millage will raise an estimated \$978,581 in the first year.

### **Primary Roads and Street Improvement**

The second road commission millage is designed to improve primary county roads and streets. This program provides funding to the Tuscola County Road Commission, villages and cities, and be used exclusively for the construction, repair and maintenance of primary county roads and major streets within Tuscola County. The millage was renewed in 2016 and runs thru 2024 at a rate of .9657 mills. It raised an estimated 1,674,000 in its first year.

## Tuscola County Mosquito Control and Abatement

Mosquito Abatement strives to keep the public safe from diseases transmitted by mosquitoes. The department works to reduce the mosquito population through treatment to our public parks, campgrounds, trails, conservation clubs, golf courses and private property so our citizens may safely enjoy the many outdoor festivals and activities offered by Tuscola County.

Mosquito Abatement conducts numerous activities including dispensing larvicide, conducting CDC mosquito trapping and tests and conducting ditch and roadside fogging operations. The 2021 Mosquito Abatement annual report indicated that 27.25 gallons of ditch treatment was used and 31,762.64 miles of roadside fogging were conducted across the year. The current millage provided an estimated \$1,131,904 in 2020 to support this effort.

Table 35 Tuscola County Mosquito Abatement Report

2021 Mosquito Abatement Annual Report				
Township	Roadside Ditch Treatment		Roadside Truck Fogging	
	Miles Driven	Gallons used	Miles Driven	Gallons Used
Akron	531	3.55	1533.7	249.1
Almer	154	.75	964.51	120.62
Arbela	177	.95	2135.73	431.65
Columbia	172	.95	97.71	23.95
Dayton	178	.60	2121.1	357.03
Denmark	169	1.31	1225.8	209.22
Elkland	251	1.10	1151.6	184.17
Ellington	289	1.91	973.0	141.78
Elmwood	374	2.13	1140.7	141.55
Fairgrove	159	.94	1600.4	265.16
Fremont	139	.55	1134.19	217.85
Gilford	157	.90	1112.7	186.57
Indianfields	192	1.70	2520.1	343.8
Juniata	145	.65	904.3	222.59
Kingston	330	1.17	1284.8	174.23
Koylton	159	1.15	1354.0	200.54
Millington	186	.65	1776.5	452.23
Novesta	167	1.05	1159.3	154.77
Tuscola	150	1.00	877.5	199.23
Vassar	173	.90	2535.3	434.97
Watertown	132	.45	990.9	186.91
Wells	339	1.72	2211.8	347.74
Wisner	196	1.17	957.1	185.27
<b>Total</b>	<b>4919</b>	<b>27.25</b>	<b>31762.74</b>	<b>5430.93</b>

## Tuscola County Recycling Program

The Tuscola County Recycling Program began operation in 1996 through a resident approved millage. Over the years, the program has grown and constantly seeks to accept as much material as possible to be recycled. The program focuses on materials that have active recycling partners in the manufacturing market. In 2021, the program 81,819 pounds of material was accepted and reutilized. The millage raised an estimated \$262,000 in 2017 for recycling operations.

Table 36 Tuscola County Recycling Report

<b>Tuscola County Recycling Program Annual Report Data</b>		
<b>*Weight in LBS.</b>		
	<b>2015</b>	<b>2020</b>
<b>Cardboard</b>	<b>500,052</b>	<b>624,544</b>
<b>Paper</b>	<b>535,726</b>	<b>257,359</b>
<b>Plastics</b>	<b>34,927</b>	<b>68,854</b>
<b>Glass</b>	<b>27,440</b>	<b>N/A</b>
<b>Metals</b>	<b>38,753</b>	<b>39,632</b>
<b>Tires</b>	<b>17,520</b>	<b>109,660</b>
<b>Electronics</b>	<b>69,695</b>	<b>23,312</b>
<b>Hazardous Waste</b>	<b>14,321</b>	<b>N/A</b>
<b>Styrofoam</b>	<b>N/A</b>	<b>6,063</b>
<b>Batteries</b>	<b>N/A</b>	<b>2,991</b>
<b>Oil</b>	<b>N/A</b>	<b>12,950</b>
<b>Misc</b>	<b>N/A</b>	<b>36,503</b>
<b>Total</b>	<b>1,269,753</b>	<b>81,819</b>

**Tuscola County Road Patrol-**

The Tuscola County Road Patrol is a core element of the Tuscola County Sheriff’s Department. Beginning in 1988, Tuscola County taxpayers have approved millages to assist in funding the Tuscola County Sheriff’s Office. As time passed, this millage has become more specific and now provides financial support specifically for the Sheriff’s Road Patrol activities. The amount specified for year 2017 was estimated to be \$2,311,000.

The Sherriff’s Annual Report for 2021 details the activities of the Road Patrol. This yearly summary also reflects all report hours including those from secondary roads, Weighmaster, Detectives and Contracted Townships.

**Table 37 Tuscola County Road Patrol Report**

Tuscola County Sheriff Department 2021 Annual Report- Road Patrol	
Arrest Activity – Arrests	306
Court/Prosecutor	96
Criminal Complaint/Investigations	767
Non-Criminal Complaint/ Investigations	1167
Accident/Crash Investigations	736
Admin/Supervision	1461
Public Relations	289
Training	491
Follow-up	644
Other Duty	3490
Assist Other Agency	444
Assist TCSO/Officer	546
Traffic Stop	461
Stationary Radar	878
Report Writing	2896
Activity Hours – Total	17111
Death Investigations	48
Paper Service	87
Property Inspections	133