

**TYRONE TOWNSHIP PLANNING COMMISSION  
WORKSHOP AGENDA  
August 16, 2023- 6:00 PM**

**CALL TO ORDER:**

**PLEDGE OF ALLEGIANCE:**

**APPROVAL OF THE AGENDA:**

**CALL TO THE PUBLIC:**

**OLD BUSINESS:**

- 1) Master Plan**
- 2) Utility Scale Solar Facilities**

**NEW BUSINESS:**

**CALL TO THE PUBLIC:**

**MISCELLANEOUS BUSINESS:**

**ADJOURNMENT:**



# **OLD BUSINESS #1**

Master Plan



# INTRODUCTION

## 1.1 PURPOSE OF A MASTER PLAN

Planning is a process that involves the conscious selection of policy choices related to land use, growth, and physical development. The decisions Tyrone Township makes over the next several years will significantly impact the character and quality of life as the Township moves into the future.

The Township is located at the northern edge of development in Southeastern Michigan. Development pressures are likely to increase as development spreads. People are attracted to the Township's rolling hills, attractive vistas, and rural character.

Township residents have long expressed concern about maintaining rural character. This Master Plan is intended to protect and preserve the qualities that residents value most. It recognizes that growth and other pressures will create needs that must be addressed.

This Master Plan states the goals and identifies the objectives and strategies related to land use and development that the Township will pursue to achieve its goals.

## 1.2 HOW THE MASTER PLAN IS USED

The Master Plan is a general statement of the goals and objectives for land use and development, providing a single, comprehensive view for the community's future. In addition, the Master Plan serves many functions and is to be used in a variety of ways, including, but not limited to, the following:

- The Master Plan serves as an aid in daily decision making. The goals and objectives defined in the Master Plan guide the Planning Commission, Township Board, and other bodies in their determinations related to zoning, subdivision, capital improvements, and other matters related to land use and development. It provides a stable, long-term basis for decision making and a balance of land uses specific to the Township's character.
- The Master Plan provides the statutory basis upon which zoning decisions are made. The Michigan Zoning Enabling Act (*PA 110 of 2006*) requires that zoning ordinances be based on a plan intended to promote the public health, safety, and general welfare. It is important to note that the Master Plan does not replace other Township ordinances.
- The Master Plan attempts to coordinate public improvements and private developments. For example, public investments like roads, sewer, water, or other infrastructure improvements, should be located in areas identified



in the Master Plan as resulting in the most significant benefit to the Township and the community.

- Finally, the Master Plan serves as an educational tool, providing citizens, property owners, developers, and adjacent communities a clear indication of the Township's direction for the future.

In summary, the Tyrone Township Master Plan is the only officially adopted document that sets forth a comprehensive agenda for achieving goals and objectives related to land use and development. It is a long-range statement of general goals and objectives aimed at the unified and coordinated development of the Township in a manner that compliments the goals of nearby communities, wherever possible. It helps to develop a balance of orderly change in a thoughtful and intentional way. It provides the basis for all zoning and land use decisions.

### **1.3 AUTHORITY TO PREPARE A MASTER PLAN**

Tyrone Township's authority to prepare a master plan is established in the Michigan Planning Enabling Act (*PA 33 of 2008*), which states:

- (1) *A local unit of government may adopt, amend, and implement a master plan as provided in this act.*
- (2) *The general purpose of a master plan is to guide and accomplish, in the planning jurisdiction and its environs, development that satisfies all of the following criteria:*
  - a) *Is coordinated, adjusted, harmonious, efficient, and economical.*
  - b) *Considers the character of the planning jurisdiction in terms of such factors as trends in land use and population development.*
  - c) *Will, in accordance with present and future needs, best promote public health, safety, morals, order, convenience, prosperity, and general welfare.*
  - d) *Includes, among other things, promotion of or adequate provision for 1 or more of the following:*
    - i. *A system of transportation to lessen congestion on streets and provide for safe and efficient movement of people and goods by motor vehicles, bicycles, pedestrians, and other legal users.*
    - ii. *Safety from fire and other dangers.*
    - iii. *Light and air.*
    - iv. *Healthful and convenient distribution of population.*



- v. *Good civic design and arrangement and wise and efficient expenditure of public funds.*
- vi. *Public utilities such as sewage disposal and water supply and other public improvements.*
- vii. *Recreation.*
- viii. *The use of resources in accordance with their character and adaptability.*

The Planning Enabling Act also states:

- (2) *A master plan shall also include those of the following subjects that reasonably can be considered as pertinent to the future development of the planning jurisdiction:*
  - a) *A land use plan that consists in part of a classification and allocation of land for agriculture, residences, commerce, industry, recreation, ways and grounds, subject to subsection (5), public transportation facilities, public buildings, schools, soil conservation, forests, woodlots, open space, wildlife refuges, and other uses and purposes. If a county has not adopted a zoning ordinance under former 1943 PA 183 or the Michigan zoning enabling act, 2006 PA 110, MCL 125.3101 to 125.3702, a land use plan and program for the county may be a general plan with a generalized future land use map.*

The Planning Enabling Act also requires the Planning Commission to "*make careful and comprehensive surveys and studies of present conditions and future growth of the municipality.*"

## **1.4 HISTORICAL CONTEXT**

This Master Plan represents Tyrone Township's most-recent master plan. The previous Master Plan was adopted in 2012.

The Planning Commission reviewed that Master Plan in November 2019 and determined it was generally still adequate yet noted several changes for future master plans.

Due to constantly changing communities, conditions, and infrastructure, the information in a master plan becomes outdated over time. As conditions change, so do the opportunities and expectations for the future. It is essential to periodically review and update this Master Plan and reevaluate its core vision and strategies for implementation.



The Planning Enabling Act requires the review of master plans at least once every five years.

## **1.5 PLANNING PROCESS**

The process used to develop this Master Plan consists of three main phases, described below.

- **Where are we now?** The first phase involves a comprehensive survey and study of existing conditions in the community and surrounding area, including community character, social characteristics, housing characteristics, economics, land use, transportation, and community facilities. These conditions are inventoried, updated, and mapped to document current status. A community-wide survey and visioning sessions are conducted to gather opinions and preferences from residents and property owners.
- **Where do we want to be?** The second phase involves developing goals, objectives, and strategies outlining the community's vision for what it wants to be.
- **How do we get there?** The final phase involves identifying specific steps and policies for the Township to pursue to achieve the community's vision, including updating the future land use map to illustrate the desired orientation of land uses within the Township.

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# COMMUNITY CHARACTER

## 2.1 Overview

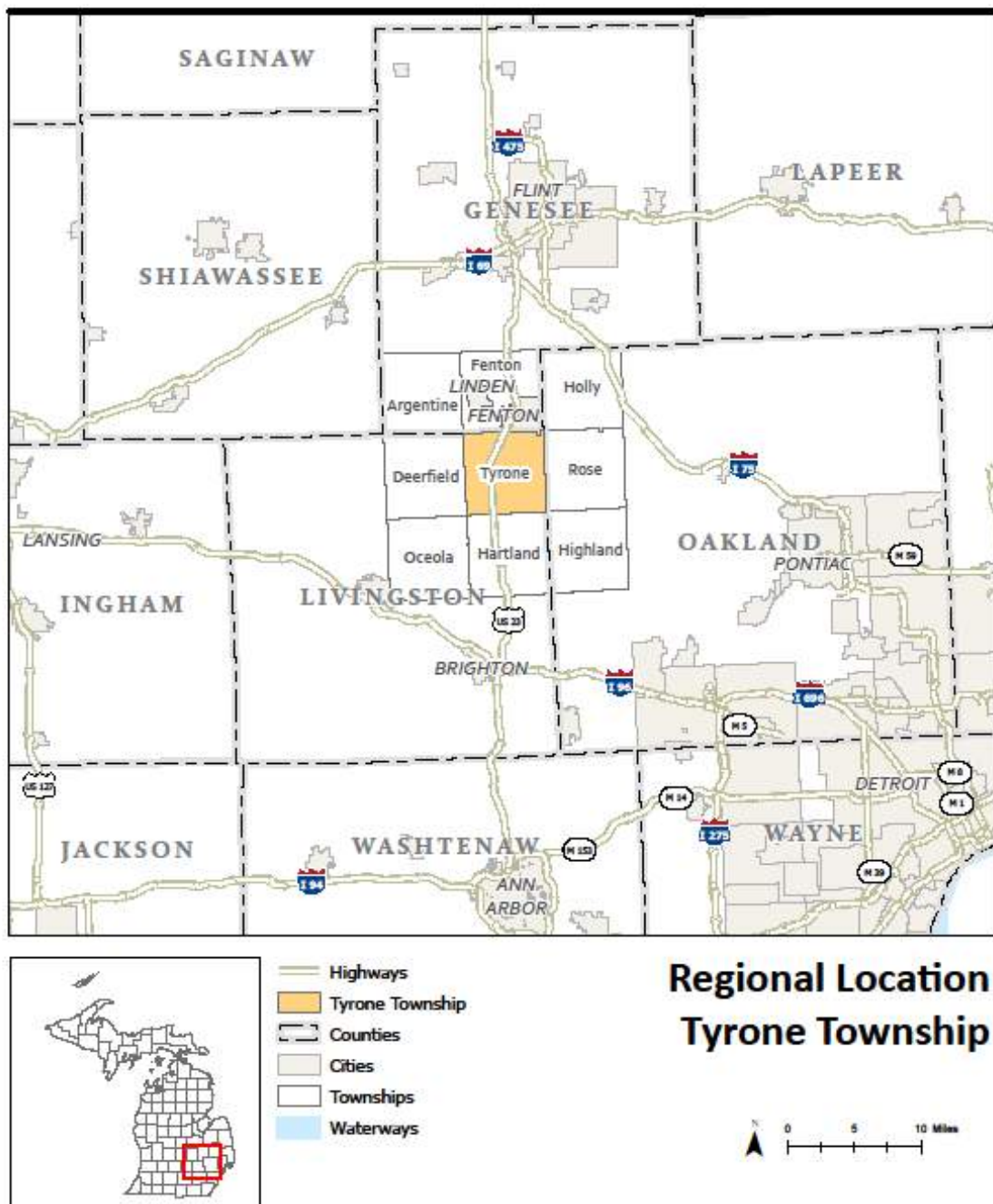
Tyrone Township is located in the northeastern corner of Livingston County. It borders Fenton Township and the City of Fenton in Genesee County to the north; Rose Township in Oakland County to the east; Hartland Township to the south; and Deerfield Township to the west.

The Township is roughly 15 miles south of Flint, home to Kettering University and the University of Michigan Flint. It is approximately 25 miles north of Ann Arbor, home to the University of Michigan. Lansing and Michigan State University are roughly 45 miles to the west. Detroit is southeast, roughly 55 miles.

The Township is slightly larger than 36 square miles, with 35.4 square miles of land and 1.2 square miles of surface water, including lakes and rivers.

The Township is defined by its unique natural, rural character blend and proximity to major urbanized areas. US-23, a divided, limited-access highway, runs north/south through the Township, connecting Flint and Ann Arbor. I-96, which runs southeast/northwest, connecting Detroit and Lansing, is roughly 12 miles south of the Township. Approximately 10 miles north of the Township, US-23 merges with I-75, which connects Flint and Detroit. This geography is highlighted in the map shown on page 2-2.





Date: Tyrone Township, Livingston County Road Commission, State of Michigan  
Prepared by: Carlisle/Wortman Associates  
January 3, 2023





Attractive natural and rural features as well as easy access to urban areas have made the Township a popular bedroom community for those willing to exchange a longer daily commute for the natural, rustic character of the community. The landscape features rolling hills, country roads, working farms, woodlands, wetlands, rivers and lakes. Low-density single-family dwellings are found throughout the Township, with more-intensive development in the northeast near the City of Fenton and around the lakes.

Because of these attractive features and access, the Township has experienced increasing development pressure. While Tyrone's population of 11,986 people is relatively modest, it is a significant increase over the past two decades of 41.6 percent (from 2000). The most recent SEMCOG projections predict an increase in the Township's population to 12,486 people by 2045.

Predicted population increases and reduced household sizes will create pressure to develop more land areas for residential uses and supporting businesses and industry.

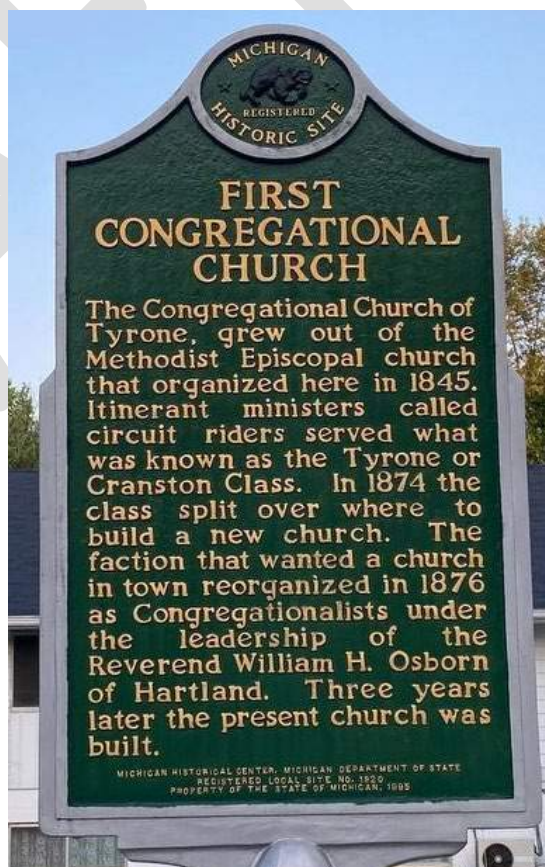
## 2.2 History and Development

Tyrone Township was first settled in 1834 by George Dibble, George Cornell, and William Dawson. In the following two years, almost 150 more settlers arrived and bought most of the available land in the Township, with many of them originating from upstate New York. The Township's name was proposed by Jonathan L Wolverton, who suggested it due to the presence of several early residents from County Tyrone in Ireland.

The first school, church, and postal services were established in 1838, 1844, and 1852, respectively. Tyrone was officially established as a township in 1887.

The Township's history, as in most of Livingston County, has been rooted in agriculture. In the 1800s, agriculture and related industries dominated the economy. The Township's main agricultural products included hay, grains, sheep, dairy cattle, horses, and apples.

The Township's emphasis on agriculture led to the development of large, widely spaced lots and few concentrated settlements. Although areas like Haller's Corners, Parshallville, Hill Top Orchards, and the original Townhouse site (Tyrone Center) showed potential as community centers, none ever became urban areas with local governments. As a result, the Township remains dispersed and lacks a central downtown area.





In the last 50 years, residential growth has mainly occurred in the northern part of the Township, close to the City of Fenton, around the lakes, and along major roads. The region near Fenton has transformed from rural to suburban with large lots.

Despite being primarily rural, agriculture is no longer a significant focus. Presently, the Township serves as a rural residential area for commuters who work in urbanized regions.

## **2.3 Open Space/Rural Character**

Tyrone Township is known for its charming rural atmosphere and beautiful natural open spaces, including rolling hills, meadows, woodlands, and wetlands.

The residential development areas are mostly comprised of five and ten acre lots with houses in the front and wooded areas in the back. The residents value preserving the Township's natural and rural character. According to the community survey, 45% of respondents identified the Township's natural areas as a reason they were attracted to living in Tyrone Township.

## **2.4 Lakes Influence**

Tyrone Township is within the Shiawassee River watershed and is home to several inland lakes, including Lake Tyrone, Lake Shannon, Runyan Lake, and Hoisington Lake. Except for Hoisington Lake, relatively dense residential areas have developed around the lakes, creating an "*Up North*" environment that is extremely attractive and desirable for residents.

The lakes can also provide recreational opportunities for residents, although limited access sites may limit the options for those who do not live along the lakes.

Due to the nature of the lakes and the surrounding areas, they are vulnerable to environmental challenges, such as siltation and nutrient loading. Although the lack of public boat launches along the Township's lakes reduces these likelihoods, all lakes in Michigan are at risk of invasive species.

Maintaining the water quality of the Township's lakes is vital for health and preserving the value of these unique natural features and residential areas.

In the community survey, 28% of respondents identified the Township's lakes or rivers as a reason they were attracted to the community.

## **2.5 US-23 Corridor Influence**

US-23 is a critical transportation corridor in Michigan and the Great Lakes Region, moving goods and people between Michigan and Ohio. It links Flint, Ann Arbor, and Toledo. Its northern end connects with I-75 and northern Michigan's east coast. Its southern end connects with I-75 and northern Ohio providing access to several east/west Interstates. As southeastern Michigan has grown, US-23 has functioned as an external loop around the western side of the heavily developed metropolitan



Detroit area. Currently, the route is undergoing the installation of Flex Lanes in each direction to allow for additional vehicle capacity during peak travel hours. This work is estimated to be completed in 2026.

It is an essential roadway in Tyrone Township, connecting the community to employment, shopping, services, dining, recreation, and entertainment. According to Michigan Department of Transportation traffic counts, the two-way annual average daily traffic on US-23 north of White Lake Road is 39,147 vehicles per day (2021); between Center Road and White Lake Road is 61,364 vehicles per day (2021). This is an increase of 35 percent or 16,027 vehicles a day from 2011. South of Center Road is 49,805 vehicles per day (2021), which is an increase of 12 percent or 5,622 vehicles a day from 2011. Traffic volumes are higher on heavily traveled holidays.

The Township recognizes the importance of US-23 in the daily lives of residents. It provides critical external connections and opportunities. However, it also brings noise, air pollutants, visual intrusions, and traffic safety concerns.

The Township recognizes the need to carefully plan for the best use of the US-23 corridor so that it will continue to serve the needs of residents and businesses.

## **2.6 City of Fenton Influence**

The City of Fenton has a population of 12,050 (2020) and is located in the southeastern corner of Genesee County, sharing a border with Tyrone Township. It is characterized by slow and steady growth, good schools, a strong downtown, and intense economic development along the US-23 corridor. It also serves as a bedroom community to Flint and Oakland County.

Although Fenton is not located within the Township, it profoundly affects its development patterns. Existing land use maps show that most of the more intense housing development is in the northern one-third of the Township, near Fenton.

Reasons for increased development in this area include proximity to fire protection services and shopping and retail opportunities. Downtown Fenton has many small retail stores and services. Several large retailers, such as Home Depot, Target, Tractor Supply Company, and Walmart, are located along US-23. The City is also home to several destination restaurants, such as The Laundry, Fenton Winery & Brewery, and Fenton Hotel Tavern & Grille.

Fenton has a large industrial area east of US-23 between Owen Road and Silver Lake Road. The proximity of these services and the fact that many Tyrone residents commute past this area may limit similar business opportunities within the Township.

Tyrone residents frequently attend festivals and events in Fenton, such as Freedom Festival, Jinglefest, and the annual downtown Trick-or-Treat.



## **2.7 City of Linden Influence**

The City of Linden has a population of 3,981 (2020) and is located in southern Genesee County, roughly 1.5 miles north of western Tyrone Township. Linden is characterized by slow and steady growth, quality schools, and historic downtown with local shops and small businesses.

Although Linden is not located within Tyrone Township, the northwestern portion of the Township is within Linden Community Schools. The school district and general proximity exposes Township residents to Linden shopping and service opportunities, including small businesses, fast food, convenience stores, medical services, veterinarians, and hardware. These residents may find it more convenient to visit these stores and develop shopping patterns that may impact the potential for similar business opportunities in the Township.

## **2.8 Hartland Township Influence**

Hartland Township has a population of 15,256 (2020) and is located along Tyrone Township's southern border. It is characterized by steady growth, quality schools, and a central shopping district along the M-59/US-23 corridor, which has experienced significant growth since 2000. These factors, as well as the proximity of fire protection services along the border, will continue to have an impact on the Township's future development patterns.

Several large retailers, such as Kroger, Meijer, Target, Rural King, and numerous fast-food restaurants, are located along M-59. Hartland also has a popular farmers' market. The proximity of these services and the fact that many Tyrone residents commute past this area may limit similar business opportunities within the Township.

The Hartland Village area also serves as an asset for the Township, especially the historic Music Hall.

Hartland and Tyrone Township are partners in the Livingston Regional Sewer System.



## **2.9 Parshallville Influence**

Parshallville, located in the southwestern part of Tyrone Township and the northwestern portion of Hartland Township, began to develop in the mid-1800s. Although not incorporated, this community's strength has been its ability to maintain its bucolic, pastoral look and feel through the preservation of historic structures and resistance to modern development pressures.

The community has been able to capitalize on its New England-style small-town charm, drawing weekend visitors. Attractions include scenic views of the mill pond and Tom Walker's Grist Mill, one of Michigan's last water-powered grist mills.

Parshallville's charm and proximity to Lake Shannon have attracted residents to this area of the Township. Existing land use maps show that Lake Shannon is surrounded by residential development. This has created a second small population center in the otherwise dispersed Township.



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*[End of Community Character Article.]*

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# **SOCIAL ANALYSIS**

## **3.1 Overview**

The population of Tyrone Township has continued to grow. According to the 2020 Census, the Township's population is 11,986 people. Understanding population and demographic conditions and trends are important to properly plan for the Township's future.

Several important recent population trends in the Township are:

- The population has continued to grow;
- The population growth has slowed in recent years;
- The population growth is above average of surrounding communities and the County;
- The population has grown older;
- The number of residents aged 19 and under has decreased;
- The median age of residents is higher than that of the State and Livingston County.

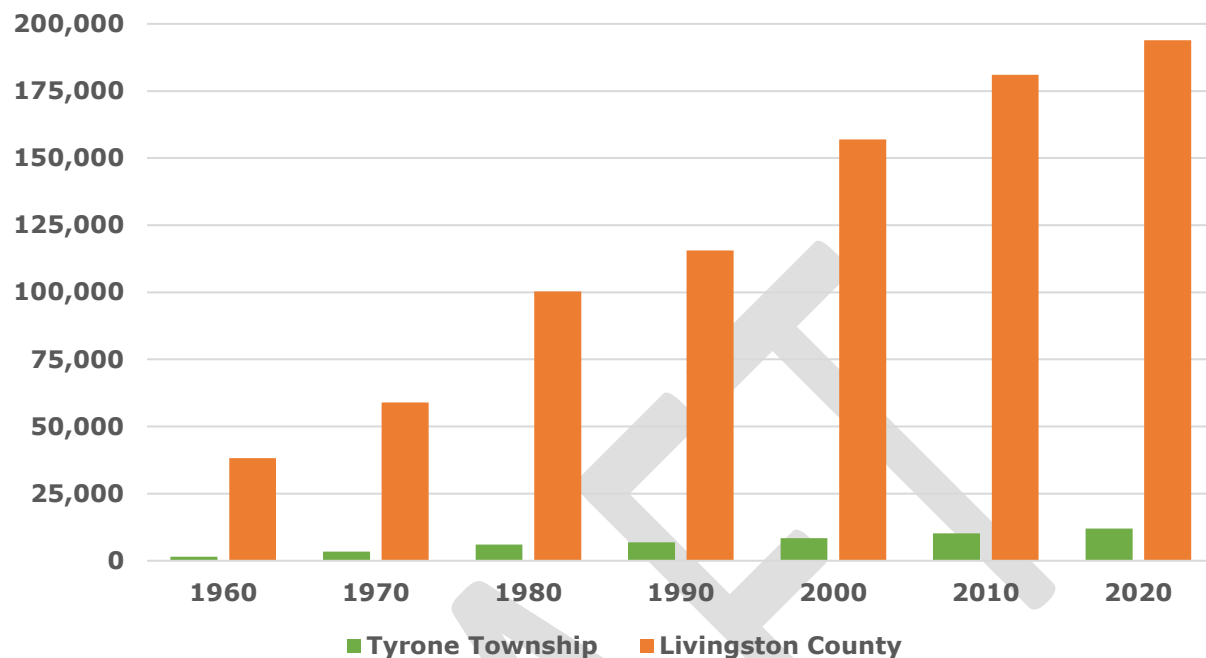
## **3.2 General Population**

Tyrone Township's population in 2020 of 11,986 people represents an increase of 41.6 percent from 2000 and an increase of 19.6 percent from 2010.

Graphs 3.2.1 and 3.2.2 below show the Township's population change since 1960 and the population as well as population density for the Township and Livingston County since 1960.

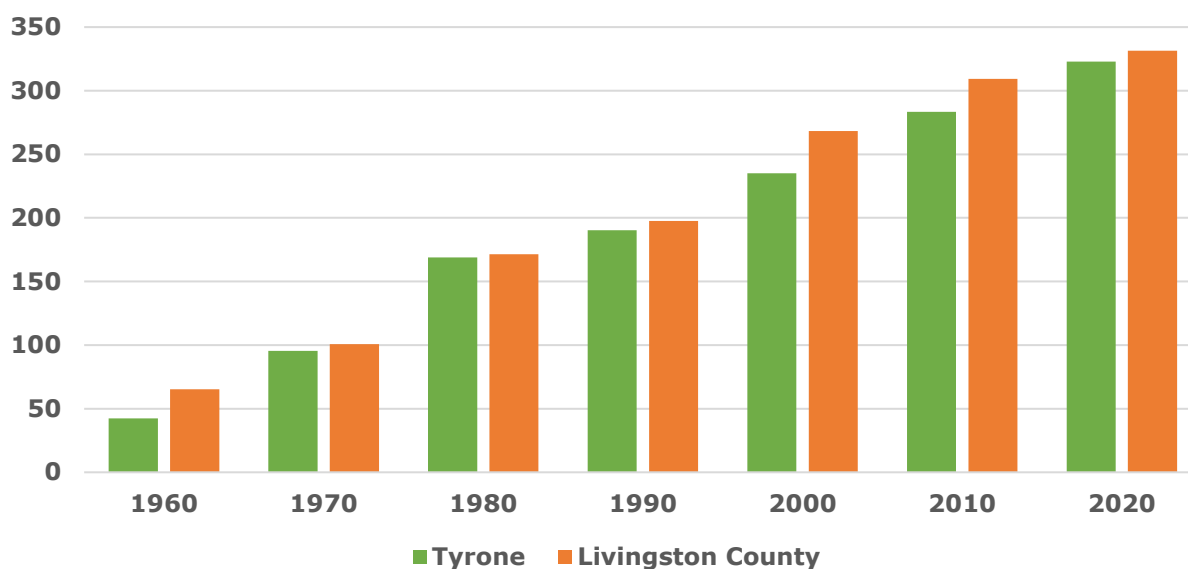


**Graph 3.2.1: Population in Tyrone Township and Livingston County 1960-2020**



*(Source: US Department of Commerce, Bureau of Census)*

**Graph 3.2.2: Population Density in Tyrone Township and Livingston County 1960-2020**



*(Source: US Department of Commerce, Bureau of Census)*



The population density of the Township has increased over the last 50 years, from 42.3 to 332.9 people per square mile. This increase has been at a similar but slightly slower rate than that of Livingston County.

The Township experienced its largest percentage increase in population between 1960 and 1970, when its population more than doubled from 1,523 to 3,437 people (125.7 percent). The Township experienced its largest numeric increase between 1970 and 1980, when its population increased by 2,640 people.

The Township experienced its slowest growth between 1980 and 1990. The population increased 12.8 percent during this period.

Despite the slow economy of the 2000s, the Township's population grew by almost the same number of people during the 2000-2020 decades as it did during the 1990s.

This data is outlined in Table 3.2 located in the Social Analysis Article Appendix.

Table 3.2.2 shows the population of the Township, surrounding communities, and Livingston County since 1980.

**Table 3.2.2: Population in Tyrone Township and Surrounding Communities 1980-2020**

	1980	1990	2000	2010	2020	Percent Change
Oceola Township	4,175	4,825	8,362	11,936	14,623	+250.3%
Hartland Township	6,034	6,860	10,996	14,663	15,256	+152.8%
Deerfield Township	2,611	3,000	4,087	4,170	5,765	+120.8%
Holly Township <sup>1</sup>	8,486	8,852	10,037	11,362	18,003	+112.1%
Tyrone Township	6,077	6,854	8,459	10,020	11,986	+97.2%
City of Linden	2,174	2,407	2,861	3,991	4,142	+90.5%
Argentine Township	4,180	4,651	6,521	6,913	7,091	+69.6%
City of Fenton	8,098	8,434	10,582	11,756	12,050	+48.8%
Fenton Township	11,744	10,073	12,968	15,552	16,843	+43.4%
Rose Township	4,465	4,926	6,210	6,250	6,188	+38.6%
Highland Township	16,958	17,941	19,169	19,202	19,172	+13.1%
Livingston County	100,289	115,645	156,951	180,967	193,866	+93.3%

(Source: US Department of Commerce, Bureau of Census)

1) Includes Holly Township and the Village of Holly.



A comparison with surrounding communities since 1980 shows that the Township's population growth of 97.2 percent is slightly above average and larger than the population growth of the County.

The Township's population growth of 19.6 percent from 2010 to 2020, however, is amongst the highest of surrounding communities, behind only Holly Township (*58.4 percent*), Deerfield Township (*38.2 percent*), and Oceola Township (*22.5 percent*) and significantly greater than the population growth for the County (*7.1 percent*).

The most recent projections from the Southeast Michigan Council of Governments (*SEMCOG*) predict an increase in the Township's population to 12,486 people by 2045, a 4.1 percent increase in population from 2020. This would be a much slower rate of growth than experienced by the Township since at least 1960.

### **3.3 Age Distribution**

The age distribution of Tyrone Township's residents has changed. Understanding these changes helps determine what types of services may be needed.

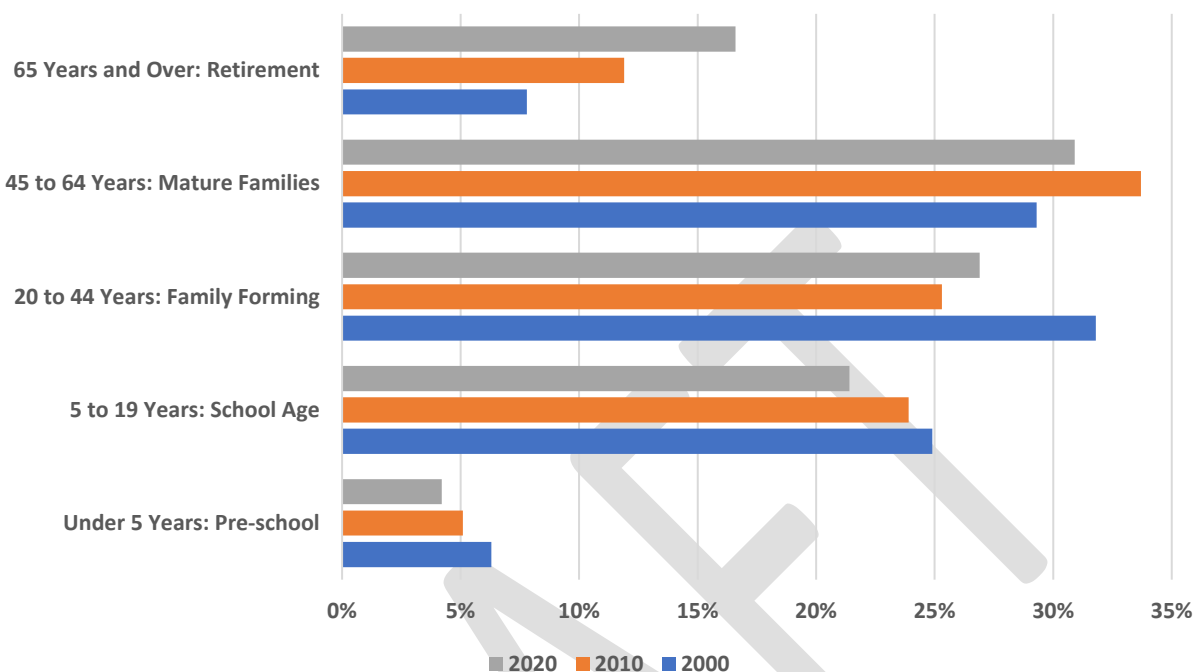
The Township's median age has increased from 42.4 to 43.4 years from 2010 to 2020.

The Township has fewer people in the family-forming years compared to the State and County. The Township also has a significantly larger portion of its population in mature families. Roughly one quarter of the Township's residents are less than 20 years old, which is generally consistent with the County. However, the higher concentration of mature families suggests that there will be a lower birth rate in the Township compared to other communities in the future.

Graph 3.3.1 below shows the age distribution in Tyrone Township since 2000. Table 3.3.1 is located in the Social Analysis Article Appendix.



**Graph 3.3.1: Age Distribution in Tyrone Township Since 2000**



*(Source: US Department of Commerce, Bureau of Census)*

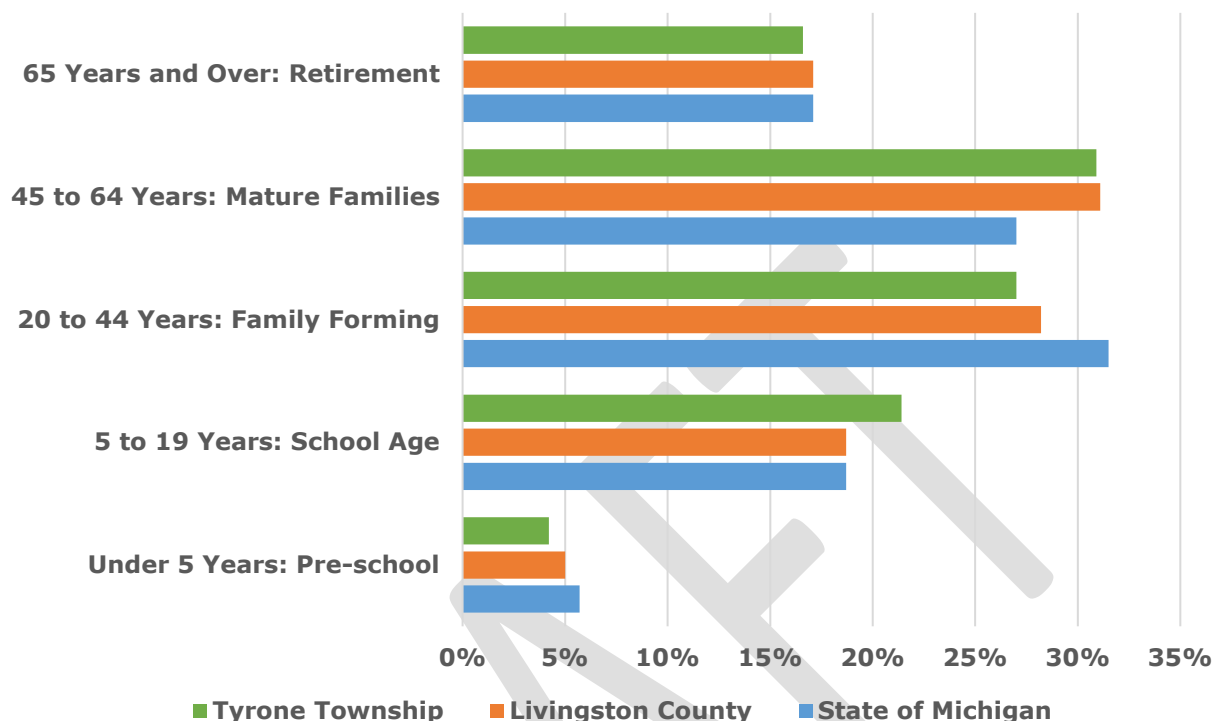
The most significant increase was in the 65 years and over age group, which increased by 45.5 percent, from 1,199 to 1,743 people. Another significant increase was in the 45 to 64 years age group, which increased 15.1 percent, from 3,382 to 3,893 people. The 20 to 44 years age group increased 11.4 percent, from 2,534 to 2,825 people

The most significant decrease was in the under 5 years old age group, which decreased 13.7 percent from 510 to 440 people. The 5 to 19 years age group decreased 6.0 percent from 2,395 to 2,249 people.

Graph 3.3.2 below shows the age distribution in Tyrone Township, Livingston County, and the State of Michigan. Table 3.3.2 is located in the Social Analysis Article Appendix.



**Graph 3.3.2: Age Distribution in Tyrone Township, Livingston County, and State of Michigan 2020**



(Source: US Department of Commerce, Bureau of Census)

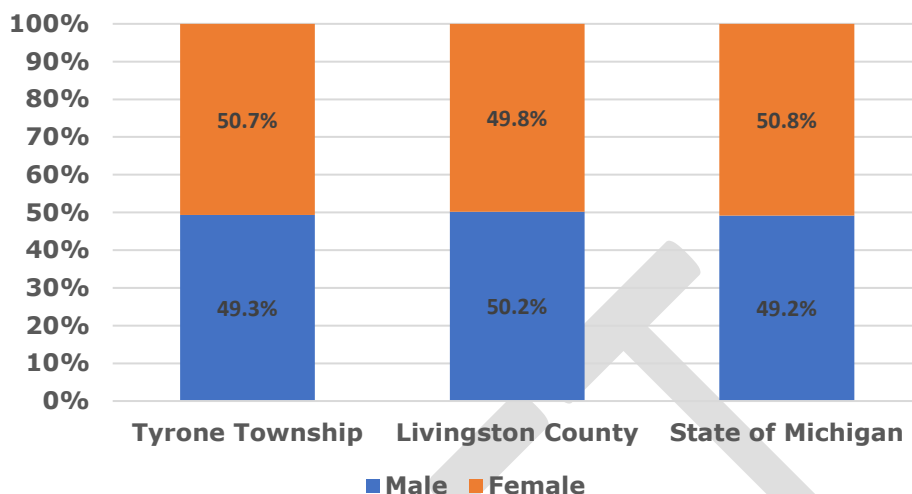
### 3.4 Sex Distribution

Tyrone Township's proportional splits in males and females are similar to that of Livingston County and the State of Michigan. The percentage of men in the Township is slightly larger than in the County. The percentage of women in the Township is slightly larger than in the County. However, the difference is statistically insignificant.

Graph 3.4 below shows the sex distribution for Tyrone Township, Livingston County, and the State of Michigan. Table 3.4 is located in the Social Analysis Article Appendix.



**Graph 3.4: Sex Distribution in Tyrone Township, Livingston County, and State of Michigan 2020**



*(Source: US Department of Commerce, Bureau of Census)*

### 3.5 Racial Composition

Tyrone Township, similar to Livingston County, is relatively homogenous with primarily white populations.

The Township is 97.4 percent white, which is slightly higher than the County, which is 96.3 percent white, and significantly higher than the State, which is 78.4 percent white. The State has a higher percentage of African Americans, American Indians, Asians, Native Hawai'ians and Pacific Islanders, and Hispanics or Latinos than either the Township or the County.

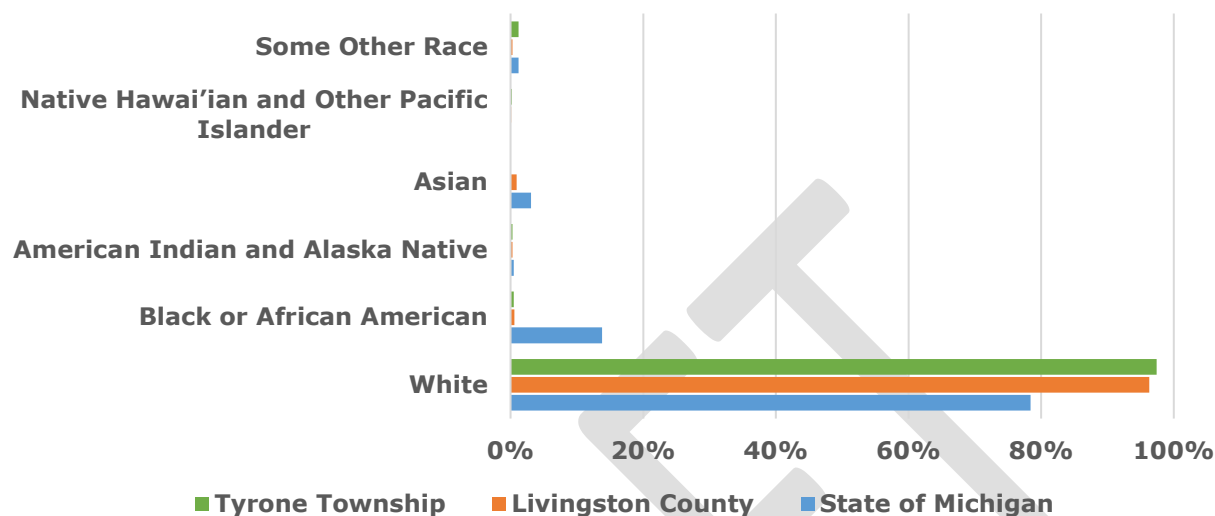
The racial composition of the Township is generally similar to that of surrounding communities and the County. For example, the City of Fenton is 94.9 percent white; Hartland Township is 90.9 percent white; Deerfield Township is 92.8 percent white; and Rose Township is 89.4 percent white.

Hispanics and Latinos are not included in the graph below because the US Census records this data separately. The percentage of Hispanics and Latinos are 3.0 percent in the Township, 2.4 percent in the County, and 5.1 percent in the State.

Graph 3.5 below shows the racial composition for Tyrone Township, Livingston County, and the State of Michigan. [Table 3.5](#) is located in the Social Analysis Article Appendix.



**Graph 3.5: Racial Composition in Tyrone Township, Livingston County, and State of Michigan 2020**



*(Source: US Department of Commerce, Bureau of Census)*

### 3.6 Education

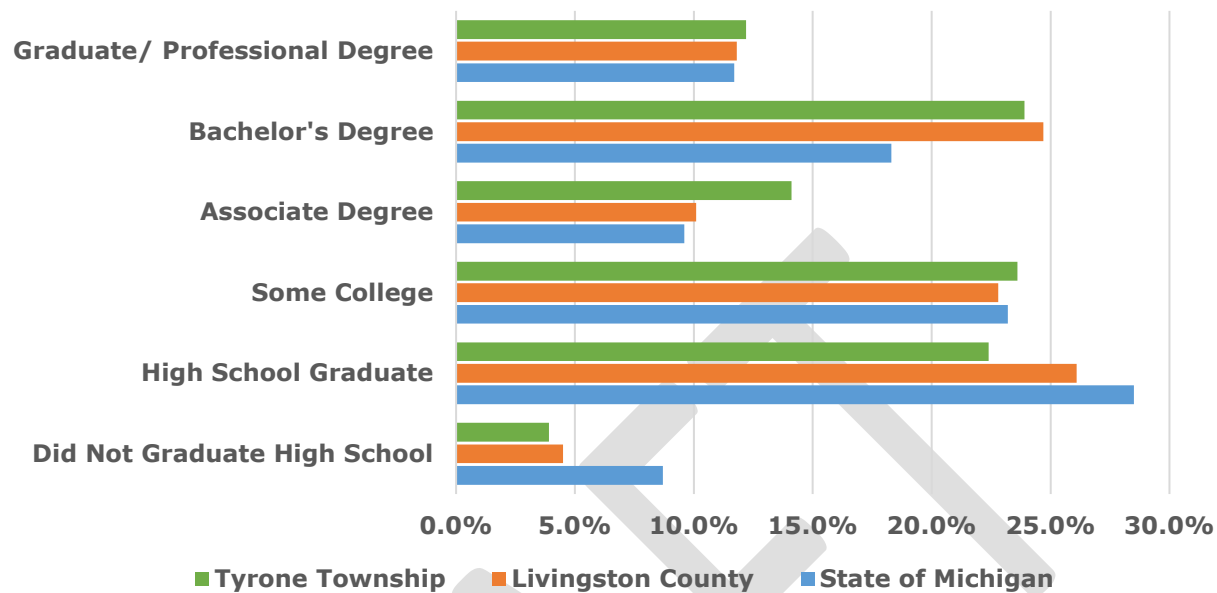
Tyrone Township generally has higher educational attainment levels than Livingston County and the State of Michigan. The largest difference is in the population that did not graduate high school or whose highest level of education is a high school degree. The Township has a higher percentage of residents with an associate degree, bachelor's degree, or graduate degree.

While the percentage of residents with higher education in the Township, County, and State all increased from 2010 to 2020, the County and State saw greater increases in the percentage of residents with bachelor's degrees or graduate degrees.

Graph 3.6 below shows the highest level of educational attainment for those 25 years old and older in Tyrone Township, Livingston County, and the State of Michigan. [Table 3.6](#) is located in the Social Analysis Article Appendix.



**Graph 3.6: Educational Attainment Tyrone Township, Livingston County, and State of Michigan 2010/2020**



(Source: US Department of Commerce, Bureau of Census)

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## Social Analysis Appendix

**Table 3.2: Population in Tyrone Township 1960-2020**

Year	Population	Numeric Change	Percent Change	People/ Square Mile
1960	1,523			42.3
1970	3,437	+ 1,914	+ 125.7%	95.5
1980	6,077	+ 2,640	+76.8%	168.8
1990	6,854	+ 777	+12.8%	190.4
2000	8,459	+1,605	+23.4%	235.0
2010	10,020	+1,561	+18.5%	283.0
2020	11,986	+1,966	+19.6%	332.9

(Source: US Department of Commerce, Bureau of Census)

**Table 3.3.1: Age Distribution in Tyrone Township Since 2000**

Age Group	2000		2010		2020	
Under 5 Years <i>Pre-school</i>	533	6.3%	510	5.1%	440	4.2%
5 to 19 Years <i>School Age</i>	2,104	24.9%	2,395	23.9%	2,249	21.4%
20 to 44 Years <i>Family Forming</i>	2,688	31.8%	2,534	25.3%	2,825	26.9%
45 to 64 Years <i>Mature Families</i>	2,476	29.3%	3,382	33.7%	3,893	30.9%
65 Years and Over <i>Retirement</i>	658	7.8%	1,199	11.9%	1,743	16.6%

(Source: US Department of Commerce, Bureau of Census)

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**Table 3.3.2: Age Distribution in Tyrone Township, Livingston County, and State of Michigan 2020**

<b>Age Group</b>	<b>Tyrone Township</b>		<b>Livingston County</b>		<b>State of Michigan</b>	
Under 5 Years <i>Pre-school</i>	440	4.2%	9,612	5.0%	568,326	5.7%
5 to 19 Years <i>School Age</i>	2,689	21.4%	35,474	18.7%	1,859,662	18.7%
20 to 44 Years <i>Family Forming</i>	2,825	26.9%	53,699	28.2%	3,146,457	31.5%
45 to 64 Years <i>Mature Families</i>	3,239	30.9%	59,244	31.1%	2,686,621	27.0%
65 Years and Over <i>Retirement</i>	1,743	16.6%	32,803	17.1%	1,712,841	17.1%

(Source: US Department of Commerce, Bureau of Census)

**Table 3.4: Sex Distribution in Tyrone Township, Livingston County, and State of Michigan 2020**

	<b>Male</b>		<b>Female</b>	
Tyrone Township	5,171	49.3%	5,325	50.7%
Livingston County	95,755	50.2%	95,077	49.8%
State of Michigan	4,911,965	49.2%	5,061,942	50.8%

(Source: US Department of Commerce, Bureau of Census)

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**Table 3.5: Racial Composition in Tyrone Township, Livingston County, and State of Michigan 2020**

	<b>Tyrone Township</b>	<b>Livingston County</b>	<b>State of Michigan</b>
White	97.4%	96.3%	78.4%
Black or African American	0.5%	0.6%	13.8%
American Indian and Alaska Native	0.3%	0.3%	0.5%
Asian	0.3%	0.9%	3.1%
Native Hawai'ian and Other Pacific Islander	0.0%	0.1%	0.0%
Some Other Race	0.2%	0.3%	1.2%

*(Source: US Department of Commerce, Bureau of Census)*

**Table 3.6: Educational Attainment Tyrone Township, Livingston County, and State of Michigan 2010/2020**

	<b>Tyrone Township</b>		<b>Livingston County</b>		<b>State of Michigan</b>	
	<b>2010</b>	<b>2020</b>	<b>2010</b>	<b>2020</b>	<b>2010</b>	<b>2020</b>
<b>Did Not Graduate High School</b>	5.6%	3.9%	6.4%	4.5%	11.3%	8.7%
<b>High School Graduate</b>	23.0%	22.4%	27.8%	26.1%	30.9%	28.5%
<b>Some College</b>	25.3%	23.6%	25.2%	22.8%	24.2%	23.2%
<b>Associate Degree</b>	11.0%	14.1%	9.5%	10.1%	8.4%	9.6%
<b>Bachelor's Degree</b>	23.8%	23.9%	21.1%	24.7%	15.6%	18.3%
<b>Graduate/ Professional Degree</b>	11.2%	12.2%	10.1%	11.8%	9.6%	11.7%

*(Source: US Department of Commerce, Bureau of Census)*

*[End of Social Analysis Article.]*

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# HOUSING ANALYSIS

## 4.1 Overview

According to the 2020 Census, there were 4,206 households in Tyrone Township. Although the character of housing in the Township has been relatively stable, it is important to understand changes in household character to anticipate future needs. Several important housing conditions and trends in the Township are:

- The number of households continues to increase;
- The growth in the number of households has slowed in recent years;
- The size of households is larger than in surrounding communities;
- The size of households continues to decrease;
- The occupancy rate for dwelling units is generally consistent with surrounding communities and the county;
- Housing occupancy rates are relatively high and consistent with the County and surrounding communities;
- Most of the housing units are single-family with few duplex or multiple-family units;
- There are a substantial number of mobile home dwelling units;
- The number of permits issued for new single-family dwellings remains strong; and
- The cost of housing continues to increase and has increased significantly over the past 10 years.

## 4.2 Number of Households

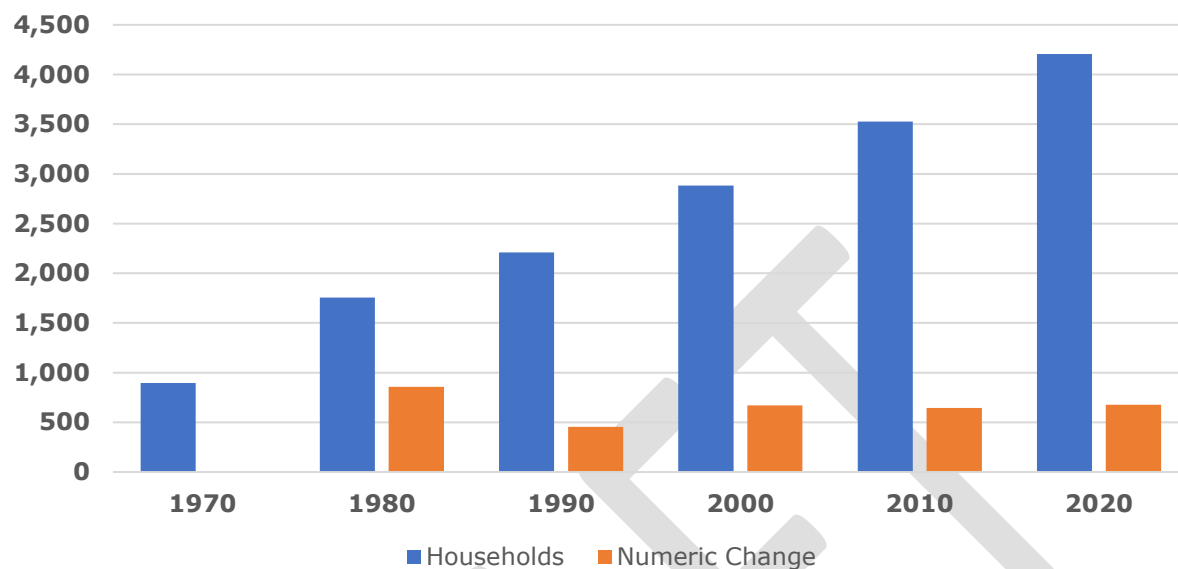
Households are defined by the Census as a group of people living together in a single dwelling unit as their usual place of residence. This may include a single family, a single person living alone, two or more families living together, or other groups of related or unrelated persons sharing living quarters. People not living in a household are described as living in "*group quarters*."

The 4,206 households in Tyrone Township in 2020 represents an increase of 45.9 percent from 2000 and an increase of 19.2 percent from 2010.

Graph 4.2.1 below shows the number of households in the Township from 1970 through 2020 as well as the numeric change. Table 4.2.1 is located in the Housing Analysis Article Appendix.



**Graph 4.2.1: Households in Tyrone Township 1970-2020**



*(Source: US Department of Commerce, Bureau of Census)*

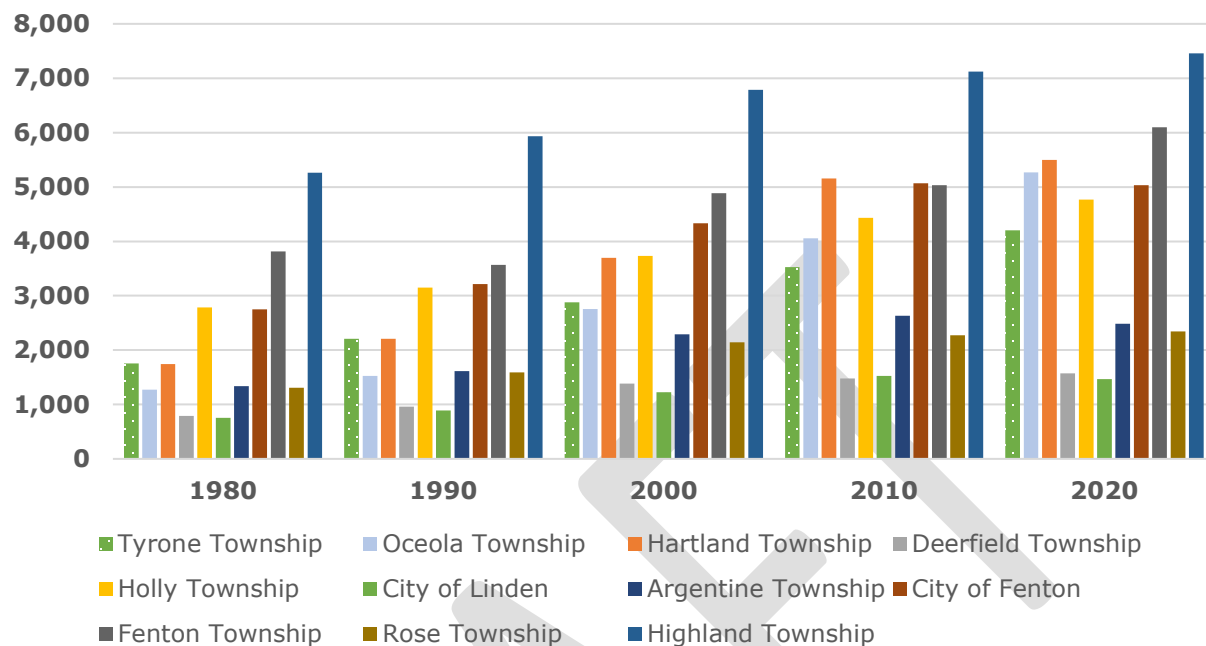
The Township experienced its largest numeric increase and percentage increase in the number of households between 1970 and 1980, when the number of households increased from 897 to 1,756 (95.8 percent).

The Township experienced its slowest numeric increase in the number of households between 1980 and 1990 (455 households). The Township experienced its lowest percentage increase in the number of households between 2010 and 2020 (19.2 percent).

Graph 4.2.2 below shows the number of households in the Township and surrounding communities from 1980 through 2020. Table 4.2.2 is located in the Housing Analysis Article Appendix.



**Graph 4.2.2: Households in Tyrone Township and Surrounding Communities 1980-2020**



*(Source: US Department of Commerce, Bureau of Census)*

From 1980 through 2020, the Township experienced a greater increase in the number of households than all but two adjacent communities and experienced a similar percentage growth in the number of households as Livingston County.

## 4.3 Household Size

The average size of households in Tyrone Township has continued to decrease. Decreasing household size has been a national trend for several decades.

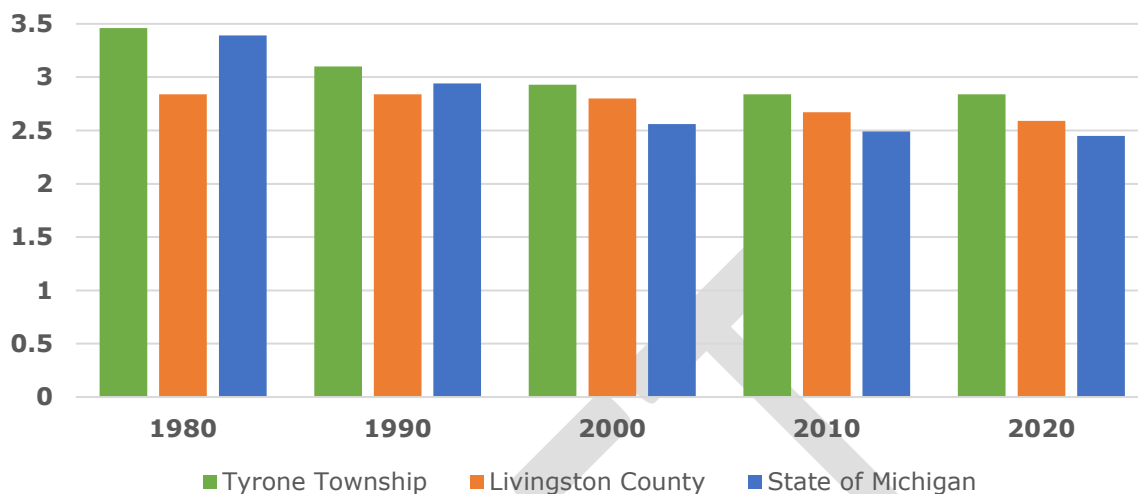
The size of households in the Township has decreased to 2.79 persons in 2020 from 2.84 in 2010, a decrease of 0.05 persons per household (*1.7 percent*).

Understanding these changes may help determine what types of residential options may be needed or desirable in the future.

Graph 4.3.1 below shows the average household size in Tyrone Township, Livingston County, and the State of Michigan from 1980 through 2020. Table 4.3.1 is located in the Housing Analysis Article Appendix.



**Graph 4.3.1: Household Size in Tyrone Township, Livingston County, and State of Michigan 2020**



*(Source: US Department of Commerce, Bureau of Census)*

Although the size of households has been decreasing in the Township, the number of persons per household remains significantly higher than that of both Livingston County and the State of Michigan.

Table and Graph 4.3.2 below show the average household size in Tyrone Township and surrounding communities along with the percentage change from 1980 through 2020.



**Table 4.3.2: Household Size in Tyrone Township and Surrounding Communities 1980-2020**

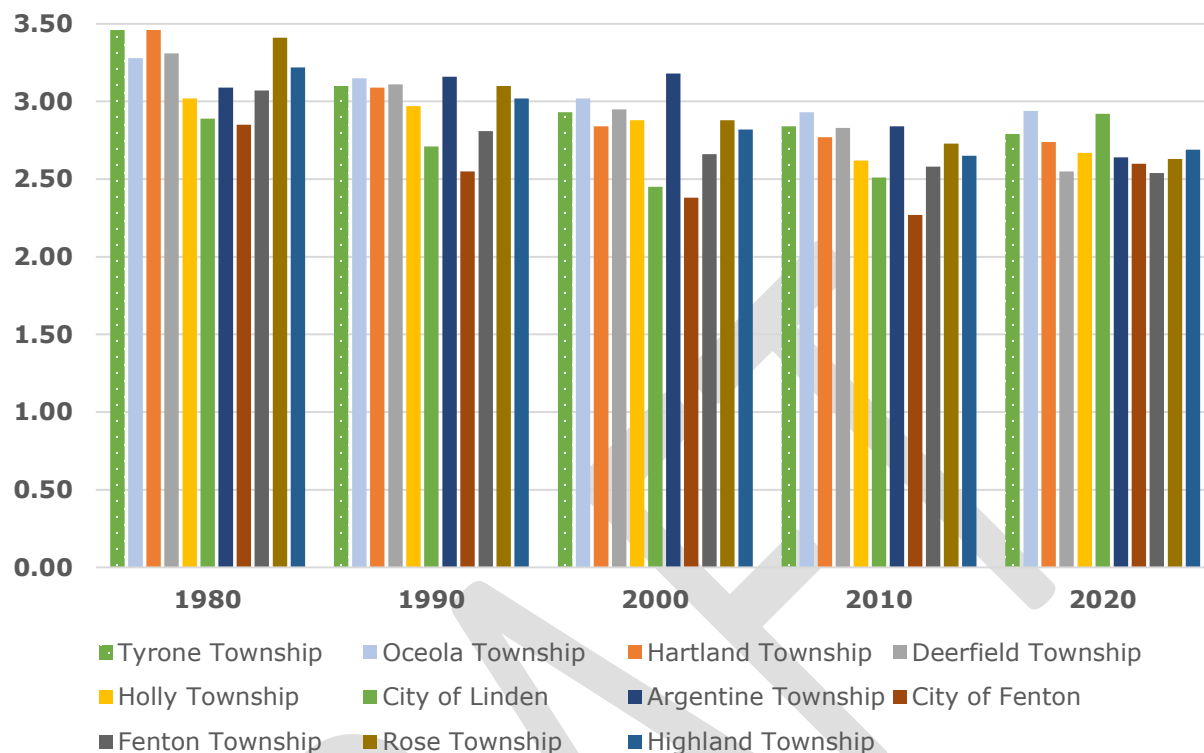
	<b>1980</b>	<b>1990</b>	<b>2000</b>	<b>2010</b>	<b>2020</b>	<b>Percent Change</b>
Oceola Township	3.28	3.15	3.02	2.93	2.94	-10.4%
City of Linden	2.89	2.71	2.45	2.51	2.92	1.0%
Tyrone Township	3.46	3.10	2.93	2.84	2.79	-19.4%
Hartland Township	3.46	3.09	2.84	2.77	2.74	-20.8%
Highland Township	3.22	3.02	2.82	2.65	2.69	-16.5%
Holly Township <sup>1</sup>	3.02	2.97	2.88	2.62	2.67	-11.6%
Argentine Township	3.09	3.16	3.18	2.84	2.64	-14.6%
Rose Township	3.41	3.10	2.88	2.73	2.63	-22.9%
City of Fenton	2.85	2.55	2.38	2.27	2.60	-8.8%
Deerfield Township	3.31	3.11	2.95	2.83	2.55	-23.0%
Fenton Township	3.07	2.81	2.66	2.58	2.54	-17.3%
Livingston County	2.84	2.84	2.80	2.67	2.59	-8.8%

*(Source: US Department of Commerce, Bureau of Census)*

*1) Includes Holly Township and the Village of Holly.*



**Table 4.3.2: Household Size in Tyrone Township and Surrounding Communities 1980-2020**



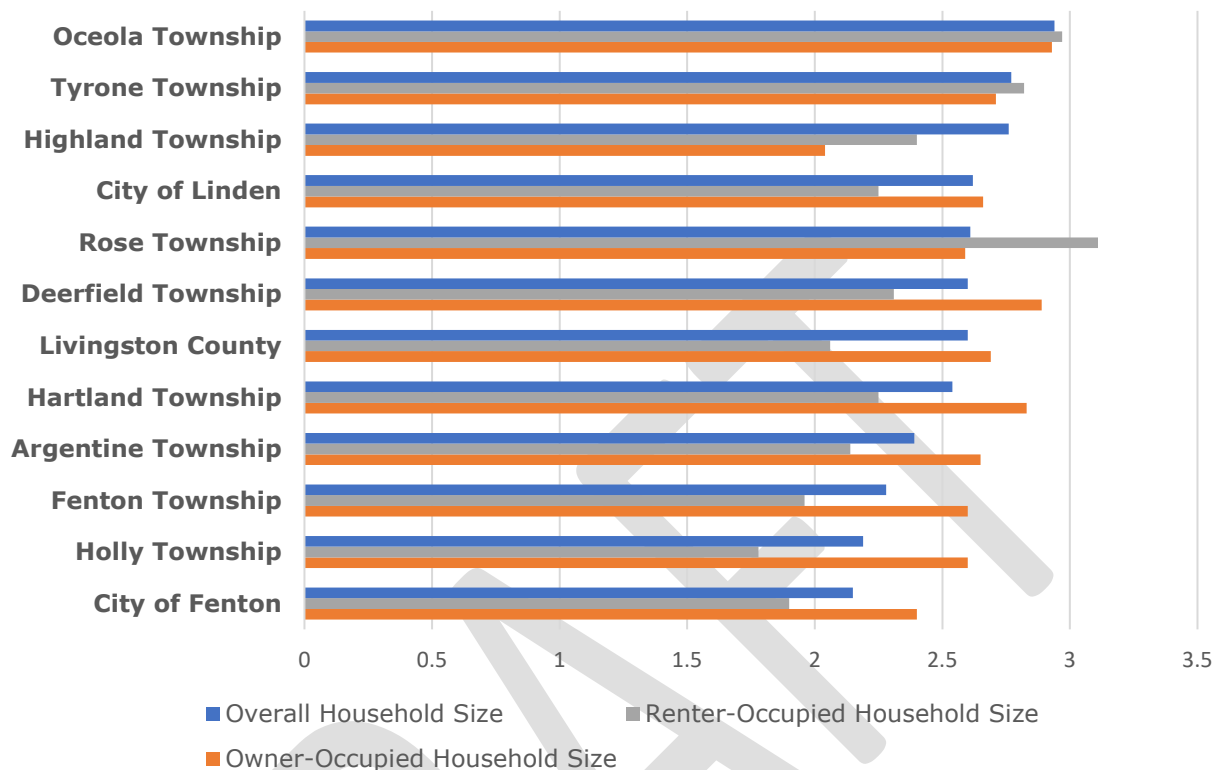
*(Source: US Department of Commerce, Bureau of Census)*

Although the Township has experienced one of the larger percentage decreases in the size of households between 1980 and 2020, it continues to have a larger household size than most of the surrounding communities.

Graph 4.3.3 below shows the average household size in Tyrone Township and surrounding communities based on occupancy type in 2020. Table 4.3.3 is located in the Housing Analysis Article Appendix.



**Graph 4.3.3: Household Size by Occupancy Type in Tyrone Township and Surrounding Communities 2020 ACS**



(Source: US Department of Commerce, Bureau of Census ACS)

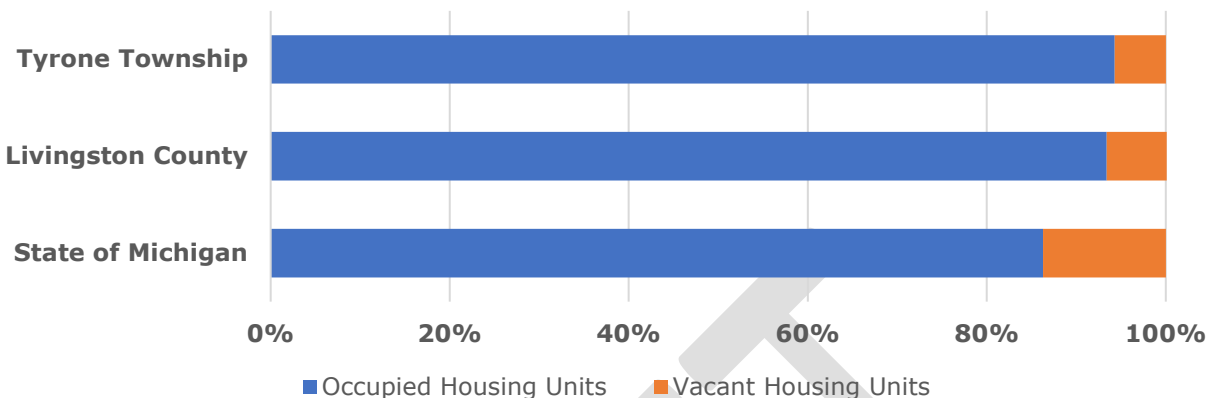
## 4.4 Housing Occupancy

Tyrone Township has a total of 3,964 housing units. Of these housing units, 3,737 (94.3 percent) are occupied and 227 (5.7 percent) are vacant. For the occupied housing units, 3,252 (87.0 percent) are homeowner-occupied and 482 (13.0 percent) are renter-occupied.

Graphs 4.4.1A and 4.4.1B below show housing occupancy for Tyrone Township, Livingston County, and the State of Michigan. Table 4.4.1 is located in the Housing Analysis Article Appendix.

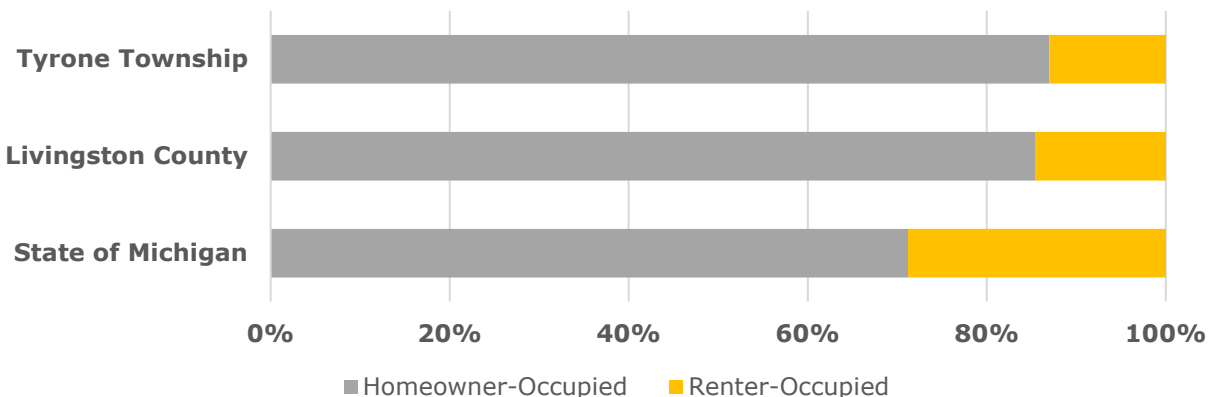


**Graph 4.4.1A: Occupied and Vacant Housing in Tyrone Township, Livingston County, and State of Michigan 2020**



*(Source: US Department of Commerce, Bureau of Census)*

**Graph 4.4.1B: Homeowner and Renter Occupancy in Tyrone Township, Livingston County, and State of Michigan 2020**



*(Source: US Department of Commerce, Bureau of Census)*

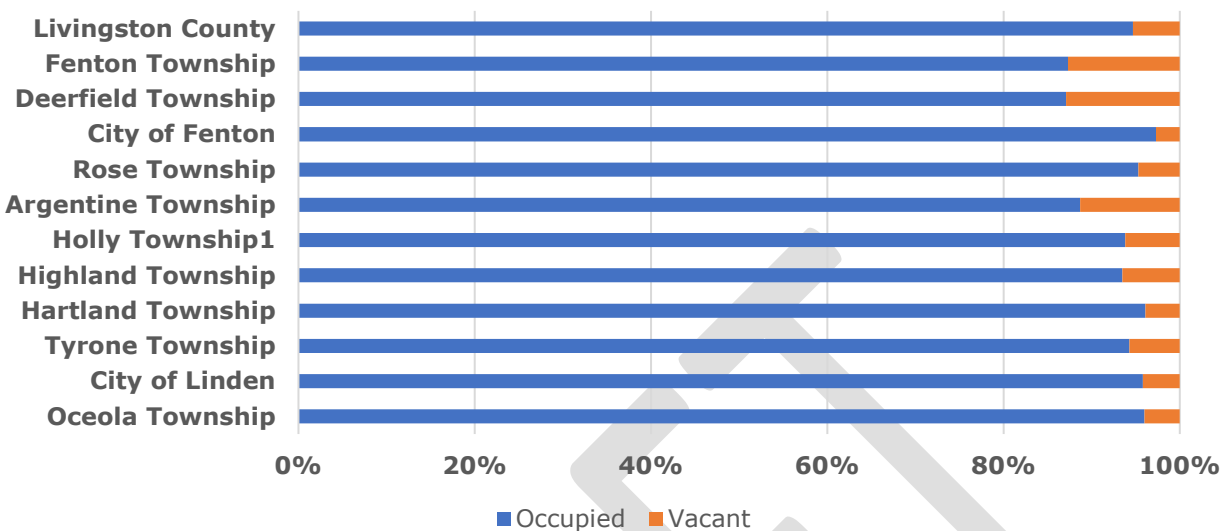
The Township has a higher percentage of occupied housing units than Livingston County and a significantly higher percentage of occupied housing units than the State.

The Township has a higher percentage of homeowner-occupied housing units than both Livingston County and the State. It has significantly lower percentage of rental-occupied housing units than the State.

Graph 4.4.2A and 4.4.2B below show housing occupancy for Tyrone Township and surrounding communities. Table 4.4.2 is located in the Housing Analysis Article Appendix.

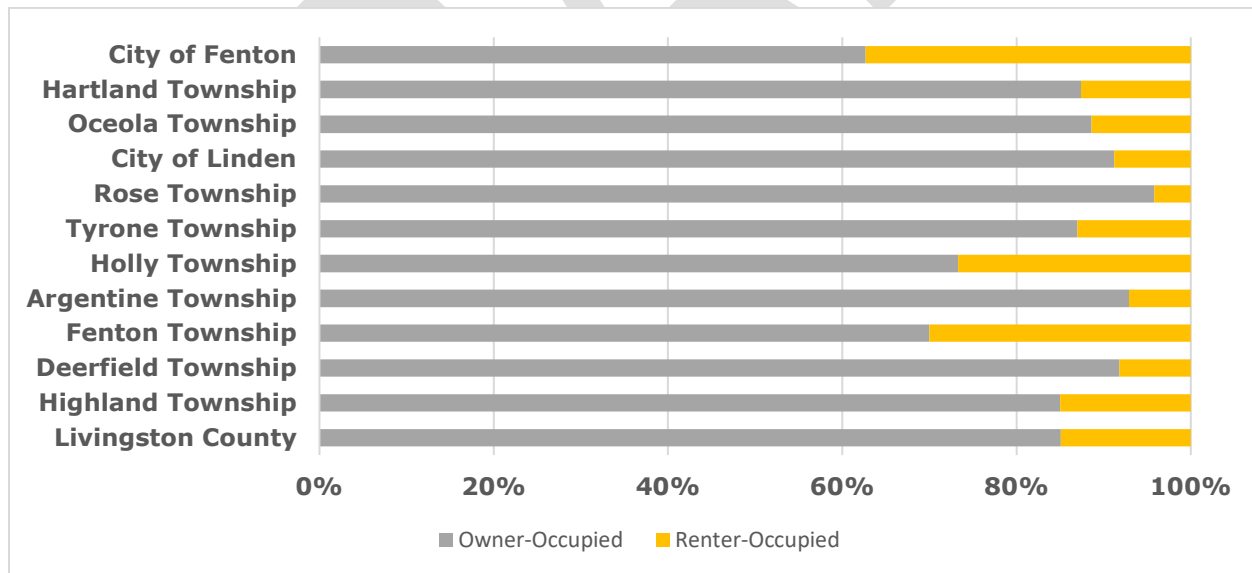


**Graph 4.4.2A: Occupied and Vacant Housing in Tyrone Township and Surrounding Communities 2020**



(Source: US Department of Commerce, Bureau of Census)

**Graph 4.4.2B: Homeowner and Renter Occupancy in Tyrone Township and Surrounding Communities 2020**



(Source: US Department of Commerce, Bureau of Census)



Overall housing occupancy in the Township is consistent with the County and is in the middle of surrounding communities. The actual occupancy may be higher than what is shown, due to seasonal vacation homes in the lake areas.

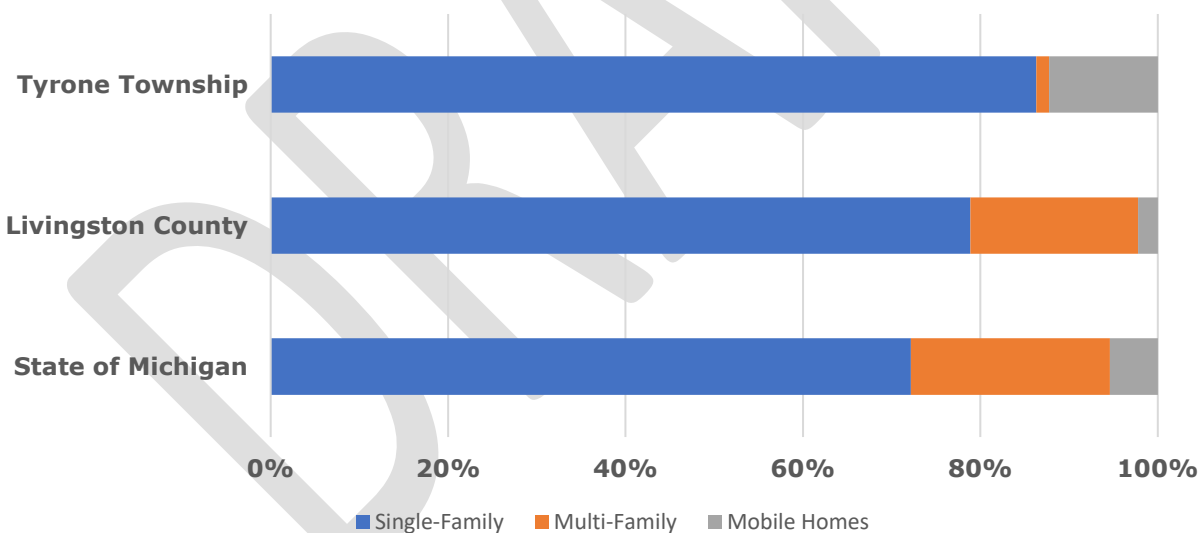
Most dwellings (*87 percent*) in the Township are owner-occupied. This is slightly higher than the County and in the statistical middle when compared with surrounding communities.

## 4.5 Housing Unit Types

Housing units in Tyrone Township are primarily single-family houses, representing 86.3 percent of all housing units. The next highest number of housing unit type is mobile homes, representing 12.3 percent of all housing units. There are very few multiple-family housing units in the Township.

Graph 4.5.1 below shows housing unit types for Tyrone Township, Livingston County, and the State of Michigan. Table 4.5.1 is located in the Housing Analysis Article Appendix.

**Graph 4.5.1: Housing Unit Types in Tyrone Township, Livingston County, and State of Michigan 2020**



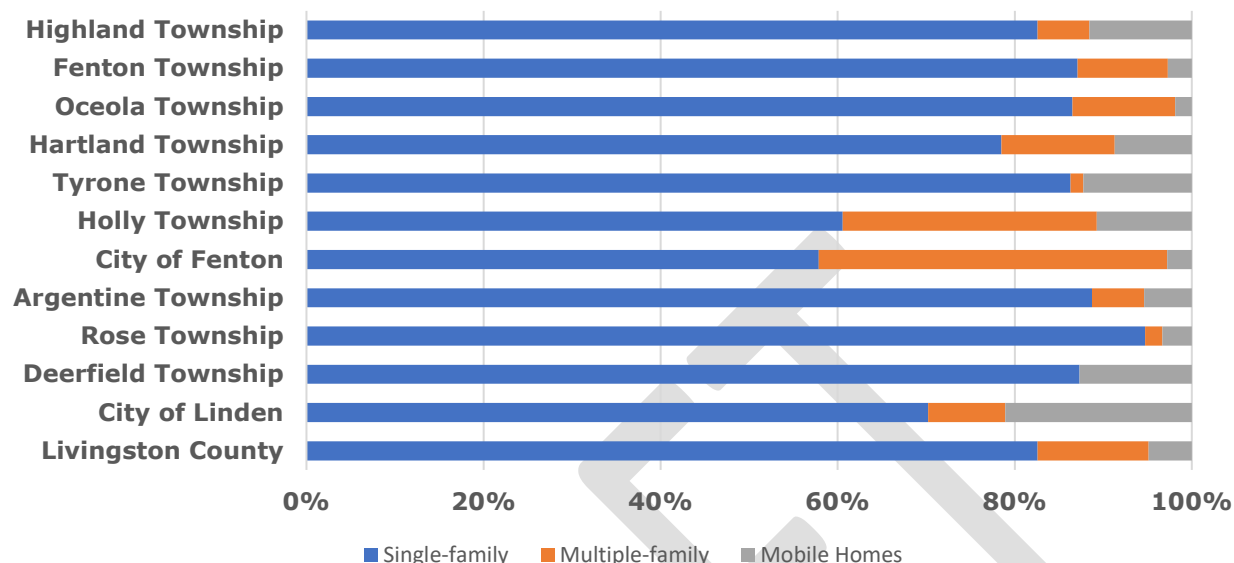
*(Source: US Department of Commerce, Bureau of Census)*

The Township has a higher percentage of single-family houses and mobile homes than both the County and the State.

Graph 4.5.2 below shows housing unit types for Tyrone Township and surrounding communities. Table 4.5.2 is located in the Housing Analysis Article Appendix.



**Graph 4.5.2: Housing Unit Types in Tyrone Township and Surrounding Communities 2020**



*(Source: US Department of Commerce, Bureau of Census)*

The Township has a higher percentage of single-family housing units and mobile homes than most of the surrounding communities. It has the lowest percentage of multiple-family dwellings of all surrounding communities, except for Deerfield Township.

In the community survey, 74 percent of respondents either strongly agreed (30 percent) or agreed (44 percent) that there is a good variety of housing options/types in the Township. Conversely to that, 18 percent of respondents strongly disagreed (4 percent) or disagreed (14 percent) with that statement.

When asked what types of housing they supported, community survey respondents showed the highest level of support for large-lot single-family houses, greater than 3 acres, with 93 percent of respondents strongly supporting (48 percent) or supporting (45 percent). Single-family houses on medium lots, 1.75 to 3 acres, also had strong support with 84 percent of respondents strongly supporting (29 percent) or supporting (55 percent). Sixty-one percent of respondents strongly supported (13 percent) or supported (48 percent) single-family houses on lots smaller than 1.75 acres.

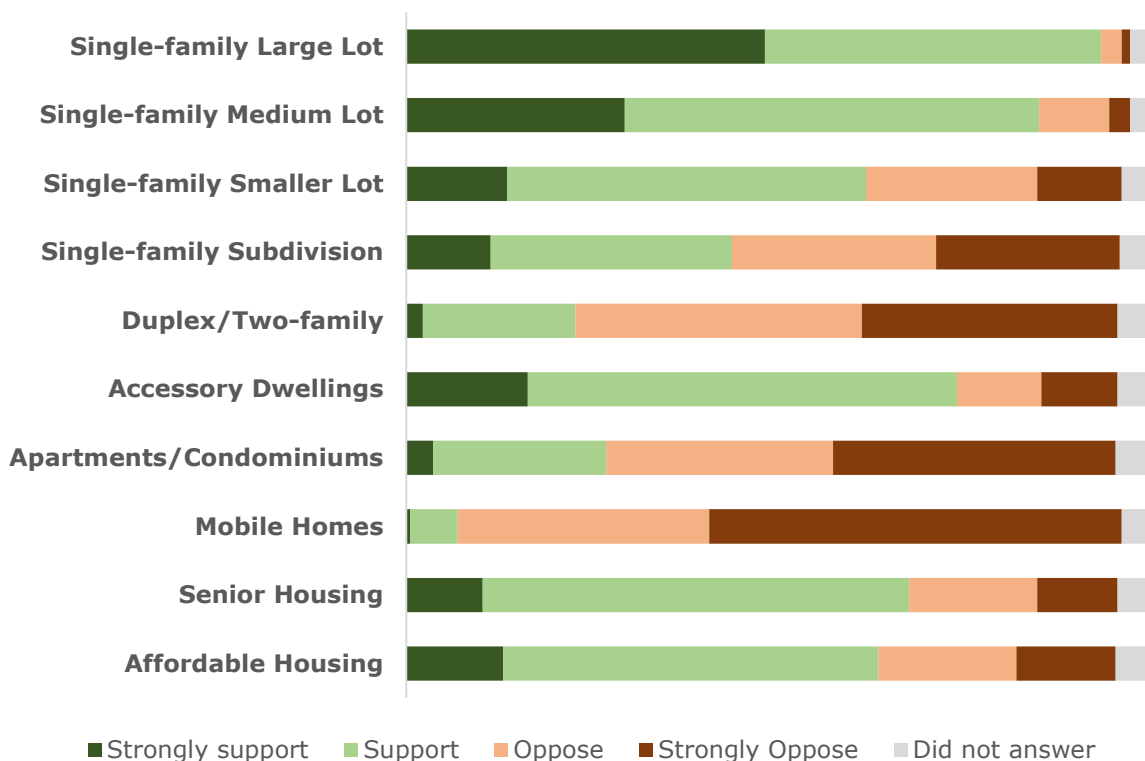
In the community survey, 73 percent of respondents strongly supported (16 percent) or supported (57 percent) accessory dwellings. Sixty-seven percent of respondents strongly supported (10 percent) or supported (57 percent) senior housing. Sixty-two percent of respondents strongly supported (12 percent) or supported (50 percent) affordable housing.



Types of housing less supported by respondents in the community survey include: single-family subdivisions, with 43 percent strongly supporting (*11 percent*) or supporting (*32 percent*); apartments/condominiums, with 26 percent strongly supporting (*3 percent*) or supporting (*23 percent*); and mobile homes, with 6 percent strongly supporting (*less than 1 percent*) or supporting (*6 percent*).

Graph 4.5.3 below shows the support of community survey respondents for various types of residential development.

**Graph 4.5.3: Community Survey Support for Residential Development**



(Source: Tyrone Township Community Survey)



## 4.6 Mobile Home Park Communities

Tyrone Township has two mobile home parks, Tyrone Woods and Cider Mill Crossings, with an approved total of 1,025 units.

Tyrone Woods is located on the south side of Hogan Road, between Linden Road and Major Road. It has an area of roughly 89 acres and is approved for 403 units, with units having an area of between 4,680 and 5,100 square feet.

Cider Mill Crossings is on the west side of Old US-23, between Parshallville Road and Faussett Road. It has an area of roughly 150 acres and is approved for 622 units, with units having an area of between 4,850 and 6,660 square feet.

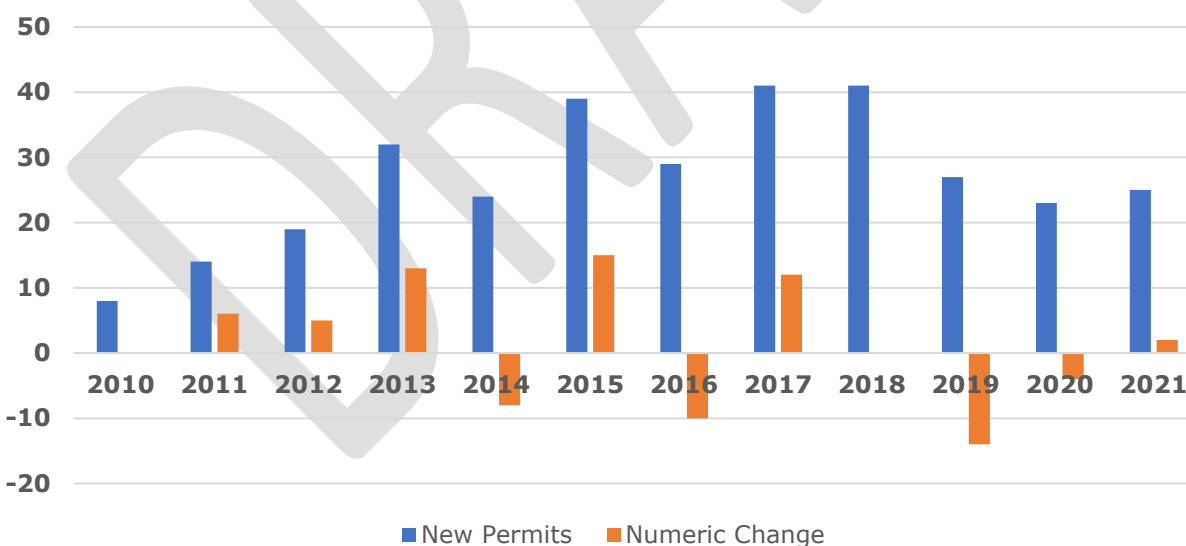
The Township has a substantial number of mobile home units, as noted above, that is greater than all but one adjacent community.

## 4.7 New Single-Family Dwellings

Tyrone Township has experienced a steady increase in the construction of new single-family dwellings, with a significant increase starting in 2015.

Graph 4.7 below shows the number of building permits issued for new single-family dwellings and the numeric change from 2010 through 2021. Table 4.7 is located in the Housing Analysis Article Appendix.

**Graph 4.7: Permits for New Single-Family Dwellings 2010-2021**



*(Source: Livingston County Building Department)*



The number of permits issued for single-family dwellings the past three years has remained relatively stable. It is less than the preceding three years but remains higher than 2012 and earlier years.

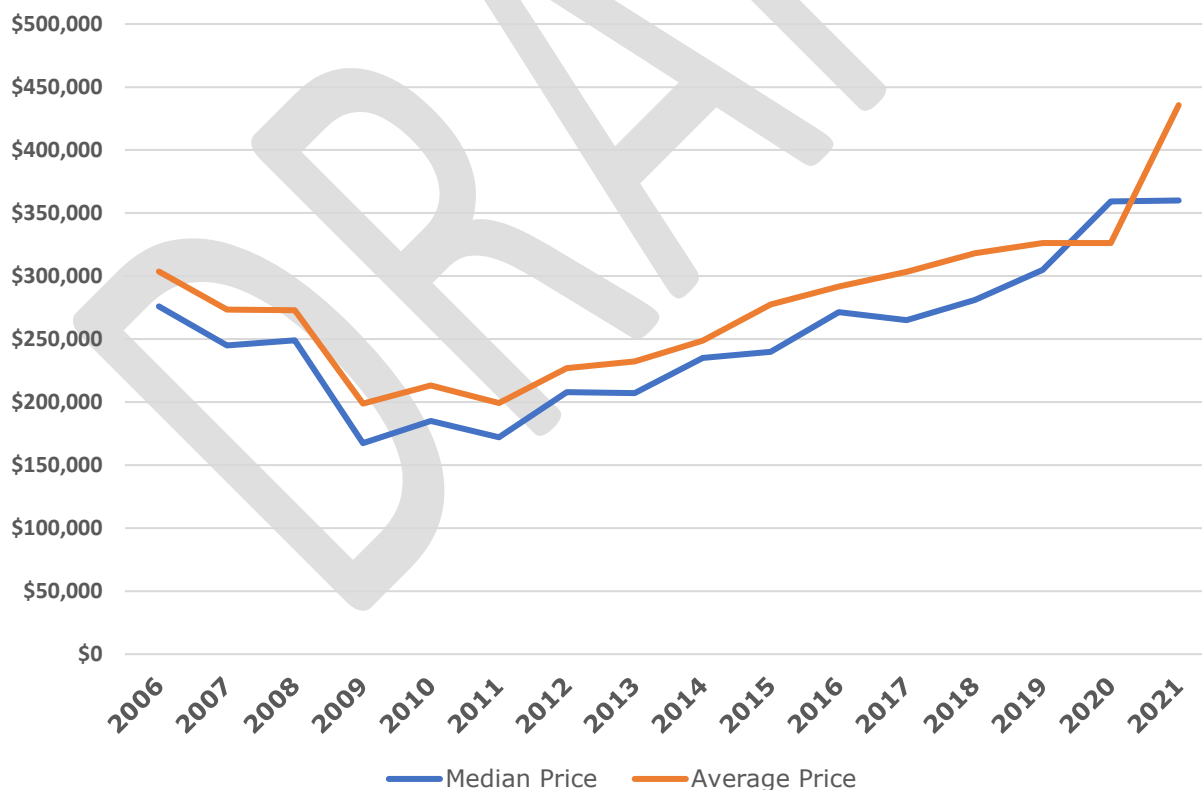
In the community survey, 61 percent of respondents described the level of residential development over the past 10 years as *"about right,"* 32 percent described it as *"too much,"* and 11 percent described it as *"too little."*

## 4.8 Housing Sales

Tyrone Township has experienced a growing number of arm's length sales for single-family dwellings, with 142 sales in 2021 and a high of 167 sales 2017. Arm's length sales are between parties that are not related or have some other type of relationship that may affect the sales price. In 2021, the median sales price was \$360,000 and the average sales price was \$435,639.

Graph 4.8.1 below shows the prices for arm's length sales of dwellings from 2006 through 2021. Table 4.8.1 is located in the Housing Analysis Article Appendix.

**Graph 4.8.1: Sales Price for Dwellings 2006-2021**



(Source: Tyrone Township Assessing)

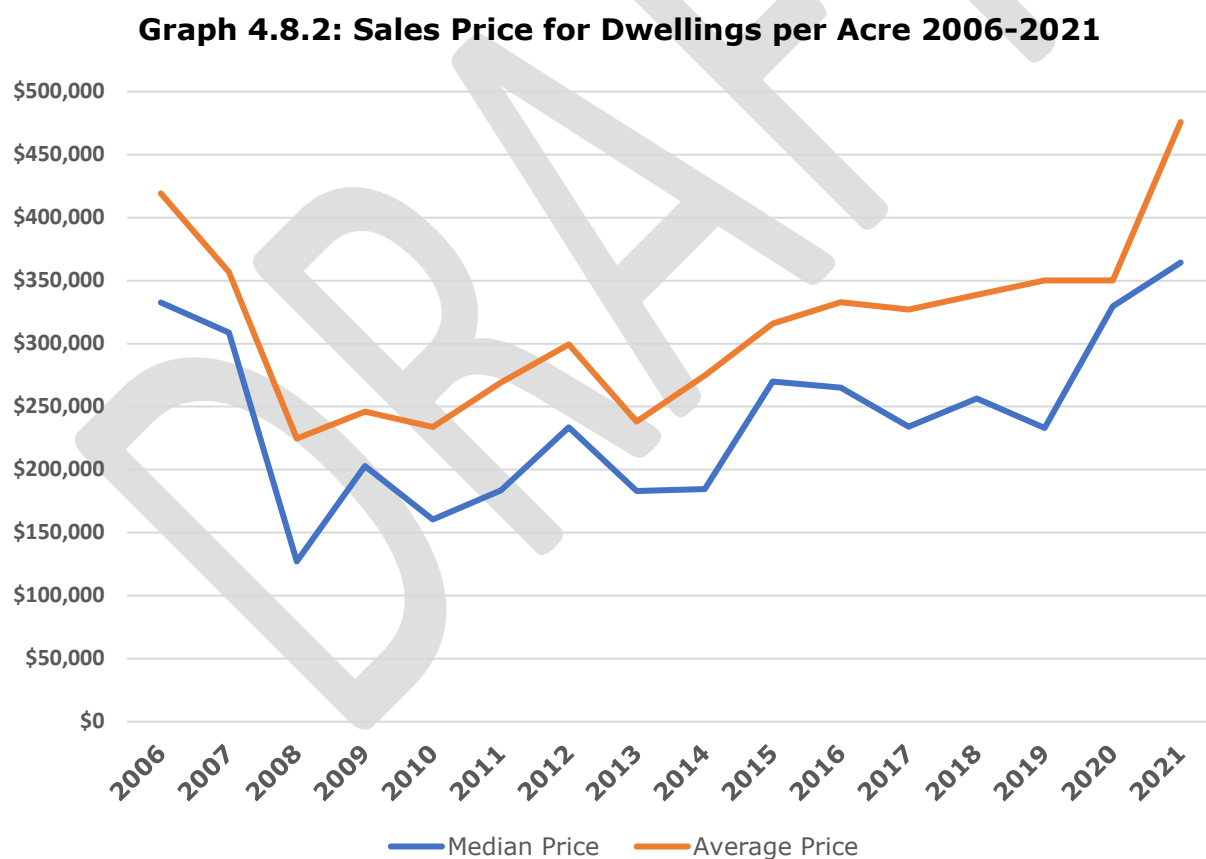


The median and average sales prices for single-family dwellings in the Township have increased steadily since the Great Recession. The median price is roughly \$84,000 higher than the highest year before the recession (2006) and roughly \$192,500 higher than the lowest year during the recession (2009). The average price is roughly \$132,000 higher than the highest year before the recession (2006) and roughly \$236,800 higher than the lowest year during the recession (2009).

Depending on the size of the down payment, credit score, and interest rates, a household income of between \$90,000 and \$110,000 per year would be required to secure a mortgage for the median to average price single-family dwelling in the Township in 2021.

In the community survey, 67 percent of respondents strongly agreed (22 percent) or agreed (45 percent) that there is a good variety of housing price ranges available in the Township.

Graph 4.8.2 below shows prices per acre for arm's length sales of dwellings from 2006 through 2021. Table 4.8.2 is located in the Housing Analysis Article Appendix.



(Source: Tyrone Township Assessing)

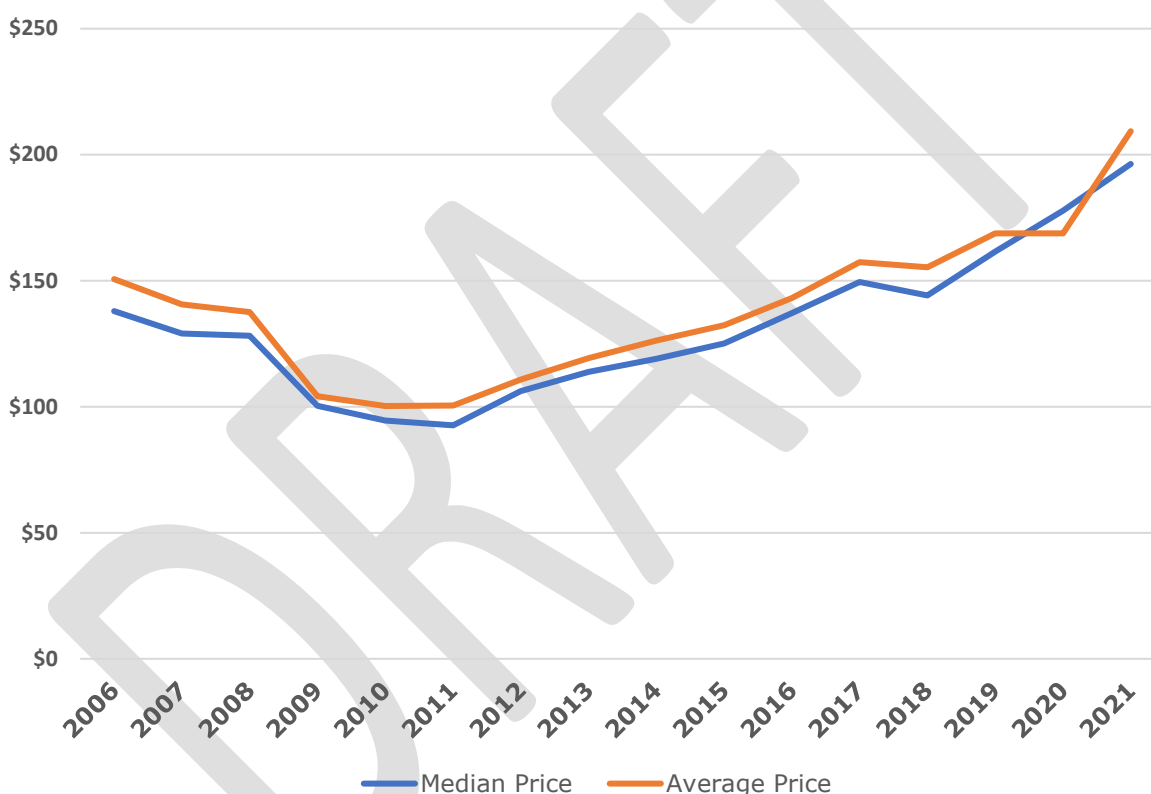


Due to the variety of property sizes with single-family dwellings in the Township, this metric has a wide range of highest and lowest prices. Larger sized properties tend to have a lower price per acre, and smaller sized properties have a significantly higher price per acre.

After reaching lows in 2008, the median and average prices per acre for single-family dwellings have increased.

Graph 4.8.3 below shows prices per square foot for arm's length sales of dwellings from 2006 through 2021. [Table 4.8.3](#) is located in the Housing Analysis Article Appendix.

**Graph 4.8.3: Sales Price for Dwellings per Square Foot 2006-2021**



(Source: Tyrone Township Assessing)

After reaching lows in 2011, the median and average prices per square foot for single-family dwellings in the Township has increased and is significantly higher than what it was before the Great Recession.

*[Balance of page intentionally blank.]*



## Housing Analysis Appendix

**Table 4.2.1: Households in Tyrone Township 1970-2020**

Year	Households	Numeric Change	Percent Change
1970	897		
1980	1,756	+ 859	+95.8%
1990	2,211	+ 455	+25.9%
2000	2,882	+671	+30.4%
2010	3,528	+646	+22.4%
2020	4,206	+678	+19.2%

(Source: US Department of Commerce, Bureau of Census)

**Table 4.2.2: Households in Tyrone Township and Surrounding Communities 1980-2020**

	1980	1990	2000	2010	2020	Percent Change
Oceola Township	1,270	1,523	2,756	4,057	5,267	+314.7%
Hartland Township	1,744	2,211	3,696	5,154	5,496	+215.1%
<b>Tyrone Township</b>	<b>1,756</b>	<b>2,211</b>	<b>2,882</b>	<b>3,528</b>	<b>4,206</b>	<b>+139.5%</b>
Deerfield Township	789	961	1,386	1,481	1,570	+99.0%
City of Linden	753	891	1,226	1,523	1,467	+94.8%
Argentine Township	1,337	1,614	2,293	2,631	2,484	+85.8%
Rose Township	1,307	1,589	2,144	2,272	2,342	+79.2%
Holly Township <sup>1</sup>	2,784	3,151	3,733	4,430	4,771	+71.4%
City of Fenton	2,748	3,214	4,335	5,067	5,034	+83.2%
Fenton Township	3,813	3,570	4,883	5,034	6,097	+59.9%
Highland Township	5,265	5,933	6,786	7,125	7,455	+41.6%
Livingston County	31,334	38,887	55,384	67,380	74,264	+137.0%

(Source: US Department of Commerce, Bureau of Census)

1) Includes Holly Township and the Village of Holly.



**Table 4.3.1: Household Size in Tyrone Township, Livingston County, and State of Michigan 1980-2020**

Year	Tyrone Township		Livingston County		State of Michigan	
1980	3.46		2.84		3.39	
1990	3.10	-10.4%	2.84	0.0%	2.94	-13.3%
2000	2.93	-5.5%	2.80	-1.4%	2.56	-12.9%
2010	2.84	-3.1%	2.67	-4.6%	2.49	-2.7%
2020	2.79	-1.7%	2.59	-0.1%	2.45	-1.6%

(Source: US Department of Commerce, Bureau of Census)

**Table 4.3.3: Household Size by Occupancy Type in Tyrone Township and Surrounding Communities 2020 ACS**

	Overall Household Size	Owner-Occupied Household Size	Renter-Occupied Household Size
Oceola Township	2.94	2.93	2.97
City of Linden	2.62	2.66	2.25
Tyrone Township	2.77	2.71	2.82
Hartland Township	2.54	2.83	2.25
Highland Township	2.76	2.04	2.40
Holly Township <sup>1</sup>	2.19	2.60	1.78
Argentine Township	2.39	2.65	2.14
Rose Township	2.61	2.59	3.11
City of Fenton	2.15	2.40	1.90
Deerfield Township	2.60	2.89	2.31
Fenton Township	2.28	2.60	1.96
Livingston County	2.60	2.69	2.06

(Source: US Department of Commerce, Bureau of Census ACS)

1) Includes Holly Township and the Village of Holly.



**Table 4.4.1: Housing Occupancy in Tyrone Township, Livingston County, and State of Michigan 2020**

	<b>Tyrone Township</b>	<b>Livingston County</b>	<b>State of Michigan</b>
Occupied Housing Units	94.3%	93.4%	86.3%
Vacant Housing Units	5.7%	6.7%	13.7%
Homeowner-Occupied	87.0%	85.4%	71.2%
Renter-Occupied	13.0%	14.6%	28.8%

*(Source: US Department of Commerce, Bureau of Census)*

**Table 4.4.2: Occupied and Vacant Housing in Tyrone Township and Surrounding Communities 2020 ACS**

	<b>Occupied</b>	<b>Vacant</b>	<b>Owner-Occupied</b>	<b>Renter-Occupied</b>
City of Fenton	97.3%	2.7%	62.7%	37.3%
Hartland Township	96.1%	3.9%	87.4%	12.6%
Oceola Township	96.0%	4.0%	88.6%	11.4%
City of Linden	95.8%	4.2%	91.2%	8.8%
Rose Township	95.3%	4.7%	95.8%	4.2%
<b>Tyrone Township</b>	<b>94.3%</b>	<b>5.7%</b>	<b>87.0%</b>	<b>13.0%</b>
Holly Township <sup>1</sup>	93.8%	6.2%	73.3%	26.7%
Argentine Township	88.7%	11.3%	92.9%	7.1%
Fenton Township	87.3%	12.7%	70.0%	30.0%
Deerfield Township	87.1%	12.9%	91.8%	8.2%
Highland Township	34.7%	65.3%	66.2%	33.8%
Livingston County	94.7%%	5.3%	85.1%	14.9%

*(Source: US Department of Commerce, Bureau of Census ACS)*

*1) Includes Holly Township and the Village of Holly.*



**Table 4.5.1: Housing Unit Types in Tyrone Township, Livingston County, and State of Michigan 2020**

	Tyrone Township		Livingston County		State of Michigan	
Single-Family Homes	3,520	86.3%	60,747	78.9%	3,326,057	72.2%
Multi-Family Homes	59	1.4%	14,556	18.9%	1,035,475	22.5%
Mobile Homes	500	12.3%	1,717	2.2%	248,336	5.4%

(Source: US Department of Commerce, Bureau of Census)

**Table 4.5.2: Housing Unit Types in Tyrone Township and Surrounding Communities 2020**

	Single family	Multiple-family	Mobile Homes
Highland Township	6,647	470	931
Fenton Township	5,617	657	175
Oceola Township	4,462	598	96
Hartland Township	4,419	721	490
Tyrone Township	3,520	59	500
Holly Township <sup>1</sup>	3,124	1,481	553
City of Fenton	2,987	2,032	144
Argentine Township	2,486	165	151
Rose Township	2,435	51	85
Deerfield Township	1,396	0	203
City of Linden	1,076	133	323
Livingston County	77,020	11,710	4,541

(Source: US Department of Commerce, Bureau of Census)

1) Includes Holly Township and the Village of Holly.



**Table 4.7: Permits for New Single-Family Dwellings 2010-2021**

<b>Year</b>	<b>New Permits</b>	<b>Numeric Change</b>	<b>Percent Change</b>
2010	8	-	-
2011	14	6	75%
2012	19	5	36%
2013	32	13	68%
2014	24	-8	-25%
2015	39	15	63%
2016	29	-10	-26%
2017	41	12	41%
2018	41	0	0%
2019	27	-14	-34%
2020	23	-4	-15%
2021	25	2	9%

*(Source: Livingston County Building Department)*



**Table 4.8.1: Sales Price for Dwellings 2006-2021**

<b>Year</b>	<b>Median Price</b>	<b>Average Price</b>	<b>Highest Price</b>	<b>Lowest Price</b>
2006	\$276,000	\$303,580	\$710,000	\$107,000
2007	\$245,000	\$273,466	\$625,100	\$112,000
2008	\$249,000	\$272,959	\$850,000	\$114,900
2009	\$167,450	\$198,829	\$442,000	\$27,000
2010	\$185,000	\$213,342	\$1,000,000	\$35,000
2011	\$172,000	\$199,174	\$650,000	\$35,000
2012	\$208,000	\$226,907	\$575,000	\$37,000
2013	\$207,200	\$232,361	\$615,000	\$75,200
2014	\$235,000	\$248,769	\$650,000	\$25,000
2015	\$240,000	\$277,408	\$875,000	\$92,000
2016	\$271,500	\$291,662	\$1,300,000	\$73,000
2017	\$265,000	\$303,352	\$800,000	\$70,140
2018	\$281,000	\$318,130	\$1,450,000	\$10
2019	\$305,000	\$326,345	\$735,000	\$102,000
2020	\$359,250	\$326,345	\$735,000	\$102,000
2021	\$360,000	\$435,639	\$1,700,000	\$165,000

(Source: Tyrone Township Assessing)



**Table 4.8.2: Sales Price for Dwellings per Acre 2006-2021**

<b>Year</b>	<b>Median Price</b>	<b>Average Price</b>	<b>Highest Price</b>	<b>Lowest Price</b>
2006	\$332,579	\$419,206	\$2,643,312	\$9,730
2007	\$308,832	\$356,730	\$1,222,222	\$10,735
2008	\$127,189	\$224,709	\$1,602,564	\$9,704
2009	\$203,000	\$246,033	\$1,556,604	\$5,853
2010	\$160,494	\$233,918	\$1,222,222	\$13,914
2011	\$183,583	\$269,258	\$2,341,270	\$10,534
2012	\$233,491	\$299,299	\$1,797,030	\$12,750
2013	\$183,077	\$238,140	\$1,609,375	\$9,970
2014	\$184,659	\$274,749	\$1,794,872	\$6,905
2015	\$270,014	\$315,898	\$2,717,391	\$10,250
2016	\$264,988	\$332,964	\$2,051,887	\$11,375
2017	\$234,091	\$327,034	\$2,477,679	\$5,380
2018	\$256,410	\$338,622	\$3,167,539	\$10
2019	\$233,193	\$350,260	\$2,054,140	\$17,080
2020	\$329,623	\$350,260	\$2,054,140	\$17,080
2021	\$364,309	\$475,877	\$6,089,744	\$7,296

(Source: Tyrone Township Assessing)



**Table 4.8.3: Sales Price for Dwellings per Square Foot 2006-2021**

<b>Year</b>	<b>Median Price</b>	<b>Average Price</b>	<b>Highest Price</b>	<b>Lowest Price</b>
2006	\$138	\$151	\$334	\$86
2007	\$129	\$141	\$280	\$67
2008	\$128	\$138	\$249	\$86
2009	\$100	\$104	\$223	\$22
2010	\$94	\$100	\$212	\$19
2011	\$93	\$100	\$238	\$19
2012	\$106	\$111	\$325	\$43
2013	\$114	\$119	\$241	\$28
2014	\$119	\$126	\$263	\$14
2015	\$125	\$132	\$303	\$53
2016	\$137	\$143	\$303	\$38
2017	\$150	\$157	\$420	\$28
2018	\$144	\$155	\$429	\$0
2019	\$162	\$169	\$436	\$81
2020	\$178	\$169	\$436	\$81
2021	\$196	\$209	\$801	\$106

(Source: Tyrone Township Assessing)

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*[End of Housing Analysis Article.]*

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# ECONOMIC ANALYSIS

## 5.1 Overview

Several important recent economic trends and conditions in the Township are:

- The median household income and per capita income are significantly higher than most surrounding communities, Livingston County, and the State of Michigan;
- The percentage of residents living below the poverty level is lower than most of the surrounding communities, Livingston County, and the State of Michigan;
- Non-farm employment has grown at a slow, steady rate and is projected to continue to grow;
- There is a higher percentage of employment in natural resources, mining, and construction; information and financial activities; and administrative support fields than the region;
- A large majority of the Township's residents work in other communities;
- Unemployment has generally tracked with the county, state, and country, but was less affected than those entities were in 2020;
- There are limited commercial and industrial uses in the Township, and surrounding communities have established commercial and industrial areas; and
- The Township has experienced a steady increase in governmental revenues, primarily due to increase in State revenue sharing.

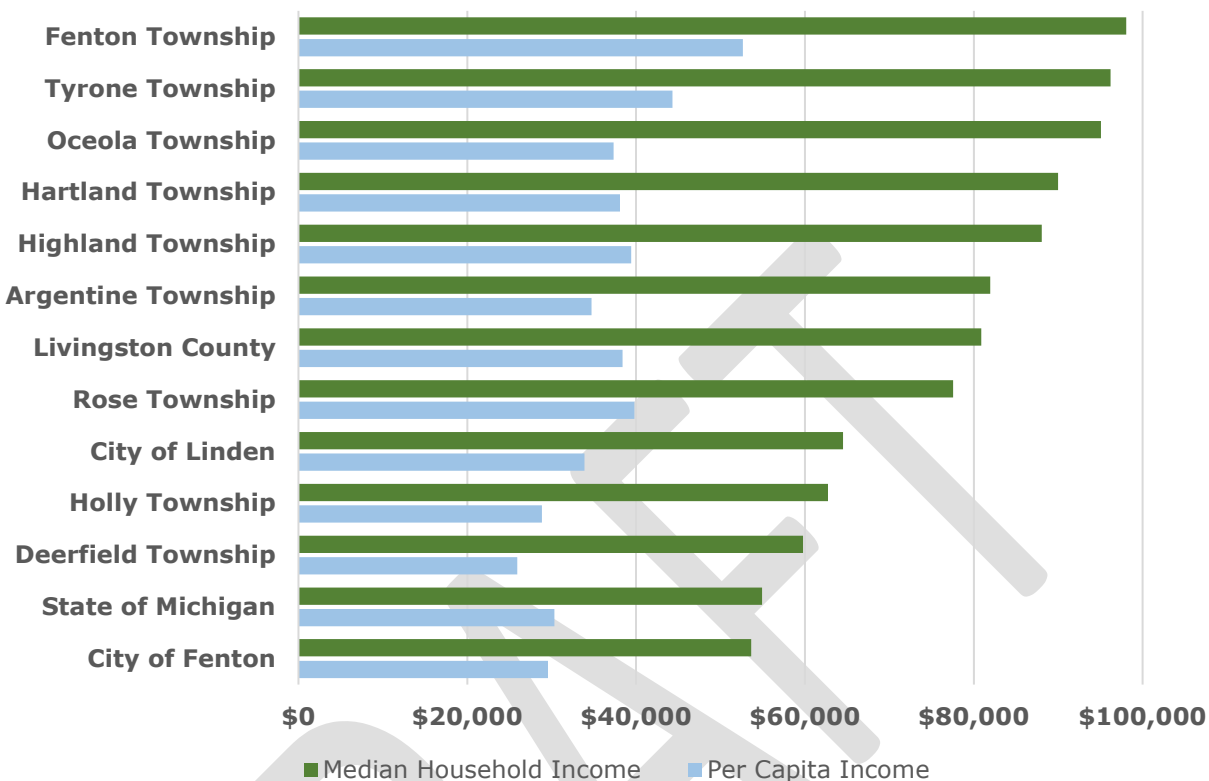
## 5.2 Income

The income level of a community relative to neighboring communities can serve as a measure of economic health and vitality. From the local government's perspective, a high level of income tends to provide a strong tax base that can provide quality services for residents. From a market perspective, companies make site selection decisions based in part on the income in an area.

Graphs 5.2.1 and 5.2.2 below show the median household income, per capita income, and poverty level for Tyrone Township and surrounding communities in 2022. [Table 5.2](#) is in the Economic Analysis Article Appendix.



**Graph 5.2.1: Median Household Income in Tyrone Township and Surrounding Communities 2022**

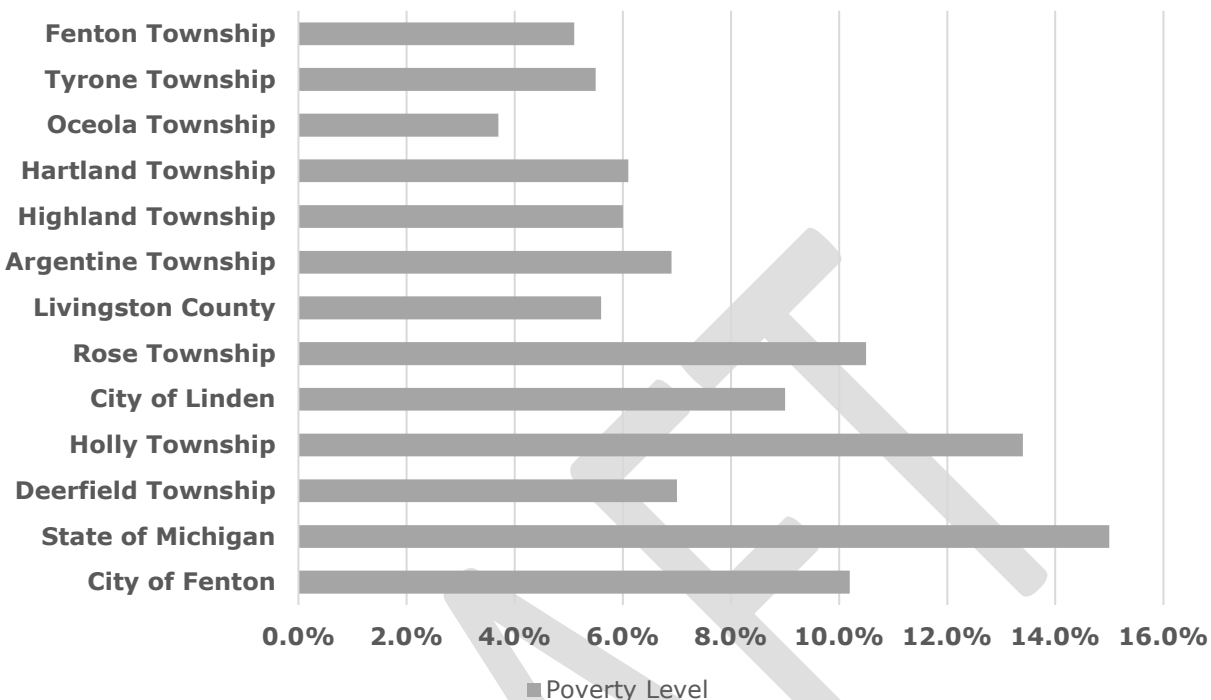


*(Source: US Department of Commerce, Bureau of Census)*

The Township has a higher median household income and per capita income than all but one of the surrounding communities. The median household income is significantly higher than several surrounding communities, Livingston County, and the State of Michigan.



**Graph 5.2.2: Poverty Level in Tyrone Township and Surrounding Communities 2022**



*(Source: US Department of Commerce, Bureau of Census)*

The federal poverty threshold is the measurement of poverty in America, based on several economic factors having to do with total family income.

The percentage of residents in the Township living below the poverty level is lower than all but two of the surrounding communities, but similar to Livingston County, and is significantly lower than the State of Michigan.

### 5.3 Employment

The occupations held by residents and the nature of jobs available in a community can impact the community's income, educational needs, commuting patterns, and opportunities.

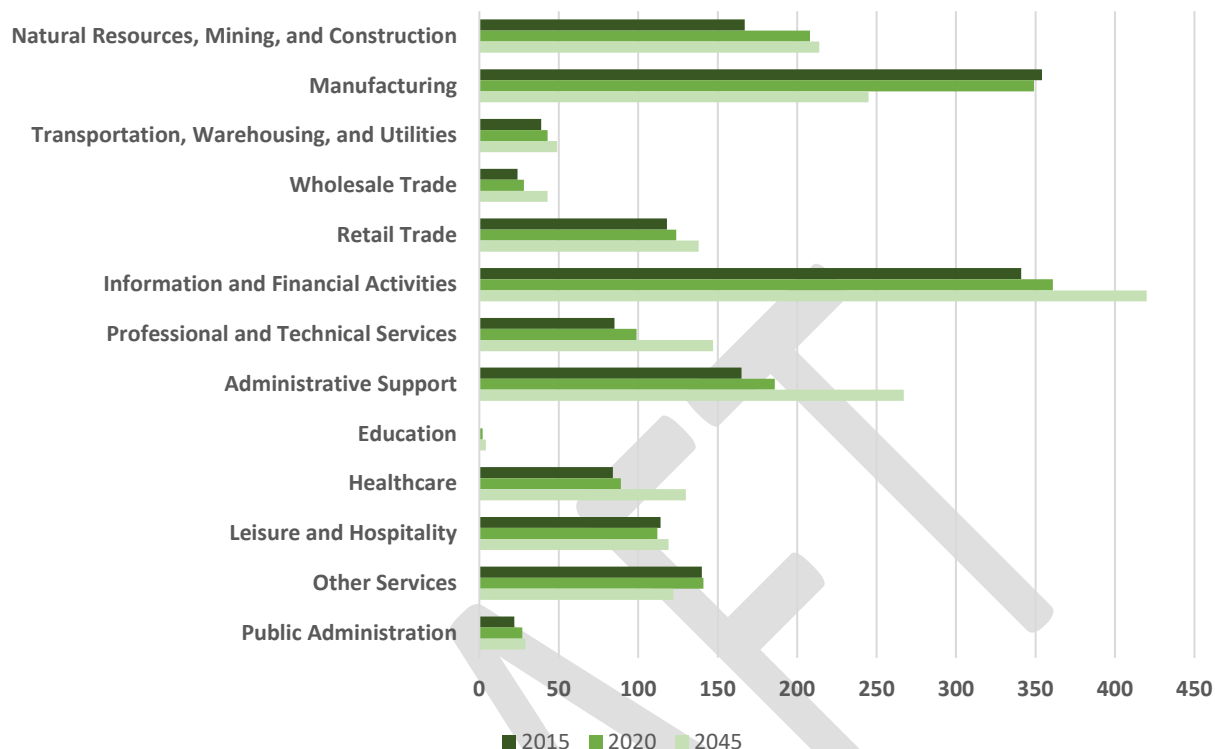
Both Michigan and the United States have experienced a shift from traditional manufacturing to service, information, and health care, which is slowly occurring in Tyrone Township.

Understanding the current and projected employment in the Township and region can help inform desired commercial and industrial uses.

Graph 5.3.1 below shows the nonfarm employment in Tyrone Township and the percentage of total employment from 2015 through 2045. [Table 5.3.1](#) is located in the Economic Analysis Article Appendix.



**Graph 5.3.1: Nonfarm Employment in Tyrone Township 2015-2045**



(Source: SEMCOG)

The Township has experienced or is anticipated to experience notable growth in employment in the natural resources, mining, and construction; information and financial activities; professional and technical services; administrative support; and healthcare fields.

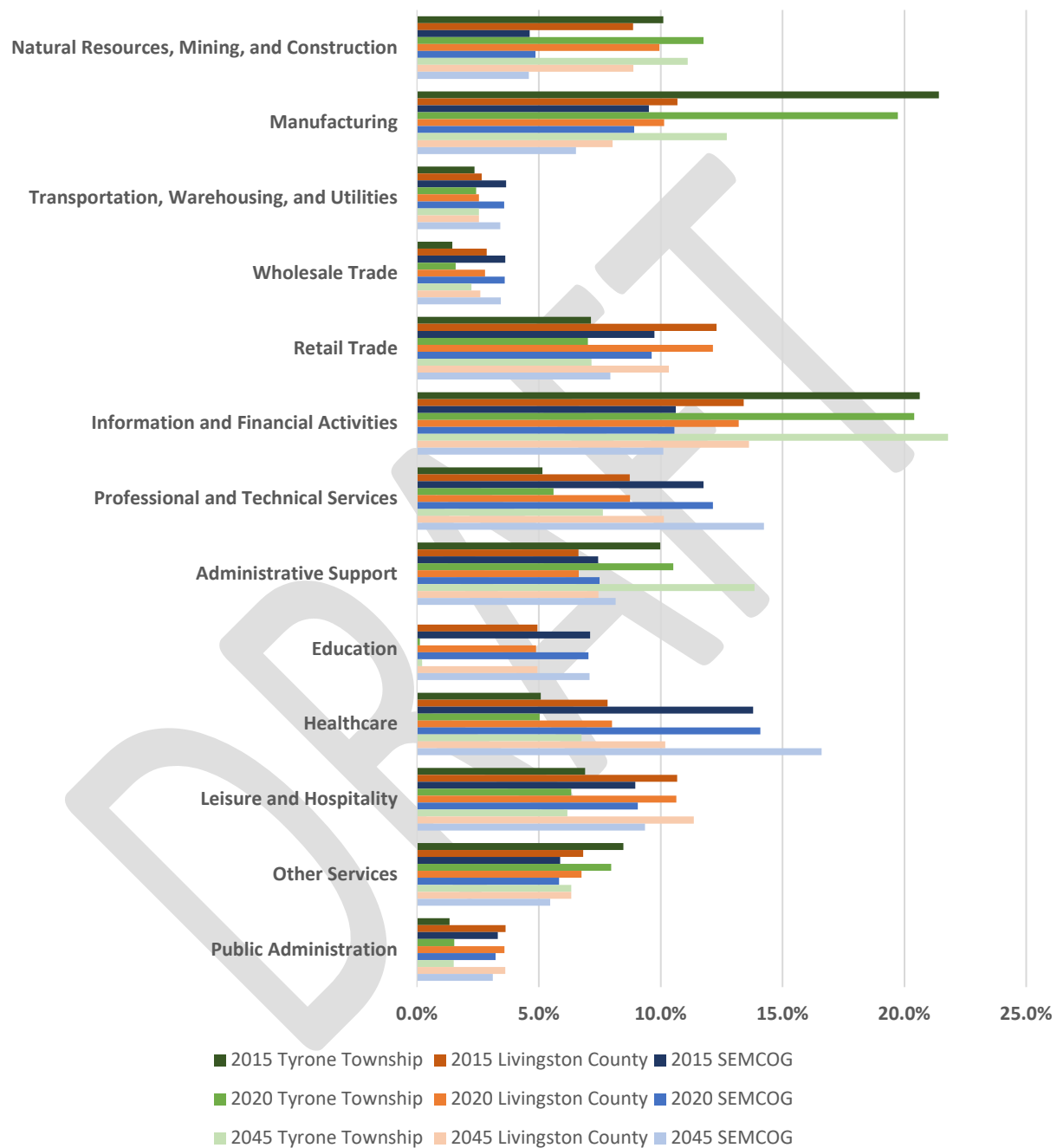
The Township has experienced or is anticipated to experience modest growth in the transportation, warehousing, and utilities; wholesale trade; retail trade; education; leisure and hospitality; and public administration fields.

The Township has experienced or is anticipated to experience a decrease in employment in manufacturing and other services fields.

Graph 5.3.2 below shows the percentage of total employment in different fields in Tyrone Township, Livingston County, and the SEMCOG region from 2015 through 2045. [Table 5.3.2](#) is located in the Economic Analysis Article Appendix.



**Table 5.3.2: Nonfarm Employment in Tyrone Township, Livingston County, and SEMCOG Area 2015-2045**



(Source: SEMCOG)



## Economic Analysis Article

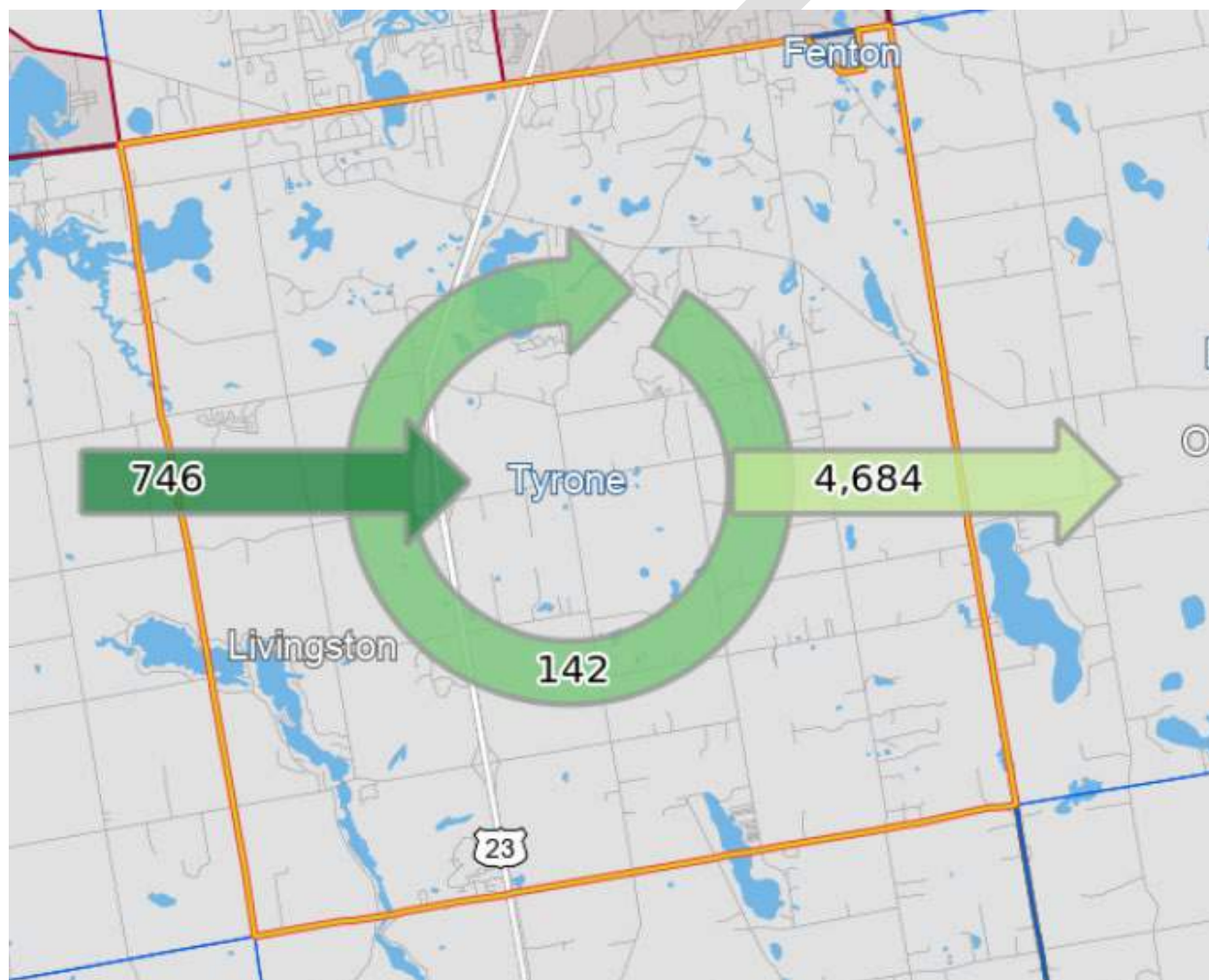
CLEAN Draft 07.05.2023

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The Township has or is anticipated to have notably higher employment percentages than Livingston County or the SEMCOG Region in the natural resources, mining; and construction; information and financial activities; and administrative support fields.

The Township has or is anticipated to have notably lower percentage of employment than Livingston County and/or the SEMCOG Region in the professional and technical services; education; healthcare; and public administration fields.

According to the 2019 American Community Survey, there were 5,572 workers in the Township. That year, 4,684 workers left the Township to work in another community, 142 workers worked in the Township, and 746 workers came from another community to work in the Township.



In the community survey, 19 percent of respondents indicated that they worked in the Township (*4 percent*) or worked at home (*15 percent*). Most others worked in communities in southeastern Michigan. The highest responses were Fenton (*8 percent*), Flint (*4 percent*), and Ann Arbor, Brighton, and Detroit (*3 percent each*).



Although a majority of the Township's residents work outside of the community, 25 percent of respondents in the community survey indicated that proximity to employment attracted them to the community.

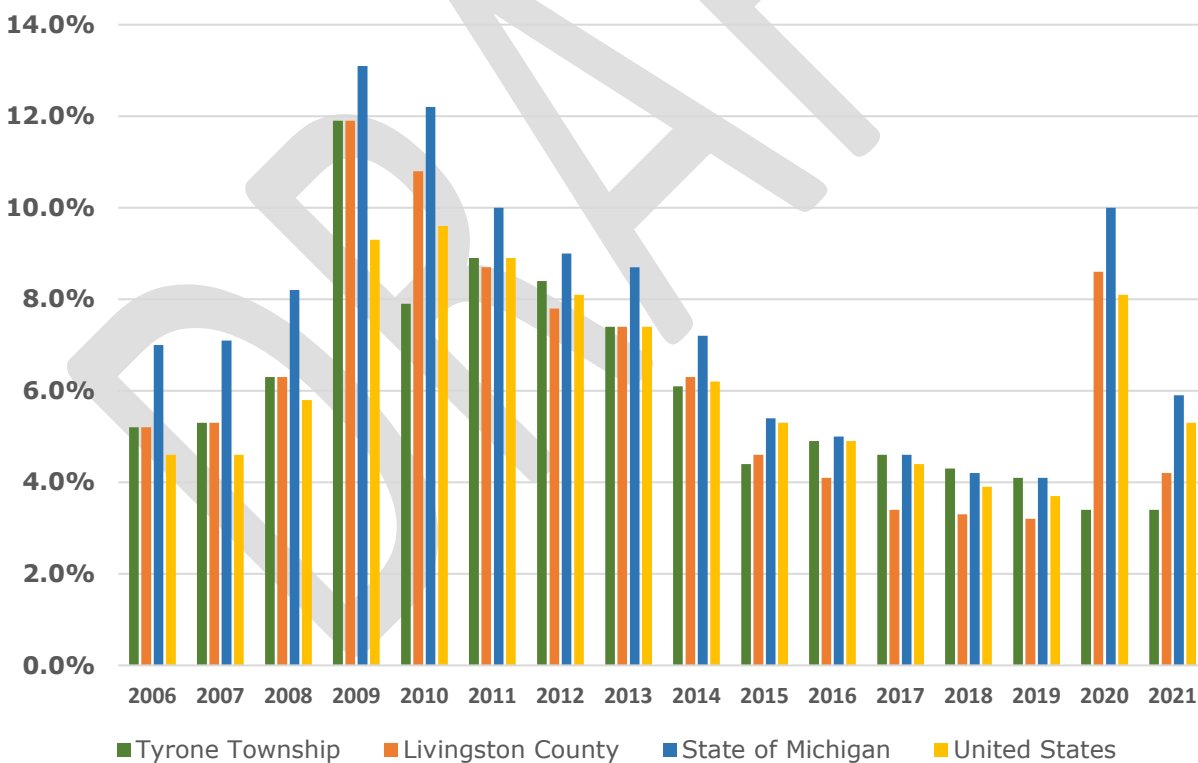
## 5.4 Unemployment

The unemployment rate in Tyrone Township has largely followed that of Livingston County, the State of Michigan, and the United States. However, unemployment in the Township decreased in 2020 but increased in the County, State, and country.

After peaking near 12 percent in 2009, the Township's unemployment rate has decreased to 3.4 percent in 2021.

Graph 5.4 below shows the unemployment rate for Tyrone Township, Livingston County, the State of Michigan, and the United States. [Table 5.4](#) is located in the Economic Analysis Article Appendix.

**Graph 5.4: Unemployment in Tyrone Township, Livingston County, State of Michigan, and the United States 2006-2021**



*(Source: US Department of Commerce, Bureau of Census)*



After peaking in 2009, unemployment in the Township has dropped below where it was before the Great Recession and remains at historically low levels. It is noteworthy that unemployment decreased in the Township during Covid-19.

## **5.5 Commercial Analysis**

Commercial development in a community is directly related to its population, household growth, median household income, and competition. It is affected by a community's land use decisions and availability of the necessary facilities and utilities. It is affected by a community's preferences.

### **Existing Commercial**

Tyrone Township has historically had a very limited number of commercial uses, and only a handful of commercial uses exist in the Township. The majority of them sell convenience goods, such as gasoline or general convenience goods, that are consumed on a daily basis. There are several that market more durable goods, such as clothing, appliances, or similar items, that are purchased less frequently and only after purchasers have compared prices and quality.

Significant commercial areas are located immediately to the north of the Township, in the cities of Fenton and Linden, and to the south, in Hartland Township, primarily along the M-59 corridor.

Because of these established commercial areas in adjacent communities, the addition of large commercial development in the Township is unlikely. There is potential, however, for specific commercial uses that serve the convenience needs of local residents, draw patrons from other areas, provide recreational opportunities, or take advantage of the Township's location and access to transportation.

### **Determining Commercial Development Potential**

Typical determination of commercial development demand and potential is a multiple-step process, which is outlined below.

1. Delineate the potential trade area. This is the geographic area from which sustainable customers for commercial activities comes from. The boundaries of this area are determined by factors such as the nature of the commercial activity, accessibility, physical barriers, location of competing commercial areas, and drive time and distance limitations.
2. Determine the trade area sales potential, based on the social and economic characteristics of the trade area.
3. Determine the local allocation of total sales to identify the portion of the trade area sales that can be captured by local businesses.
4. Convert sales potential estimates into floor area demand to identify the floor area necessary to support local sales.



5. Convert floor area demand into land area demand to identify the acreage necessary to support the floor area.

### **Delineation of Trade Area**

The Township is located within several trade areas, depending on the location in the Township and the nature of the good or service. In general, the northern portion of the Township is within the City of Fenton and City of Linden trade areas, and the southern portion of the Township is within the Hartland Township trade area.

Previous Master Plans have delineated the Township's trade area as the Township's boundaries for the purpose of examining the potential demand for various goods and services.

In the community survey, 70 percent of respondents described the level of nonresidential development as "*about right*," 16 percent described it as "*too much*," and 8 percent described it as "*too little*."

In the community survey, 67 percent of respondents strongly agreed (*24 percent*) or agreed (*43 percent*) that there was an appropriate variety of commercial activities in the Township.

The community survey also asked the level of support for various types of nonresidential development.

The nonresidential development types with the highest level of support were: 79 percent of respondents strongly supported (*37 percent*) or supported (*42 percent*) public recreation. 71 percent of respondents strongly supported (*18 percent*) or supported (*53 percent*) small or local restaurants. 70 percent of respondents strongly supported (*11 percent*) or supported (*59 percent*) office uses. 63 percent of respondents strongly supported (*20 percent*) or supported (*43 percent*) private recreation. 53 percent of respondents strongly supported (8 percent) or supported (*47 percent*) local or small retail.

## **5.6 Industrial Analysis**

Tyrone Township has historically had a very limited number of industrial uses.

ZF Active Safety, a division of ZF Friedrichshafen AG, operates a manufacturing plant on north side of Center Road, just west of US-23.

The balance of industrial uses is limited to smaller contractors' yards and similar uses.

The US-23 corridor has been the anticipated location of any industrial growth, due to its proximity to a limited access highway and the availability of sanitary sewer. This area, specifically the area west of Old US-23 between Center Road and Hogan Road, has been designated as an area for planned industrial, research, and offices since 1999, which continued in the most recent Master Plan, adopted in 2012. Focusing these uses in this area would also provide for greater separation from residential uses.



Significant industrial areas exist or are planned in communities to the north and south. The City of Fenton has a 200-acre industrial park, with access to US-23 at both the Owen Road and Silver Lake Road interchanges. Hartland Township's Master Plan calls for 627 acres of planned industrial research and office.

The need for traditional industrial development has been declining across the United States and in southeastern Michigan. These trends will impact the demand for such uses in the Township.

When asked what type of industrial uses they supported, community survey respondents had the highest level of support for light industrial (*medical laboratories, contractors office/yard, auto repair, machine shops*), with 54 percent of respondents strongly supporting (6 percent) or supporting (47 percent). High-tech industrial (*software technology, pharmaceutical research, laboratories*) also had relatively high support, with 50 percent of respondents strongly supporting (8 percent) or supporting (42 percent).

Types of industrial uses less supported in the community survey include: outdoor storage, with 40 percent of respondents strongly supporting (1 percent) or supporting (39 percent); warehousing, with 33 percent of respondents strongly supporting (2 percent) or supporting (31 percent); distribution center, with 22 percent of respondents strongly supporting (2 percent) or supporting (31 percent); and heavy industrial, with 6 percent of respondents strongly supporting (1 percent) or supporting (5 percent).

## **5.7 US-23 Corridor**

Tyrone Township has anticipated increased development pressures along the US-23 corridor, which led to the adoption of the US-23 Corridor Plan in 1999. The corridor's location and accessibility, availability of natural gas and sanitary sewer, and the area's growing population and income make it an attractive location for certain types of commercial and industrial uses.

It will be important for the Township to manage growth in an organized manner that is consistent with the transportation system and public utilities.

The Township has identified areas, primarily on the western side of the US-23 Corridor, for medium density residential, planned industrial services, planned commercial services and commercial recreational uses.

The Township should coordinate capital improvements in this corridor to facilitate the desired orderly development.

## **5.8 Character of Nonresidential Development**

Nonresidential development in Tyrone Township is generally located along Old US-23 and the intersection of US-23 and Center Road. Some nonresidential uses, such as commercial recreation, public/institutional, and home occupations, are located throughout the Township.



These uses have generally been located on greenfield, or previously undeveloped, sites. They tend to be on individual sites, rather than a planned campus.

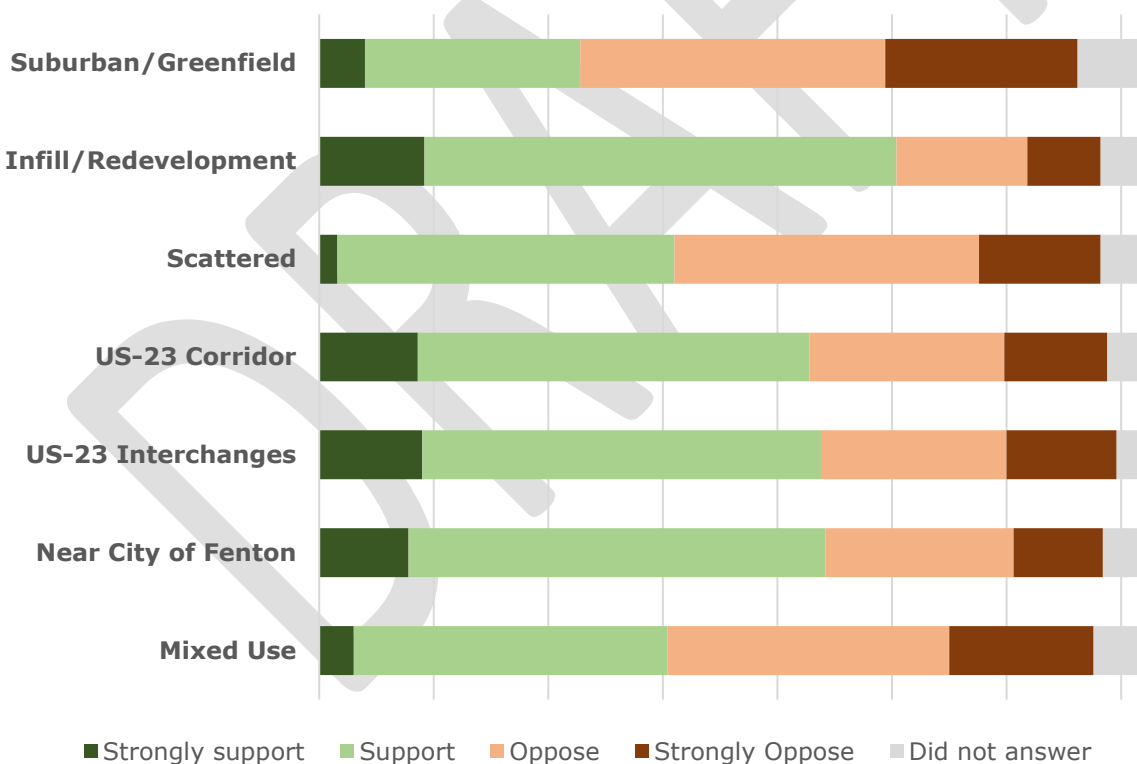
Older uses tend to have little or no landscaping or buffering. Newer uses have more landscaping or buffering, consistent with what one would expect in suburban areas.

When asked about the character of nonresidential development they supported, community survey respondents showed the highest level of support for infill or redevelopment, with 68 percent of respondents strongly supporting (12 percent) or supporting (56 percent).

Development focused near the US-23 interchanges, near the City of Fenton, and along the US-23 Corridor was generally supported.

Mixed-use development and suburban/greenfield development were the least popular types of nonresidential development.

**Graph 5.8: Community Survey Support for Nonresidential Development**



*(Source: Tyrone Township Community Survey)*



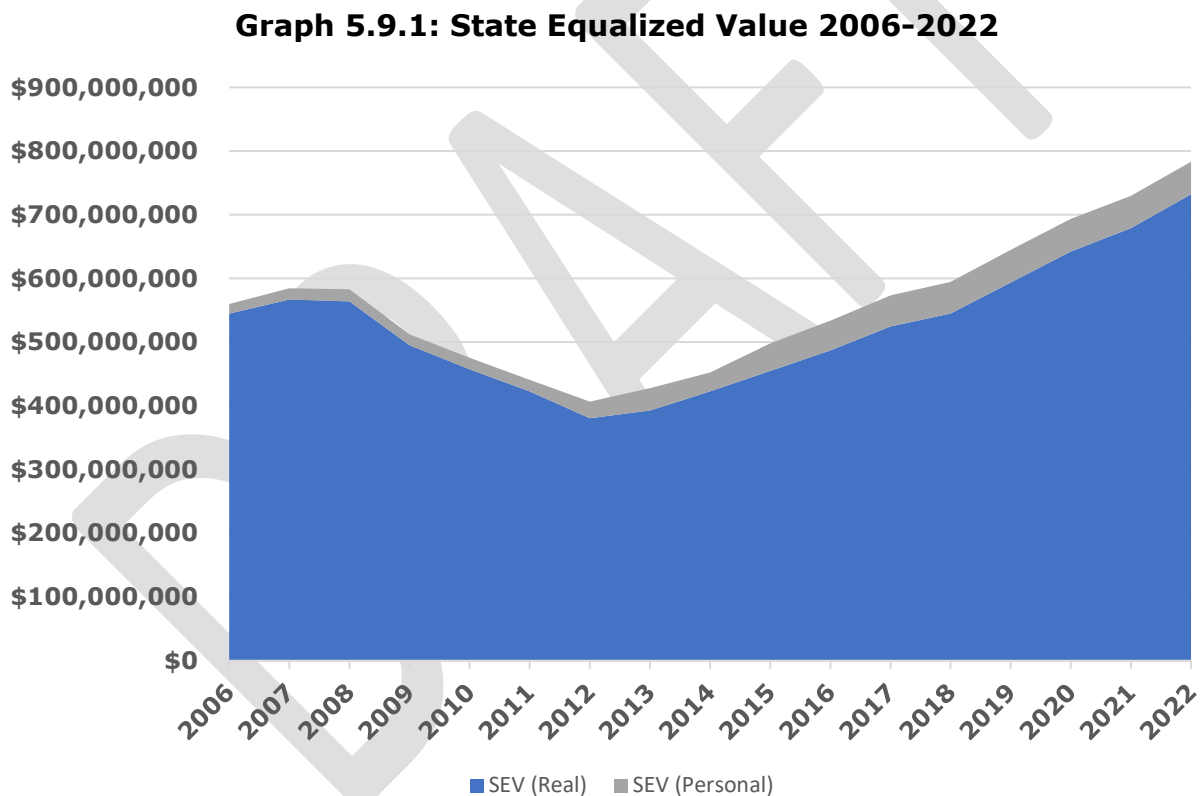
## 5.9 Township Resources

Tyrone Township receives funding primarily from property taxes, state revenue sharing, and fees and licenses.

Examination of property values provides an indication of the Township's economic growth or decline and the ability to provide services, as a substantial portion of funding for townships comes from millages based on property values.

Like many rural communities, residential properties represent the significant majority of the Township's state equalized value. This is because the Township has few commercial or industrial properties and agricultural land is assessed at a lower rate.

Graph 5.9.1 below shows the state equalized value of real and personal property in the Township from 2006 through 2022. Table 5.9.1 is located in the Economic Analysis Article Appendix.



*(Source: Tyrone Township)*

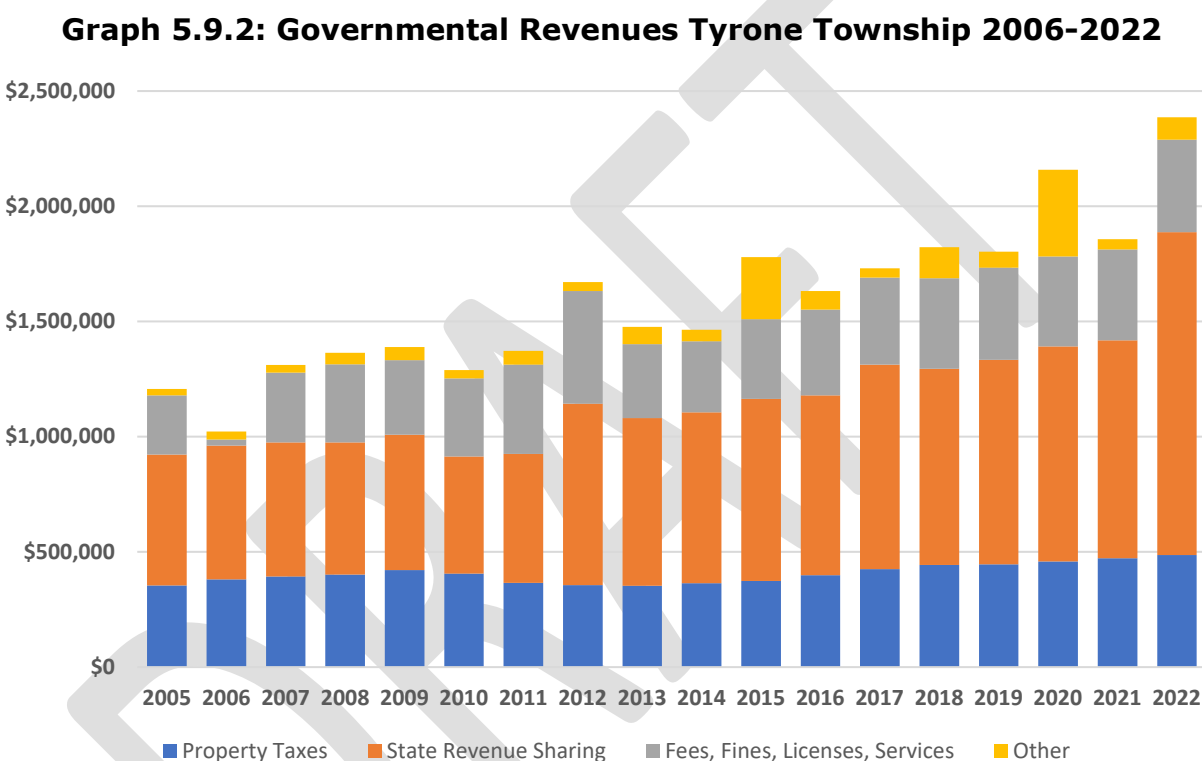
After decreasing during the Great Recession, the state equalized value of property in the Township has continued to grow and is roughly 34 percent higher than it was in 2007.



In addition to property taxes, the Township also receives revenues that go to its general fund from State revenue sharing, fees, fines, licenses, services, grants and other sources.

The Township collects money for sanitary sewer use and as well as a special assessment for police and fire services. Those funds are dedicated to those activities and are not included below.

Graph 5.9.2 below shows governmental revenues for the Township from 2006 through 2022. [Table 5.9.2](#) is located in the Economic Analysis Article Appendix.



*(Source: Tyrone Township)*

The Township has experienced steady growth in its revenues.

Revenues from property taxes have not increased at the same rate as the increase in state equalized value because of the Headlee amendment, which limits increases in taxable value until there is a change in ownership.

The Township has experienced a significant increase in State revenue sharing. In general, the State shares a portion of the sales tax with local units of governments based on their population. As a community's population grows in proportion to other communities or sales tax revenues increase, the State revenue sharing increases.

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## Economic Analysis Appendix

**Table 5.2: Income and Poverty in Tyrone Township and Surrounding Communities 2022**

	Median Household Income	Per Capita Income	Poverty Level
City of Fenton	\$53,638	\$29,564	10.2%
State of Michigan	\$54,938	\$30,336	15.0%
Deerfield Township	\$59,773	\$25,924	7.0%
Holly Township <sup>1</sup>	\$62,730	\$28,858	13.4%
City of Linden	\$64,511	\$33,872	9.0%
Rose Township	\$77,564	\$39,788	10.5%
Livingston County	\$80,897	\$38,399	5.6%
Argentine Township	\$81,941	\$34,710	6.9%
Highland Township	\$88,061	\$39,424	6.0%
Hartland Township	\$90,000	\$38,080	6.1%
Oceola Township	\$95,071	\$37,329	3.7%
<b>Tyrone Township</b>	<b>\$96,222</b>	<b>\$44,317</b>	<b>5.5%</b>
Fenton Township	\$98,064	\$52,657	5.1%

(Source: US Department of Commerce, Bureau of Census)

1) Includes Holly Township and the Village of Holly.



**Table 5.3.1: Nonfarm Employment in Tyrone Township 2015 - 2045**

	<b>2015</b>		<b>2020</b>		<b>2045</b>	
<b>Natural Resources, Mining, and Construction</b>	167	10.1%	208	11.8%	214	11.1%
<b>Manufacturing</b>	354	21.4%	349	19.7%	245	12.7%
<b>Transportation, Warehousing, and Utilities</b>	39	2.4%	43	2.4%	49	2.5%
<b>Wholesale Trade</b>	24	1.5%	28	1.6%	43	2.2%
<b>Retail Trade</b>	118	7.1%	124	7.0%	138	7.2%
<b>Information and Financial Activities</b>	341	20.6%	361	20.4%	420	21.8%
<b>Professional and Technical Services</b>	85	5.1%	99	5.6%	147	7.6%
<b>Administrative Support</b>	165	10.0%	186	10.5%	267	13.9%
<b>Education</b>	0	0.0%	2	0.1%	4	0.2%
<b>Healthcare</b>	84	5.1%	89	5.0%	130	6.7%
<b>Leisure and Hospitality</b>	114	6.9%	112	6.3%	119	6.2%
<b>Other Services</b>	140	8.5%	141	8.0%	122	6.3%
<b>Public Administration</b>	22	1.3%	27	1.5%	29	1.5%
	1,653		1,769		1,927	

(Source: SEMCOG)



**Table 5.3.2: Nonfarm Employment in Tyrone Township, Livingston County, and SEMCOG Area 2015 - 2045**

	2015			2020			2045		
	TY	LIV	SEM	TY	LIV	SEM	TY	LIV	SEM
<b>Natural Resources, Mining, and Construction</b>	10.1%	8.9%	4.6%	11.8%	9.9%	4.9%	11.1%	8.9%	4.6%
<b>Manufacturing</b>	21.4%	10.7%	9.5%	19.7%	10.1%	8.9%	12.7%	8.0%	6.5%
<b>Transportation, Warehousing, and Utilities</b>	2.4%	2.7%	3.7%	2.4%	2.5%	3.6%	2.5%	2.5%	3.4%
<b>Wholesale Trade</b>	1.5%	2.9%	3.6%	1.6%	2.8%	3.6%	2.2%	2.6%	3.4%
<b>Retail Trade</b>	7.1%	12.3%	9.7%	7.0%	12.1%	9.6%	7.2%	10.3%	7.9%
<b>Information and Financial Activities</b>	20.6%	13.4%	10.6%	20.4%	13.2%	10.6%	21.8%	13.6%	10.1%
<b>Professional and Technical Services</b>	5.1%	8.7%	11.8%	5.6%	8.7%	12.1%	7.6%	10.1%	14.2%
<b>Administrative Support</b>	10.0%	6.6%	7.4%	10.5%	6.6%	7.5%	13.9%	7.4%	8.1%
<b>Education</b>	0.0%	4.9%	7.1%	0.1%	4.9%	7.0%	0.2%	4.9%	7.1%
<b>Healthcare</b>	5.1%	7.8%	13.8%	5.0%	8.0%	14.1%	6.7%	10.2%	16.6%
<b>Leisure and Hospitality</b>	6.9%	10.7%	9.0%	6.3%	10.6%	9.1%	6.2%	11.4%	9.4%
<b>Other Services</b>	8.5%	6.8%	5.9%	8.0%	6.8%	5.8%	6.3%	6.3%	5.5%
<b>Public Administration</b>	1.3%	3.6%	3.3%	1.5%	3.6%	3.2%	1.5%	3.6%	3.1%

(Source: SEMCOG)



**Table 5.4: Unemployment Rate in Tyrone Township, Livingston County, State of Michigan, and United States 2006 - 2021**

	<b>Tyrone Township</b>	<b>Livingston County</b>	<b>State of Michigan</b>	<b>United States</b>
2006	5.2%	5.2%	7.0%	4.6%
2007	5.3%	5.3%	7.1%	4.6%
2008	6.3%	6.3%	8.2%	5.8%
2009	11.9%	11.9%	13.1%	9.3%
2010	7.9%	10.8%	12.2%	9.6%
2011	8.9%	8.7%	10.0%	8.9%
2012	8.4%	7.8%	9.0%	8.1%
2013	7.4%	7.4%	8.7%	7.4%
2014	6.1%	6.3%	7.2%	6.2%
2015	4.4%	4.6%	5.4%	5.3%
2016	4.9%	4.1%	5.0%	4.9%
2017	4.6%	3.4%	4.6%	4.4%
2018	4.3%	3.3%	4.2%	3.9%
2019	4.1%	3.2%	4.1%	3.7%
2020	3.4%	8.6%	10.0%	8.1%
2021	3.4%	4.2%	5.9%	5.3%

*(Source: US Department of Commerce, Bureau of Census)*



**Table 5.9.1: State Equalized Value in Tyrone Township 2006-2022**

<b>Year</b>	<b>Real</b>		<b>Personal</b>		<b>Total</b>	
2006	\$545,125,700		\$14,888,987		\$560,014,687	
2007	\$567,180,500	4.0%	\$17,504,000	17.6%	\$584,684,500	4.4%
2008	\$563,987,900	-0.6%	\$19,295,557	10.2%	\$583,283,457	-0.2%
2009	\$494,915,300	-12.2%	\$17,165,600	-11.0%	\$512,080,900	-12.2%
2010	\$457,337,600	-7.6%	\$18,009,700	4.9%	\$475,347,300	-7.2%
2011	\$422,950,100	-7.5%	\$17,820,100	-1.1%	\$440,770,200	-7.3%
2012	\$380,641,800	-10.0%	\$25,879,200	45.2%	\$406,521,000	-7.8%
2013	\$392,798,000	3.2%	\$34,959,300	35.1%	\$427,757,300	5.2%
2014	\$423,015,200	7.7%	\$29,389,500	-15.9%	\$452,404,700	5.8%
2015	\$455,208,600	7.6%	\$42,819,500	45.7%	\$498,028,100	10.1%
2016	\$487,081,400	7.0%	\$46,641,500	8.9%	\$533,722,900	7.2%
2017	\$525,048,000	7.8%	\$48,291,500	3.5%	\$573,339,500	7.4%
2018	\$544,732,500	3.7%	\$49,955,800	3.4%	\$594,688,300	3.7%
2019	\$593,398,200	8.9%	\$51,206,800	2.5%	\$644,605,000	8.4%
2020	\$642,426,300	8.3%	\$51,239,700	0.1%	\$696,666,000	8.1%
2021	\$678,835,400	5.7%	\$50,729,500	-1.0%	\$729,564,900	4.7%
2022	\$732,239,213	7.9%	\$51,044,900	0.6%	\$783,284,113	7.4%

(Source: Tyrone Township)



**Table 5.9.2: Governmental Revenues Tyrone Township 2006-2022**

	<b>Property Taxes</b>	<b>State Revenue Sharing</b>	<b>Fees, Fines, Licenses, Services</b>	<b>Other</b>	<b>Total</b>
2005	\$354,691	\$568,311	\$255,776	\$27,754	\$1,206,532
2006	\$380,945	\$580,651	\$26,587	\$33,944	\$1,022,127
2007	\$393,901	\$580,794	\$303,192	\$33,988	\$1,311,875
2008	\$401,870	\$573,815	\$338,022	\$50,501	\$1,364,208
2009	\$421,135	\$586,982	\$324,540	\$56,009	\$1,388,666
2010	\$406,196	\$508,511	\$337,952	\$36,119	\$1,288,778
2011	\$365,341	\$560,212	\$387,136	\$59,545	\$1,372,234
2012	\$355,849	\$787,886	\$488,875	\$38,251	\$1,670,861
2013	\$353,238	\$727,780	\$319,925	\$75,555	\$1,476,498
2014	\$364,380	\$740,933	\$308,325	\$50,186	\$1,463,824
2015	\$373,485	\$789,984	\$346,830	\$269,125	\$1,779,424
2016	\$398,928	\$780,269	\$371,739	\$80,892	\$1,631,828
2017	\$425,196	\$887,025	\$378,255	\$39,907	\$1,730,383
2018	\$443,809	\$850,976	\$392,354	\$135,062	\$1,822,201
2019	\$445,624	\$888,208	\$400,146	\$69,298	\$1,803,276
2020	\$458,157	\$933,055	\$391,296	\$376,596	\$2,159,104
2021	\$473,151	\$945,226	\$394,460	\$43,855	\$1,856,692
2022	\$486,806	\$1,401,248	\$400,806	\$97,534	\$2,386,394

(Source: Tyrone Township)

[End of Economic Analysis Article.]

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# NATURAL ENVIRONMENT ANALYSIS

## 6.1. Overview

The natural environment of Tyrone Township creates opportunities and limitations on the type and location of future development. The natural, rural character of the Township is one of the main attractions for residents.

Several important natural environment conditions in the Township are:

- There are significant surface waters, including lakes and rivers;
- Residents and businesses rely primarily on groundwater for their drinking water;
- There are records of elevated arsenic levels in some wells;
- Wetland areas can be found throughout the Township but are located primarily along the waterways and lakes;
- The significant areas of loamy soils are well-drained and do not pose significant challenges to development;
- A majority of the soils support agricultural uses; and
- There are significant woodland areas, including tree rows.

## 6.2. Surface Water

The most unique and significant natural features in Tyrone Township are its many lakes and rivers. They provide recreational opportunities for residents and unique residential areas.

The Township is within the Shiawassee River watershed, with water flowing northwards where it converges with the Tittabawassee River and eventually emptying into the Saginaw Bay.

See Watershed Map on page XX.

Some of the notable lakes in the Township are Shannon Lake, Runyan Lake, Tyrone Lake, Denton Lake, Goodfellow Lake, Sullivan Lake, Lake Urban, Hoisington Lake, and Marl Lake.

See Natural Feature Map on page XX.

The level of development surrounding the lake varies. Lake Tyrone, Lake Shannon, and Runyan Lake are surrounded primarily by single-family houses. Sullivan Lake, Marl Lake, and Denton Lake have some single-family houses and some remaining undeveloped areas. The other lakes are primarily surrounded by undeveloped lands.



The northern side of Sterns Lake is an active gravel/sand pit. It is common for these operations to leave a waterbody or waterbodies following mining operations. It is likely that the area around this lake will expand in the future with continued mining activities.

Limited areas along Shannon Lake, Hoisington Lake, and North Ore Creek are within a 1 percent (*100 year*) floodplain. The Township is not a participating community in the National Flood Insurance Program, so residents are unable to purchase flood insurance.

There are four Livingston County Drain Districts in the Township. They are associated with managing stormwater for residential developments.

See Drain District Map on page XX.

In the community survey, 95 percent of respondents strongly supported (*66 percent*) or supported (*29 percent*) protection of surface water, including lakes and rivers.

### 6.3. Groundwater

Properties within Tyrone Township rely on on-site wells to provide drinking water.

Because the Township is near the headwaters of the watershed and there are limited commercial or industrial uses in the Township, there is reduced risk of contamination to surface waters or groundwaters from upstream sources. Failed septic systems may pose a risk to groundwater quality because of the heavy reliance on these systems.

According to the Michigan Department of Environment, Great Lakes, and Energy, a significant number of wells within the Township have elevated levels of arsenic (*greater than 10 parts per billion*). These elevated levels are common in Michigan and could require special filtration or could limit development.

Because of the reliance on individual wells due to the lack of a public water system, the protection of groundwater from contamination is of great importance.

In the community survey, 94 percent of respondents strongly support (*69 percent*) or support (*25 percent*) protection of groundwater.

### 6.4. Wetlands

There are many wetlands in Tyrone Township, primarily along lakes or rivers. Wetlands that are connected with lakes or rivers are considered state-regulated wetlands. There are smaller wetland areas that are not connected and are considered non-state-regulated wetlands.

Wetland soils have a frequent presence of water saturation, when not drained or tiled. They also contain heavy concentration of organic material, such a peat, marl, or decomposed vegetation. These soils are not suitable for development, but they are important for supporting wetland vegetation and a habitat for fish and wildlife. They are also valuable for filtering sediment out of surface water runoff and as natural stormwater management.



State regulated wetlands are protected by Part 303 of the Natural Resources and Environmental Protection Act (*PA 451 of 1994*). Certain activities within these wetlands, such as dredging, filling, grading, or removing vegetation, require review and approval by the State.

The Township does not have a general law wetland ordinance, but the Zoning Ordinance does include some provisions to protect wetlands, such as minimum setbacks and preservation standards.

Wetland areas have been generally identified by the Michigan Department of Natural Resources and the US Fish and Wildlife Services National Wetlands Inventory. Exact location of wetlands should be determined by a wetland delineation.

See Natural Features Map on page XX.

In the community survey, 92 percent of respondents strongly supported (*57 percent*) or supported (*34 percent*) protection of wetlands.

### 6.5. Woodlands

Tyrone Township was once primarily covered by woodlands, but those woodlands were cleared to allow for agricultural fields at the time of settlement.

Several large woodland areas and tree lines between fields remain and contribute to rural character of the Township. These trees also provide environmental benefits, such as reducing stormwater runoff, reducing local temperature, creating wind blocks and reducing wind erosion, and providing habitat for wildlife.

See Natural Features Map on page XX.

The Township does not have a general law tree or woodland preservation ordinance, but the Zoning Ordinance does require some landscaping.

In the community survey, 94 percent of respondents strongly supported (*64 percent*) or supported (*30 percent*) protection of woodlands.

### 6.6. Soils

Soils in Tyrone Township are primarily loam soils, including loamy sand, clay loam, and sandy loam. These soils cover a significant majority of the Township and are relatively well-drained and do not present significant challenges to development.

Muck soils are found in the Township primarily along waterways. These soils are generally not well drained and present challenges to development. Most of these areas are or have historically been wetlands.

Areas with complex soils are found along waterways, in the southeastern portion of the Township, and in the northern portion of the Township. Due to glacial action, these areas contain a variety of soil types in a small area and onsite investigation is necessary to determine the exact soil conditions.

See General Soil Type Map on page XX.

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Soils can also be classified with respect to their ability to support agriculture.

**PRIME FARMLAND.** These soils, as defined by the US Department of Agriculture, describe lands that have the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, or oilseed crops and are available for those uses. It includes cultivated land, pastureland, woodlands, or other lands but does not include urban or built-up land or water areas. The soil quality and moisture supply are those needed to economically produce sustained high yields of crops when proper management and farming methods are used. It has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, and few or no rocks. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods and is either not frequently flooded during the growing season or is protected from flooding.

**PRIME FARMLAND IF DRAINED.** These soils describe lands that would be prime farmland if drained, with field tiles, for example. They may be subject to a higher water table or contain soils that do not drain as well.

**FARMLAND OF LOCAL IMPORTANCE.** These soils describe lands that have been farmed for a significant period of time but do not have all of the characteristics of prime farmland. As such, additional management techniques may be necessary, or crop yields may be reduced.

**NOT PRIME FARMLAND.** These soils describe lands that do not possess ideal physical or chemical characteristics for farming.

A significant portion of the soils in the Township are considered prime farmland or prime farmland if drained. The area with soils considered farmland of local importance is also significant. The area with soils considered not prime farmland is somewhat limited, primarily due to topography or muck soils.

See Farm Soil Type Map on page XX.

In the community survey, 93 percent of respondents strongly support (*56 percent*) or support (*37 percent*) the protection of working farmlands.

### 6.7. Slopes

The surface geology of Tyrone Township was formed 10,000 to 12,000 years ago when glacial activity deposited soils that shaped the current topography.

Most areas in the Township can be described as rolling hills, with several steep slope areas.

The highest point in the Township is the old Kandahar Ski Club north of Foley Road and west of Hartland Road, with an elevation of roughly 1,250 feet above sea level. The lowest point in the Township is Hoisington Lake in the northwest, with an elevation of roughly 858 feet above sea level.



Steep slope areas are primarily located around the old Kandahar Ski Club and surrounding lake and river areas. These areas can present challenges for agriculture use and for development.

See Elevation and Slope Map on page XX.

## **6.8. Dark Skies**

There is limited light pollution in Tyrone Township, due to the small number of commercial areas in the Township. The darkness of the night sky is relatively free of interference from artificial light.

Light from Fenton and Linden to the north and commercial areas along Old US-23 in Tyrone Township and M-59 in Hartland do contribute artificial light to the night sky.

The naturally dark skies contribute to the rural character of the Township.

The Township does not have a general law dark sky ordinance, but the Zoning Ordinance does include some provisions limiting light pollution for nonresidential developments.

In the community survey, 68 percent of respondents strongly supported (*41 percent*) or supported (*27 percent*) protection of dark skies.

## **6.9. Land Capacity**

Land capability provides a general indication of which areas are the most capable and the least capable of supporting development, based on natural resources. Land capacity is typically measured using soil, wetland, floodplain, and slope data.

Development and use of these areas present challenges and could cause negative impacts on surrounding areas and the community in general. These areas should be preserved to the extent possible.

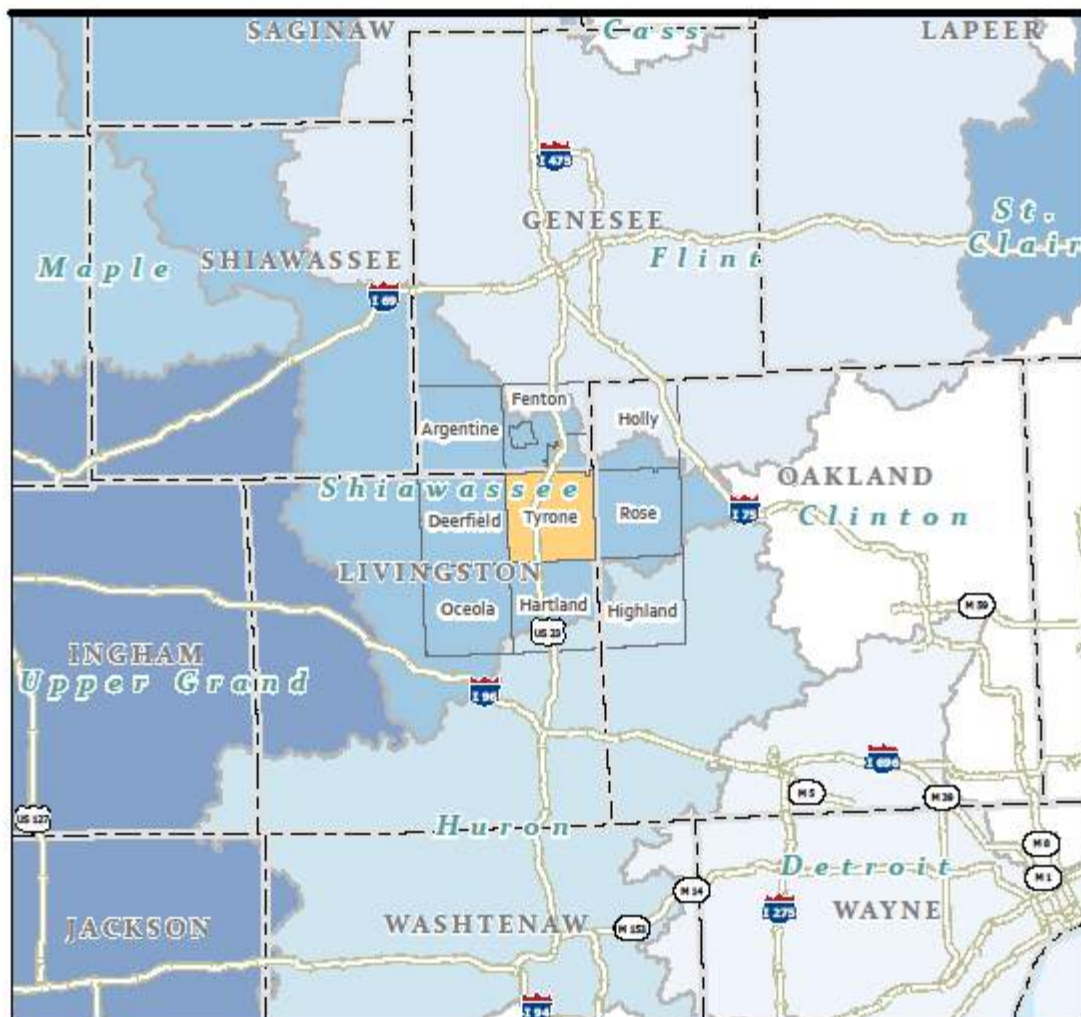
See Natural Features Map on page XX and Elevation and Slope Map on page XX.

Although this study is useful for general planning purposes, detailed study and examination should be conducted for specific sites.

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## Watershed Map



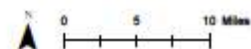
### Watershed Boundaries

- Cass
- Detroit
- Flint
- Huron
- Maple
- Shiawassee
- St. Clair
- Upper Grand

### Other Features

- Highways
- Tyrone Township
- Townships
- Counties
- Waterways

## Watersheds Tyrone Township

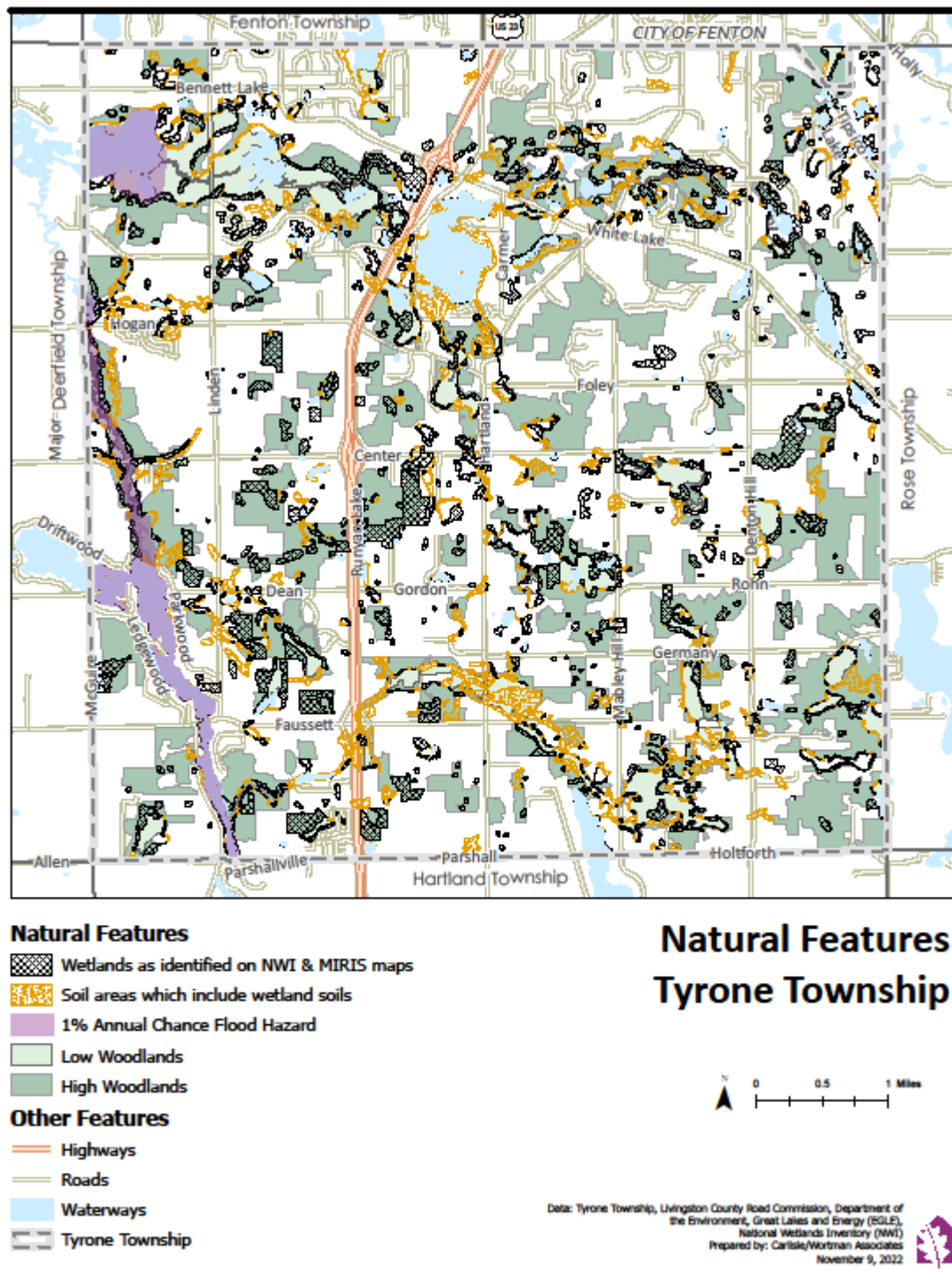


Data: Tyrone Township, Livingston County Road Commission,  
Michigan Dept. of Environment, Great Lakes, and Energy  
Prepared by: Carlisle/Worlman Associates  
January 3, 2023



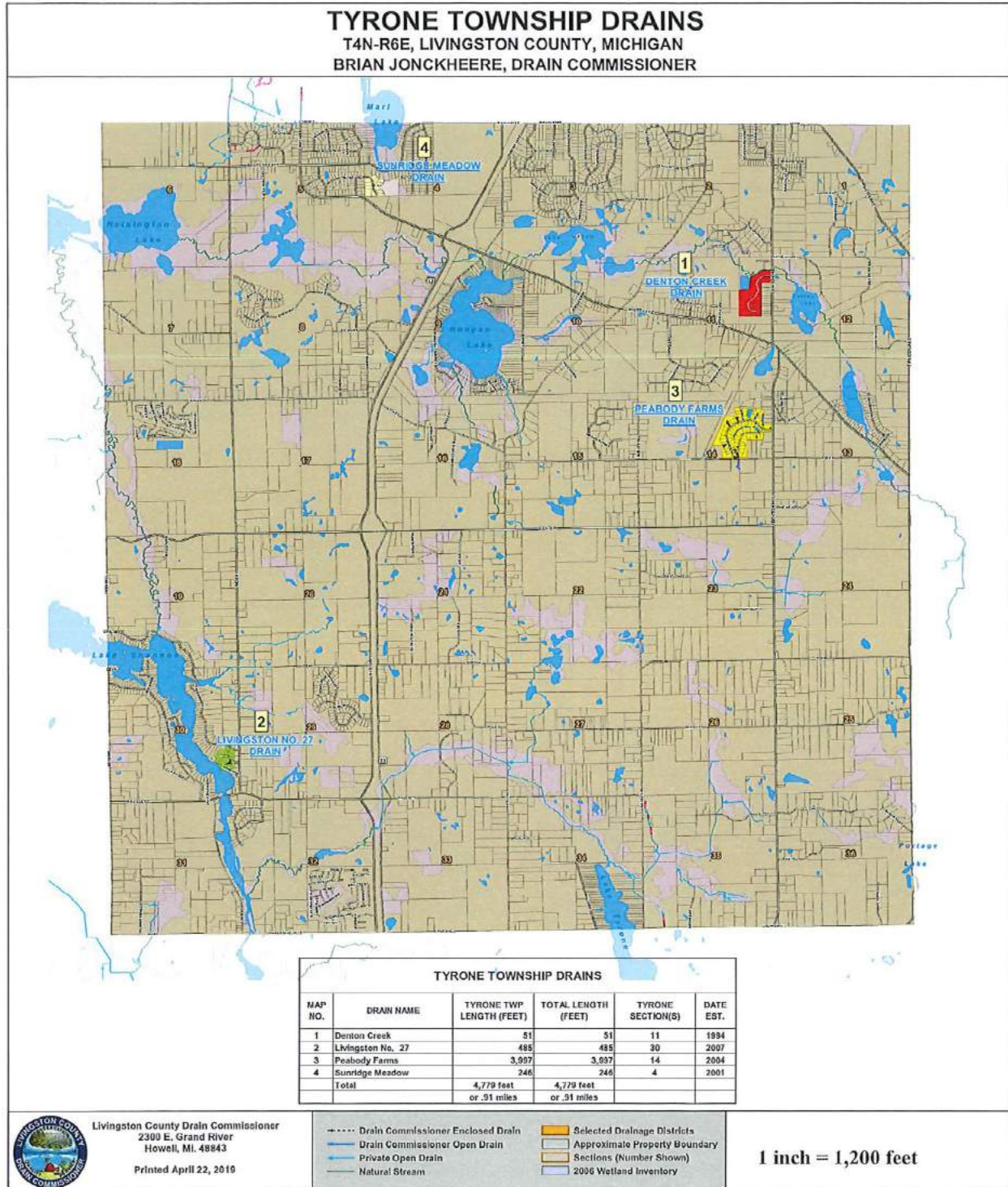


## Natural Features Map



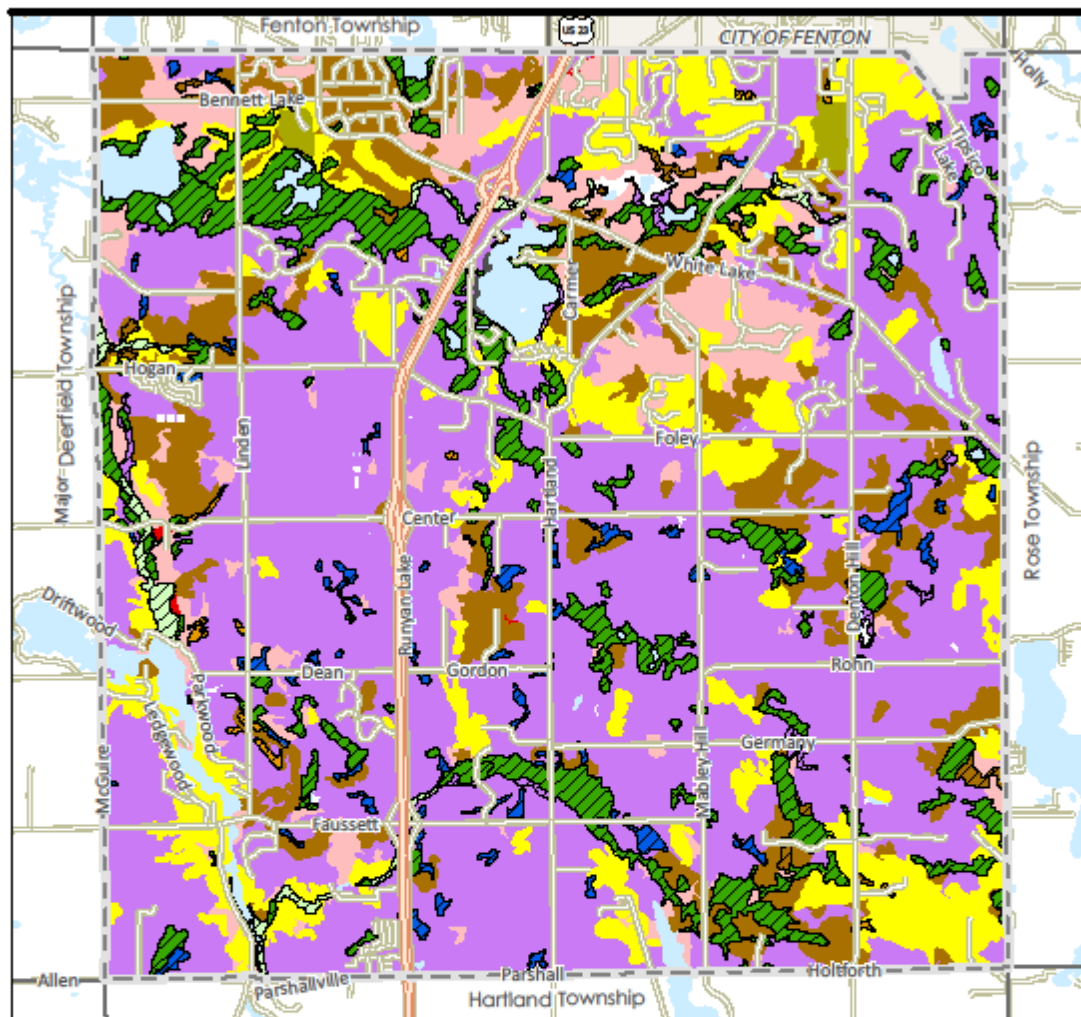


## Drain District Map





## General Soil Type Map



### Soil Type

- Alluvial land
- Fine Sand
- Loamy Sand
- Loam
- Clay Loam
- Sandy Loam
- Silt Loam
- Muck

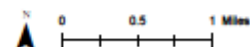
- Complex

- Gravel pits
- Lake beaches
- Hydric Soils

### Other Features

- Tyrone Township
- Highways
- Roads
- Waterways

## Soil Type - General Tyrone Township

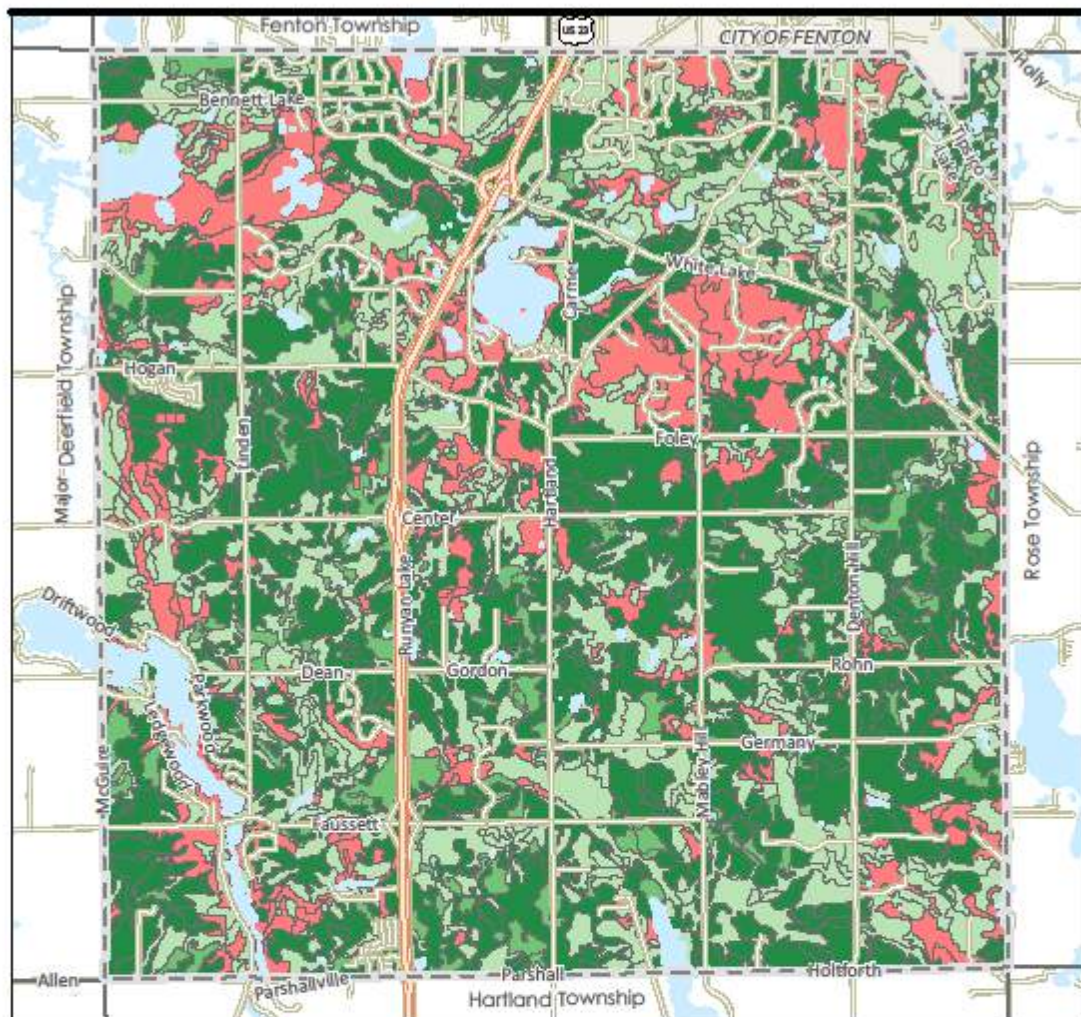


Data: Tyrone Township, Livingston County Road Commission,  
State of Michigan, US Department of Agriculture  
Prepared by: Carlisle/Wortman Associates  
November 9, 2022





## Farm Soil Type Map



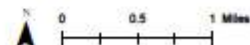
### Soil Ratings

- All areas are prime farmland
- Prime farmland if drained
- Farmland of local importance
- Not prime farmland

### Other Features

- Tyrone Township
- Highways
- Roads
- Waterways

## Soil Type - Farming Tyrone Township

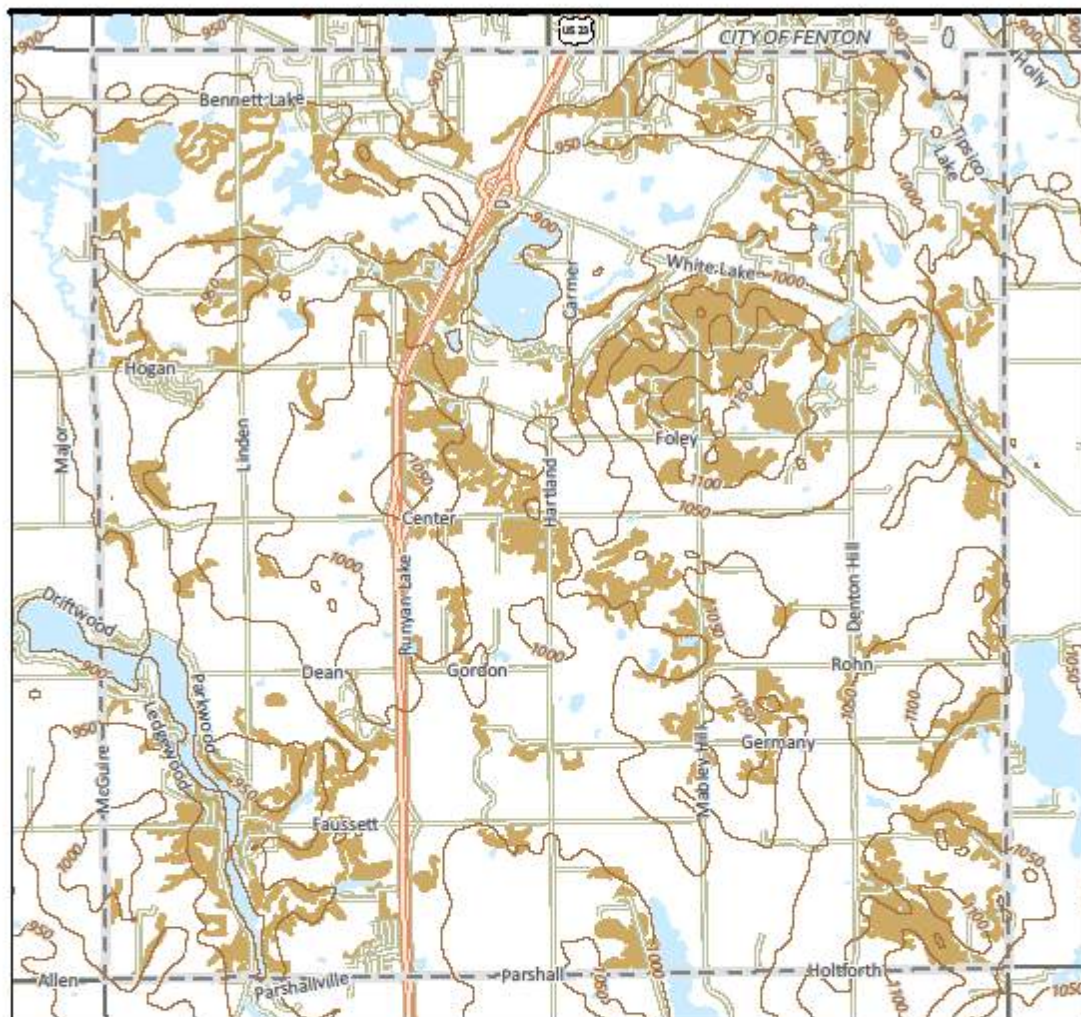


Data: Tyrone Township, Livingston County Road Commission, State of Michigan  
Prepared by: Carlisle/Wortman Associates  
November 7, 2022

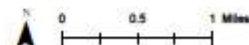




## Elevation and Slope Map



## Elevation Tyrone Township



Data: Tyrone Township, Livingston County Road Commission, State of Michigan,  
U.S. Geological Survey  
Prepared by: Carlisle/Wortman Associates  
November 9, 2022





*[End of Natural Environment Analysis Article.]*

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# TRANSPORTATION ANALYSIS

## 7.1 Overview

Transportation systems are an important element of every community. They facilitate movement within its boundaries and provide connections with other communities. They can facilitate or limit the potential types and nature of development.

Several important transportation conditions and trends in the Township are:

- The transportation system continues to remain primarily roads;
- Most of the roads are public, maintained by the Livingston County Road Commission;
- Most of the roads are considered local roads, with several classified as minor collectors or major collectors;
- US-23 has the highest volume of traffic, followed by other paved roads primarily along US-23 or in the northern portion of the Township;
- Roughly 32 percent of the public roads in the Township are considered good or fair condition, 26 percent are considered poor, and 40 percent are unrated (*not paved*);
- There is not a cohesive nonmotorized transportation system (*trails or pathways*) within the Township; and
- There are no airports, railroads, or water transportation within the Township.

## 7.2 Roads

The road network is the most important transportation system within Tyrone Township.

Although the Township may participate in the maintenance of roads, it does not own and is not responsible for any roads. The Livingston County Road Commission or Michigan Department of Transportation are responsible for public roads. Homeowners' associations or property owners are responsible for private roads.

See the Road Ownership Map on page XX.

There is a pretty even balance between paved and unpaved roads in the Township. Roughly 56 percent of the public roads are paved and 44 percent are unpaved. Private roads are also split between paved and unpaved.

See the Road Surface Map on page XX.

US-23 is the most important road in the Township and is an important transportation corridor in the State of Michigan. It connects the Township with major cities in southeastern Michigan and beyond, providing opportunities for residents to travel to work, shopping, and entertainment and access for businesses to markets, materials,



and potential employees. It also creates challenges, such as noise, visual intrusion, and physical separation of the community. There are two entrance/exit interchanges on US-23, at White Lake Road and Center Road.

Other roads in the Township generally provide access to US-23, properties within the community, or nearby communities.

In the community survey, most respondents had positive responses about the adequacy of the road network. Of the respondents, 68 percent strongly agreed (*8 percent*) or agreed (*60 percent*) that the road system in general is adequate for current demand. 61 percent of respondents strongly agreed (*8 percent*) or agreed (*53 percent*) that the paved road system is adequate for current demand.

### ROAD CLASSIFICATION

Roads are classified using the National Functional Classification (NFC) system, developed by the Federal Highway Administration. This system defines roads according to their function and determines which roads are eligible for federal aid. The Township also uses road classification to determine specific road types for certain land uses. Below is a summary of the categories in the National Functional Classification.

INTERSTATE HIGHWAYS move people and goods over long distances at high speeds with limited and controlled access. The closest interstates are I-75, which is roughly 12 miles north of the Township, and I-96, which is roughly 12 miles south of the Township.

PRINCIPAL ARTERIALS generally move people and goods over long-distances with limited access. They also provide access to important traffic generators, such as major airports or regional shopping centers. Examples include certain freeways, state routes between large cities, and important surface roads in a community. US-23 runs north/south through the Township.

MINOR ARTERIALS are similar in function to principal arterials, except they move people and goods over shorter distances and to lesser traffic generators. Examples include state routes between smaller cities, surface streets of medium importance in large cities, and important surface streets in smaller cities. Because of greater accessibility to adjacent land uses and controlled intersections, speeds are generally slower than principal arterials. There are no minor arterials in the Township.

MAJOR COLLECTORS collect traffic from local roads and connect it with the surrounding arterial roads. They also funnel traffic from residential or rural areas to arterials. Generally, they are not intended for through traffic, but may serve this role if arterials are congested or not available. There are several major collectors in the Township, including: Denton Hill; Bennet Lake, between Deerfield Township and Old US-23; and White Lake, between Bennet Lake and Denton Hill.

MINOR COLLECTORS are similar to major collectors, collecting traffic from local roads and connecting it with major collectors and surrounding arterial roads. There are several minor collectors in the Township, including: Old US-23, north of Faussett and



## Transportation Analysis Article

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between Center and Hogan; Parshallville, between Linden and Old US-23; and White Lake, between Denton Hill and Tipsico Lake.

LOCAL ROADS primarily provide direct access to properties and connections to collectors but may also provide residents access to other properties in the immediate area. The majority of roads in the Township, all those not otherwise identified above, are classified as local roads.

Table 7.2.1A below lists the roads in Tyrone Township according to their National Functional Classification in 2022.

**Table 7.2.1A: National Functional Classification in Tyrone Township 2022**

Interstate Highways	<i>none</i>
Principal Arterials	US-23
Minor Arterials	<i>none</i>
Major Collectors	Denton Hill Bennet Lake, between Deerfield Township and Old US-23 White Lake, between Bennet Lake and Denton Hill
Minor Collectors	Old US-23, north of Faussett and between Center and Hogan Parshallville White Lake, between Denton Hill and Tipsico Lake
Local Roads	All other roads not mentioned above (Source: Livingston County Road Commission)

### URBAN AREAS

The Federal Highway Administration has categorized roads based on the density of the population starting in 1991 to represent the different characteristics and uses of roads in urban versus rural areas. In general, an Urban Area has a population of more than 5,000 people; a Small Urban Area has a population between 5,000 and 49,999 people; an Urbanized Area has a population of more than 50,000 people.

Roads and other transportation improvements within Urban Areas are eligible for urban area funding. Roads and other transportation improvements not within Urban Areas are eligible for rural area funding.

The northern portion of the Township is located within the Flint Urban Area.



## **TRAFFIC VOLUMES**

Traffic volumes can affect the quality of life and may have an impact on and be impacted by future developments. Roads have capacity measures that describe the maximum number of vehicles that can pass based on different conditions. When a road reaches or exceeds its capacity, vehicles may experience delays, trips may move to other roads, or people may reduce the number or trips they take.

The most common metric used for transportation planning is average annual daily traffic, which is the estimated mean daily (*24 hour*) traffic volume. Often, on-site traffic counts are taken for a limited period of time and adjustments are made to factor for seasonal and day-of-week differences. The Livingston County Road Commission and Michigan Department of Transportation conduct traffic counts at many locations in Tyrone Township.

US-23 has the highest traffic volumes, with average annual daily traffic of 39,147 to 61,364 trips, depending on the segment. White Lake Road between Carmer Road and Bennet Lake Road has between 4,950 and 6,170 trips. Sections of Bennet Lake and Linden Road have between 6,120 and 6,180 trips. Old US-23 between Center Road and Faussett Road has between 3,570 and 3,600 trips, depending on the segment. Faussett Road between Old US-23 and Linden Road has 3,080 trips. Most segments of Denton Hill Road have more than 2,000 trips. Unpaved roads have significantly fewer trips, with several having as few as 80 trips.

See the Traffic Volume Map on page XX.

Another common metric used for transportation planning is level of service (*LOS*), which describes the length of delays experienced at an intersection or road segment versus free-flowing conditions. Level of service falls into one of six categories from A to F, with A representing no delay and F representing the greatest delay. This is what most people experience because it increases the time required to complete a trip.

Unfortunately, level of service information does not exist on a Township-wide basis. This information is generally prepared as part of traffic studies conducted for specific projects. The Township could work with partners to develop this information in the future.

## **TRUCK ROUTES**

The Township adopted a Truck Route Ordinance (*Ordinance 38*) in 1999 that designated truck routes in the Township. This Ordinance has been amended several times since adoption, to add penalties for violations as well as additional routes.

In order to enforce this ordinance, truck routes/non-truck routes need to be posted.

Exceptions are allowed for fire trucks, farm equipment, road construction/repair equipment, waste haulers, and deliveries.

Table 7.2.2 below lists the roads in Tyrone Township that are designated as truck routes.



**Table 7.2.2: Designated Truck Routes in Tyrone Township 2022**

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Bennett Lake, from the Township border to White Lake

Denton Hill

Foley, from the north/south half section line of Section 14 to Denton Hill

Hogan, from US-23 to Township border

Old US-23

US-23

White Lake, from Bennett to Denton Hill

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*(Source: Tyrone Township)*

See the Truck Routes Map on page XX.

### **COMMUTING**

Most of the Township's residents commute to other communities for employment.

In the community survey, 12 percent of respondents stated that they commuted to a location in Tyrone Township or Fenton for work, and 15 percent of respondents stated that they worked from home.

According to the American Community Survey, the mean travel time to work for Township residents was 35 minutes.

Fourteen percent of respondents in the community survey said their daily commute was 20 minutes or less; 16 percent of respondents said their daily commute was 21 to 45 minutes; and 10 percent of respondents said their daily commute was 45 minutes or longer.

### **CARPOOL LOTS**

There are no Michigan Department of Transportation carpool parking lots in Tyrone Township.

The closest carpool parking lot to the north is at Silver Lake Road, west of US-23, roughly one mile north of the Township. The closest carpool parking lot to the south is at Old US-23, west of US-23 and north of M-59, roughly four miles south of the Township.

Many residents informally use existing parking lots, such as the Tyrone Hills Golf Club on Center Road, west of US-23, as a carpool lot.

In the community survey, 52 percent of respondents strongly supported (6 percent) or supported (46 percent) park and ride/commuter parking lots.



**CONSTRUCTION AND MAINTENANCE**

The Livingston County Road Commission is responsible for construction, maintenance, and improvements of most public roads, excluding US-23, within Tyrone Township. The Road Commission for Oakland County is responsible for a portion of Tipsico Lake Road. The Genesee County Road Commission is responsible for a portion of Bennett Lake Road. The City of Fenton is responsible for Shiawassee Avenue and Jayne Road.

The Road Commission is funded primarily through the Michigan Transportation fund from fuel taxes and vehicle registration fees, based on miles of public roads. Funding can also come from State and Federal grants, local special assessment districts, and contributions from local units of government. There is a substantial gap between anticipated costs and anticipated funds for public roads, which may affect the Road Commission's interest or ability to accept dedication of additional public roads in the future.

There are no millages or special assessment districts dedicated to road or transportation construction or maintenance in the Township.

The Township requires maintenance agreements when new private roads are established. There are a number of existing private roads that do not have a recorded maintenance agreement.

The Michigan Transportation Asset Management Council has developed a rating system to standardize evaluation of roads and development of maintenance plans. This PASER (Pavement Surface Evaluation and Rating) rating is used for asphalt and concrete roads. New roads are rated a 10, and failed roads are rated a 1. Roads with a rating of 8+ are considered good; roads with a rating of 5-7 are considered fair; and roads with a rating of 1-4 are considered poor. Roads with a rating of 0 are not rated; this generally applies to unpaved roads.

Table and Graph 7.2.3 below show the PASER ratings for public roads in the Township in 2022.

**Table 7.2.3: Road PASER Ratings 2022**

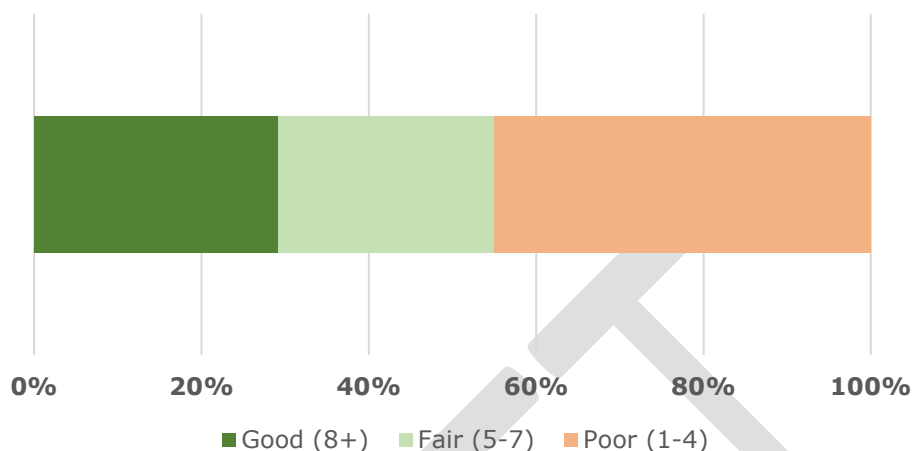
<b>Condition</b>	<b>Centerline Miles</b>	<b>Percentage (including unrated)</b>	<b>Percentage (excluding unrated)</b>
Good (8+)	15.485	17.3 percent	29.1 percent
Fair (5-7)	13.807	15.4 percent	25.9 percent
Poor (1-4)	23.915	26.8 percent	45.0 percent
Unrated 0 (unpaved)	35.927	40.3 percent	n/a

(Source: Livingston County Road Commission)



**Graph 7.2.3: Road PASER Ratings 2022**

*(Excluding unrated roads)*



*(Source: Livingston County Road Commission)*

Although 55 percent of the rated roads in the Township are rated good or fair, the 45 percent of rated roads ranked as poor is notable.

See the PASER Map on page XX.

In the community survey, only 26 percent of respondents described the paved public roads as excellent (*2 percent*) or good (*24 percent*) condition. 17 percent of respondents described unpaved public roads as excellent (*1 percent*) or good (*16 percent*) condition.

The Township is not responsible for maintenance of public roads, but it could participate through the contribution of funds to road improvement projects through use of general fund monies, special assessments, or a dedicated millage. In the community survey, 54 percent of respondents strongly support (*11 percent*) or support (*43 percent*) a millage dedicated to road improvements.

## **7.3 Public Transportation**

Public transportation in Tyrone Township is available through Livingston Essential Transportation Services (*LETS*). LETS provides door-to-door service within the Township and Livingston County. Connections are available to destinations in other counties for medical purposes.

LETS Transit Master Plan calls for improving connections with adjacent public transportation services, such as the Mass Transportation Authority to the north in Genesee County and the Ann Arbor Area Transportation Authority to the south in Washtenaw County.



In the community survey, 53 percent of respondents strongly agreed (*11 percent*) or agreed (*42 percent*) that the public transportation system is adequate for current demand.

## **7.4 Pedestrians and Bicycles**

Tyrone Township lacks a cohesive pedestrian or bicycle transportation system, typical amongst rural communities. Existing sidewalks in the Township are generally limited to individual developments. While it is possible to walk or bike along roads, that option is generally undesirable due to limited space, traffic volumes, and traffic speed.

To the north, the LAFF Pathway runs through Argentine Township, along Silver Lake Road, eventually connecting with Linden. Future phases call for expansion through Fenton Township to the City of Fenton.

Livingston County has long-term plans anticipating a trail running from Deerfield Hills Park south through Parshallville and a trail running east/west using an ITC corridor.

In the community survey, 41 percent of respondents strongly agreed (*6 percent*) or agreed (*35 percent*) that the pedestrian or bicycle transportation system is adequate for current demand.

When asked about support for pedestrian and bicycle improvements, 74 percent of respondents strongly support (*31 percent*) or support (*43 percent*) public, nonmotorized pathways. 47 percent of respondents strongly support (*13 percent*) or support (*34 percent*) a millage dedicated to nonmotorized pathway improvements.

For new developments, 65 percent of respondents strongly support (*17 percent*) or support (*48 percent*) internal sidewalks for new developments, and 63 percent strongly support (*18 percent*) or support (*45 percent*) pathways along public roads for new developments.

In the community visioning session, there was support for pedestrian and bicycle improvements, including wider shoulders and dedicated pathways.

## **7.5 Air Transportation**

There are no commercial aviation, general aviation, or military airports within Tyrone Township.

The largest airport in the region is Detroit Metropolitan Wayne County Airport (DTW), also known as Detroit Metro. It is located in Romulus, which is roughly 55 minutes from the Township via US-23 and I-94. The airport currently has 12 major carriers, is a hub for Delta and Spirit, and has many charter flight operators. Direct flights are available to more than 140 destinations, including most major US cities and over 14 international destinations. The airport also serves as an air cargo hub.

Flint Bishop Airport (FNT) is located in Flint, roughly 15 miles north of the Township via US-23. The airport is currently served by 3 airlines and charter flight operations.



Direct flights are available to 13 destinations in the US. The airport also provides air cargo operations.

Oakland County International Airport (PTK) is located in Waterford Township, roughly 25 miles southeast of the Township. It does not have scheduled flights, but charter flights are available.

Price's Airport (9G2) is located in Fenton Township near Linden, roughly one mile north of the Township's northern border. It does not have scheduled flights but provides hangar space for private aircraft and charter flights may be available.

## **7.6 Railroads**

There are no railroads or railroad infrastructure in Tyrone Township.

CN operates a freight rail line that runs through Rose Township, Holly Township, Fenton Township, and Fenton. This line connects with Detroit to the south and Durand to the north.

CSX Transportation operates a freight rail line that runs through Rose Township, Holly Township, and Highland Township. This line connects with Toledo to the south and Flint to the north.

Passenger rail service is available with Amtrak to the north in Flint on the Blue Water service, which connects with Port Huron to the east and Chicago to the west. Service is also available in Pontiac and Ann Arbor on the Wolverine service, which connects with Detroit to the east and Chicago to the west.

## **7.7 Water**

There are no water transportation facilities or infrastructure in Tyrone Township.

## **7.8 Complete Streets**

Tyrone Township recognizes the importance of a transportation system that lessens congestion and provides safe and efficient movement of people and goods by motor vehicles, bicycles, pedestrians, and other legal users.

Improvements such as sidewalks, crosswalks, pathways, and accessible curb ramps should be encouraged in appropriate locations and consistent with the character of the surrounding area.

## **7.9 Major Trip Generators or Attractors**

Compared with other communities, Tyrone Township does not have typical uses or locations that generate or attract a significant volume of trips, like a regional airport, medical center, or schools.



## Transportation Analysis Article

CLEAN Draft 07.05.2023

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The largest trip generators in the Township are residential developments. The most notable of these are the mobile home parks, due to the high number of dwelling units.

The cities of Linden and Fenton to the north of the Township attract trips for shopping, work, and schools.

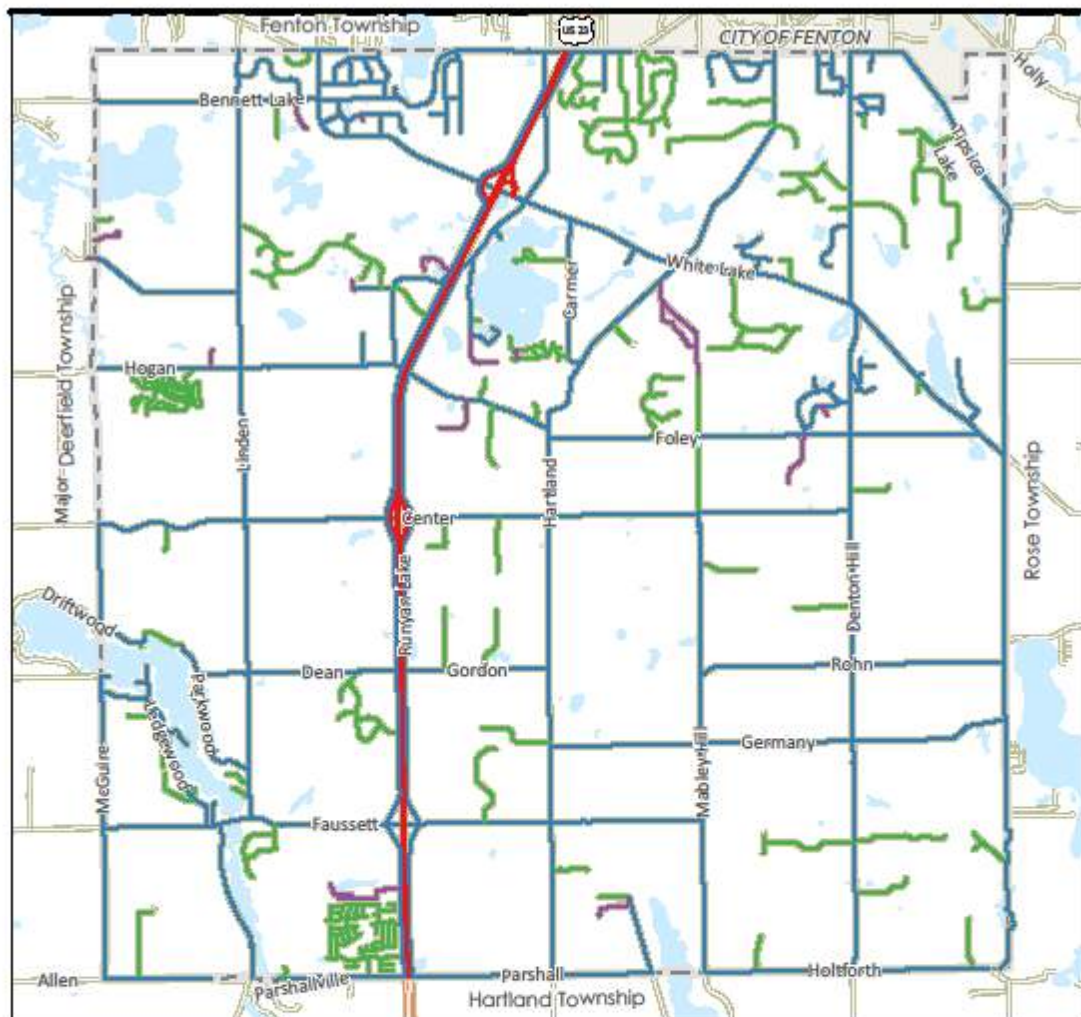
Although they do not generate or attract a large volume of trips, several industrial uses along Old US-23 require truck traffic to support the use. The sand/gravel pit on Bennet Lake, west of White Lake, and on Hogan just west of the Township also generates truck traffic.

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## Road Ownership Map



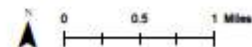
### Road Ownership

- State
- Public
- Private
- Not Available

### Other Features

- Tyrone Township
- Highways
- Roads
- Waterways

## Road Ownership Tyrone Township

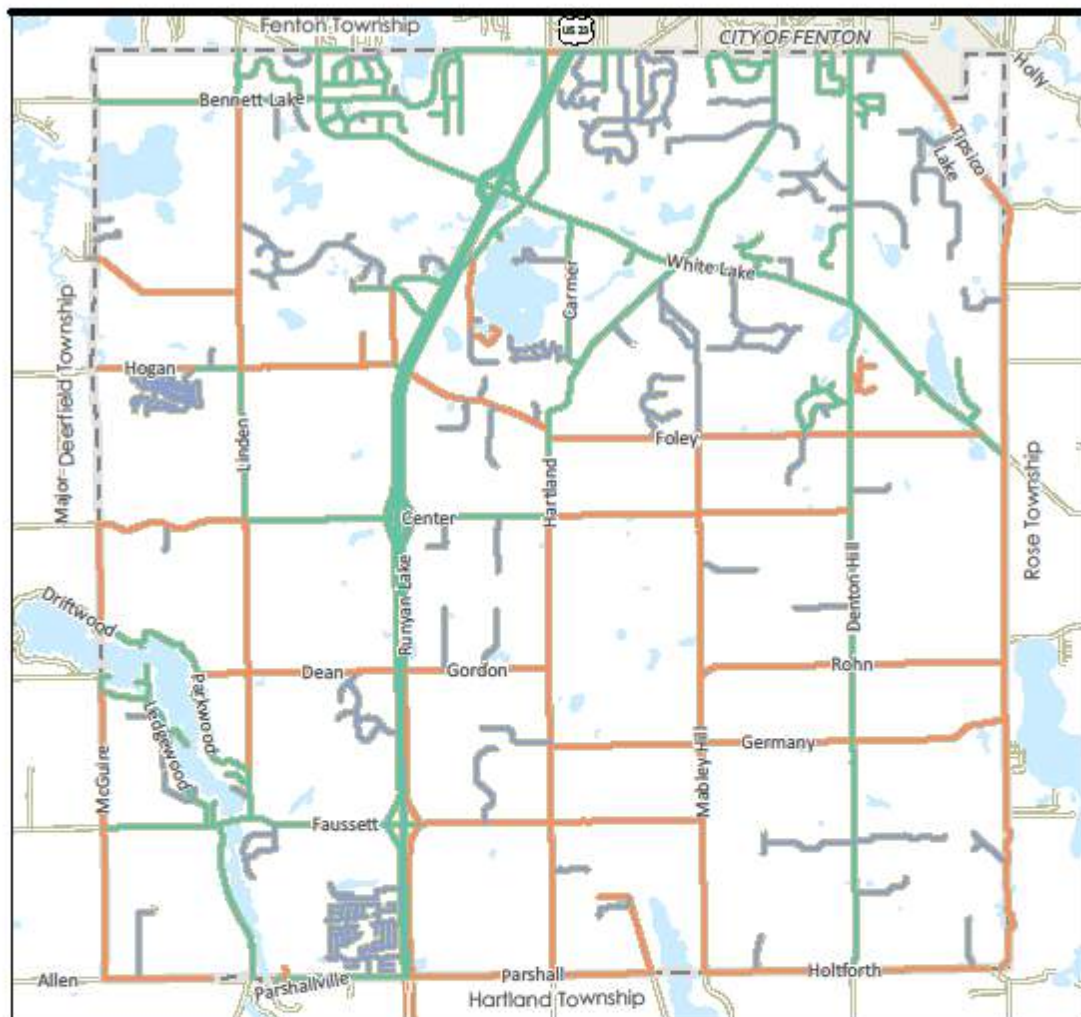


Date: Tyrone Township, Livingston County Road Commission, State of Michigan  
Prepared by: Carlisle/Worlman Associates  
September 7, 2022





## Road Surface Map



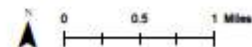
### Road Surface

- Asphalt/Composite
- Gravel
- Not Available

### Other Features

- Tyrone Township
- Highways
- Roads
- Waterways

## Road Surface Tyrone Township

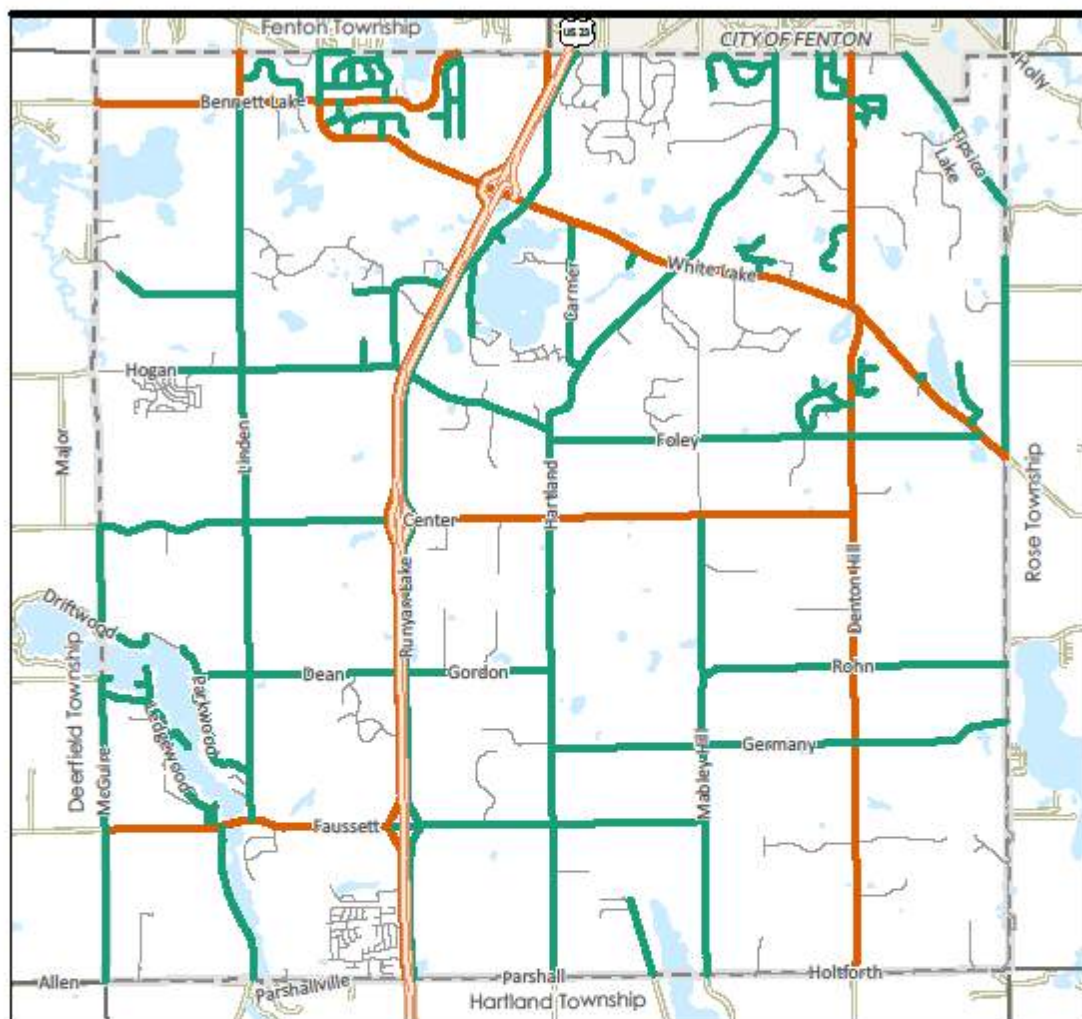


Date: Tyrone Township, Livingston County Road Commission, State of Michigan  
Prepared by: Carlsle/Worlman Associates  
September 7, 2022





## National Functional Classification Map



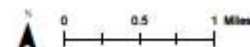
### Roads - NFC Classification

- Major Collector
- Local
- Non-Categorized Roads

### Other Features

- Tyrone Township
- Highways
- Roads
- Waterways

## National Functional Classification (NFC) Roads Tyrone Township

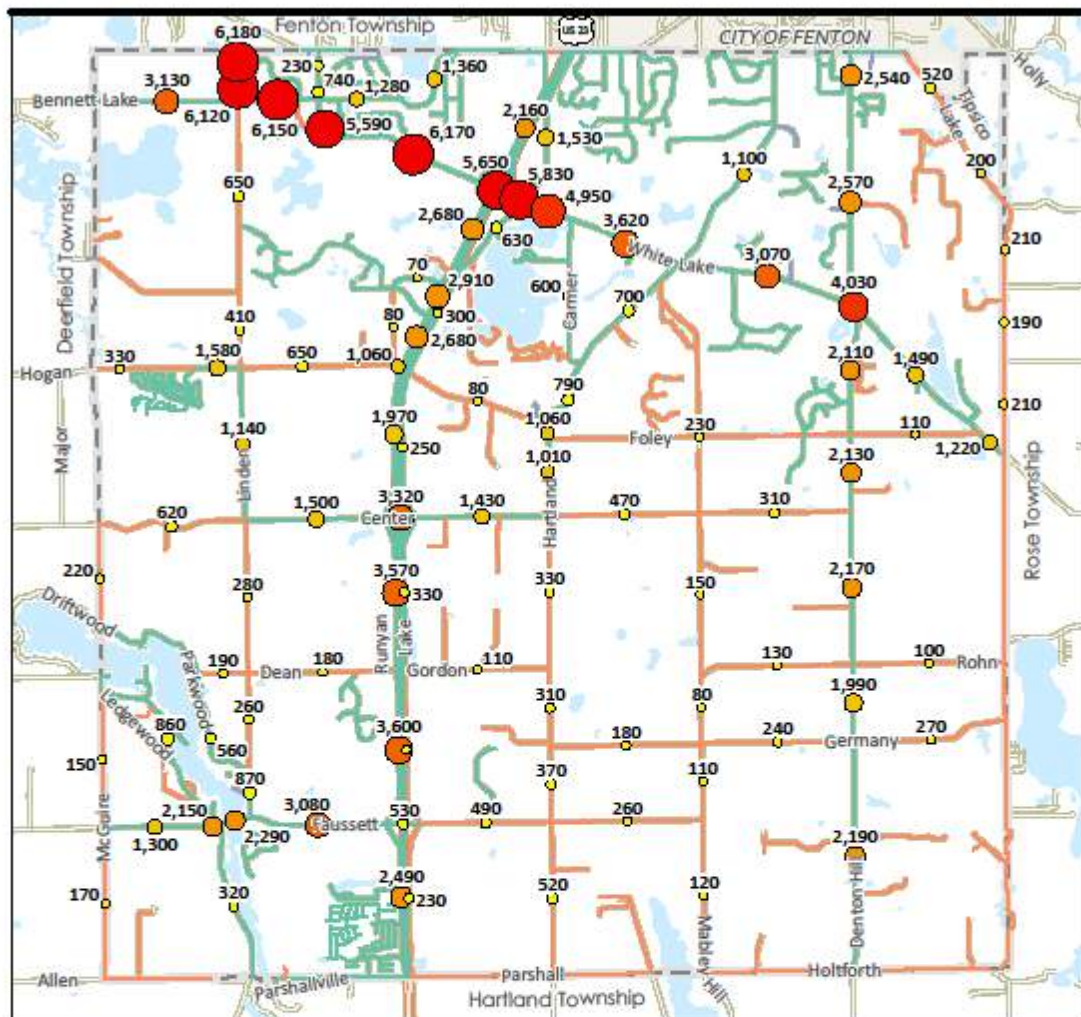


Data: Tyrone Township, Livingston County Road Commission, State of Michigan  
Prepared by: Carlisle/Wortman Associates  
November 9, 2022





## Traffic Volume Map



### Traffic Counts by Location

- 70 (min) - 1,000 vehicles
- 1,001 - 2,000 vehicles
- 2,001 - 3,000 vehicles
- 3,001 - 4,000 vehicles
- 4,001 - 5,000 vehicles
- 5,001 - 6,180 (max) vehicles

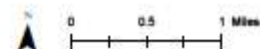
### Road Surface

- Paved
- Unpaved
- Not Available

### Other Features

- Tyrone Township
- Highways
- Roads
- Waterways

## Traffic Counts, 2021-2022 and Road Surface Tyrone Township

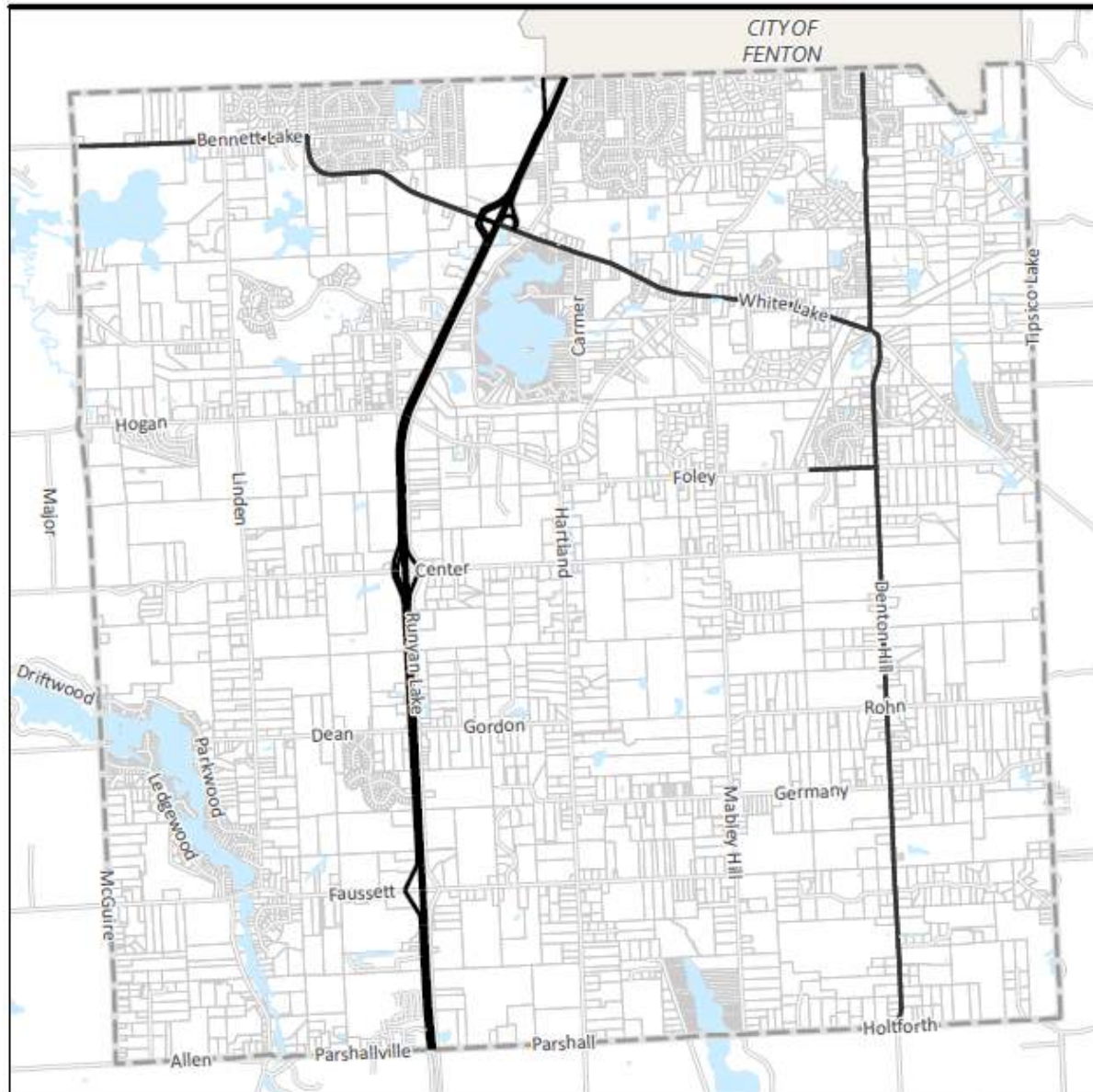


Date: Tyrone Township, Livingston County Road Commission, State of Michigan  
Prepared by: Carlisle/Worlman Associates  
November 9, 2022





## Truck Routes Map



### Truck Routes Tyrone Township

- |                 |              |
|-----------------|--------------|
| Tyrone Township | Truck Routes |
| Cities          | Roads        |
| Waterways       | Parcels      |



0 0.5 1 Miles

This map is for reference only. Data layers that appear on this map may not be accurate. The information is provided with the understanding that the conclusions drawn from such information are solely the responsibility of the user. Any assumption of legal status of this data is hereby disclaimed.

Prepared by: Carlisle/Wortman Associates, Inc.  
7/12/2023





## PASER MAP





*[End of Transportation Analysis Article.]*

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DRAFT



# COMMUNITY FACILITIES AND PUBLIC SERVICES ANALYSIS

## 8.1 Overview

The quality of life, identity, and desirability of a community are related to the level and quality of public services available, such as education, recreation, public safety, and public utilities. The responsibility for providing these services and facilities in Tyrone Township is shared by many public and private entities, which is common for most townships.

Changing population, demographics, and land uses may place different demands on community facilities and public services. This Article examines the current status of various community facilities and public services in the Township.

Several important community facility and public services details in the Township are:

- Fire and police services are provided through other agencies and paid for through a special assessment;
- Enrollment in the school districts serving the Township has decreased over the past decade;
- There are limited recreational opportunities in the Township, but there are additional opportunities in surrounding communities;
- Utilities are available in the Township, but certain locations may have greater challenges accessing them; and
- Sanitary sewer service is available in limited areas of the Township.

## 8.2 Township Hall

The Tyrone Township Hall is located at 8420 Runyan Lake Road, just south of Center Road in 2020. The property is 10-acres in size, includes a 10,500 square foot building, and has an additional accessory building.

The Township Hall provides a home for the Township's administration, including elected and appointed officials and employees. It includes a meeting hall for use by the Township Board, Planning Commission, Zoning Board of Appeals, other public bodies, and community groups.

When searching for a new location, the Township desired a property large enough to accommodate future uses in a single campus location. Police and fire services in the Township are currently contracted out with other agencies using remote facilities. The property is large enough to support service facilities if so desired in the future.

The Township is working with the Tyrone Township Historical Society to move the Historic Town House from 1887 to the new site in the near future.



### **8.3 Fire**

Tyrone Township does not have its own fire department. The Township contacts for fire services with the City of Fenton, Fenton Township, and the Hartland-Deerfield Fire Authority. Each department covers a specific area of the Township, but mutual aid is provided as necessary.

See Fire Coverage Map on page XX.

The Insurance Services Office (ISO) has developed a Public Protection Classification (PPC) that is used by fire departments and insurance companies. This measure describes how well an area is prepared for fires and is based on the health of the fire department, the available water supply, emergency communication, and community risk reduction. The highest score is a 1; the lowest score is a 10.

The ISO Public Protection Classifications in the Township range from a high of 3 along the northern border with the City of Fenton to a low of 10 in the southeastern portion of the Township. The largest area of the Township has a score of 5, with other areas having a score of 4 and 9.

See ISO Map on page XX.

A significant challenge for rural communities with respect to ISO Public Protection Classification is a greater reliance on volunteer firefighters and a lack of water supply. Few areas in the Township are served by a pressurized hydrant system. The Township has promoted or required installation of dry hydrant systems, which provide a connection to a waterbody that can be connected to a fire truck to provide water.

Because the Township borders Oakland and Genesee Counties, mobile phone users near these borders may have their emergency 911 calls directed to a dispatch center in one of those counties, delaying response to the emergency.

Funding for fire protection services comes from the Township's Police and Fire Special Assessment.

In the community survey, 42 percent of respondents described the current level of fire protection services as excellent (*14 percent*) or good (*28 percent*), with 34 percent describing it as adequate. Of the 53 respondents who have had an interaction with the fire protection services in the past five years, 84 percent rated their experience as very satisfied (*54 percent*) or satisfied (*30 percent*).

### **8.4 Police**

Tyrone Township does not have its own police department. The Township contracts for law enforcement services through the Livingston County Sheriff's Department.

The Sheriff's Department provides eight hours of coverage seven days a week. The County Sheriff's Department is located in Howell, with a satellite office in Hartland Township near M-59 and US-23, roughly four miles south of the Township.

The Township also receives police coverage from the Michigan State Police. The closest State Police Post is in Brighton, roughly 10 miles south of the Township.



Similar to fire response, mobile phone users near these borders may have their emergency 911 calls directed to a dispatch center in Oakland or Genesee Counties, potentially delaying response to the emergency.

Funding for police services comes from the Township's Police and Fire Special Assessment.

In the community survey, 43 percent of respondents described the current level of police services as excellent (*15 percent*) or good (*28 percent*), with 33 percent describing it as adequate. Of the 105 respondents who have had an interaction with the police services in the past 5 years, 87 percent rated their experience as very satisfied (*41 percent*) or satisfied (*46 percent*).

### 8.5 Emergency Medical Services

Emergency medical services in Tyrone Township are provided by Livingston County EMS, which is a part of the County government.

In addition to emergency medical services, non-emergency transport services and educational programs are also provided.

Service is provided out of a headquarter facility, located in Howell Township, and three additional bases. The closest base is the Hartland Fire Authority station on Old US\_23, just south of the Township's border.

Emergency calls for dispatch from mobile users closest to Oakland and Genesee Counties may be directed from those respective counties thus delaying potential response times.

### 8.6 Code Enforcement

Tyrone Township's Planning and Zoning Department is responsible for enforcing the Township's planning and zoning-related ordinances. The Department includes three staff members, who are also responsible for other planning and zoning activities, such as staff support for the Planning Commission and Zoning Board of Appeals and reviewing zoning permit applications.

Township staff do not actively search for properties that appear to be out of compliance. Instead, they receive complaints from the public and investigate them, which is a common practice in rural communities.

In the community survey, 76 percent of respondents strongly agreed (*28 percent*) or agreed (*48 percent*) that code enforcement is an important function of the Township, and 26 percent of respondents described code enforcement as excellent (*5 percent*) or good (*21 percent*), with 21 percent describing it as adequate. Of the 53 respondents who have had an interaction with code enforcement in the past 5 years, 48 percent rated their experience as very satisfying (*15 percent*) or satisfying (*33 percent*).



## **8.7 Waste Management**

Tyrone Township does not manage its own waste management services. Residents or homeowners' associations contract with private providers to collect waste and recycling.

There are no landfills, incinerators, or material recovery facilities within the Township. All materials are transported out of the Township for disposal or processing.

There are several characteristics and conditions that would make it difficult to establish a landfill or incinerator within the Township in the future. The Township has many surface waterbodies and is near the headwaters of the Shiawassee River. The transportation system throughout the Township is not prepared to support the heavy truck traffic. There are established residential areas throughout the Township, which would be in close proximity to such a facility. There are few accessible areas with large parcels.

Participants in the community survey were asked to describe their level of support for several different waste collection options. 68 percent of respondents strongly supported (35 percent) or supported (33 percent) having individuals remain responsible for their own waste collection; 38 percent strongly supported (9 percent) or supported (29 percent) a single waste hauler through the Township with individuals paying that company directly; and 45 percent of respondents strongly supported (13 percent) or supported (22 percent) a single waste hauler with the Township funding the service through some type of fee or assessment.

## **8.8 Schools**

Schools are an important part of communities, providing identity and potentially impacting property values. Tyrone Township is within three school districts: Fenton Area Public Schools, Hartland Consolidated Schools, and Linden Community Schools.

See School Districts Map on page XX.

Fenton Area Public Schools is based in the City of Fenton to the north and is within the Genesee County Intermediate School District. School buildings are located within the City of Fenton. This school district covers the northern and eastern portions of the Township. For the 2021-2022 school year, there were 3,180 students enrolled at all of the district's schools. It is designated as a school of choice district.

Hartland Consolidated Schools is based in Hartland Township to the south and is within the Livingston County Intermediate School District. School buildings are generally located near the intersection of US-23 and M-59. This school district covers the southern portion of the Township. For the 2021-2022 school year, there were 5,234 students enrolled at all of the district's schools. It is designated as a school of choice district.

Linden Community Schools is based in the City of Linden to the north and is within the Genesee County Intermediate School District. School buildings are located within the City of Linden and Argentine Township. This district covers the northwestern and western portions of the Township. For the 2021-2022 school year, there were 2,466

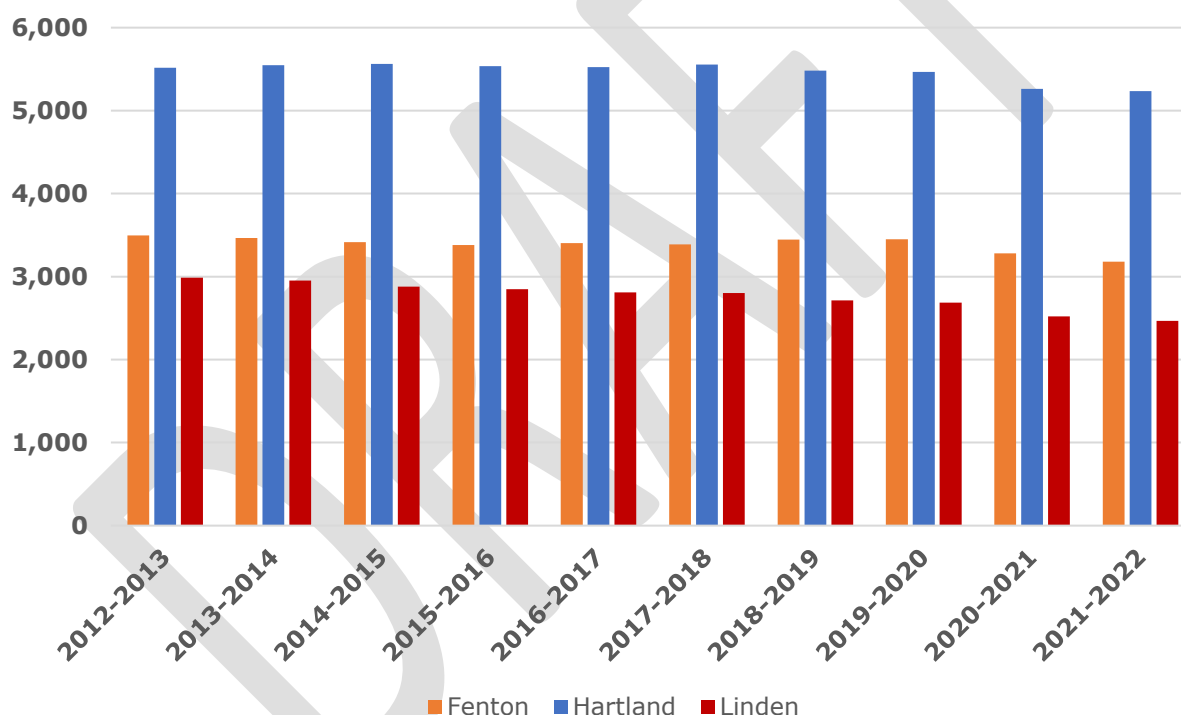


students enrolled at all of the district's schools. It is designated as a school of choice district.

All of the school districts serving the Township have experienced a trend of declining student enrollment, which is typical for most school districts in the State. Since the 2012-2013 school year, student enrollment declined by 5.1 percent at Fenton Area Public Schools, 9.0 percent at Hartland Consolidated Schools, and 17.4 percent at Linden Community Schools.

Graph 8.8 below shows student enrollment and the percent change for the school districts serving the Township from the 2012-2013 through the 2021-2022 school year. Table 8.8 is located in the Community Facilities and Public Services Article Appendix.

**Graph 8.8: Student Enrollment Fenton, Hartland, and Linden 2012-2013 through 2021-2022**



*(Source: State of Michigan)*

Primary educational opportunities are also available at private and parochial schools in the area.

A portion of the Township, within the Genesee Intermediate School District, pays participates in a millage to support Mott Community College. Township residents, however, are not eligible for in-district tuition. The College's main campus is in Flint, and there is a satellite campus in Fenton.



## **8.9 Libraries**

Public libraries may play an important role in communities as a cultural center. They can provide books, computer access, music, movies, games, educational presentations, and meeting space.

There are no libraries in Tyrone Township, but residents are served by several facilities in neighboring communities. The Fenton Winegarten Library is just north of the Township in the City of Fenton; it is part of the Genesee Library District. The Hartland Cromaïne Library is several miles south of the Township in Hartland Township.

## **8.10 Senior Centers**

There are no senior centers in Tyrone Township, but residents are served by two senior centers in adjacent communities.

The Hartland Senior Center is located in Hartland Township to the south, on M-59 west of US-23, roughly four miles from the Township. This senior center is sponsored by the Hartland Consolidated Schools. It provides a wide variety of activities and services, such as exercise classes, sports, cards, art classes, musical performance, entertainment, organized trips, and transportation.

The Loose Senior Center is located in the City of Linden to the north, roughly one mile north of the Township. It provides services to residents and family members of eight townships, two cities, and one village. It is supported in part by Genesee County Senior Millage Funds and Southern Lakes Parks and Recreation Millage funds. It provides a wide variety of activities and services, such as meals, exercise classes, sports, cards, art classes, entertainment, and organized trips.

## **8.11 Cemeteries**

There are three public cemeteries and two private cemeteries in Tyrone Township.

The Township owns and operates Clough Hill Cemetery, Colwell Cemetery, and Gardner Cemetery.

Clough Hill Cemetery, established in 1834, is roughly three acres in size and is located at the intersection of Turner and Linden Roads. It is surrounded on three sides by a residential development and golf course.

Colwell Cemetery, established in 1834, is roughly one acres in size and is located on White Lake Road west of US-23. It is surrounded by another cemetery, Sunken Garden Cemetery, to the east and woodlands and agricultural fields to the south and west. Runyan Creek is located to the south.

Gardner Cemetery, established in 1834, is roughly one and half acres in size and is located on Hartland Road south of Germany Road. It is surrounded by agricultural fields and woodlands on three sides.



Tyrone Memory Garden, established in the 1930s, is a privately-owned cemetery. It is roughly 25 acres in size and is located on White Lake Road west of US-23. It is surrounded by another cemetery, Colwell Cemetery, to the west and woodlands, residential, and an event facility to the east and south.

Yasin Cemetery, established in 2018, is a privately-owned cemetery dedicated to green burials. It is roughly 10 acres in size and is located on Denton Hill Road, south of Germany Road. It is surrounded by agricultural fields and residential.

## **8.12 Parks and Recreation**

Tyrone Township does not own or operate any parks or recreational facilities. Additionally, there are no Livingston County or State Parks in the Township. Based on the Township's population, the National Recreation and Parks Association recommends roughly 150 acres of park lands to serve the Township.

Demand for various types of parks and recreation varies based on characteristics of the population. The Township, for example, has an older population than many communities, which is likely to create interest in more passive parks and recreational options. The Township's younger population will tend to have an interest in organized sports and active recreation.

There are several private recreational facilities within the Township.

- Tyrone Hills Golf Club is located on Center Road west of US-23. It is an 18-hole course that is open to the public and has organized league play.
- Coyote Preserve Golf Club is located on Linden Road north of Hogan Road. It is an 18-hole course that is a part of a clustered residential development and is open to the public.
- Land-O-Lakes Bowmen is located on Hartland Road south of Center Road. It is an archery club with indoor and outdoor ranges, a clubhouse, and a primitive campground.
- The Lyle and Mary Rizer Nature Sanctuary is located south of Faussett Road between Linden Road and Old US-23. It is a 30 acre nature sanctuary owned and maintained by the Michigan Nature Association. It has two marked trails with a total length of one mile that runs through pine forests planted in the 1930s.
- The Tyrone Sunken Garden is located south of White Lake Road west of Old US-23, behind the Tyrone Memory Garden Cemetery. It is an outdoor area with a collection of stones from across the country arranged in a Stonehenge-like manner.

There are public recreational facilities and programs in surrounding communities that are available for and frequently used by Township residents.



## **8.13 Post Office**

Tyrone Township is within the Fenton 48430 zip code. The Post Office is located just north of the Township in the City of Fenton. It offers post office boxes for rent, money orders, passport processing, and other services. Mail is delivered to residents in the Township by rural carriers. The Township is not large enough to warrant its own zip code or post office.

## **8.14 Utilities**

Tyrone Township does not provide any utility services. Utilities are provided by utilities regulated by the Michigan Public Service Commission and public utility agencies.

### **ELECTRICITY**

Consumers Energy provides electrical service throughout the Township. There are several electrical substations and ITC Transmission high-voltage electrical transmission corridors that run through the Township.

### **NATURAL GAS**

Consumers Energy provides natural gas to areas within the Township. There are several gas transmission corridors that run through the Township. A major natural gas pipeline runs along the western side of Old US-23.

### **POTABLE WATER**

There are no public water systems in the Township. Potable water is provided by individual on-site wells.

### **SANITARY SEWER**

Sanitary sewer is provided to limited areas of the Township through the Livingston Regional Sewer System, which was formed in 2003.

This system provides sanitary sewer to properties along Lake Tyrone and Runyan Lake. Several subdivisions and mobile home communities are also connected. A pressurized line runs along Old US-23 and west along White Lake.

The sanitary sewer system was intended to improve surface and ground water quality in the lakes areas and other environmentally-sensitive areas and to allow for more-intensive land uses on the western side of US-23.

The Township has purchased capacity of up to 1,500,000 gallons per day from the Genesee County water treatment facility. This is the equivalent of 5,760 Residential Equivalency Units (REUs).

[SEWER SERVICE BOUNDARY]

See Sanitary Sewer Map on page XX.



## **INTERNET**

Spectrum provides cable internet services throughout most of the Township.

According to the Livingston County Broadband Data Collection (March 2022), the fastest internet speeds available in the Township is considered "*broadband*" by the Federal Communications Commission, with 25 Mbps download and 3 Mbps upload. No areas are shown as having 100 Mbps download and 20 Mbps upload, which is considered the threshold for "*broadband*" by industry experts.

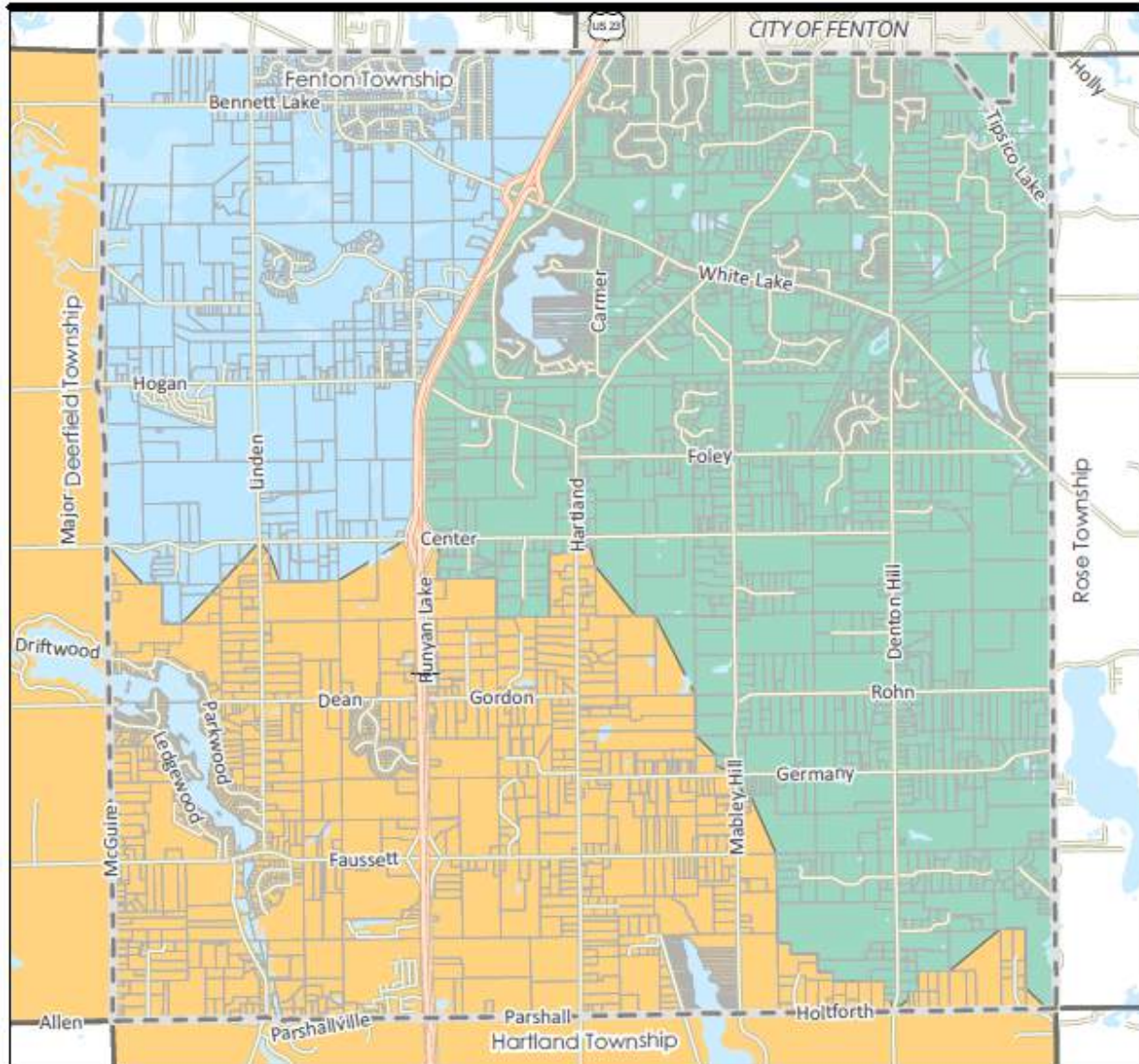
There are some areas in the Township that do not have cable internet coverage from Spectrum, primarily in the western portion of the Township.

See Internet Coverage Map on page XX.

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## Fire Coverage Map

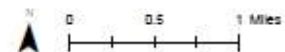


### Fire Service Area by Agency

- City of Fenton Fire Department
- Fenton Township Fire Department
- Hartland Deerfield Fire Authority

- Tyrone Township
- Adjacent Townships
- Cities
- Parcels
- Highways
- Roads
- Waterways

## Fire Service Areas Tyrone Township



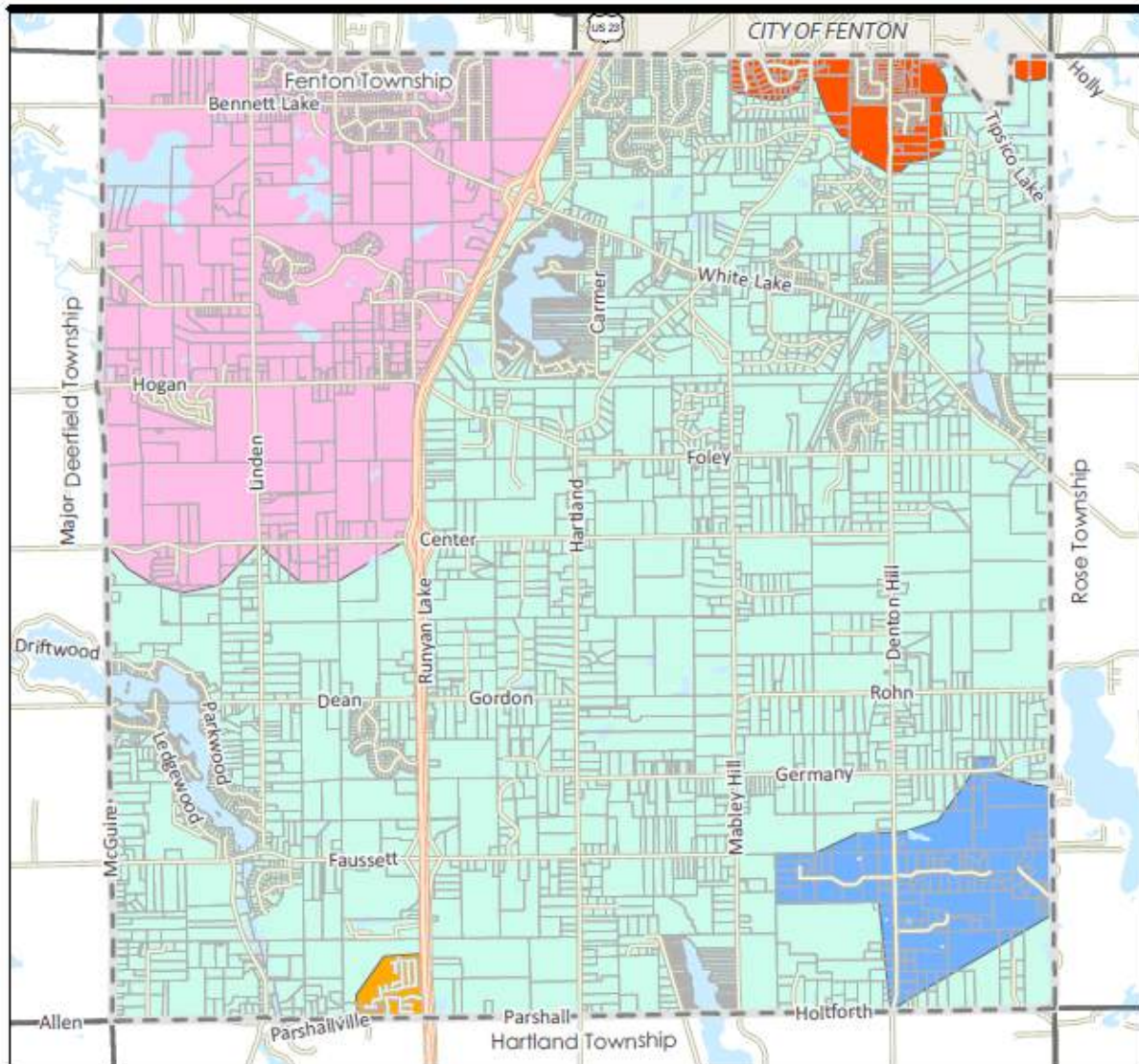
This map is for reference only. Data layers that appear on this map may not be accurate. The information is provided with the understanding that the conclusions drawn from such information are solely the responsibility of the user. Any assumption of legal status of this data is hereby disclaimed.

Data: Tyrone Township, Livingston County Drain Commission, Livingston County Road Commission, State of Michigan  
Prepared by: Carlisle/Wortman Associates  
January 4, 2023



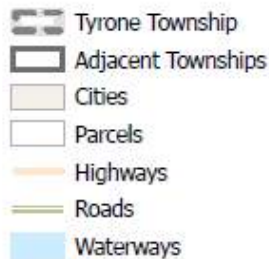
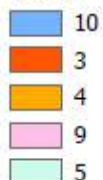


## ISO Map

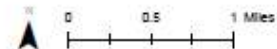


### ISO Classification Boundaries

#### Public Protection Classification (PPC)



### ISO Classifications Tyrone Township



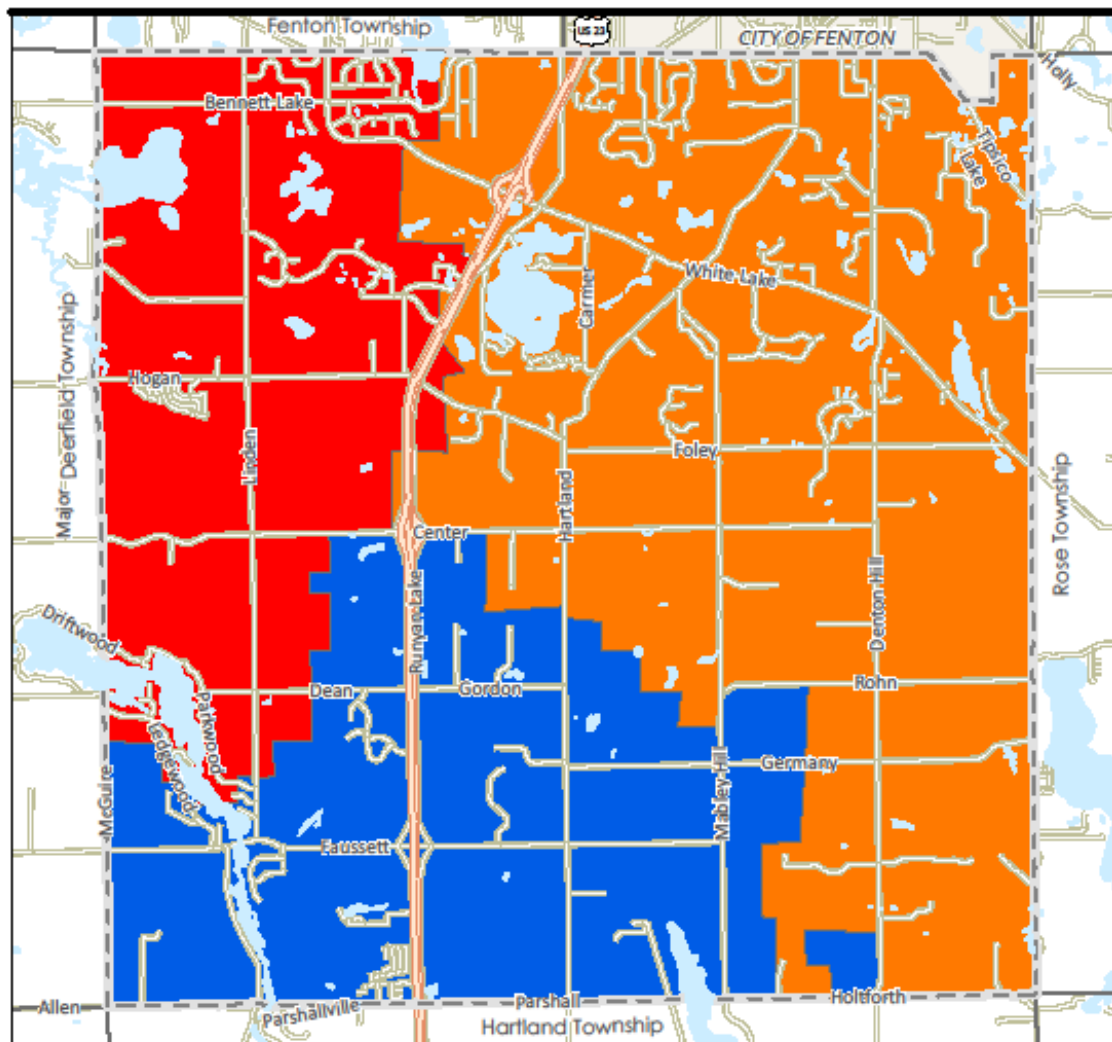
This map is for reference only. Data layers that appear on this map may not be accurate. The information is provided with the understanding that the conclusions drawn from such information are solely the responsibility of the user. Any assumption of legal status of this data is hereby disclaimed.

Data: Tyrone Township, Livingston County, State of Michigan  
Prepared by: Carlisle/Wortman Associates  
January 27, 2023





## School Districts Map



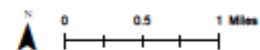
### School Districts

- Fenton Area Public Schools
- Hartland Consolidated Schools
- Linden Community Schools

### Other Features

- Tyrone Township
- Highways
- Roads
- Waterways

## School Districts Tyrone Township

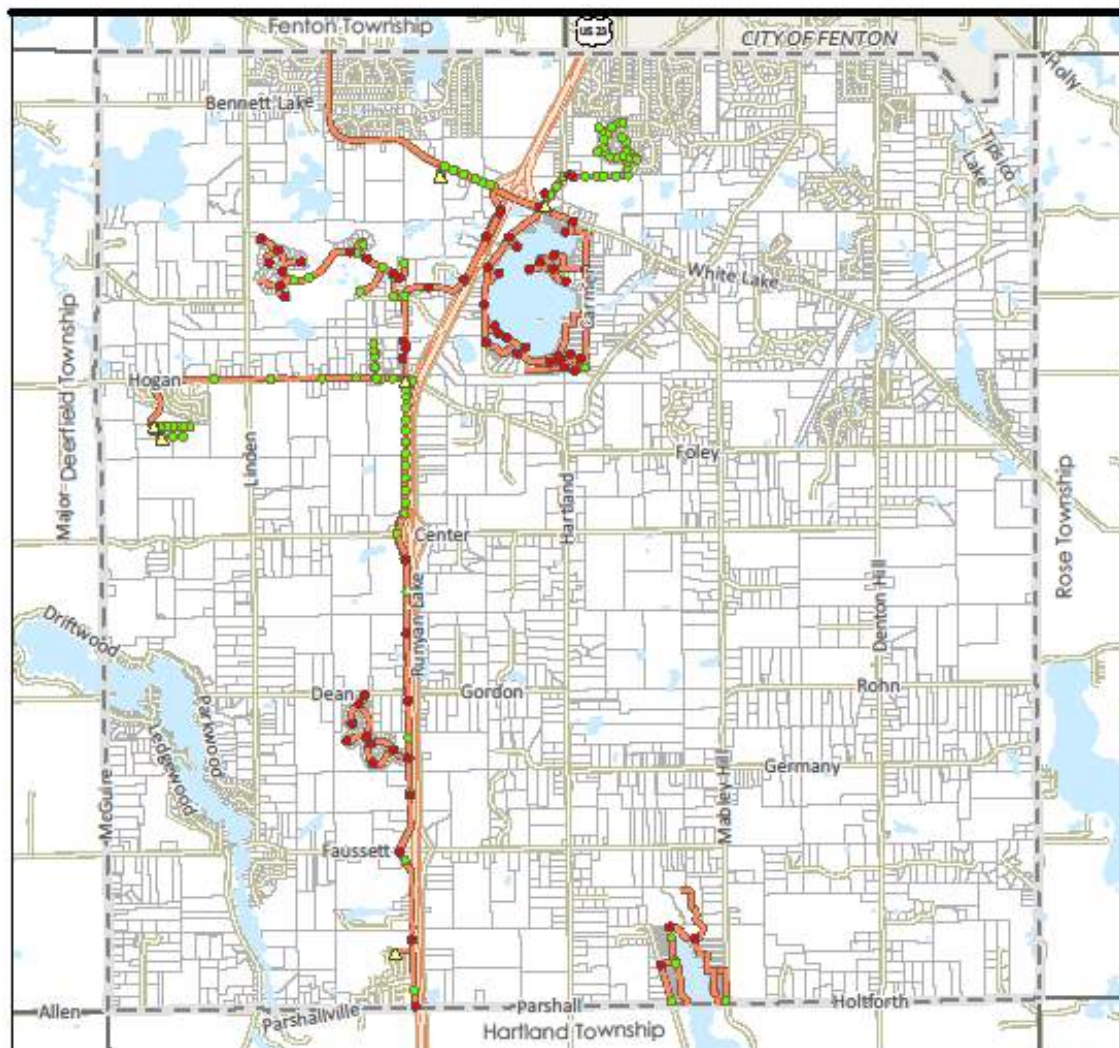


Date: Tyrone Township, Livingston County Road Commission, State of Michigan  
Prepared by: Carlisle/Worlman Associates  
September 7, 2022





## Sanitary Sewer Map



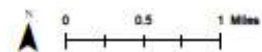
### Sanitary Sewer

- △ Station
- Cleanout
- Manhole
- Pressurized Main
- Gravity Main

### Other Features

- ▬ Tyrone Township
- ▬ Adjacent Townships
- ▬ Cities
- ▬ Highways
- ▬ Roads
- ▬ Parcels
- ▬ Waterways

## Sanitary Sewer Tyrone Township



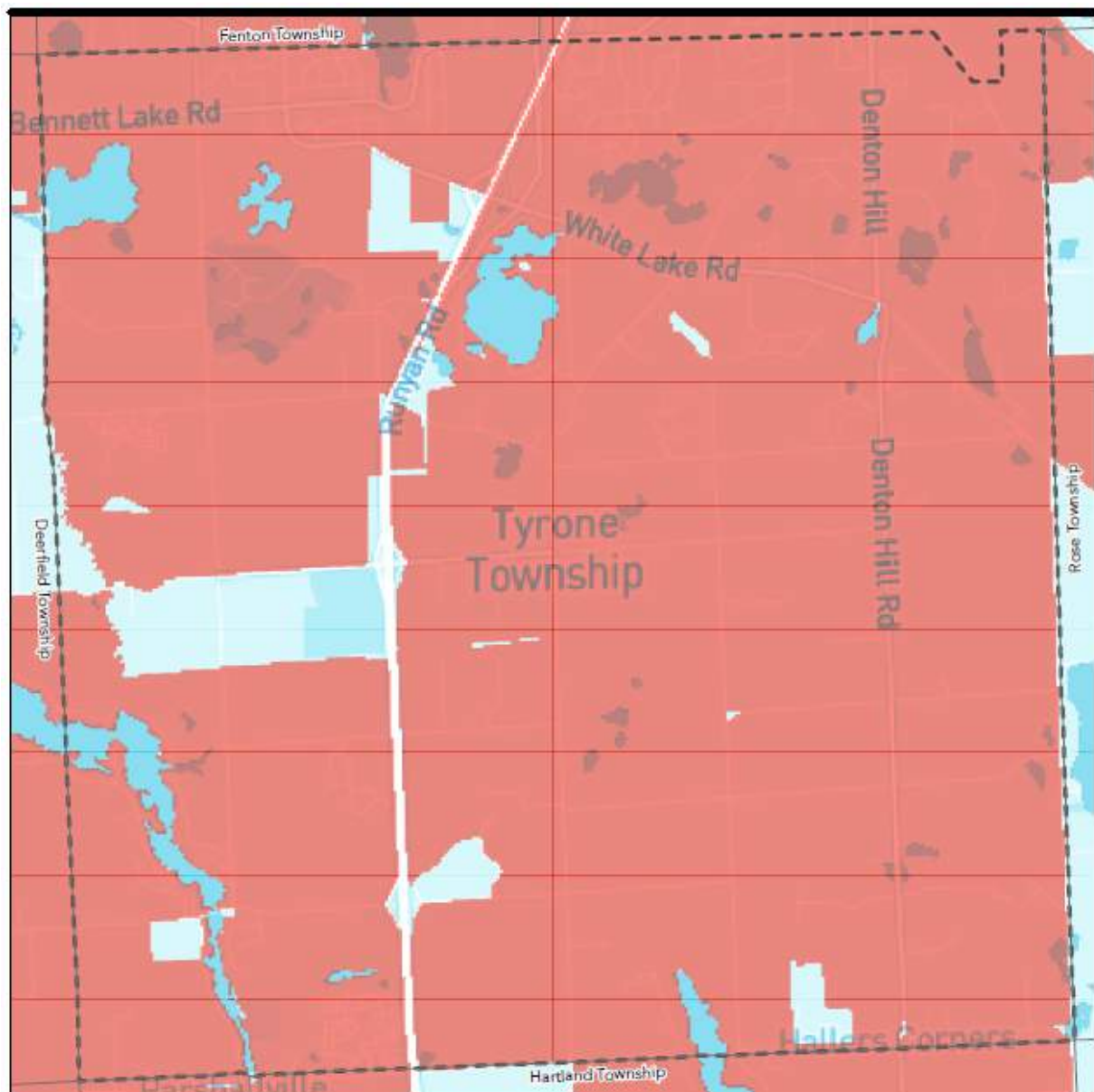
This map is for reference only. Data layers that appear on this map may not be accurate. The information is provided with the understanding that the conclusions drawn from such information are solely the responsibility of the user. Any assumption of legal status of this data is hereby disclaimed.

Data: Tyrone Township, Livingston County Drain Commission,  
Livingston County Road Commission, State of Michigan  
Prepared by: Carlisle/Wortman Associates  
January 4, 2023







## Internet Coverage Map



### Internet Coverage Tyrone Township

-  Internet Serviced by Spectrum, 24 Mbps download / 3 Mbps upload
-  Not Serviced by Spectrum



0 0.5 1 2 Miles

This map is for reference only. Data layers that appear on this map may not be accurate. The information is provided with the understanding that the conclusions drawn from such information are solely the responsibility of the user. Any assumption of legal status of this data is hereby disclaimed.

Data: Spectrum Internet, Tyrone Township  
Prepared by: Carlisle/Wortman Associates, Inc.  
7/13/2023





**Table 8.8: Student Enrollment Fenton, Hartland, and Linden 2012-2013 through 2021-2022**

Year	Fenton Area Public Schools		Hartland Consolidated Schools		Linden Community Schools	
2012-2013	3,497		5,518		2,988	
2013-2014	3,464	-0.9%	5,548	0.5%	2,954	-1.1%
2014-2015	3,414	-1.4%	5,562	0.3%	2,879	-2.5%
2015-2016	3,380	-1.0%	5,537	-0.4%	2,848	-1.1%
2016-2017	3,403	0.7%	5,523	-0.3%	2,812	-1.3%
2017-2018	3,389	-0.4%	5,556	0.6%	2,802	-0.4%
2018-2019	3,448	1.7%	5,482	-1.3%	2,713	-3.2%
2019-2020	3,450	0.1%	5,468	-0.3%	2,685	-1.0%
2020-2021	3,279	-5.0%	5,262	-3.8%	2,522	-6.1%
2021-2022	3,180	-3.0%	5,234	-0.5%	2,466	-2.2%

*(Source: State of Michigan)**[End of Community Facilities and Public Services Analysis Article.]**[Page intentionally blank.]*



# EXISTING LAND USE ANALYSIS

## 9.1 Overview

Several important land use conditions in the Township are:

- The vast majority of the land area is undeveloped. 75.7% of the total land area in Tyrone Township is either agricultural or vacant (17,260 acres). According to SEMCOG, 89% of land in Tyrone Township is either woodlands or open space.
- When combined with single-family residential homes, 88.1% of land is used for low-intensity purposes (20,080 acres).
- Commercial and industrial establishments make up only 0.1% of land in the Township (228 acres).

## 9.2 Land Use Categories

Eleven land use categories were established to describe and map existing land use throughout Tyrone Township. These categories are based on data extrapolated from SEMCOG and are as follows:

**Agricultural/Rural Residential.** These lands include cultivated, crop-producing fields, animal husbandry, dairying, farmer's market, and horse stables. It may include large properties used for the above agricultural uses, including a single-family house. It does not include uncultivated, open space or woodlands.

**Single-family Residential.** Any land occupied by a dwelling unit which houses one family and is not attached to any other dwelling of which sizes may vary.

**Multiple-family Residential.** These lands are occupied by dwelling units that house multiple families that may or may not be attached, such as duplexes, apartment complexes, and manufactured home communities.

**Commercial.** Any land occupied by a business or retail establishment primarily for the sale of goods or services. This category includes offices.

**Industrial.** Any land involved in the intensive production or assembly of goods used for export and lighter uses such as warehousing or distribution centers. Extractive operations that produce raw materials, such as mines, quarries, and oil and gas wells are also considered industrial uses.

**Institutional.** These lands are associated with a public body, such as the Township, County, or State, and public institutions, such as schools or libraries. Quasi-public institutions, such as private schools and places of



worship, are also considered institutional uses.

**Recreation/Open Space.** These are publicly or privately-owned lands used for personal enjoyment and recreational purpose, such as parks, preserved woodlands, and golf courses.

**Transportation, Communications, and Utilities.** These lands are used for roads, public infrastructure, communication facilities, and other transportation routes, such as a rail line.

**Vacant.** These lands are open, uncultivated, undeveloped, uninhabited, and unused areas, such as wetlands, woodlands, scrublands, and open meadows.

**Mixed Use.** Properties on which various uses such as office, commercial, institutional, or residential are combined in a single building or property in an integrated development project. This land use combination of land uses on a single property. Although this can include a mixture of any of the types of land mentioned, the most common form is a combination of commercial and residential use.

**Water.** These areas include all bodies of water including lake, streams, ponds, drains, reservoirs, and other waterways

### **9.3 Land Use Survey**

Land use in Tyrone Township has been documented by various entities for several decades.

Previous master plans have included information based on a land use survey from the Township's planning consultant and the Southeastern Michigan Council of Governments (SEMCOG).

Land use information from SEMCOG is used for the current land uses. In some cases, corrections have been made based on local information or recent changes.

Although it can be difficult to compare information generated by different entities at different times, looking at general changes over time helps provide a picture of land use trends in the Township.



**Table 9.3: Land Use in Tyrone Township 2023**

	Tyrone Twp		Oceola Twp	Rose Twp	Deerfield Twp	Brighton Twp	Marion Twp	Hartland Twp
	Acres	%						
Agriculture Residential	12,892.9	56.5%	69.6%	70.6%	73.6%	31.9%	64.8%	45.0%
Single-Family Residential	2,820	12.4%	11.4%	6.7%	4.0%	23.4%	13.2%	15.4%
Multiple-Family Residential	20.3	0.1%	0.3%	0.0%	0.0%	0.1%	0.0%	0.3%
Commercial	24	0.1%	1.2%	0.1%	0.0%	3.1%	0.4%	1.8%
Industrial	204.6	0.9%	0.3%	0.0%	0.7%	13.8%	0.3%	1.8%
Institutional	76.4	0.3%	0.7%	1.2%	0.3%	1.5%	1.1%	2.7%
Recreational/Open Space	395.4	1.7%	3.9%	5.7%	8.6%	6.2%	3.6%	6.9%
TCU	414.7	1.8%	0.5%	1.5%	1.5%	0.6%	1.1%	0.7%
Vacant	4,367.2	19.2%	8.0%	8.3%	6.8%	7.3%	11.0%	18.0%
Mixed-Use	107.4	0.5%	0.0%	0.1%	0.0%	0.0%	0.0%	0.2%
Water	789.2	3.5%	1.7%	4.9%	3.9%	4.8%	2.6%	3.9%
Not Parceled	692.3	3.0%	1.3%	1.3%	0.5%	7.5%	2.3%	3.1%
<b>Total</b>	<b>22,804.4</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

(Source: SEMCOG)

## 9.4 Land Use Analysis

Like most communities in Livingston County, agriculture is not as prominent in Tyrone Township as in years past. Agricultural land use has declined by almost 10% in the last two decades due to residential growth and development. In spite of this, it remains the most prominent land use category in the township, accounting for over half of its total acreage (57.7%). The southeast quadrant of the Township has the most extensive, contiguous stretch of agricultural land.

Tyrone Township primarily consists of low-density single-family residential lots, mainly farming residential followed by single-family residential. Single-family residential has smaller lots with the most density concentrated in the northern portion of the township, along the boundary of Fenton, primarily one-acre lots. Farming residential lots are dispersed throughout the Township and have a minimum of 3 acres. The most significant housing increase in the Township has been in Multiple-Family housing. Since 2008, the Township has experienced an increase in multiple-family housing land use via 1.2 acres in 2015 to 20.3 acres in 2020.

Commercial uses have mainly remained steady in the Township but are infrequently found. Commercial establishments are primarily concentrated along the US-23 corridor and North Fenton Road.



## **9.5 Adjacent Communities Land Use Analysis**

Land uses can create benefits and impacts that extend beyond a community's boundaries. It is essential to consider and examine land uses in adjacent communities in order to plan appropriately.

Land uses in the communities that share a border with Tyrone Township, including Fenton Township, City of Fenton, Rose Township, Hartland Township, and Deerfield Township, are examined. The communities the township shares a limited boundary (corner) are not included in this examination because of the limited impacts those land uses are likely to create (*Argentine Township, Holly Township, Highland Township, and Oceola Township*).

### **Fenton Township**

Fenton Township shares a boundary with the western portion of Tyrone Township's northern border. Bennet Lake Road forms a portion of this boundary.

Land uses in Fenton Township along and near this border are primarily single-family dwellings, as individual lots or in subdivisions, small agricultural fields, and undeveloped woodlands. Marl Lake extends into Tyrone Township from Fenton Township and connects to Silver Lake, home of the Silver Lake Ski Team. Land uses on both sides of this border appear to be generally compatible.

### **City of Fenton**

The City of Fenton shares a boundary with the eastern portion of Tyrone Township's northern border. Shiawassee Avenue and Jayne Road form a portion of this boundary.

Land uses in the City of Fenton along and near this border are primarily single-family dwellings. Lots in the City of Fenton are predominantly small, residential lots (62.5% of properties are between 8,000 to 13,999 square feet), and 37.5% of properties are 1/3 to just under an acre in total size. There are several institutional uses, including schools. There are also several undeveloped woodlands and agricultural fields. Significant commercial and industrial areas are roughly a mile north of this border, along Owen Road.

Public water and sanitary sewers are available in the City of Fenton, which allows for noticeably smaller lot sizes for residential uses.

Land uses on both sides of this border are generally compatible. There are some locations with a significant difference in the size of single-family residential lots.

### **Rose Township**

Rose Township shares a boundary with the eastern side of Tyrone Township. Tipsico Lake Road forms most of this boundary, but the road alignment wanders in several locations because of its natural features.

Land uses in Rose Township along and near this border are primarily single-family dwellings, on larger lots of 1-2.4 acres (23.2%) and smaller lake lots (22.8% of properties are between 1/3 of an acre to just under an acre), agricultural fields, and undeveloped woodlands. Tipsico Lake, with a DNR access site and 41-acre park, is just east of the border and in the northwest quadrant of the Township.



## **Existing Land Use Analysis Article**

CLEAN Draft 07.05.2023

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Land uses on both sides of this border are generally compatible. The lake residential area and DNR access site in Rose Township are small in area but are more intensive than the uses immediately to the west in Tyrone Township.

### **Hartland Township**

Hartland Township shares a boundary with the southern side of Tyrone Township. This border is defined by Allen Road, Parshallville Road, Parshall Road, and Holtforth Road.

Land uses in Hartland Township along and near this border are primarily single-family dwellings, on larger and smaller lake lots, agricultural fields, and undeveloped woodlands. There are limited commercial uses and a fire station/emergency medical services facility along this border. The hamlet of Parshallville is along this border.

Tyrone Lake extends into both Townships.

Land uses on both sides of this border appear to be generally compatible. The Cider Mill Mobile Home Park, at the northwest corner of Old US-23 and Parshallville Road, is a significantly more intense use than the adjacent residential uses immediately to the south in Hartland Township.

### **Deerfield Township**

Deerfield Township shares a boundary with the western side of Tyrone. This border is defined by McGuire Road and O'Connell Road.

Land uses in Deerfield Township along and near this border are primarily single-family dwellings at nearly 50% of the total land area, on both larger and smaller lake lots, undeveloped woodlands, and agricultural fields. There is an extraction operation just west of this border on the north side of Hogan Road.

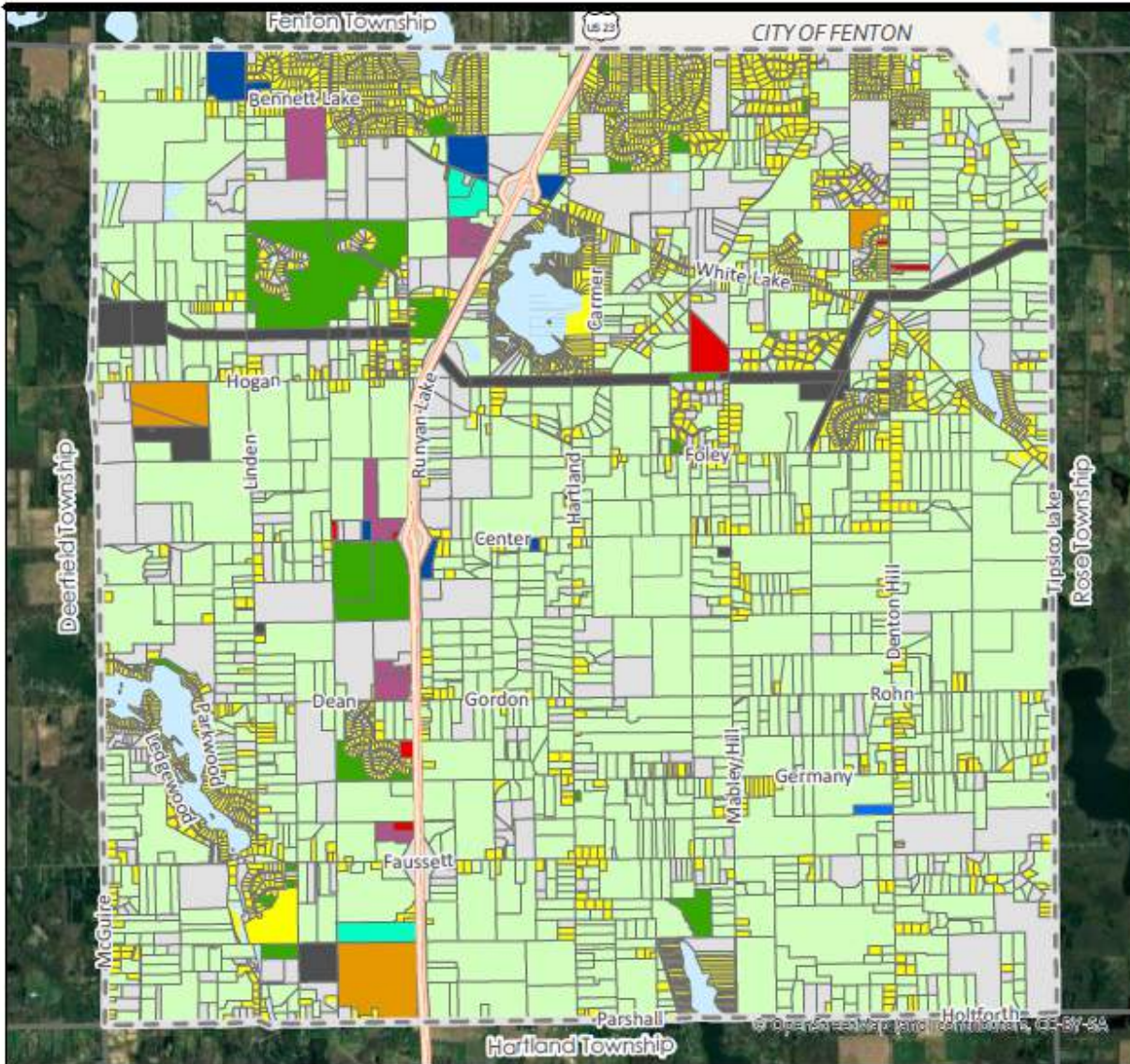
Lake Shannon and Hoisington Lake extend into both Townships.

Land uses on both sides of this border appear to be generally compatible. The extraction operation generates truck traffic that travels through Tyrone Township to access US-23.

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## Existing Land Use Map



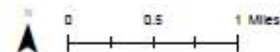
### Existing Land Use Categories

- Agricultural/Rural Residential
- Recreation/Open Space
- Commercial
- Industrial
- Institutional
- Mixed Use
- Multi-Family Housing
- Single-Family Housing
- Transportation/Communication/Utilities
- Vacant

### Tyrone Twp Boundary

- Tyrone Township
- Highways
- Roads

### Existing Land Use Tyrone Township



Date: Tyrone Township, Livingston County Road Commission, State of Michigan  
Prepared by: Carlisle/Wortman Associates  
April 19, 2023





## **Existing Land Use Analysis Article**

CLEAN Draft 07.05.2023

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*[End of Existing Land Use Analysis Article.]*

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DRAFT



# GOALS AND OBJECTIVES

## 10.1 Overview

Goals and objectives identified by the Township and documented in this Master Plan establish the framework for public and private decision making. Goals and objectives are directed to improving the quality, comfort, and vitality of the community. They should remain valid into the future and provide a consistent basis for ongoing planning and zoning decisions and guide public investment and development.

The goals and objectives are based on careful study of existing conditions in the Township and surrounding communities and collecting information and guidance from community members, including a community survey and community visioning sessions. *(See Appendix A for community survey details and results and Appendix B for community visioning session details and results.)*

Goals reflect broad statements that provide a focus for future decisions and describe the desired outcomes and end results of the planning process.

Objectives are more specific planning statements that are used to qualify goals and provide more detailed and more focused direction for planning efforts and processes.

Strategies are very specific, action-oriented statements that are intended to achieve the goals and objectives. Actions and responsibilities are also defined in the Implementation Strategies Article.

## 10.2 Community Character

### Goal

Development, redevelopment, and other activities will contribute to the preservation and enhancement of the Township's rural and natural character.

### Objective 1

Preserve and enhance the Township's scenic, rural character.

- 1) Ensure adequate setbacks for developments from roads to preserve viewsheds and the natural character
- 2) Limit impact of development on the visual character of the surrounding area
- 3) Preserve tree rows and wooded areas
- 4) Incorporate rural and natural features in new developments
- 5) Preserve the natural topography
- 6) Incorporate historical resources and features in new developments
- 7) Encourage the continuation of agricultural operations



- 8) Ensure any road improvements in agricultural areas are consistent with the character of the surrounding area

### **Objective 2**

Preserve and enhance the traditional residential character in the lakes areas

- 1) Promote development patterns and standards in these areas that are consistent with the established residential character
- 2) Limit the intrusion of commercial activities in these areas
- 3) Limit overcrowding or keyholing
- 4) Reduce pollution in lakes resulting from residential uses, such as fertilizers and pesticides
- 5) Encourage residential areas near lakes, rivers, and other environmentally-sensitive areas with septic fields to connect to a public sanitary sewer system

### **Objective 3**

Ensure that the US-23 Corridor provides an attractive appearance that promotes the Township's desired rural and natural character.

- 1) Limit the impact of visual intrusions from billboards
- 2) Ensure landscaping and architectural design for commercial uses promote the desired character
- 3) Ensure landscaping, setbacks, and buffering limit the visual impact of new residential developments
- 4) Preserve important viewsheds, such as agricultural fields, and natural features, such as woodlands
- 5) Direct commercial development to the western side of US-23
- 6) Establish gateways, welcome signs, and wayfinding/directional signs

### **Objective 4**

Establish service boundaries for future sewer and road improvements to encourage improvements in the desired areas and discourage development in other areas.

- 1) Carefully evaluate areas adjacent to developed areas and in areas with public utilities and infrastructure to determine the limits of desired denser growth
- 2) Discourage the extension of sanitary sewer outside of an established service boundary
- 3) Consider traffic and level of service impacts for new development
- 4) Focus future infrastructure investments and developments to service areas



## **10.3 Residential Development and Housing**

### **Goal**

Promote well-planned residential opportunities that offer a balanced variety of options and prices.

### **Objective 1**

Ensure an appropriate variety of housing options and opportunities.

- 1) Promote lower-density housing in areas with fewer services or infrastructure
- 2) Limit higher-density housing to areas with more services, infrastructure, and paved roads and areas near the City of Fenton
- 3) Encourage the development of accessible housing options for seniors
- 4) Explore opportunities to allow for accessory dwelling units
- 5) Explore opportunities to allow smaller dwelling units

### **Objective 2**

Ensure the character and design of housing is appropriate for the surrounding area and promotes the Township's desired natural and rural character.

- 1) Ensure developmental standard, such as setbacks and lot coverage, are consistent with the existing character of the surrounding area and the desired residential character
- 2) Encourage or require preservation of natural features in new residential developments
- 3) Mitigate haphazard land divisions that create difficult and unusual properties
- 4) Limit overcrowding around lakes
- 5) Ensure adequate buffering and screening between incompatible land uses

### **Objective 3**

Discourage development of additional mobile home communities at this time.

- 1) Continue to facilitate the build-out of the current mobile home communities
- 2) Monitor mobile home community trends in surrounding communities to ensure the Township continues to provide its equitable share
- 3) Limit future mobile home communities to areas with adequate infrastructure, including sanitary sewer and paved roads



## **10.4 Nonresidential and Economic Development**

### **Goal**

Allow nonresidential development that is consistent with the Township's character, is appropriate for the available infrastructure, and does not create a negative impact on the community.

### **Objective 1**

Limit commercial development to areas capable of supporting the more intense land use.

- 1) Focus higher-intensity commercial development to areas along the western side of US-23
- 2) Encourage redevelopment of existing commercial properties
- 3) Limit higher-intensity commercial development to paved, primary roads

### **Objective 2**

Encourage commercial uses that are consistent with the Township's natural and rural character and desired by residents.

- 1) Encourage recreational uses and facilities
- 2) Encourage home occupation uses that are consistent with the surrounding area
- 3) Support agritourism uses that promote continued agricultural operations
- 4) Allow for low-impact commercial uses, such as health care offices, small retail, and small restaurants
- 5) Allow for high-tech and light manufacturing in a limited area where infrastructure is available
- 6) Discourage heavy industry and similar commercial uses that manufacture, process, or handle hazardous materials

### **Objective 3**

Ensure the character and nature of nonresidential development is appropriate for the area and promotes the Township's desired natural and rural character.

- 1) Require high-quality architectural design standards for commercial development
- 2) Require landscaping that is consistent with the Township's character
- 3) Ensure the installation of adequate buffering and screening between commercial and residential uses
- 4) Reduce the visual impact of parking lots
- 5) Encourage the continued use of existing historic commercial uses



## **10.5 Natural Environment and Features**

### **Goal**

Protect, preserve, and enhance the natural features and resources that contribute to the Township's desired natural and rural character and provide economic and health benefits.

### **Objective 1**

Protect and preserve the Township's unique natural features.

- 1) Preserve wetlands in their natural state
- 2) Preserve woodlands, tree rows, and signature trees
- 3) Limit and reduce the impact of artificial light pollution
- 4) Preserve important viewsheds and vistas
- 5) Encourage consolidation of nonconforming lots
- 6) Discourage parcel fragmentation that creates haphazard development and habitat fragmentation
- 7) Require environmentally sensitive areas to be limited to low-density and low-impact uses
- 8) Encourage enrollment of agricultural land in Public Act 116
- 9) Encourage preservation of natural areas and agricultural lands through enrollment in land conservancy programs
- 10) Explore creation of a purchase of development right ordinance
- 11) Explore creation of a land preservation committee to identify high-priority areas for preservation
- 12) Explore the potential for a millage to support purchase of development rights
- 13)

### **Objective 2**

Prevent pollution and hazardous materials from impacting the Township's natural features and resources.

- 1) Preserve surface water quality by limiting the impact of residential and agricultural stormwater runoff
- 2) Educate the public and agricultural operations on the impact of stormwater runoff and other activities on water pollution
- 3) Regulate and limit hazardous uses and uses of hazardous materials
- 4) Encourage or require higher-intensity commercial uses to connect to a public sanitary sewer system



- 5) Encourage residential areas near lakes, rivers, or environmentally-sensitive areas to connect to a public sanitary sewer system
- 6) Limit the impact of harmful aquatic life and invasive species

**Objective 3**

Ensure new developments preserve and enhance natural features.

- 1) Require incorporation or preservation of important natural features into new developments
- 2) Encourage cluster development and planned unit developments
- 3) Allow for noncontiguous planned unit developments that preserve significant natural features
- 4) Explore creation of transfer of development rights from areas with desired natural features to areas capable of supporting more development

**10.6 Transportation**

**Goal**

Ensure an adequate and appropriate transportation system for the Township's needs in an economical manner.

**Objective 1**

Work with Livingston County Road Commission to maintain and improve the current public road system.

- 1) Work with the Road Commission to identify maintenance and improvement priorities
- 2) Review the impacts of land uses on the public road system
- 3) Limit higher-impact land uses to paved roads
- 4) Reevaluate the adopted truck routes and post the existing truck routes, as necessary
- 5) Encourage or require access management techniques, such as cross access, shared drives, and access drives, to limit the impact of curb cuts
- 6) Explore creation of a transportation committee to make recommendations on public road improvements
- 7) Explore the potential for a millage to support the maintenance and improvement of public roads
- 8) Explore the creation of a formal carpool lot



**Objective 2**

Ensure private roads provide adequate access and are maintained in a safe condition.

- 1) Review current private road standards to ensure they require proper maintenance and are consistent with fire code and engineering standards
- 2) Continue to require maintenance agreements for all new private roads and encourage creation of maintenance agreements for existing private roads
- 3) Encourage improvements to private roads when possible to address safety and access concerns
- 4) Consider requiring creation of special assessment districts when new private roads are developed
- 5) Require new residential developments with private roads to budget for annual repairs and eventual replacement
- 6) Encourage or require road connections between adjacent developments

**Objective 3**

Promote the development of appropriate non-motorized transportation options.

- 1) Work with Livingston County and adjacent communities to coordinate development of trails
- 2) Identify funding sources and grants for development of a trail system
- 3) Require new developments to provide paths along the road
- 4) Require new residential development to provide internal sidewalks and trails
- 5) Ensure trails are barrier free and accessible
- 6) Explore adoption of a trail plan to identify desired locations
- 7) Encourage or require trail connections between adjacent developments
- 8) Explore creation of a transportation committee to make recommendations on trail improvements
- 9) Explore the potential for a millage to support the development of trails

**10.7 Community Facilities and Public Services**

**Goal**

Provide appropriate, efficient public services and amenities to enhance the quality of life in the Township.

**Objective 1**

Monitor emergency services to ensure that fire, police, and emergency medical services are available and appropriate throughout the Township.



## **Draft Goals and Objectives**

CLEAN Draft 07.05.2023

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- 1) Limit more-intense development to areas with better access to fire, police, and emergency medical services
- 2) Encourage improvement in firefighting infrastructure, such as dry wells
- 3) Work with the Sheriff's Department to ensure adequate coverage is provided
- 4) Work with county dispatches to identify and resolve issues with calls routing to the wrong county

### **Objective 2**

Ensure adequate and appropriate recreational opportunities for Township residents.

- 1) Identify specific park and recreation needs in cooperation with Livingston County
- 2) Explore development of a parks and recreation plan
- 3) Investigate development of river access sites
- 4) Research grant opportunities for parks and recreation
- 5) Work with Livingston County and ITC for development of trails
- 6) Require new residential developments to provide recreation area, open space, or parks for residents
- 7) Require new residential developments to provide trails and sidewalks

### **Objective 3**

Encourage high-quality and efficient infrastructure and public services.

- 1) Expand use of the existing public sanitary system to areas with sensitive natural features, such as lakes
- 2) Encourage higher-density residential and commercial uses in areas serviced by the existing public sanitary system
- 3) Limit expansion of the public sanitary system when necessary to remediate environmental hazards or when paid for by a development, provided capacity remains available for priority areas
- 4) Explore consolidation of trash and recycling services
- 5) Work with Livingston County and providers to advocate for expansion of high-speed internet throughout the Township

*[End of Goals and Objectives Article.]*

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# **FUTURE LAND USE**

## **11.1 Overview**

The Future Land Use plan for Tyrone Township outlines desired future development patterns over the next 10 to 20 years. Specific land use categories are described in this section and incorporated into the Future Land Use Map.

The Future Land Use plan is based on consideration of a number of factors that have been documented and examined through the master planning process and in this Master Plan. Those factors include:

- Population, including characteristics and trends
- Infrastructure and utilities
- Natural features and land capacity
- Existing land uses, including within the Township and in surrounding communities
- Existing zoning, including within the Township and in surrounding communities
- Compatibility of uses
- Community goals, objectives, and policies
- Citizen opinions

The Future Land Use plan identifies 10 different land use categories. The descriptions of these land use categories include general site conditions, design characteristics, and site amenities that are anticipated or are desirable. These descriptions are intended to provide guidance for future decisions and to guide adoption of Zoning Ordinance standards to support this Master Plan.

## **11.2 Agricultural / Natural**

Agricultural / Natural Preservation areas are intended for small scale or commercial agricultural operations, preservation of important natural features, and extremely-low density rural residential uses.

These designations are proposed for areas with prime farmland soils, significant natural features, such as woodlands, wetlands, and waterbodies, and where the infrastructure is not able to support more-intensive uses.

It is anticipated that these areas will remain dependent on individual on-site well and sanitary septic systems.

Lots in Agricultural / Natural areas should be at least 4 acres in size.



### **11.3 Low-Density Residential**

Low-Density Residential areas are intended for lower-density residential uses, such as large-lot single-family dwellings, and limited agricultural uses.

They are proposed for areas with lower development pressures due to their location and lack of infrastructure, such as roads, water, and sanitary sewer.

It is anticipated that these areas will remain dependent on individual on-site well and sanitary septic systems.

Lots in Lower-Density Residential areas should be between 1.5 acres to 3 acres in size.

### **11.4 Medium-Density Residential**

Medium-Density Residential areas are intended to provide for more-intense residential uses, such as single-family dwellings on moderate-sized lots and two-family dwellings.

They are proposed for areas with greater development pressures; areas with better access to infrastructure, such as roads, water, and sanitary sewer; and areas where it would be beneficial to provide a transition between higher-intensity uses and lower-intensity residential uses.

It is anticipated that most of these areas will remain dependent on individual on-site wells and sanitary septic systems, but some areas may connect with public sanitary sewer systems.

Lots in Medium-Density Residential areas should be between 0.5 acres to 1.5 acres in size. Lots with on-site sanitary septic systems should be at least 1 acre in size.

### **11.5 High-Density Residential**

High-Density Residential areas are intended for more-intense residential uses, such as single-family dwellings on smaller lots, two-family dwellings, apartments, and building condominiums.

They are proposed for areas with the greatest development pressures; areas with appropriate access to infrastructure, such as roads, water, and sanitary sewer; and areas with appropriate transitions to less-intense uses.

It is anticipated that these areas are or will be connected to public sanitary sewer systems. These areas may be dependent on individual on-site wells or may be connected to public water systems.

Higher-Density Residential areas should have between 4 dwelling units per acre to 8 dwelling units per acre.



## **11.6 Lake Residential**

Lake Residential areas are intended for medium to higher-density residential uses, with the goal of recognizing and supporting the unique character of these residential areas.

They are proposed for established residential areas surrounding lakes and other waterbodies.

Most of these areas are connected to public sanitary sewer systems. Because of the environmentally-sensitive nature of these areas, it is preferred that public sanitary sewer would be extended throughout these areas. It is anticipated that these areas will remain dependent on individual on-site wells.

Newly-created lot areas in Lake Residential areas should be at least 0.5 acres in size where public sanitary sewer systems are available and at least 1 acre in size where public sanitary sewer systems are not available. Many existing lots in Lake Residential areas are smaller than these desired sizes.

## **11.7 Mobile Home Residential**

Manufactured Single Family Detached Residential areas are intended for mobile home park communities, with relatively high densities of residential units.

They are proposed for the area of the 2 existing mobile home communities on Hogan Road and Old US-23.

Additional Mobile Home Residential areas are not proposed at this time, as concerns exist about road capacity, public sanitary sewer capacity, and school financing.

The Township believes it provides its fair share of mobile home residential opportunities and does not anticipate planning for additional areas in the near future without a demonstrated need, proof that suitable sites are not available in adjacent communities, and confirmation that adequate infrastructure exists.

These areas are connected to public sanitary sewer systems.

Any new Mobile Home Residential in the future should be limited to areas with appropriate access to infrastructure, such as roads, water, and sanitary sewer; and areas with appropriate transitions to less-intense uses.

Mobile Home Residential areas should have between 4 dwelling units and 10 dwelling units per acre.



## **11.8 Planned Commercial**

Planned Commercial areas are intended for smaller commercial uses that primarily serve the day-to-day needs of the Township's residents, such as convenience stores, small medical offices, and small professional offices. Large commercial uses and drive-through uses are not compatible with these areas. These areas should be integrated with the surrounding neighborhoods and enhance the appearance and enjoyment of the area.

They are proposed for areas with existing small commercial uses that are served by adequate road infrastructure. It is anticipated that many of these areas will remain dependent on individual on-site wells and septic systems, but some may be served by public systems.

Lots in Local Commercial areas should be at least 1.5 acres in size. Specific uses may require larger lot sizes. Improvements necessary for commercial uses, such as parking, landscaping, and stormwater management are also likely to require larger lot sizes for these uses. Existing lots in these areas may be smaller than these desired sizes.

## **11.9 Planned Industrial**

Planned Industrial areas are intended to allow for a mix of low intensity industrial uses, such as research laboratories, design studios, high-tech manufacturing or other light uses. Some other uses, such as packaging, limited warehousing, and assembly may be appropriate in certain locations. Outdoor uses, such as outdoor storage, sales, or contractors yards, may be appropriate where adequate transitions are provided to non-industrial uses.

They are proposed for areas with larger lots, primarily along Old US-23, with access to appropriate infrastructure, including public sanitary sewer.

These uses should have adequate buffering and landscaping to mitigate any impacts on surrounding uses and to support the Township's desired character along US-23.

## **11.10 Public/Quasi-Public**

Public/Quasi-public areas are intended for public, quasi-public, and institutional uses, such as public facilities, public parks, schools, utilities, and places of worship, that primarily serve the Township's residents but may draw users from outside of the Township.

They are proposed for areas with existing or anticipated public, quasi-public, and institutional uses.

There are no minimum lot dimensions, as needs may vary greatly depending on the type of public, quasi-public, and institutional use. Specific uses may have minimum lot sizes.



### **11.11 Commercial Recreational**

Commercial Recreational areas are intended for public and private recreational uses, such as golf courses, preserved open space, conservation easements, and parks. These uses may be limited to residents of a single development, such as a neighborhood park, or may be open to the general public, such as a golf course or public park.

They are proposed for areas with existing private recreational uses and existing or potential public recreational uses.

There are no minimum lot dimensions, as needs may vary greatly depending on the type of recreational use. Specific uses may have minimum lot dimensions. Commercial indoor recreational uses should be at least 1 acre in size. Outdoor recreational uses should have larger lots to accommodate and manage any impacts of outdoor uses.

This Master Plan recognizes that private recreation uses may be sold or closed due to economic conditions and may not be maintained or used as private recreational land in perpetuity. Therefore, alternate Future Land Uses are also provided for these areas, based on the surrounding area and compatibility of uses, in the event that land is sold or the use is ended.



**11.12 Zoning Plan**

Table 11.14 below describes the future land use areas and the corresponding current zoning districts and anticipated future zoning districts. It also shows the future land use designation from the Township's previous master plan.

**Table 11.14: Zoning Plan**

<b>Master Plan Future Land Use Designation</b>	<b>Previous Master Plan Future Land Use Designation</b>	<b>Current Zoning District</b>
Agricultural / Natural	Agricultural/ Residential	FR Farming Residential
Agricultural / Natural	Residential/ Natural Resource Preservation	RE Rural Estate Residential
Low-Density Residential	Low Density Single Family Detached Residential	R-1 Single-family Residential
Medium-Density Residential	Medium Density Single Family Detached Residential	R-2 Single-family Residential
High-Density Residential	High Density Single Family Attached Residential	RM-1 Multiple-family Residential
Lake Residential	Medium Density Single Family Detached Residential- Lakeside	LK-1 Lake Front Residential
Mobile Home Residential	Manufactured Single Family Detached Residential	MHP Mobile Home Park
Planned Commercial	Planned Commercial Services	PCS Planned Commercial Services
Planned Industrial	Planned Office Planned Industrial Research Office Planned Commercial Industrial	OS Office Service PIRO Planned Industrial Research Office
Public/Quasi-public	Public/ Quasi Public	All, except EI Extractive Industrial
Commercial Recreation	Commercial Recreation	-



### **11.13 Area of Future Land Use Assignments**

Table 11.16 below describes the total acreage and percent of the Township designated for each of the future land use areas. Area within rights-of-way and water is also included.

**Table 11.16: Area of Future Land Use Assignments**

<b>Master Plan Future Land Use Designation</b>	<b>Acreage</b>	<b>Percent</b>
Agricultural / Natural	12,194	53%
Low-Density Residential	4,565	19%
Medium-Density Residential	4,262	18%
High-Density Residential	63	1%
Lake Residential	535	2%
Mobile Home Residential	298	1%
Planned Commercial	189	1%
Planned Industrial	165	1%
Public/Quasi-public	466	2%
Commercial Recreational	383	2%

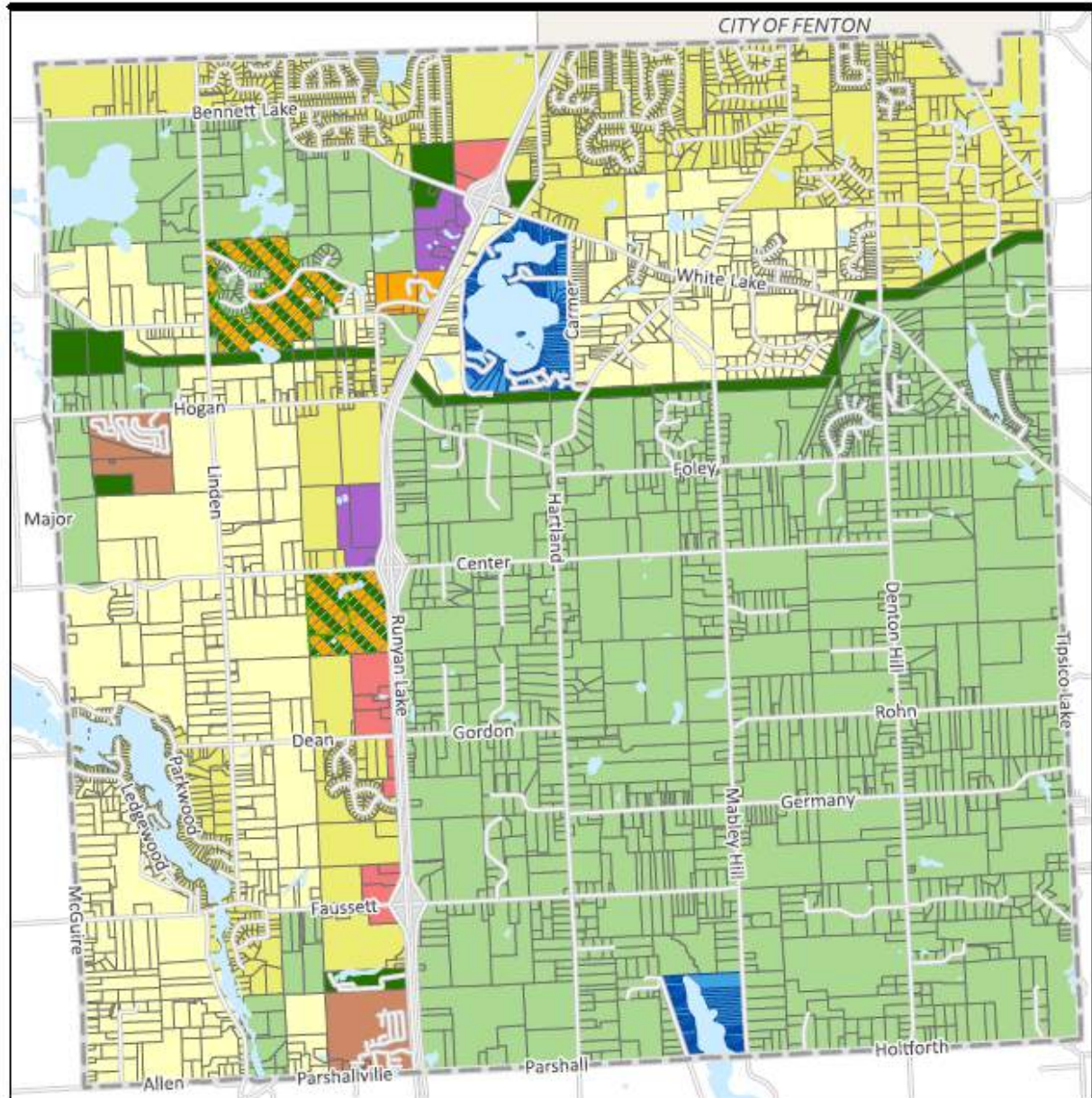
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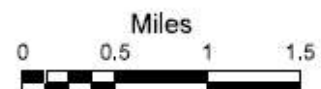


## Future Land Use Map



- |                            |                       |
|----------------------------|-----------------------|
| Agricultural/Natural       | Planned Industrial    |
| Low-density Residential    | Public/Quasi-Public   |
| Medium-density Residential | Planned Commercial    |
| Lake Residential           | Commercial Recreation |
| High-density Residential   | Waterways             |
| Mobile Home Residential    | Cities                |
| Tyrone Township            | Roads                 |

## Future Land Use Tyrone Township



This map is for reference only. Data layers that appear on this map may not be accurate. The information is provided with the understanding that the conclusions drawn from such information are solely the responsibility of the user. Any assumption of legal status of this data is hereby disclaimed.



Prepared by: Carlisle/Worlman Associates, Inc.  
7/12/2023





*[End of Future Land Use Article.]*

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DRAFT



# IMPLEMENTATION STRATEGIES

## 12.1 Overview

The Master Plan is a statement of objectives and long term goals to facilitate future growth and redevelopment in a manner consistent with the communities vision. A Master Plan is an official adopted document that provides an outline and policy for the achievement of these goals. Its purpose is to balance the changing needs and demographics of a community so as to provide for appropriate and manageable growth. For these reasons, it should be referred to when considering zoning and land use decisions.

A primary goal of the Master Plan is to prevent development and growth from being conducted in a vacuum. In order to ensure its full effectiveness, adequate implementation programs must be established. This section will identify such programs and policies for implementing the Plan.

It should be noted that per Michigan Public Act 33 of 2008 (Michigan Planning Enabling Act) section 125.3845 part 2 states that the Planning Commission of a community shall review the Master Plan at least every five years to establish whether the plan is still relevant and/or requires amendments. Amendments may range from basic updates to complete rewrites.

## 12.2 Master Plan Education

The support and involvement of the Tyrone Township's citizens and public officials is important for the successful implementation of this Master Plan. The Township should work to educate its officials and citizens on this Master Plan and to incorporate it into regular planning processes and day-to-day decision making processes. An ongoing program of discussion, education, and participation will help the Township achieve the goals, objectives, and policies in this Master Plan.

Specific activities to promote education may include:

- Posting this Master Plan in an easy to find location on the Township's website.
- Providing hard copies of this Master Plan for public libraries and public purchase.
- Ensuring all elected and appointed officials have a copy of this Master Plan.
- Preparing press releases or educational pieces on details of this Master Plan for distribution to local media, community organizations, and residents.



- Preparing brochures or flyers highlighting specific elements of this Master Plan.
- Conducting an annual open house for Township residents to meet with the Planning Commission to learn about this Master Plan, ask questions, and make suggestions.
- Including references to the Master Plan in regular planning and zoning reports.

## **12.3 Guide for Zoning Decisions**

Certain zoning decisions, such as special land uses, zoning map amendments, and planned unit developments should consider the land use plan and goals, objectives, and policies of this Master Plan. It should also be noted as to the age of the plan and if upcoming reviews are likely to provide context for considerations.

### **Special Land Uses**

When considering a special land use application, consultation with the Future Land Use Map and the goals, objectives, and policies of this Master Plan provides guidance as to whether or not the special land use is appropriate and consistent with and what conditions may be appropriate to support the Township's vision. It also provides the Township with legally-defensible decision making and provides an explanation for its decisions.

### **Zoning Map Amendments**

When considering a zoning map amendment application (*also known as a rezoning*), some of the primary findings a community needs to make is if the request is consistent with the master plan, if there have been any changes in conditions since the master plan was adopted, and if there have been any changes in the master plan's goals and objectives. Consultation with the Future Land Use Map and the goals, objectives, and policies of this Master Plan provides guidance as to whether or not the zoning map amendment would be consistent with the Township's vision.

### **Planned Unit Developments**

When considering a Planned Unit Development (PUD) project, it is important to note that they can occur in almost any location and may contain substantial flexibility in both design and use. Given these proposals typically include large portions of land that may cover several zoning designations, it is important to reference the Master Plan and Future Land Use Map to reference if the development fulfills any of the noted objectives.



## **12.4 Special Purpose Ordinances**

Management of certain land use activities may also be addressed in a special-purpose, general-law ordinance. These general-law ordinances can sometimes be more effective than a zoning ordinance in advancing the vision of this Master Plan.

Tyrone Township currently has the following general-law ordinances that are related to land use or development:

- Beautification (*Ordinance 30B*)
- Cabarets; Licensing and Operation (*Ordinance 18*)
- Extractive Industrial Regulatory (*Ordinance 21*)
- Lake Tyrone Sewer (*Ordinance 29*)
- Marihuana, Prohibition of Establishments (*Ordinance 48*)
- Motorcycles and Terrain Vehicles (*Ordinance 14*)
- Open Burning (*Ordinance 44C*)
- Outdoor Gatherings (*Ordinance 3*)
- Residential Outdoor Lighting (*Ordinance 49*)
- Sewer Use and Rate (*Ordinance 43A*)
- Snowmobiles and Terrain Vehicles (*Ordinance 13*)
- Subdivisions (*Ordinance 16*)
- Truck Route (*Ordinance 38B*)

Examples of other common general-law ordinances that are related to land use or development include:

- Anti-blight
- Adult-oriented entertainment
- Dangerous buildings
- Natural features preservation
- Private roads
- Property maintenance
- Purchase of development rights
- Wetland protection
- Signs

Following adoption of this Master Plan, the Township should review its existing general law ordinances related to land use and make any changes necessary to ensure consistency with and promote the vision of this Master Plan. Review should also focus on ensuring consistency with changes to state acts, recent case law, and other Township ordinances.



The Township should also consider development of other general law ordinances related to land use, including removing certain parts from its Zoning Ordinance, that may help the Township better achieve the vision of this Master Plan.

## **12.5 Partnerships and Coordination**

Partnering and coordinating with other agencies and entities ensures efficient use of resources and maximum benefit for Tyrone Township. The Township should continue to work closely with neighboring communities to understand regional demands and needs.

The Township has established a record of working with other agencies, including federal, state, county, and local, to promote the orderly development and redevelopment of the community. That cooperation should continue into the future in order to implement and sustain the goals in this plan.

### **Potential Housing Partners**

Residential development within the Township has been primarily by individual property owners or larger residential developers. Although this Master Plan does not propose any changes to this, there are potential partners that the Township can work with to maintain existing housing stock and improve access to various forms of residential development.

- Michigan State Housing Development Authority
- Oakland Livingston Human Services Agency
- Private developers

### **Potential Economic Partners**

In order to facilitate and incentives the unique types of development the township desires, it should engage and/or maintain communication with the agencies outlined below.

- Economic Development Council of Livingston County
- Ann Arbor Spark
- SBDC in Ann Arbor
- Michigan Economic Development Agency (MEDA)

### **Potential Natural Resources Partners**

The Township should work with the Livingston County Drain Commissioner, lake associations, and the Shiawassee Conservation District to promote improvements to water quality.

The Township should work with the Livingston Land Conservancy, Legacy Land Conservancy, Southeast Michigan Land Conservancy, and other land conservation entities to promote preservation of agricultural lands and undeveloped natural lands.

- Environmental Great Lakes and Energy (EGLE)



### **Potential Transportation Partners**

The Township should work with the Livingston County Road Commission and the Michigan Department of Transportation to plan and manage road maintenance and improvements and potential nonmotorized pathways and commuter parking lots.

- Livingston County Road Commission
- Michigan Department of Transportation (MDOT)
- Livingston County
- Flint Transportation (MTA)

### **Potential Community Facilities Partners**

To help maintain quality services and amenities, the Township should work with the organizations listed to understand the current status of these organizations as well as their capacity to adjust as development and community needs change.

- Fenton Area Public School District, Hartland Consolidated School District & Linden Community School District
- Livingston County Parks
- DTE / ITC
- Livingston County Sheriff Department
- Fenton Fire Department, Fenton Township Fire Department and Hartland Deerfield Fire Authority

## **12.6 Capital Improvement Plan**

Capital improvement plans are a planning and fiscal tool that helps to coordinate the location, timing, and funding of major, non-recurring expenditures over a period of 6 years. It helps facilitate the orderly planning of and investment in infrastructure and other significant improvements.

The Goals, Objectives, and Policies of this Master Plan should be reflected in any capital improvement plan adopted by the Township.

A capital improvement plan can have a significant impact on the extent, timing, and nature of development. For example, infrastructure improvements on sanitary sewer systems or roads support and encourage development in those areas and discourage development in other areas because of their absence.

Potential areas to address or include in a capital improvement plan include the following:

- Repair and paving of primary and local county roads
- Graveling, grading, dust control, and ditching of county gravel roads
- New Non-Motorized Pathways
- Public Access to Lakes



- Maintenance and operation improvements to the sanitary sewer system
- Expansion of the sanitary sewer system service area
- Clean-out, maintenance, and repair of county drains
- Improving fire and rescue, police, and emergency medical service capabilities
- Assessing and increasing internet/broadband access
- Park improvements

Although the Township does not have full control over all of the above activities, it can partner with the responsible entities. Having a clear plan and available funding for a project can help that project qualify for additional funding and an expedited schedule.

Funding for elements of a capital improvement plan can come from a variety of sources, including Township general funds, dedicated millages, assessments, user fees, or grants.

## 12.7 Master Plan Updates

This Master Plan should not become a static document. As referenced in the Overview, The Planning Commission should review it on an annual basis and identify portions that may need updating. The Planning Enabling Act requires communities to review their master plans within five years of adoption and determine whether or not amendments or a new master plan is necessary.

Amendments to this Master Plan require a similar process as the original adoption, including notification of interested parties and a public hearing. In addition to any changes in the text or maps of this Master Plan, details of the amendment adoption process should also be documented.

### Updating Background Information

This Master Plan is based on certain assumptions based on existing conditions and anticipated changes in the Township, which have been documented in the background articles. It is important to regularly review this background information to determine if it is still valid and accurate.

If this background information has changed, the Planning Commission should determine what the changes mean for the goals, objectives, and policies of this Master Plan.

Areas to pay special attention to include:

- **Population.** This Master Plan is based on population trends and characteristics that are documented in the Social Analysis Article. Changes in population trends or characteristics can impact the need and demand for different types of development and services.
- **Development Pressures.** This Master Plan assumes moderate development pressures for certain areas in the Township, primarily for



residential and for certain types of commercial along the western side of US-23.

- **Residential Development.** This Master Plan assumes relatively stable growth in the number of dwelling units, primarily with single-family dwellings, as documented in the Housing Analysis Article.
- **Commercial Development.** This Master Plan assumes the need for most commercial development, including industrial development, is likely to be satisfied in surrounding communities.
- **Agricultural Uses.** This Master Plan assumes challenges for continuation of large-scale commercial agricultural operations, due to the limited number of large tracts of land and other development pressures.
- **Adjacent Communities.** This Master Plan assumes that adjacent communities will continue with the general vision outlined in their Future Land Use Maps. Significant deviations from these visions may create unanticipated impacts on and opportunities for the Township.
- **Transportation.** This Master Plan does not anticipate significant improvements to the road system or paving of unpaved roads. Road system improvements could impact the ability of an area to support development.
- **Utilities.** This Master Plan does not anticipate expansion of sanitary sewer systems beyond what has previously been identified by the Township. Sanitary sewer system expansion could have a significant impact on the ability of an area to support development.
- **Community Facilities.** This Master Plan anticipates moderate expansion of community facilities and services as needs adjust. The expansion or increased facilitation of public service could have a significant impact on development interest in the community.

*[End of Implementation Strategies Article.]*

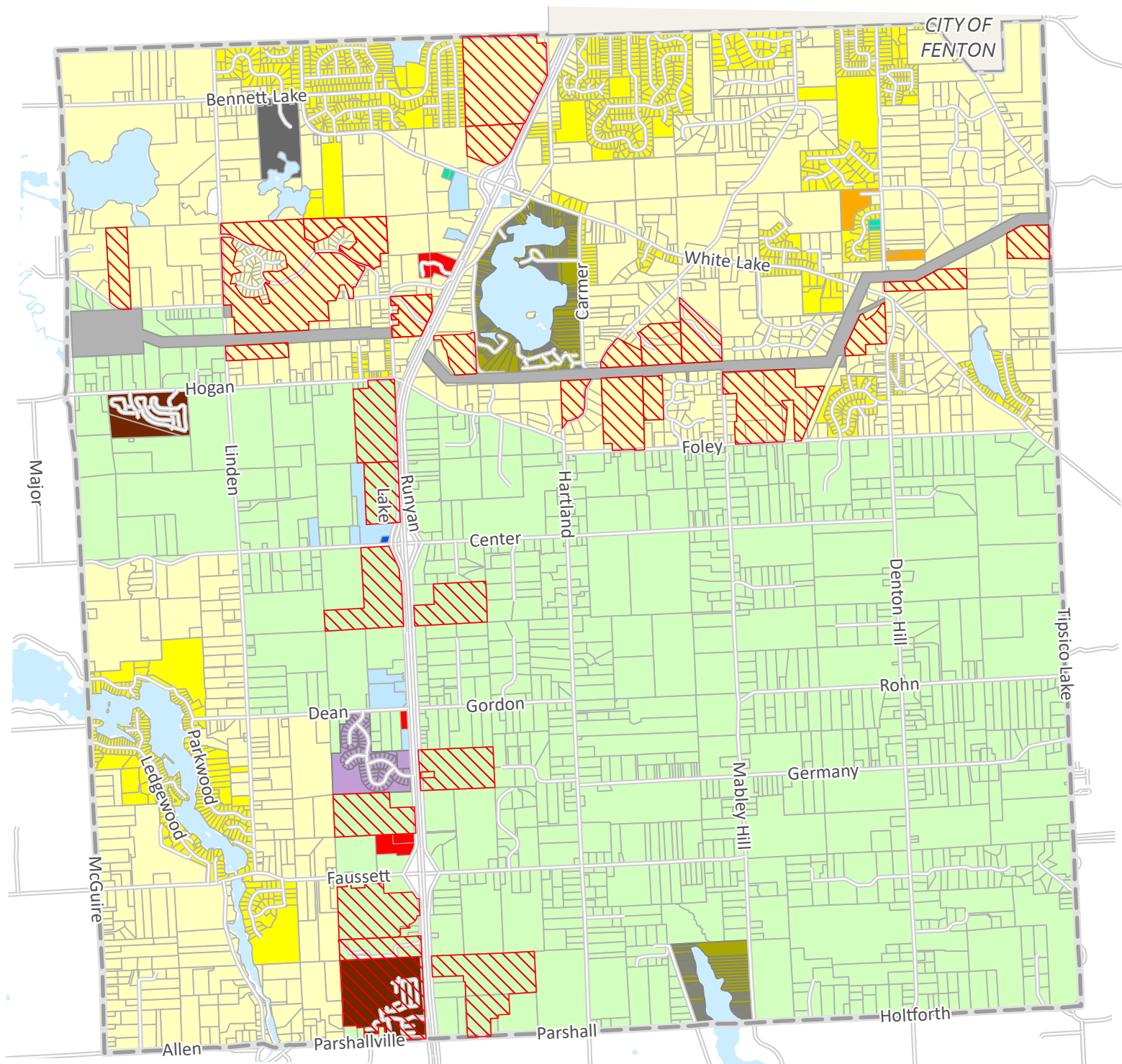
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











# **OLD BUSINESS #2**

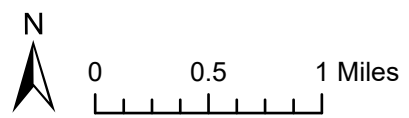
Utility Scale Solar Facilities





# **Solar Utilites Overlay Draft** Tyrone Township Livingston County, Michigan

- |   |  |
|---|--|
|  Solar Overlay               |  Expressway Service       |
|  Roads                       |  Extractive Industry      |
|  Farming Residential         |  Light Manufacuring       |
|  Rural Estate                |  Office Service           |
|  Single Family Residential   |  Planned Unit Development |
|  Lake Front Residential      |  Waterways                |
|  Multiple Family Residential |  Tyrone Township          |
|  Manufactured Home Park      |  Utilities                |
|  Community Business          |  |





[Proposed Amendments to Section 2 of the Tyrone Zoning Ordinance.](#)

**SECTION 2.02 SOLAR ENERGY GENERATION DEFINITIONS**

**ABANDONMENT:** Any Utility-solar energy system or facility that is no longer producing power over a consecutive 12-month period of time.

**DECOMMISSION:** To remove and/or retire a Utility-scale solar energy system or facility from active service.

**HEIGHT:** The height of a Utility-scale solar energy system, measured vertically from the adjacent grade to its highest point at maximum tilt.

**SOLAR ARRAY.** A collection of solar panels, wired together to generate electricity from the sun.

**UTILITY-SCALE SOLAR ENERGY FACILITIES.** A system to produce electricity for sale back to, or use in, an electrical energy grid system and not primarily consumed on site.

**UTILITY-SCALE SOLAR ENERGY SYSTEMS.** A device, and/or components designed to collect and transform solar energy into electricity.



**Proposed Amendments to Section 22.05 Part T of the Tyrone Zoning Ordinance.**

**A. Utility-scale Solar Energy Facilities.**

Tyrone Township recognizes the positive environmental impact solar energy systems promise as an energy alternative to traditional sources. Concurrently, the Township has an obligation to ensure use of lands within its jurisdiction provide a net positive effect in terms of impact, support of the Township Master Plan, and availability of land resources.

- 1. Regulations.** The following regulations are intended to ensure the interests of the landowner and the Township are achieved harmoniously with no negative effect to the long-term viability of the subject property or those surrounding it. In zoning districts where they are permitted or special land uses, facilities for the capture, storage, and distribution of solar energy for commercial purposes are subject to the following standards:
  - a. Lease Unit Boundary.** The boundary around a parcel, multiple parcels, or portions thereof, leased or purchased for the purposes of operating a Utility-scale solar energy facility. The Lease Unit Boundary may cross road rights-of-way, but required setbacks shall be provided and calculated on each side of any such road.
  - b. Location and Setbacks.** The Utility-scale solar energy system shall not be located closer to the road than any portion of a principal building located on the same parcel. The Utility-scale solar energy facility setback requirements are found in the table below. For parcels abutting Old US-23, the minimum setback from Old US-23 shall be 50 feet. All accessory equipment shall be subject to the same requirements. Setback requirements for all yards may be increased or decreased by the Planning Commission based upon impacts to existing or likely adjacent development.



District	FR	PCI	PIRO-A	PIRO-B	PIRO-C
Front Yard Setback	50ft	100ft	100ft	100ft	100ft
Side Yard Setback	30ft	30ft	30ft	30ft	50ft
Rear Yard Setback	75ft	30ft	30ft	30ft	50ft

\*In the FR district if the prevailing setbacks of structures on adjacent properties within 500 feet are greater than 50 feet the front yard setback must be increased to those average setbacks, but is not required to be greater than 150 feet. Setbacks shall be measured from the property line to the closest point at minimum tilt or from any Utility-scale solar energy system component or supporting structure. In instances where a proposed Utility-scale solar energy facility abuts a residential zone and/or use, setbacks related to the abutting line shall be doubled.

**Commented [MP1]:** This is the section that will be edited to accommodate the overlay district language.

The Intent of these districts can be located accordingly: Sec. 4, 13A & 16A

- c. **Height.** The height of the Utility-scale solar energy system and any mounts, buildings, accessory structures, and related equipment must not exceed fifteen (15) feet when orientated at maximum tilt. Lightning rods may exceed fifteen (15) feet in height, but they must be limited to the height necessary to protect the Utility-scale solar energy system from lightning and clearly shown in site plan proposals.
- d. **Screening.** Greenbelt screening is required around any Utility-scale solar energy facility and around any equipment associated with the system to obscure, to the greatest extent possible, the Utility-scale solar energy system from any adjacent residences. The greenbelt must consist of shrubbery, trees, or other non-invasive plant species that provide a visual screen. At least 50% of the plants must be evergreen trees that are at least six feet tall at the time of planting. Each owner, operator, or maintainer of any Utility-scale solar energy facility to which this ordinance applies shall utilize good husbandry techniques with respect to said vegetation, including but not limited to, proper pruning, proper fertilizer, and proper mulching, so that the vegetation will reach maturity as soon as practical and will have maximum density in foliage. Dead or diseased vegetation shall be removed and must be replanted at the next appropriate planting time. Plants or grasses not part of the buffer area shall be maintained by the facility operator not to exceed a height of twelve (12) inches. Applicant agrees to submit an acceptable and reasonable long term landscape maintenance plan prior to final approval.



- e. **Glare.** Utility-scale solar energy systems must be placed and oriented such that concentrated solar radiation or glare does not project onto roadways and nearby properties. Applicants have the burden of proving any glare produced does not cause annoyance, discomfort, or loss in visual performance and visibility. An analysis by a qualified professional third-party, mutually agreeable by both the Township and applicant, shall be required to determine if glare from the Utility-scale solar energy system will be visible from nearby residents and roadways. The analysis shall consider the changing position of the sun throughout the day and year, and its influence on the Utility-scale solar energy system.
- f. **Natural Feature Preservation.** The plan for installation of a Utility-scale solar energy facility shall include a tree survey and plan for cutting of trees greater than 6" DBA. No such trees shall be cut in any required setback other than those reasonably required for the installation of a drive to access the facility. Retention of natural grades, soils, and groundcover material is encouraged where feasible.
- g. **Environmental Impact Analysis:** An analysis by a qualified professional third-party, mutually agreeable by both the Township and applicant, shall be required to identify and assess any potential impacts on the natural environment including, but not limited to, wetlands and other fragile ecosystems, historical and cultural sites, and antiquities. The applicant shall take appropriate measures to minimize, eliminate, or mitigate adverse impacts identified in the analysis.

An applicant shall identify and evaluate the significance of any net effects or concerns that will remain after mitigation efforts. The applicant shall comply with applicable parts of the following:

Michigan Natural Resources and Environmental Protection Act (Act 451 of 1994, MCL 324.101 et seq.) including but not limited to Part 31 Water Resources Protection (MCL 324.31001 et seq.).

Part 91 Soil Erosion and Sedimentation Control (MCL 324.9101 et seq.), Part 301 Inland Lakes and Streams (MCL 324.30101 et seq.).

Part 303 Wetlands (MCL 324.30301 et seq.).

Part 323 Shoreland Protection and Management (MCL 324.32301 et seq.).

Part 325 Great Lakes Submerged Lands (MCL 324.32501 et seq.).



Part 353 Sand Dunes Protection and Management (MCL 324.35301 et seq.).

- h. Drainage and Stormwater.** Utility-scale solar energy facilities shall not increase stormwater runoff onto adjacent properties. The application shall include a drainage plan prepared by a registered civil engineer showing how stormwater runoff shall be managed and demonstrating that runoff from the site shall not exceed the agricultural runoff rate or otherwise cause undue flood. Any necessary permits from outside agencies for off-site discharge shall be provided. It should also be demonstrated that maintenance procedures and products will not introduce chemicals or create detrimental impacts to the natural environment, groundwater, and wildlife. Detergents should be of a biodegradable variety, and frequency of anticipated cleaning should be described.

Stormwater Study: An analysis by a qualified professional third-party, mutually agreeable by both the Township and applicant, shall be required to account for the proposed layout of the Utility-scale solar energy facility and how the spacing, row separation, and slope affects stormwater infiltration, including calculations for a 100-year rain-event (storm). Percolation tests or site-specific soil information shall be provided to demonstrate infiltration on-site without the use of engineered solutions.

- i. Lot Coverage.** Impervious surfaces required for the installation of Utility-scale solar energy systems shall be subject to the maximum lot coverage standards of the zoning district. Impervious surfaces for the purpose of calculating lot coverage for Utility-scale solar energy systems include, but are not limited to, mounting pads, footings, concrete or asphalt driveways and walkways, and accessory structures. In the case of a Utility-scale solar energy facilities on a lease unit, maximum lot coverage standards shall apply for each parcel included within a lease unit.
- j. Abandonment, Removal, Repowering and/or Maintenance.** If a Utility-scale solar energy facility ceases to perform its intended function (generating electricity) for more than 12 consecutive months, the operator shall remove the collectors, mounts, and associated equipment and facilities no later than 90 days after the end of the 12-month period. Where the removal has not been lawfully completed as required above, and after at least 30 days' written notice, the Township may remove or secure the removal of the Utility-scale solar energy facility and/or system or portion thereof, with the Township's actual cost and reasonable administrative charges to be covered by the



operator's security bond. Charges may include the procurement of a contractor with the expertise to oversee and execute the entire decommissioning and removal of all equipment and fixtures on the site. Any costs incurred by the Township above and beyond the value of the security bond will be the responsibility of the operator.

If due to abandonment and/or negligence to maintain, the township shall have the right to enter the site for the reason of repowering the facility, in cases where repairs or replacements to the Utility-scale solar energy system components are necessary, in order to properly maintain the system. The township's actual cost and reasonable administrative charges to be covered by the operator's security bond. Charges may include the procurement of a contractor with the expertise to oversee and execute the entire set of repairs and/or maintenance to restore the site to its original capacity. Any costs incurred by the Township above and beyond the value of the security bond will be the responsibility of the operator.

- k. **Decommissioning.** The ground shall be restored to its original condition within 60 days of removal of structures. Acceptable ground covers include grasses, trees, crops, or other material demonstrated to be characteristic of the surrounding land. All above and below ground materials shall be removed when the Utility-scale solar energy facility and/or system is decommissioned. All installed landscaping and greenbelts shall be permitted to remain on the site as well as any reusable infrastructure as determined by the township. These can include service drives, utilities, etc.
- l. **Security. A letter of credit, cash deposit, or other security instrument found acceptable to the Tyrone Township Board.** The owner(s) and/or operator of the Utility-scale solar energy facility shall post a security instrument in a form acceptable to the Township equal to one-hundred fifty (150) percent of the total estimated decommissioning and reclamation costs. The cost of decommissioning shall be re-reviewed and submitted to the Township annually to ensure adequate funds are allocated for decommissioning. The security instrument, defined herein, shall be appropriately adjusted to reflect the current decommissioning estimate.
  - i. The applicant shall engage a certified professional engineer acceptable to the Township to estimate the total cost of decommissioning all structures in the facility in accordance with the requirements of this Ordinance, including reclamation to the original site conditions.



- ii. A security bond, if utilized, shall be posted and maintained with a bonding company licensed in the State of Michigan or a Federal or State-chartered lending institution acceptable to the Township.
  - iii. Any bonding company or lending institution shall provide the Township with 90 days' notice of the expiration of the security bond. Lapse of a valid security bond is grounds for the actions defined in Subsection v., below.
  - iv. In the event of sale or transfer of ownership and/or operation of the Utility-scale solar energy facility, the security instrument shall be maintained throughout the entirety of the process.
  - v. If at any time during the operation of the Utility-scale solar energy facility or prior to, during, or after the sale or transfer of ownership and/or operation of the facility the security instrument is not maintained, the Township may take any action permitted by law, revoke the special land use, order a cessation of operations, and order removal of the structure and reclamation of the site.
  - vi. The security instrument shall be maintained until decommissioning and removal has been completed to the satisfaction of the Township.
- m. **Wildlife Impact Analysis:** The Applicant shall provide an analysis by a qualified professional third-party, mutually agreeable by both the Township and applicant, to identify and assess any potential impacts on wildlife and endangered species. The applicant shall take appropriate measures to minimize, eliminate, or mitigate adverse impacts identified in the analysis. The applicant shall identify and evaluate the significance of any net effects or concerns that will remain after mitigation efforts. Sites requiring special scrutiny include wildlife refuges, other areas where birds are highly concentrated, bat hibernacula, wooded ridge tops that attract wildlife, sites that are frequented by federally or state listed endangered species of birds and bats, significant bird migration pathways, and areas that have landscape features known to attract large numbers of raptors. At a minimum, the analysis shall include a thorough review of existing information regarding species and potential habitats in the vicinity of the project area. Where appropriate, surveys for bats, raptors, or general avian use should be conducted. The analysis shall include the potential effects on species listed under the federal Endangered



Species Act and Michigan's Endangered Species Protection Law. The applicant shall follow all pre-construction and post-construction recommendations of the United States Fish and Wildlife Service. The analysis shall indicate whether a post-construction wildlife mortality study will be conducted and, if not, the reasons why such a study does not need to be conducted. Power lines should be placed underground, when feasible, to prevent avian collisions and electrocutions. All aboveground lines, transformers, or conductors should follow any Avian Power Line Interaction Committee (APLIC, <http://www.aplic.org/>) guidelines to prevent avian mortality.

- n. **Provision of Manufacturers' Safety Data Sheet(s):** Applicant must submit manufacturer safety data sheets for all proposed equipment. If approval is granted, applicant must provide the Township with finalized manufacturer safety data sheets both to be kept on record at with the Township and on-site in a clearly marked waterproof container. Applicant must provide updated manufacturer data sheets whenever equipment is modified so that all records are up to date. Documentation shall include the type and quantity of all materials used in the operation of all equipment.
  - o. **Fire Suppression Plan:** Applicant must provide a plan describing the fire suppression process and procedure, as well as potential training for emergency personnel.
  - p. **Anticipated Construction Schedule:** Applicant must provide an anticipated construction schedule which highlights when potentially hazardous materials will be brought on-site and installed.
  - q. **Permits:** Applicant must coordinate with the Livingston County Road Commission and/or Michigan Department of Transportation (MDOT) for permission to connect access roads to existing County roads and from the Livingston County Drain Commission for any culverts or other drainage facilities.
  - r. **Photographic Record:** Applicant must submit a complete set of photos and video of the entire development area prior to construction. This will be used as historical documentation for the township to secure and refer to if/when decommissioning and redevelopment activities takes place.
2. **Site Plan Approval and Supporting Materials.** All applications for Utility-scale Solar Energy Facilities must be accompanied by detailed site plans, drawn to scale and dimensioned and certified by a registered engineer licensed in the State of Michigan. All site plans shall conform to the requirements of Article 23. In addition they shall display the following information:



- a. All lot lines and dimensions, including a legal description of each lot or parcel comprising the Utility-scale Solar Energy Facility.
- b. Vicinity map showing the location of all surrounding land uses within 1,000 feet of the proposed site's property lines.
- c. Location and height of all proposed Solar Array(s), buildings, structures, electrical tie lines and transmission lines, security fencing, and all above-ground structures and utilities associated with a Utility-scale Solar Energy Facility.
- d. Horizontal and vertical to scale drawings (elevations) with dimensions that show the location of the proposed Solar Array(s), buildings, structures, electrical tie lines and transmission lines, security fencing and all above ground structures and utilities on the property.
- e. Location of all existing and proposed overhead and underground electrical transmission or distribution lines within the Utility-scale Solar Energy Facility and within one hundred (100) feet of all exterior property lines of the Utility-scale Solar Energy Facility. (exterior means the physical property lines versus the lease unit boundary lines)
- f. Proposed setbacks from the Solar Array(s) to all existing and proposed structures within the Utility-scale Solar Energy Facility.
- g. Topography for the Solar Array(s) location and the relationship to the land elevations of all existing and proposed structures within the Utility-scale Solar Energy Facility at a minimum of two (2) foot contour intervals.
- h. Access driveways within and to the Utility-scale Solar Energy Facility, together with a detailed narrative regarding dimensions, composition, and maintenance of each proposed driveway. All access driveways shall be subject to Livingston County Road Commission (LCRC) approval and shall be planned so as to minimize the use of lands for that purpose.
- i. Planned security measures to prevent unauthorized trespass and access during the construction, operation, removal, maintenance or repair of the Utility-scale Solar Energy Facility. In no instance shall barbwire be used.
- j. A written description of the maintenance program to be used for the Solar Array(s) and other components of the Utility-scale Solar Energy Facility, including decommissioning and removal. The description shall include maintenance schedules, types of maintenance to be performed,



and decommissioning and removal procedures and schedules if the Utility-scale Solar Energy Facility is decommissioned. Description should include the average useful life of all primary Utility-scale solar energy system equipment and components being proposed.

- k.** Planned lightning protection measures.
- l.** A plan for reviewing and reasonably resolving complaints from the public or other property owners concerning the construction and operation of the Utility-scale Solar Energy Facility, which is subject to the Township's review and approval.
- m.** A plan for managing any hazardous waste, which is subject to the Township's review and approval.
- n.** A transportation plan for construction and operation phases, including any applicable agreements with the County Road Commission and Michigan Department of Transportation, which is subject to the Township's review and approval.
- o.** An attestation that the applicant will indemnify and hold the Township harmless from any costs or liability arising from the approval, installation, construction, maintenance, use, repair, or removal of the Utility-scale Solar Energy Facility and/or System, which is subject to the Township's review and approval.
- p.** Additional detail(s) and information as required by the Tyrone Township Zoning Ordinance, or as required by the Planning Commission and/or Township Board.