

2018 Tittabawasse Township Master Plan



"the heart of the Tri-Cities"
Tittabawasse Township

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> INTRODUCTION

A Master Plan is a tool designed to accomplish three primary tasks: 1) analyze the current state of a municipality or community, 2) identify areas of improvement, and 3) define actions and plans for the future. The purpose of this document is a guide to support Tittabawassee Township in accomplishing these three tasks. In addition, the Master Plan is the primary source of direction for zoning decisions.

The Michigan Planning Enabling Act (Act 33 of 2008) is the framework for planning by municipalities in the State of Michigan. P.A. 33 of 2008 requires municipalities like Tittabawassee Township to prepare and adopt comprehensive plans addressing land use and infrastructure for up to twenty years in the future. Comprehensive plans should be prepared and/or updated every five years.

The last comprehensive master plan produced by the Township was in 2013. The 2018 update includes a comprehensive look at the document and also revises the Future Land Use map.

Communities are fluid and ever changing; plans must stay relevant to the challenges presented in real-time, as well as being relevant in the future. Master Plans provide general guides for future development and allow for consistent views to address individual cases of development.

>The Master Plan provides a vision for the future and a general guide for future decisions. It is not a fixed blueprint and does not have the force of law.



The 2018 Tittabawassee Township Board of Trustees

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- Rick Hayes, *Supervisor*
- Tracy Reimus, *Treasurer*
- Robert DuCharme, *Clerk*
- Wayne King, *Trustee*
- Carl Neuenfeldt, *Trustee*
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- Roger Hupfer, *Secretary*
- Paul Garstecki
- Jim Heffel
- Robert Hensler
- Carl Neuenfeldt
- Ronald Schauman

Staff

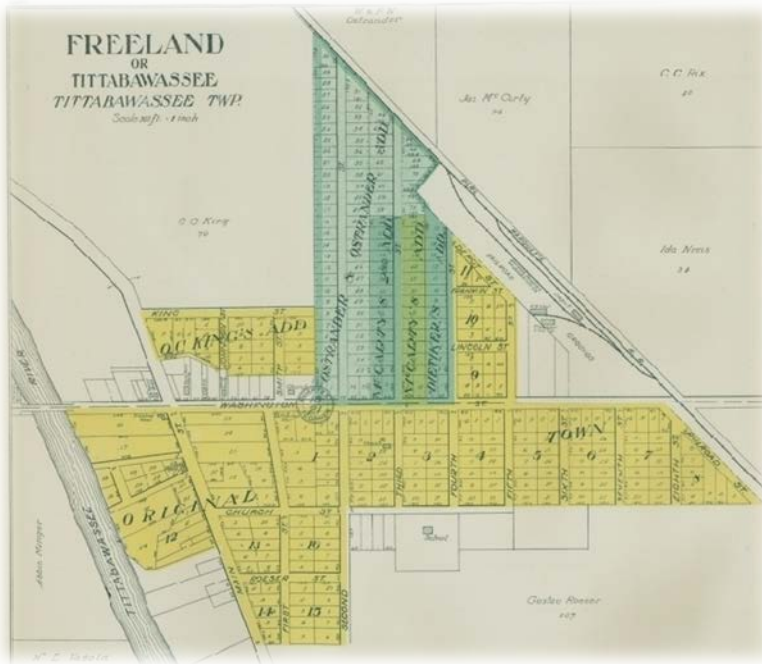
- Marc McGill, *Manager*
- Grant Murschel, *Planner*
- Brandy Kauska, *Deputy Clerk*
- Allison Riffel, *Manager Assistant*

> HISTORY OF THE TOWNSHIP

The Tittabawassee Township area was inhabited by the Native American tribes of Chippewa, Ottawa, and Pottawatomi. In 1819, these tribes ceded land to the United States government with the Treaty of Saginaw. This new U.S. land attracted new settlers with the immense natural resources that this area offered. After settlement occurred, the resources of this area began to be extracted quickly to provide the growing nation with raw materials.

The logging industry was vital to the beginning of the state of Michigan, and the Tittabawassee River was the principle river for this industry. The productive soils, which grew the dense forests, also attracted those who wanted to farm the land. In fact, many of the early settlers farmed during the summer months and worked in logging camps in the winter.

On April 5, 1841 local residents established the Township of Tittabawassee. At this time, there were two small settlements located in the Township. The first was on the east side of the river, a short distance southeast from the geographical center of the Township; it became known as Loretta, and in 1859, was given a post office. The second settlement existed at a point a little north of the other, also on the east side of the river, platted in 1867 as the Village of Tittabawassee. It was between 1859 and 1867 that the post office moved from Loretta to Tittabawassee.



A woman, popularly known as “Mammy Freeland”, operated a hotel near the settlement of Tittabawassee. The hotel became one of the prominent features of this place, as it was frequented by both lumberjacks and river men. The name of Freeland gradually came to be applied to the settlement area. Eventually, the post office was changed to Freeland to match the common name of the place.

The Flint-Pere Marquette Railroad was built in 1867 and passed through Freeland and not Loretta. This access to the new transportation system increased the influence of Freeland. It was in 1870 that the first Freeland Road Bridge was built.

In 1914, two major fires destroyed most of the businesses on Main Street. Most were uninsured or under-insured and consequently, were not rebuilt.

The first school in the Township was built in 1854 at the northwest corner of Washington and Second Street. Since then, the community has continued to foster its schools. In 1960, a new high school was built on Powley Drive. Today, this building serves the community as the Elementary School. In 1980, the new and current high school on Webster Road graduated its first graduating class.



Tittabawassee Township continues today with many patterns from the past. The Township is still home to a thriving agriculture industry, with many of the same fields being cultivated today as in the mid-1800s. However, the majority of the Township's residents are employed in different vocations as the economy has shifted within the Township, the county, the state, and the nation. Today, the common resident is employed in one of the nearby urban areas of Saginaw, Midland, and Bay City.

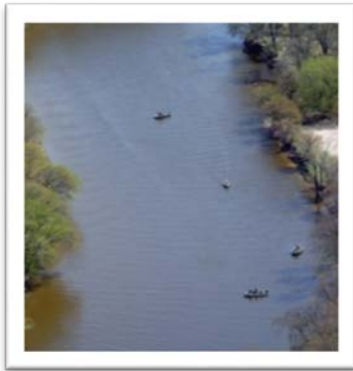


This has led the Township to become primarily developed into residential housing for those who want to live in a suburban town and work in an urban area. Businesses within the Township are predominantly focused on M-47 near the village center of Freeland. These businesses are a great addition to the community as many services are provided to residents and people passing through alike.



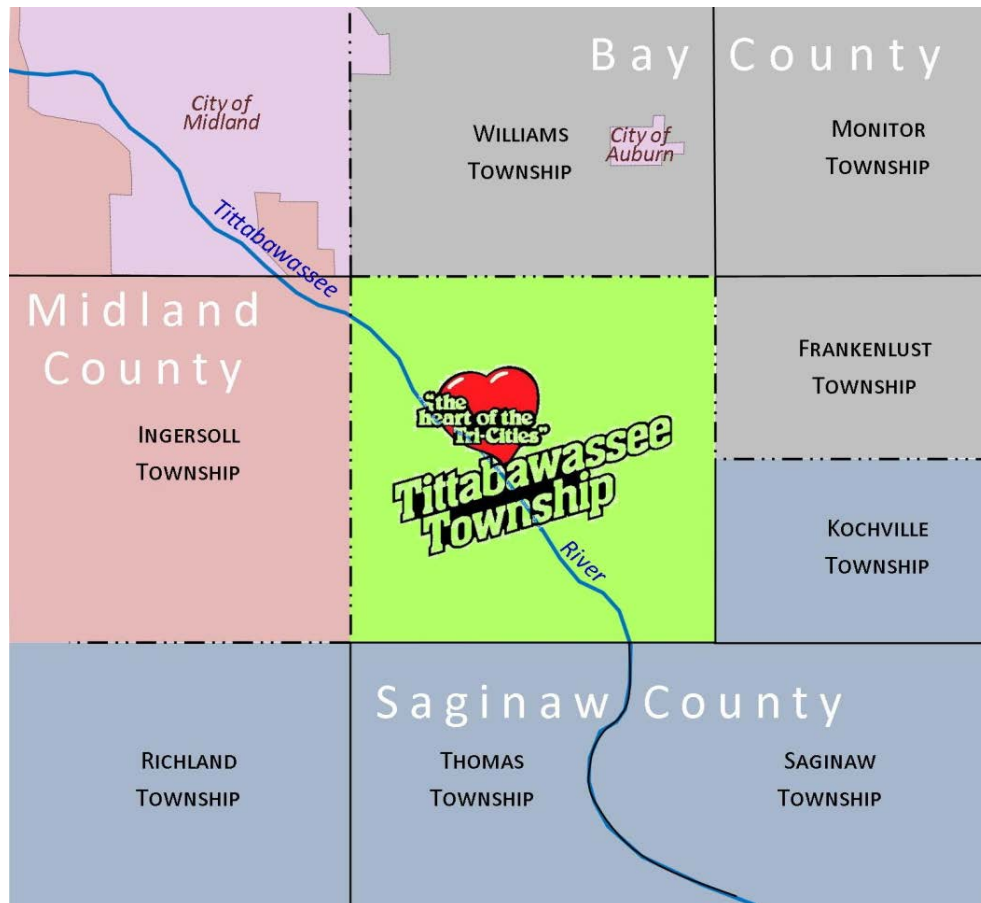
> COMMUNITY PROFILE

Tittabawassee Township is a traditional, thirty-six square mile township, located in the northern portion of Saginaw County. The Township is transected by State Highway 47. It is bordered to the north by Williams Charter Township of Bay County, to the east by Frankenlust Township of Bay County and Kochville Township of Saginaw County, to the south by Saginaw Charter Township and Thomas Township both of Saginaw County, and to the west by Ingersoll Township of Midland County. The Township extends from Hotchkiss Road to Tittabawassee Road from north to south and Hospital Road to Orr Road from east to west.



The Tittabawassee River bisects the Township. It acts as a natural divider between the east and the west. Six and two-thirds miles of the length of the Tittabawassee River is located within the boundaries of Tittabawassee Township.

The Township is located centrally between the regional cities of Bay City, Midland, and Saginaw. This geographic location is what gives the Township its logo as “The Heart of the Tri-Cities”.



Highlights of Tittabawassee Township



Highlights of Tittabawassee Township > *"We've Been Planning All Along"*

M-47 and Powley Dr. Traffic Signal Study

The M-47 and Powley Drive Traffic Signal Study was a 2005 study of the Midland Road (M-47) and Powley Drive intersection for the feasibility of a traffic signal. The study concluded with traffic levels at the intersection not high enough to warrant the need for a traffic signal. However, the study found levels to be high enough to warrant a signal at the intersection of M-47 and the Pat's Food Center driveway.

The Tittabawassee Road Corridor Study was created in 1999. The study summarized problems faced by users of Tittabawassee Road at the time. It was this study which led to the expansion of the road to what it is today.

Tittabawassee Road Corridor Study

Freeland and Webster Traffic Signal

The Freeland Road and Webster Road intersection was surveyed in 2017 for practicality measures in order to reduce the amount of wait time at the light. It concluded that a "smart light" would be utilized at this intersection. For the "smart light", sensors would be put into the roads and would allow the light to be a constant green when there is no traffic at Webster or switch to a typical light sequence when traffic is sensed. The corner will also switch from a three way light to a four way light.

**Sidewalk
Improvements**

In the past 5 years the Township has added 5 miles of sidewalks. In addition to those 5 miles, a 2.5 mile long 10 foot wide non-motorized path was formed in order to create a connection between almost every subdivision and the Freeland SportsZone. Together, sidewalk improvements have created a greater ability for residents to walk, run, or bike from location to location.

The 2016 Tittabawassee Township Road Condition Study was the first of its kind conducted for the Township. The study was conducted to determine what it would take both financially and physically to bring all 70.7 miles of local roads up to fair condition. An engineer was responsible for the study as well as reporting their findings to the Township. This study gives suggested improvements and costs of said improvements. This Road Condition Study determined it would take over \$22 million dollars to update all of the local roads and broke down millage options if that plan would be taken to improve the roads for all residents.

**ROAD CONDITION
STUDY**

**Recreation
Plan**

The Recreation Plan is a 5 year plan required by the State of Michigan. It was updated in 2013 and updated again in 2018. This Recreation Plan allows us to obtain grants from the state to supplement the growth of our parks and recreation areas. Ultimately, the 2018 Recreation Plan provides a set of implementation strategies to guide the improvements which have been identified as a priority by both Township residents and the Tittabawassee Township Park Committee.

Highlights of Tittabawassee Township

> *Demographic*

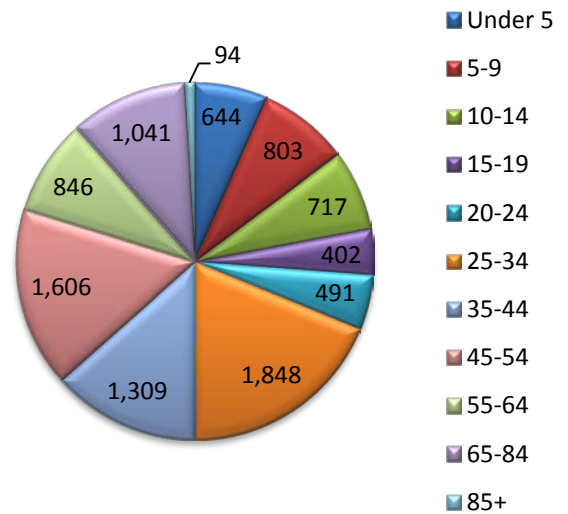
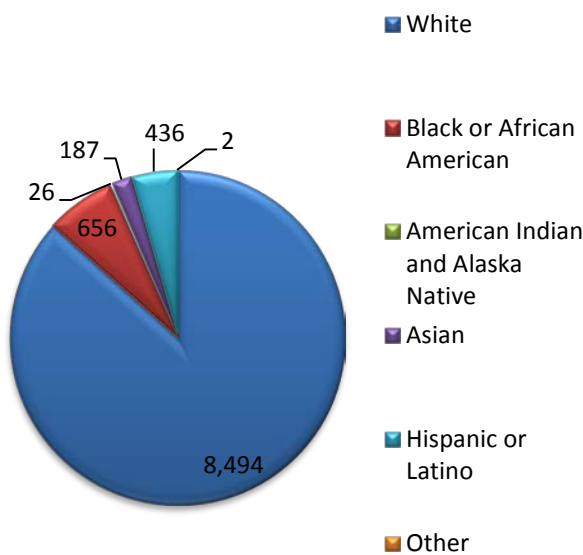
Total Population: 9,801¹

Median Age: 35

Average Household Size: 2.66

Age Distribution¹

Race Distribution



The **gender gap** was **unchanged** from 2010 to 2015 staying at 16 points¹.
58% of the population was **male**, whereas **42%** of the population was **female** in **2015**¹.
 The Township's gender distribution is considerably skewed from that of Saginaw County and the State of Michigan due to the presence of the Saginaw Correctional Facility.

From 2010 to 2015 est. the **largest increase** share was in the **25-34 age group**¹.
35-44 saw the largest **decrease** in numbers from 2010 to 2015 est.¹

¹ Source: U.S. Census Bureau. Profile of General Population and Housing Characteristics: 2010, Age Groups and Sex: 2000. American Community Survey, Demographic and Housing Estimates: 2015 est. *Includes incarcerated population

Highlights of Tittabawassee Township

> *Economic*

Labor Force: **4,261**

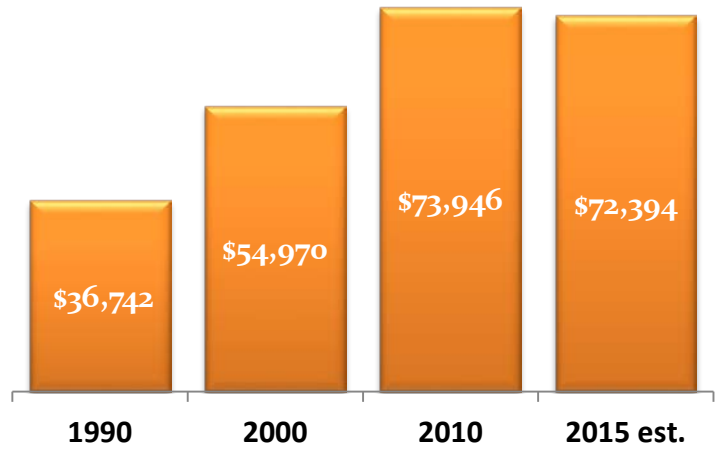
Median Household Income¹

Tittabawassee Township
 Top Employing Industries¹

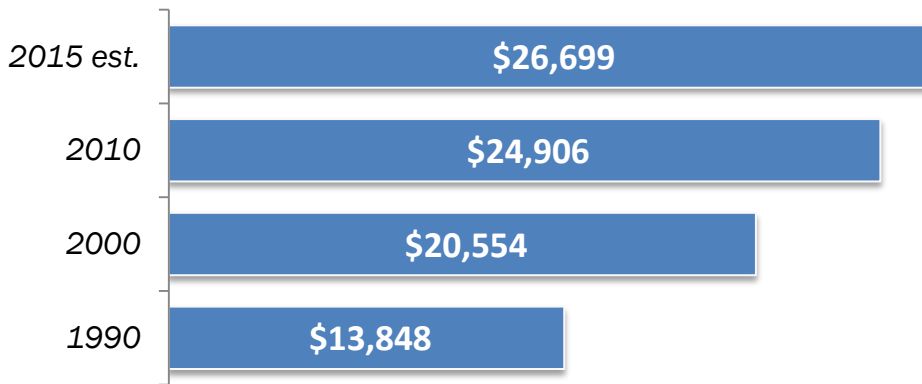
1. Health and Education **24.9%**
2. Manufacturing **19.1%**
3. Retail **11.1%**

State of Michigan
 Top Employing Industries¹

1. Health and Education **23.9%**
2. Manufacturing **17.8%**
3. Retail **11.4%**



Per Capita Income¹



2015 est. Median Household Income is greater than that of Saginaw County (\$43,042) and the State of Michigan's (\$49,576).

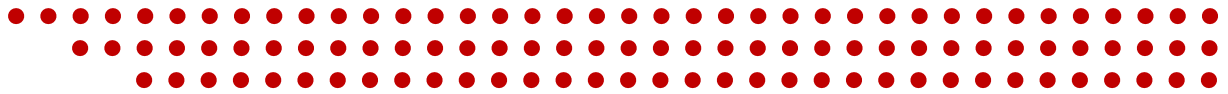
Median Household Income has increased by 97.0% from 1990 to 2015 est.¹

The percent of the **population below the poverty line** has **decreased** from 9% in 2000 to 5.1% in 2015 est.¹

It is below Saginaw County's level of 18.3% in 2015 est.¹

¹ Source: American Community Survey, 2015 est. SELECTED ECONOMIC CHARACTERISTICS, Profile of Selected Economic Characteristics.

A Look at the Current



> Transportation

Roadways

The automobile is the primary mode of transportation through the township making roadways the most important mode of transportation.

State Highway 47 (M-47) is the principal artery and the main connection between the cities of Midland and Saginaw. This road is what gives the Township life, as it allows easy commuting and rapid access to urban areas in the region.

Tittabawassee Road on the south boundary of the Township is also a main connecting route into Saginaw. This road is also one of two river crossings over the Tittabawassee River in the Township.

Freeland Road is the central east-west corridor. It is the second crossing over the Tittabawassee River. Freeland Road and M-47 (Main St.), form the main intersection in the Village of Freeland.

Traffic Counts

M-47 and Tittabawassee Road have the highest average daily traffic counts of 19,700 and 10,700 respectively. The Tittabawassee Road river crossing has the highest average daily traffic volume with 10,375, in 2016; Freeland Road river crossing has a measure of 9,325 average daily traffic, in 2016. (Source: MDOT, Saginaw County Road Commission)

A map of traffic counts can be found in Appendix B.

Lake State Bay Southern Railroad

The Lake State Bay Southern freight railroad bisects Tittabawassee Township from the southeast to the northwest. The only automated-signalized grade crossing with this railway is at Washington Street. Non-automated crossings exist at ten other locations throughout the Township. The railroad passes under the freeway portion of M-47.



MBS International Airport

The MBS International Airport is situated east of the Village of Freeland. It serves primarily Midland, Bay City, and Saginaw but is also used by people from areas north of Midland and Bay Counties. The airport is important economically to Tittabawassee Township as local businesses benefit greatly from the traffic and people it brings to the area. Daily non-stop flights from the airport connect to the major airports of Detroit, Chicago, and Minneapolis.

Construction on a new terminal began in 2008 and was finished in the fall of 2012. The terminal was to be funded without the use of local taxes and is designed to be sustainable and convenient to passengers.



> Public Safety

Fire Department

The Tittabawassee Township Fire Department has been serving the community for over 75 years. Started in 1936, the Fire Department has played an important role in the community. The office is located at the Public Safety Building, 355 Church St. between Second and Third Streets. The Fire Department consists of a volunteer Fire Chief, part-time administrative assistant, which is a shared position with the Police Department, and twenty-four dedicated volunteer fire fighters. The Fire Department responded to 762 incidents in 2016, including medical emergencies and fires.



Tittabawassee Township fire truck

Year	Number of Responded Incidents
2016	762
2015	695
2014	631

Source: Tittabawassee Township Fire Department

- Fire Trucks:
- > 1985 Ford American Eagle Pumper
 - > 1999 Chevrolet Suburban
 - > 2007 Stearling Actera Rosenbauer Pumper
 - > 2001 Ford F-550 Brush Truck
 - > 2014 Freightler Spencer Tender
 - > 2006 GMC Yukon



Tittabawassee Township Patrol Car

Year	Number of Times Dispatched
2016	2863
2015	2926
2014	2867
2013	3152
2012	3618

Source: Tittabawassee Township Police Department

Police Department

The Police Department of Tittabawassee Township is dedicated to serving the community 24 hours a day, 7 days a week. The department has a staff consisting of a full-time Chief, full-time administrative assistant, three full-time Police Officers, one full-time Sergeant, a part-time Detective, and seven part-time Police Officers. The department has 6 patrol vehicles; which includes 5 Chevrolet Tahoe's and one unmarked Detective Ford Crown Victoria.

> Green Space

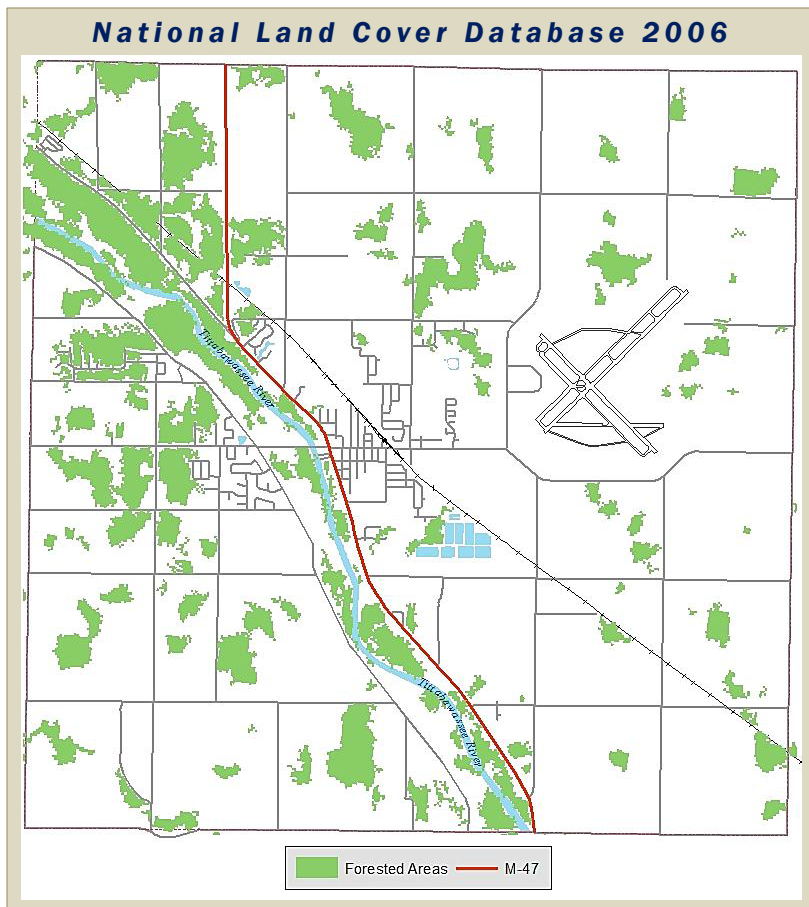
Tittabawassee River Corridor

The Tittabawassee River meanders its way through the Township from the northwest corner to the mid-point of the southern boundary. An extensive floodplain, nearing one half-mile in width in some areas, is located alongside the river. Within the floodplain many low-lying, forested areas exist. This river corridor is by far the most natural and contiguous green space in the Township.

14.1% of Tittabawassee Township is forested.
(Source: NLCD 2006)

Township Parks

The Tittabawassee Township Parks are exemplary models of green space within the Township. Of the six parks, four are vast green areas with numerous trees; the remaining two include an urban plaza with planters for flowers and trees and a non-motorized pathway. The Township Parks are the best means for residents to interact with the green environment.

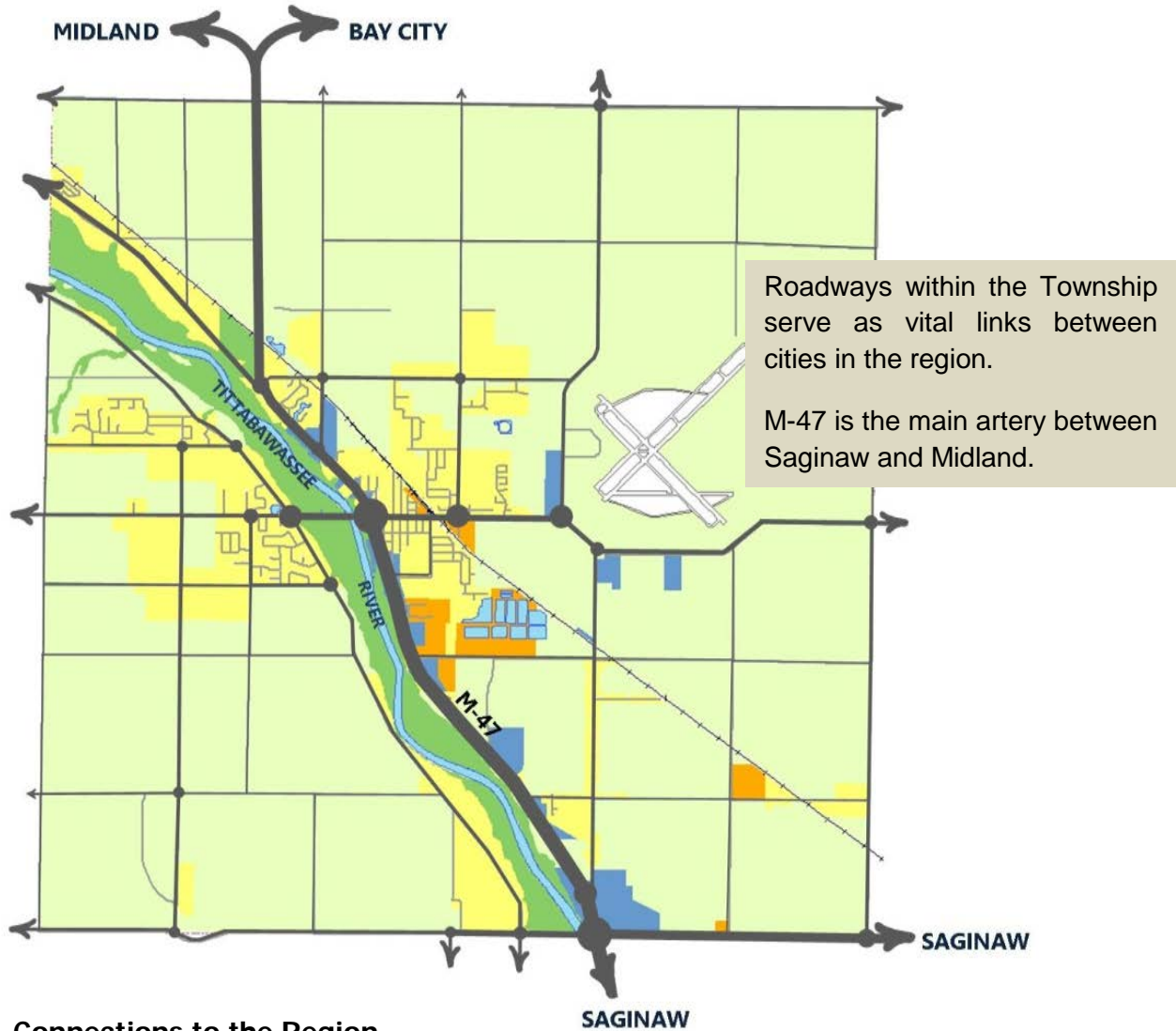


Land Use Categories



LAND USE

>Transportation



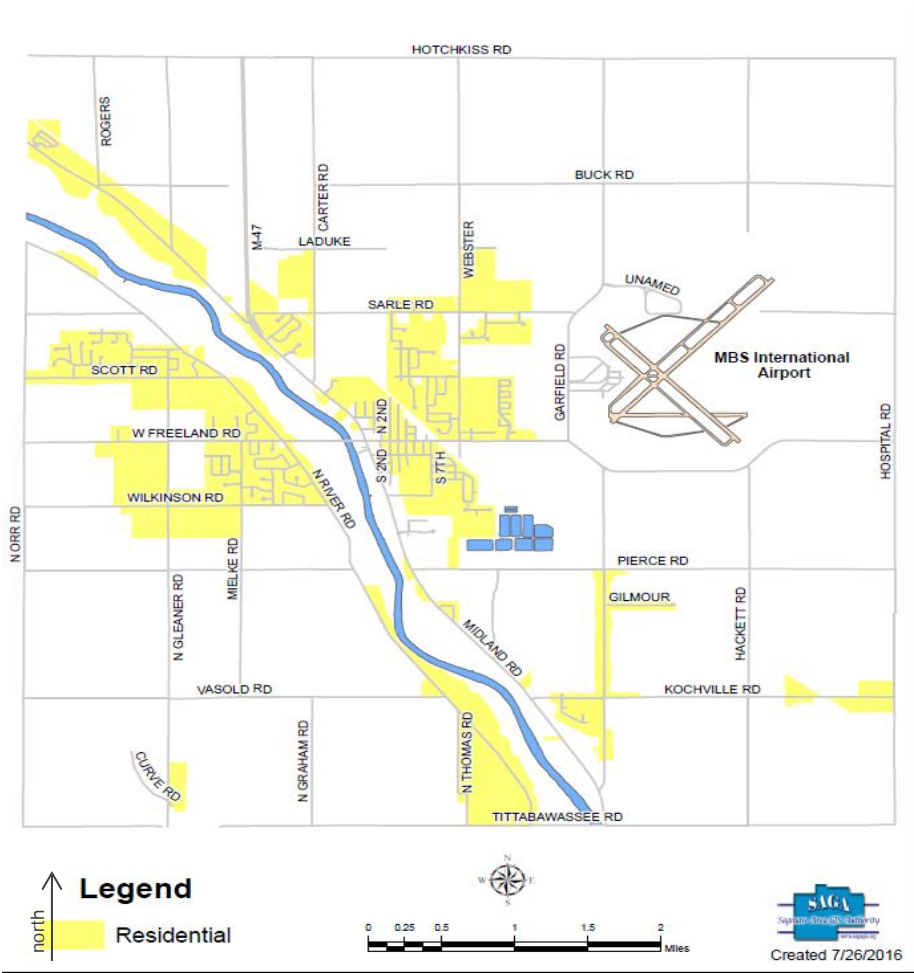
Connections to the Region

Tittabawassee Township is located in the center of the cities of Saginaw, Midland, and Bay City. The central location is a main attraction for residents to live here. Many Township residents commute daily to jobs located in one of the surrounding cities. The existing roadways have been developed to not only allow quick and easy access for commuters originating in the Township, but also for rapid and efficient transportation between cities in the region.

M-47 serves as the main artery between Saginaw and Midland. This road runs directly through the middle of the Township, with average daily traffic counts reaching nearly 20,000 per day. In the interest of keeping the travel time between Saginaw and Midland at a minimum, the road has minimal access points and high speed limits.

LAND USE

>Residential



Housing Types by Count:

- 1) Single-Family Homes **2,876**
- 2) Mobile Home **270**
- 3) Multi-Units **92**

Source: American Community Survey, 2015 est.

Residential

Residential zones are spread out in clusters throughout the Township. The traditional Village of Freeland is the oldest residential area and still retains much of the grid style as designed by the original inhabitants. Since then, new development has consisted of four types: rural housing, subdivisions, multiple family dwellings, and manufactured home parks. Single-family homes are overwhelmingly the largest housing type with a total of 2,876 units in 2015 estimates. There was a 16 percent increase in single family homes between 2010 data and 2015 estimates.

Multi-Unit and Increased Density Housing

Characteristics: Multiple Family developments are multiple dwelling units in one structure. These areas can range from duplexes to apartment buildings with 10+ units.

Location: Increased density housing is scattered throughout the Township. Some increased density developments are defined by many districts, whereas, other multiple family units are mixed in with lower densities.

Zoning: Village Residential (R-1V), Medium Density Residential (R-2) and High Density Residential (R-3)

Subdivisions

Characteristics: Subdivisions are characterized by single-family homes, winding streets, and aesthetically pleasing designs with landscaping and manicured lawns. These developments are relatively new to the Township, with the biggest building booms during the 1990s and early 2000s. Subdivisions typically have one or two entrance points and minimal thru-streets.



Location: These uses are located throughout the Township with the most located in close proximity to the Village of Freeland. They are located in areas where public utilities, such as sanitary sewer and water, are located.

Zoning: Low Density Residential (R-1), Medium Density Residential (R-2) and Rural Residential (R-1A)

Manufactured Home Parks

Characteristics: Manufactured home parks are designed in confined developments with limited entrances. The units are manufactured elsewhere and brought in by either road or rail.

Location: Two manufactured home parks exist in the Township. The Freeland Mobile Home Park is located off Midland Road in the northwest corner of the Township. Falconview Estates is located off Freeland Road between Webster Road and Garfield Road.

Zoning: Manufactured Home Park (R-4)

Rural Housing

Characteristics: This type of housing is characterized by homes on parcels surrounded by farmland or other undeveloped land. The houses are typically in groups, lined up alongside the road. Low density is the primary development for this type of housing; however, some rural housing exists on densely developed homesteads with agriculture-orientated buildings.

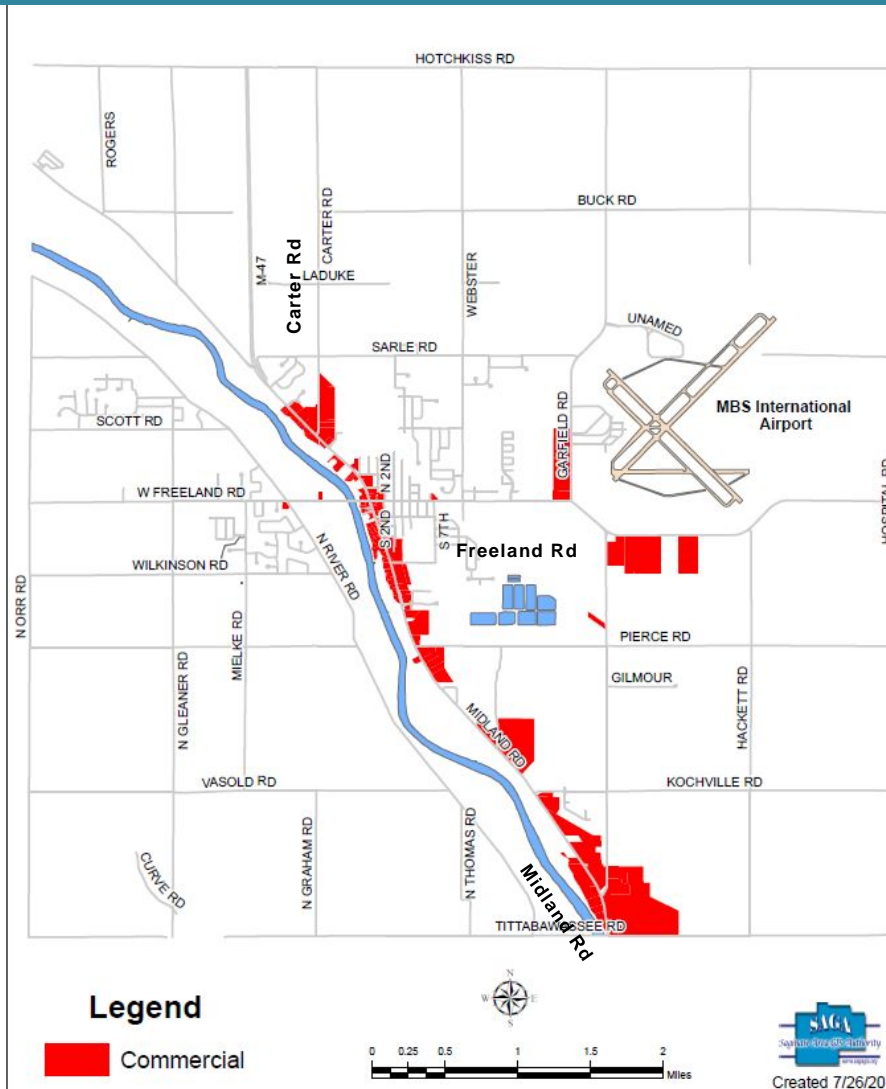
Location: Rural housing is located in areas with limited infrastructure on large sized lots. Lot sizes must be adequate enough to accommodate septic fields and water wells, as many are not serviced by public systems.

Zoning: Rural Residential (R-1A) or Agriculture (A-1)



LAND USE

> Commercial



Township businesses have access to two main markets: local residents and regional commuters/travelers.

MBS Int'l Airport and M-47 are the two main means of bringing in regional customers to local businesses.

Commercial and Business Extent

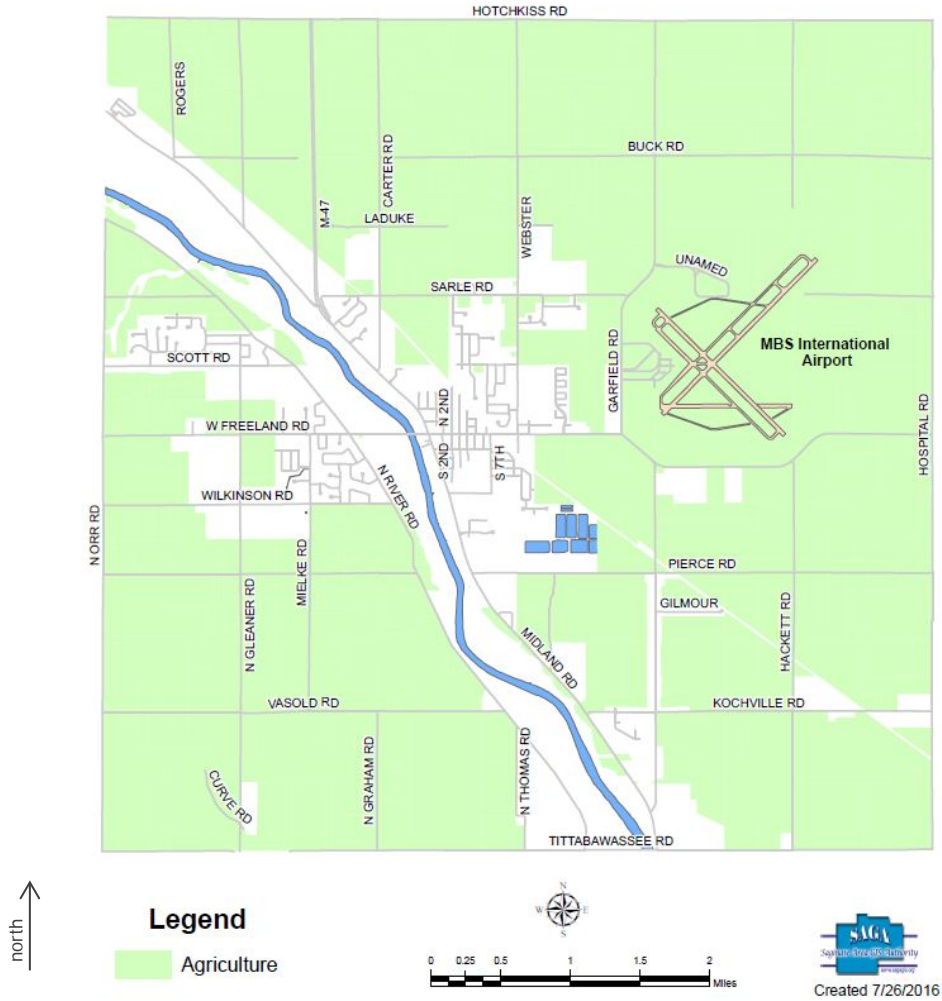
The Township is home to a wide variety of businesses. From auto sales to banking and restaurants, the commercial life has been prosperous and continues to increase. Businesses benefit from two main markets: Township residents and regional commuters/travelers. The agriculture industry in the Township also provides a commercial base and supports many local businesses.

Location: Businesses in the Township are primarily concentrated on three roads: Midland Road (M-47), Freeland Road and Carter Road. The highest density of commercial use is located in the Village center of Freeland. Strip development is located primarily alongside M-47. Large lot, single-purpose businesses are distributed throughout the Township alongside the three primary roads.

Zoning: Village Center (C-1), General Business (C-2) or Regional Business (C-3)

LAND USE

>Agricultural



Agricultural Extent

Land devoted to agriculture is the most predominant type of land use in Tittabawassee Township. This has been the historical state as well as the current state. The productive soils coupled with the climate allows for the cultivation of a wide variety of crops. Many agricultural properties within the township are under Farmland Preservation Program contract which acts to keep the land preserved for agriculture for years to come.

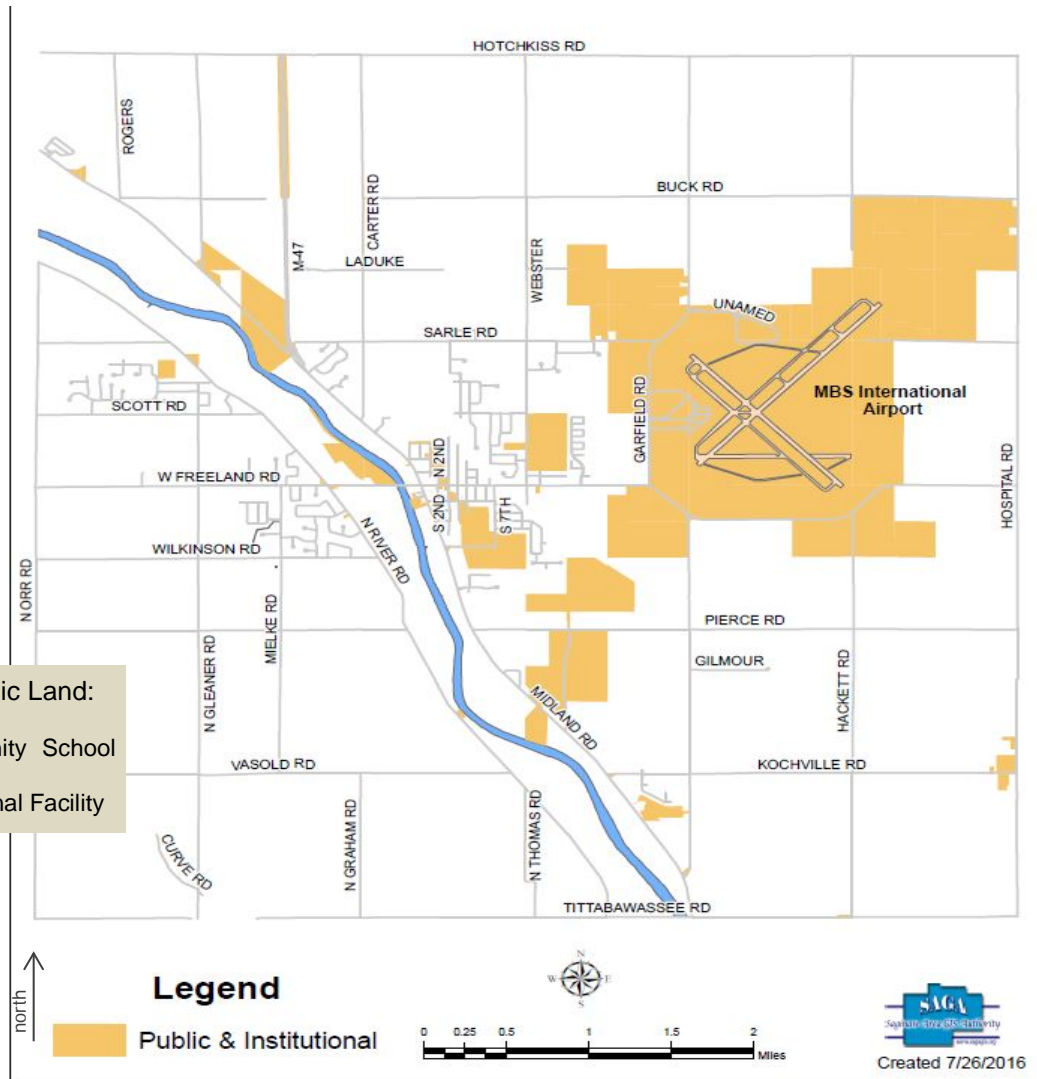
A map detailing Farmland Preservation Program parcels within the township can be found in Appendix C.

Location: Agricultural land can be found throughout the majority of the Township. The basic trend of location is agriculture land surrounding the commercial and residential areas of the Township.

Zoning: Agriculture (A-1)

LAND USE

>Public & Institutional



Largest Owners of Public Land:

- 1) MBS Int'l Airport
- 2) Freeland Community School District
- 3) Saginaw Correctional Facility

Public and Institutional Land

Public and institutional land accommodates uses by state and local government, governmental agencies, schools, and places of worship. MBS International Airport is the largest owner of this type of land within the Township followed by the Freeland Community School District. The Saginaw Correctional Facility, operated by the State of Michigan, owns the third most public/institutional land.

Location: Public land is primarily located near the traditional village of Freeland. Central location and adequate accessibility is a priority for public uses as use by residents is a crucial goal for institutions.

Zoning: A zone specific to public/institutional land does not exist. The category is within the other land use zones defined by the Township.

Build-out Analysis



BUILD-OUT ANALYSIS

Full Build-out

A build-out analysis is an estimate of new development that could occur within the Township in land designated for future development. For this build-out analysis, full build-out estimates and predictions consist only within the Township’s Urban Growth Boundary (UGB).

Three residential overlay maps are needed for this analysis: 1) land which cannot be developed, 2) land that could be developed in the future, and 3) land that has been developed. Using GIS, each map was over-laid and resulted in a fourth map which depicted areas that have been designated as residential for future land use but have not been developed.

Using lot sizes and reserving a percentage of land for infrastructure, ten percent, calculations were performed to determine how many new housing units could be built in these areas.



Photo Credit: Connor King

Using Lot Sizes and Average Persons per Household

Residential development in all four types, low, medium, modular, and high, is required by zoning law to occur on lots not below minimum requirements. These requirements are dependent upon utilities servicing the lot.

>For this analysis, all new development will assume to have both sewer and water utilities.

Low density residential (R-1) requires a minimum lot size of 0.2 acres. For this analysis, a lot size of 0.35 acres is used in the full build-out as it represents the average lot size of current R-1 lots.

Medium density residential (R-2) requires a minimum lot size of 0.35 acres. For this analysis, a lot size of 0.53 acres is used as it represents the current average size of R-2 lots.

High density residential (R-3) requires a minimum lot size of 0.35 acres for one unit; for each additional unit, a minimum of 0.06 acres is required. For this analysis, a lot size of 0.71 acres is used in R-3 representing developments with 7 units.

No future land use has been designated for modular housing.

10 percent of buildable land is reserved for infrastructure such as streets and utility easements to service the housing units.

Once the number of new lots available for development is calculated, the number is multiplied by the average persons per household, 2.66, to yield a prediction of new population.

Build-out Lot Sizes:

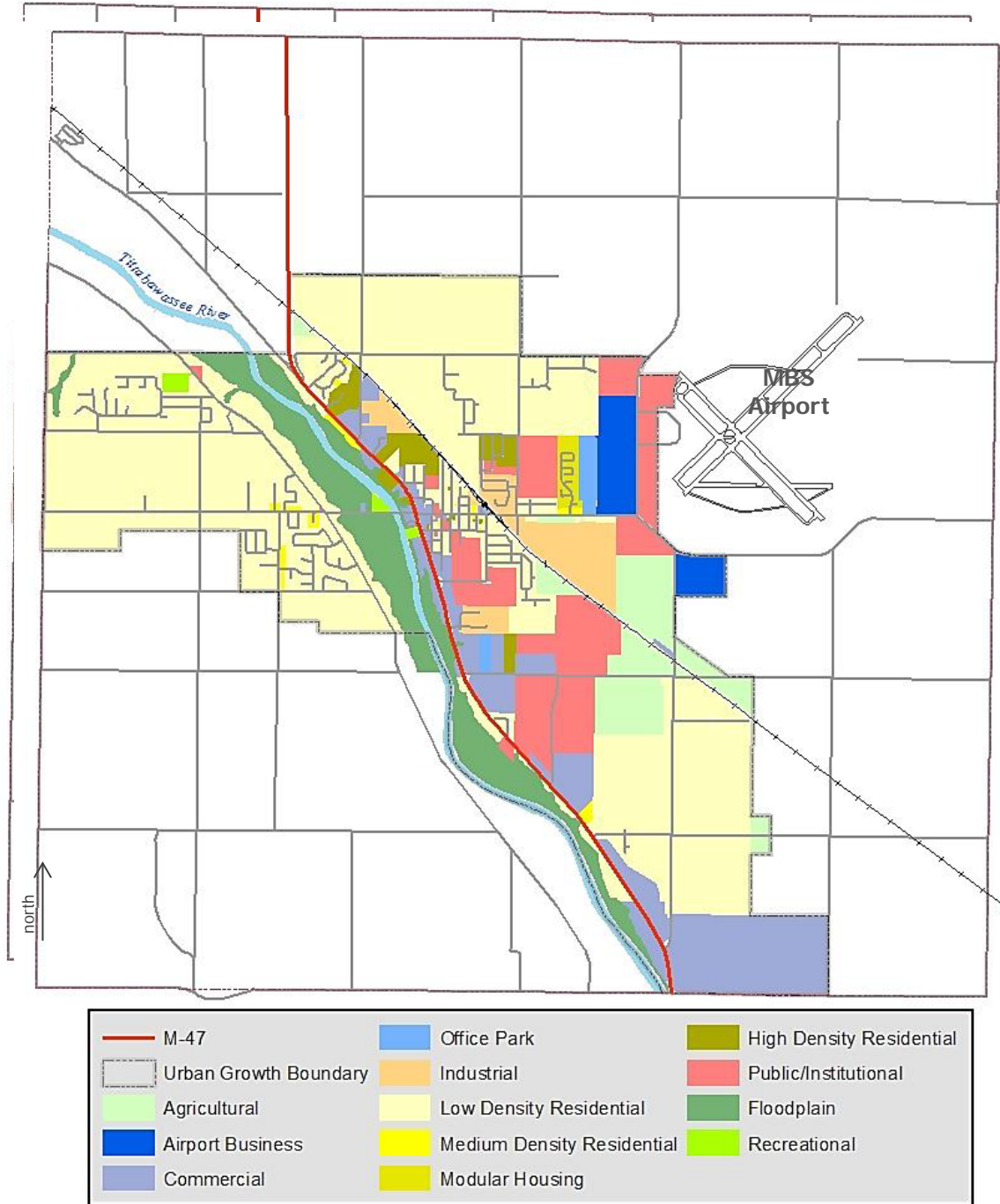
- R-1: 0.35 acres
- R-2: 0.53 acres
- R-3: 0.71 acres

>2.66 average persons per household (U.S. Census, 2010)

>10% of land is reserved for infrastructure

Build-Out Analysis Results Map

Land use with full build-out given the existing zoning within the Urban Growth Boundary



Analysis Results

<p>Low Density Residential: 1,742.09 buildable acres 4,977 new lots 13,239 additional residents</p> <p>Medium Density Residential: 2.59 buildable acres 4 new lots 21 additional residents</p> <p>High Density Residential: 22.55 buildable acres 31 new lots 577 additional residents</p>	Population Increase: 13,837	New Township Population: 24,496
	Additional Households: 5,200	
	Increase in school-age children: approx. 3,000	
	Additional Sewer and Water Hookups: 5,000	
	Park Acreage per 1,000 Residents: 0.0029	

Discussion of Results

Results of this study show what Tittabawassee Township would look like if full development of residential areas was to occur, as planned by the Future Land Use Map of this Master Plan. This study does not assume that this could happen in a quick amount of time; in actuality, this will take many years and will be driven by economic market forces. However, in a free market system, changes could occur quickly and development could rapidly increase like it did in the mid-1990s to mid-2000s.

In the event of rapid development, strain on existing community resources will occur. Infrastructure and the school district will without a doubt feel the impact. Knowing this, Tittabawassee Township must plan for future development to happen in a coordinated and phased way with sound governmental policy that shapes the community in a positive way. Policy decisions must have current residents, property owners, and business owners in mind as well as future residents, property owners and business owners.

Community Input



> Introduction

Tittabawassee Township’s Board of Trustees and Planning Commission served as the two primary committees that drafted the goals and actions presented in this plan. The Community Input Survey was the primary means of community input that supplemented the shaping of the final visions expressed in this section.

Community Input Survey

The ‘Community Input Survey for the 2018 Master Plan’ served as the primary means for community input in this plan. This survey was open to the community for a total of 36 days from February 24, 2017 to March 31, 2017. During this time, 308 residents voluntarily participated in the forty-one question survey.

Tittabawassee Township administered this survey through the web-based service SurveyMonkey®. Participants had a choice of taking the survey online and could only fill out one survey. Announcement of the survey primarily consisted of advertisements on three websites, *tittabawassee.org*, *freelandparks.com* and *freeland-sportszone.com*, and Facebook.

community input survey
for the 2018 Township Master Plan



- > tittabawassee.org,
freelandparks.com and
freeland-sportszone.com
- > Tittabawassee Township’s and
Tittabawassee Township Parks
Facebook Page

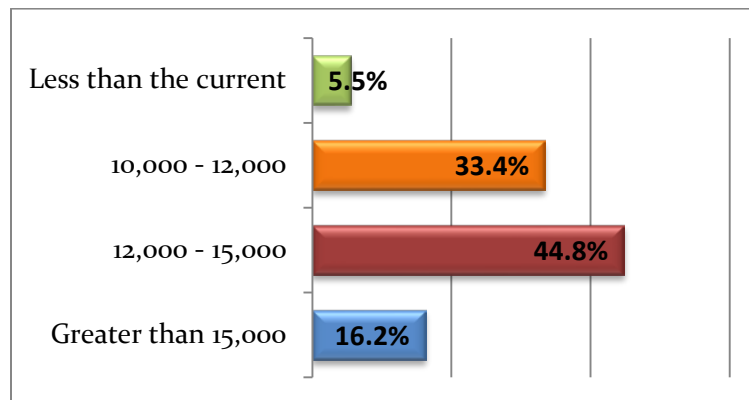
36 Days Survey Run-time

308 Survey Responses

Added Community Input

Survey Results

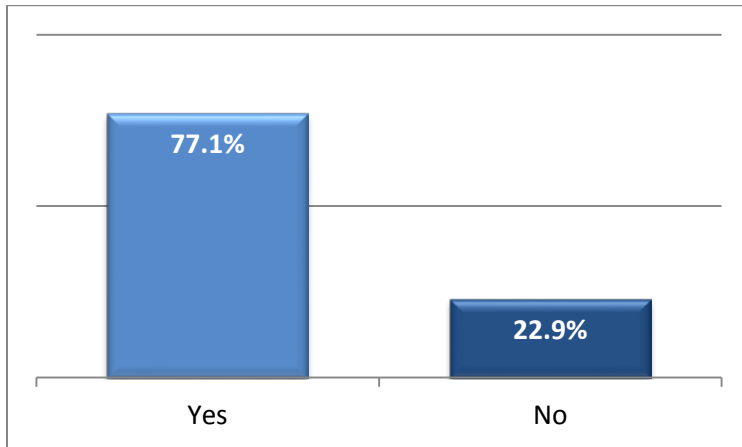
Growth - Question 1 • The Township’s population in 2000 was 7,706; in 2010, it was 9,726; in 2015 it was estimated as 9,801. By 2030, what do you think is the right population range for the Township?



Question 1 Discussion

The majority of those surveyed believe that the most ideal population range for the Township is between 12,000 and 15,000. A total of 94.4% of those surveyed believe that the Township should continue to grow in population.

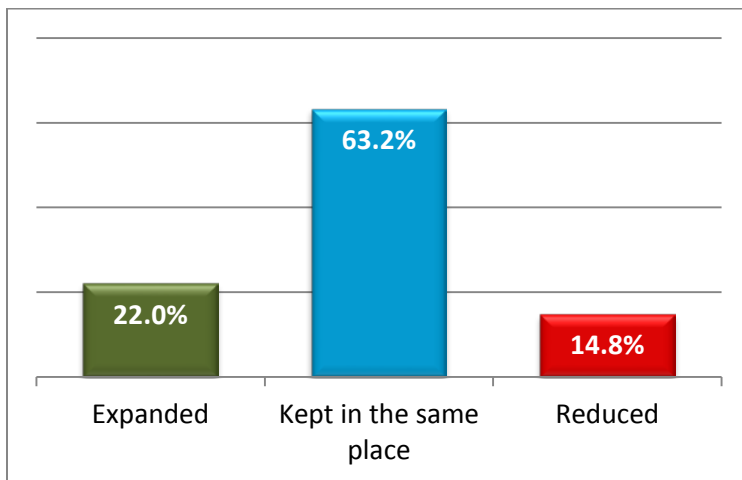
Growth - Question 2 • Do you think the Urban Growth Boundary is doing what it is intended to do?



Question 2 Discussion

Of those surveyed, 77.1% believe that the UGB is doing what it is intended to do which is consolidate development and reduce sprawl and leapfrog development.

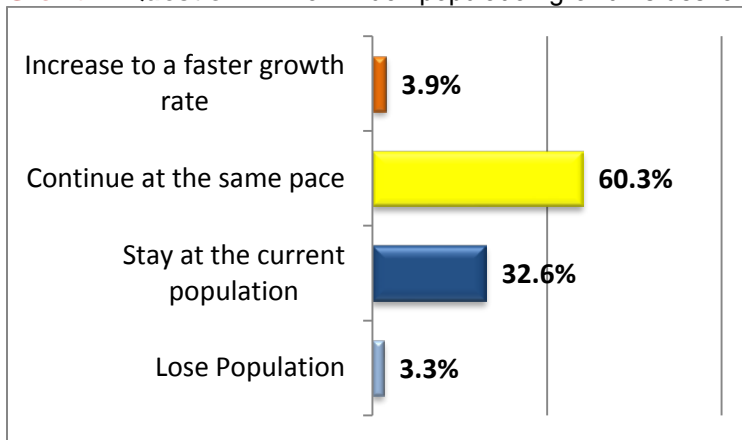
Growth - Question 3 • Do you think the Urban Growth Boundary should be expanded, kept in the same place, or reduced?



Question 3 Discussion

The majority of those surveyed believe that the UGB should remain in the same place. Additionally, less than twenty-five percent of those surveyed believe it should be expanded to accommodate more development.

Growth - Question 4 • How much population growth is desirable for you in the future?

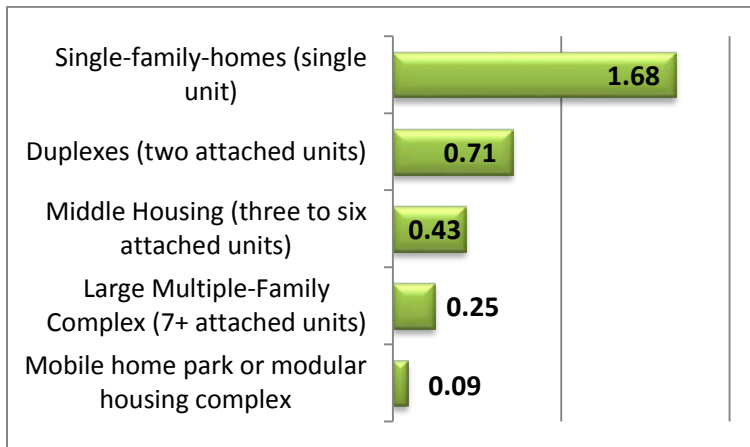


Question 4 Discussion

The majority of those surveyed believe that the Township should continue to grow at the same pace it has in recent years.

Very few of those surveyed believe the Township should grow faster or reduce population.

Growth - Question 5 • Please rate the following residential housing types that you would like to see developed in the Township in the next ten years? (The scale is 0 to 3 where 0 = no new development and 3 = much new development)

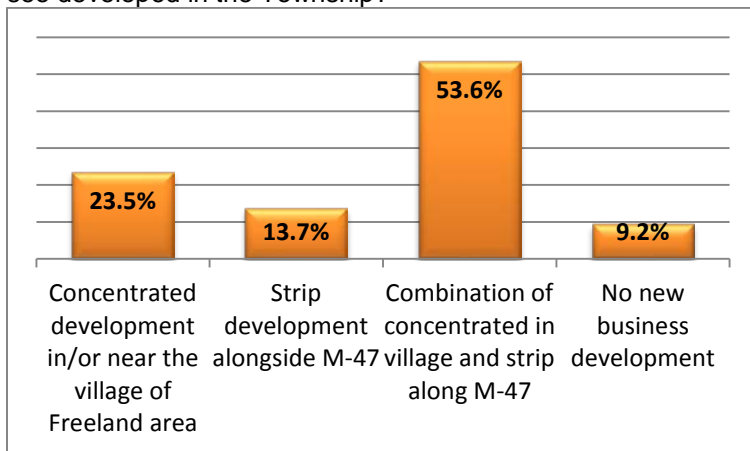


Question 5 Discussion

The most desired new residential development, of those surveyed, is single-family homes.

Densities higher than one household per lot have been rated as less preferred for new development.

Growth - Question 6 • What type of additional commercial or business development would you like to see developed in the Township?



Question 6 Discussion

The majority of those surveyed believe new commercial development should consist of a mix of strip development alongside M-47 and dense development in the village center of Freeland.

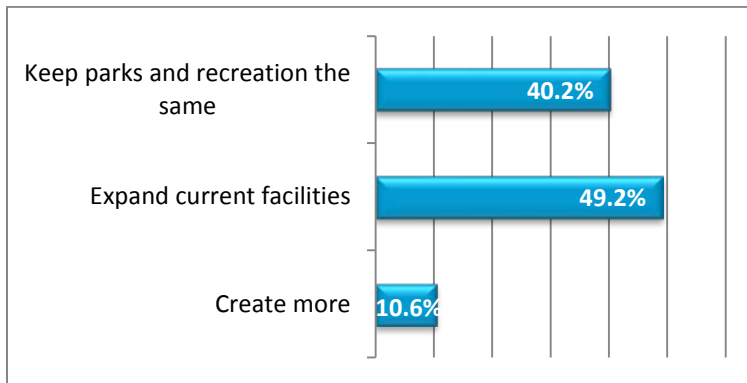
Growth - Question 7 • To what degree do you think agricultural land should be preserved in the Township? (1 = don't care to preserve any agricultural land to 5 = preserve all the agricultural land that currently exists)

Scale				
No Preservation – All Current Should be Preserved				
1	2	3	4	5
2.6%	7.5%	19.2%	29.6%	41.2%

Question 7 Discussion

The majority of those surveyed believe that agricultural land within Tittabawassee Township should be preserved at a level equal to that of what currently exists.

Quality of Life - Question 1 • There are currently 6 parks and recreation facilities in the Township. Do you think more should be created, current ones should be expanded, or the facilities should remain the same at this time?

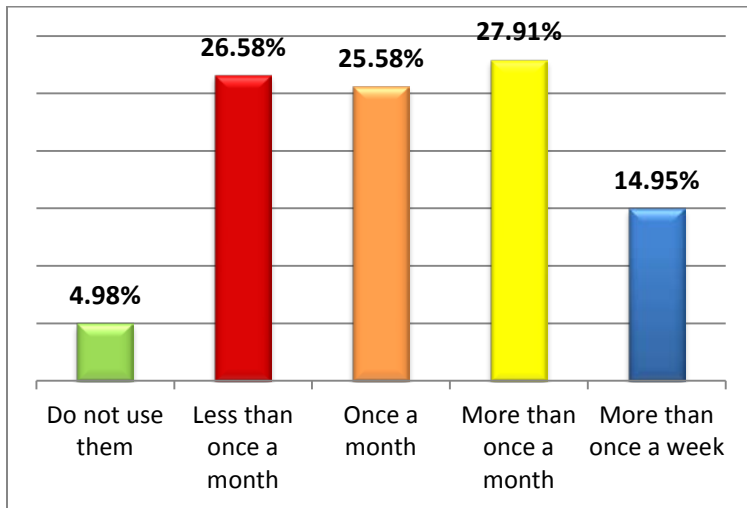


Question 1 Discussion

Of those surveyed, 40.2% believe that parks and recreation should be kept at the current facilities.

49.2% believe that the current facilities should be expanded.

Quality of Life - Question 2 • How often do you use the parks and recreation facilities in the Township? (excluding the Freeland SportsZone)



Question 2 Discussion

Of those surveyed, 68% use the Township parks once a month or more.

Only 4.98% never use the park facilities.

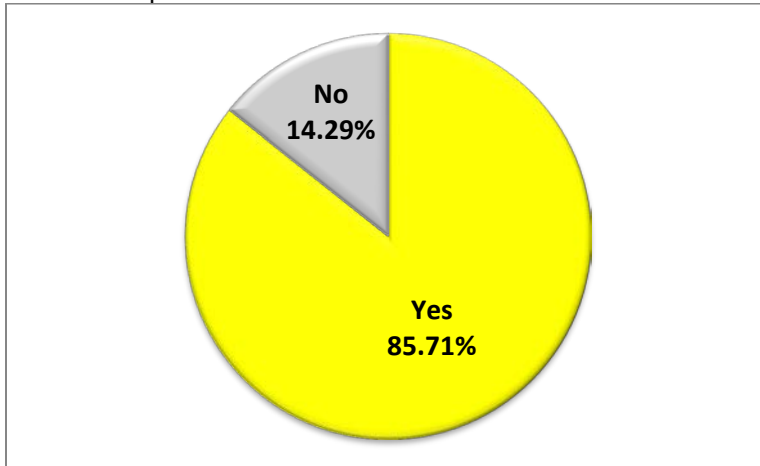
Quality of Life - Question 3 • Do you have a park that is your favorite? If so, which one?

- Tittabawassee Township Park – 172
- Freeland SportsZone – 84
- Festival Park – 10
- Memorial Park – 8
- Beechwood Nature Trails – 7
- Village Park – 2

Question 3 Discussion

Tittabawassee Township Park was named the most favorite park by those surveyed.

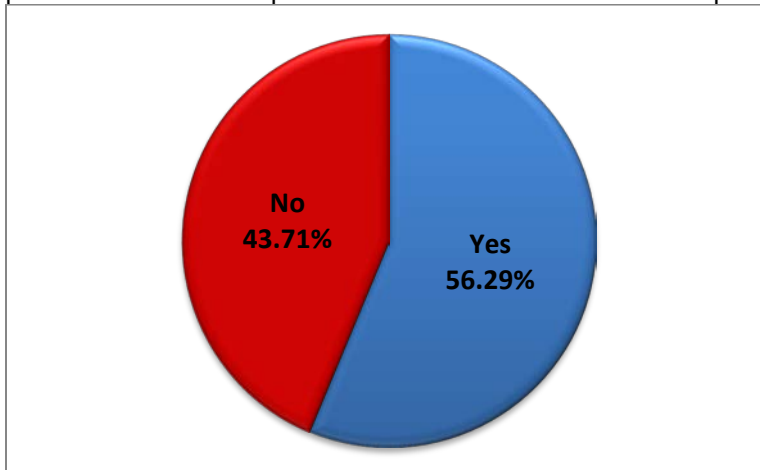
Quality of Life - Question 4 • Do you think a pathway or trail way system would be a good investment for the Township's future?



Question 4 Discussion

Of those surveyed, 85.71% believe that a pathway system would be a good investment for the Township's future.

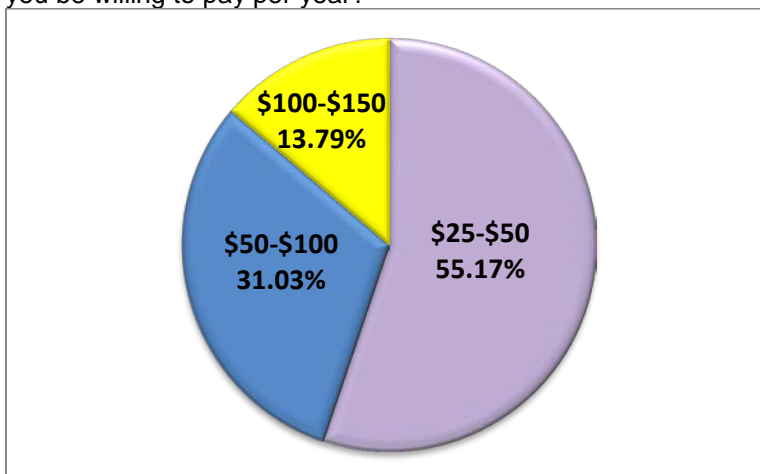
Quality of Life - Question 5 • Would you pay an additional property tax specifically used to increase parks and recreation operations and facilities in the Township?



Question 5 Discussion

Of those surveyed, the majority believe that they would pay an additional tax for parks and recreation.

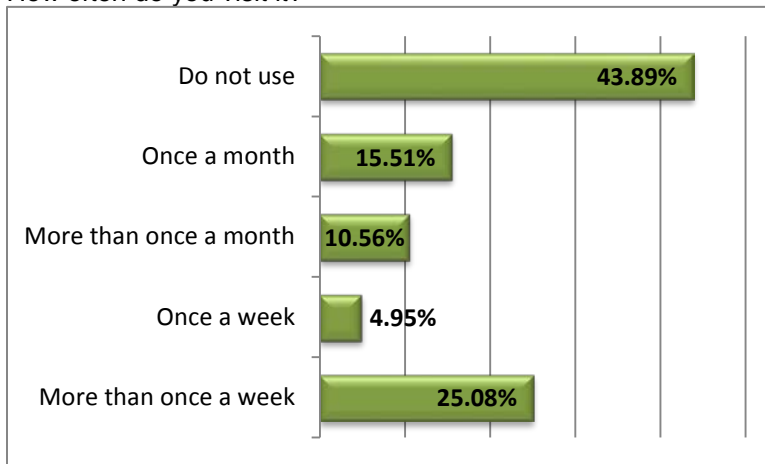
Quality of Life - Question 6 • If your answer to the previous question was 'yes', how much more would you be willing to pay per year?



Question 6 Discussion

Of those who would be willing to pay an additional tax, 55.17% would pay twenty-five to fifty dollars more per year.

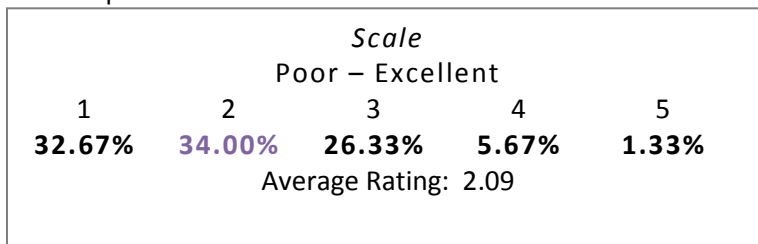
Quality of Life - Question 7 • The Freeland SportsZone has been open to the community since 2009. How often do you visit it?



Question 7 Discussion

Of those surveyed, the majority does not use the SportsZone. However, 40.59% use the SportsZone more than once a month.

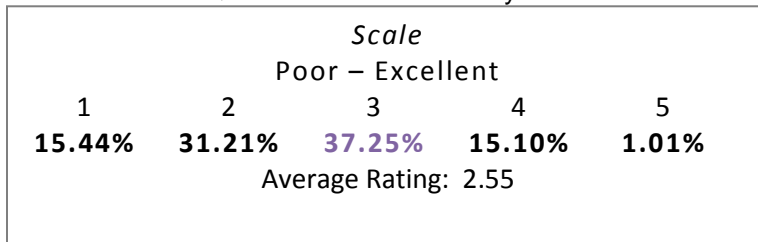
Infrastructure - Question 1 • How would you rate the pedestrian and bicycle accessibility to places in the Township?



Question 1 Discussion

32.67% of those surveyed believe the non-motorized accessibility in the Township is poor.

Infrastructure - Question 2 • How would you rate the condition and extent of sidewalks in the Township?



Question 2 Discussion

Of those surveyed, 83.9% believe the condition and extent of sidewalks in the Township is mediocre to poor.

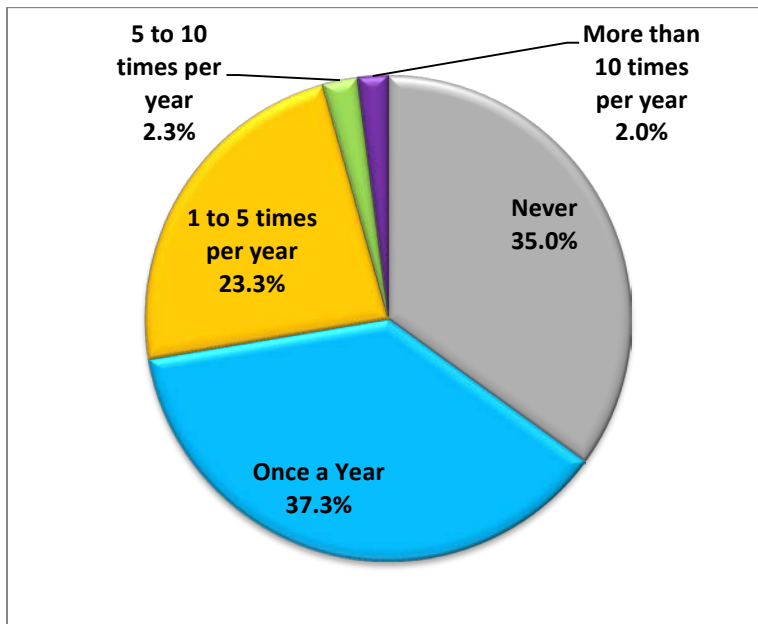
Infrastructure - Question 3 • Please rate the following traffic conditions in the Township.

Scale	Not a Problem – Major Problem				
	1	2	3	4	5
Traffic Congestion	19.73%	25.75%	33.11%	15.05%	6.35%
Speed of traffic thru Freeland on M-47	26.42%	18.73%	22.41%	20.74%	11.71%
Speed of traffic thru Freeland on Washington Street	32.11%	24.75%	25.08%	12.04%	6.02%
Amount of Truck traffic	28.96%	26.60%	26.60%	13.47%	4.38%

Question 3 Discussion

Of those surveyed, the majority believe that traffic congestion, speed of traffic through Freeland and the amount of truck traffic is okay within the Township.

Infrastructure - Question 4 • How often do you use the MBS International Airport?



Question 4 Discussion

The majority of those surveyed use the MBS International Airport less than 5 times per year.

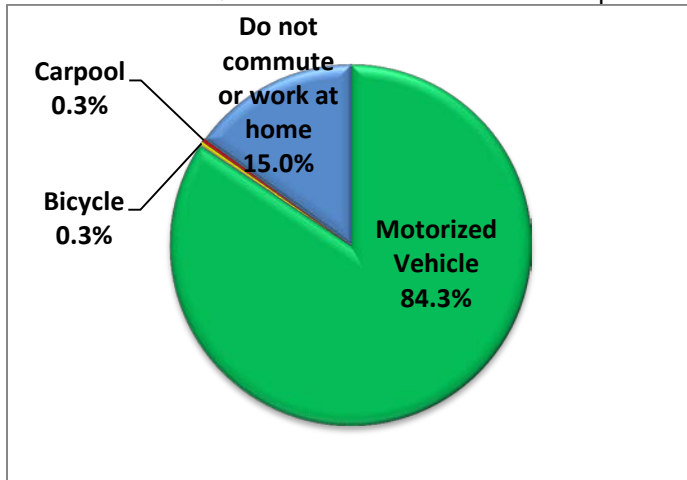
Infrastructure - Question 5 • How would you rate the importance of MBS Airport to the community?

Scale				
Not Important – Very Important				
1	2	3	4	5
5.33%	10.33%	20.33%	25.33%	38.67%
Average Rating: 3.82				

Question 5 Discussion

The majority of those surveyed believe that the MBS International Airport is very important to the community.

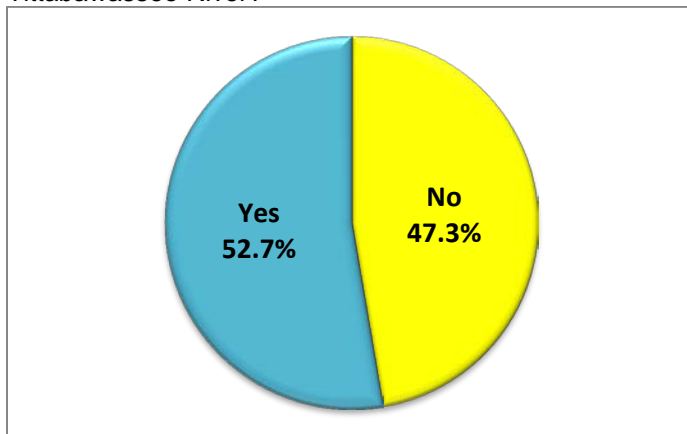
Infrastructure - Question 6 • What mode of transportation do you use for commuting to work?



Question 6 Discussion

Of those surveyed, 84.3% commute to work using a car, truck, or other motorized vehicle.

Infrastructure - Question 7 • Do you think the Township is in need of better public access to the Tittabawassee River?



Question 7 Discussion

Those surveyed were split over the idea of adding better access to the Tittabawassee River.

Infrastructure - Question 8 • How would you rate the condition of the road you live on? (1=poor to 5=excellent)

Scale				
Poor – Excellent				
1	2	3	4	5
24.33%	16.00%	21.00%	28.33%	10.33%
Average Rating: 2.84				

Question 8 Discussion

There is no clear rating whether citizens think roads are excellent or poor.

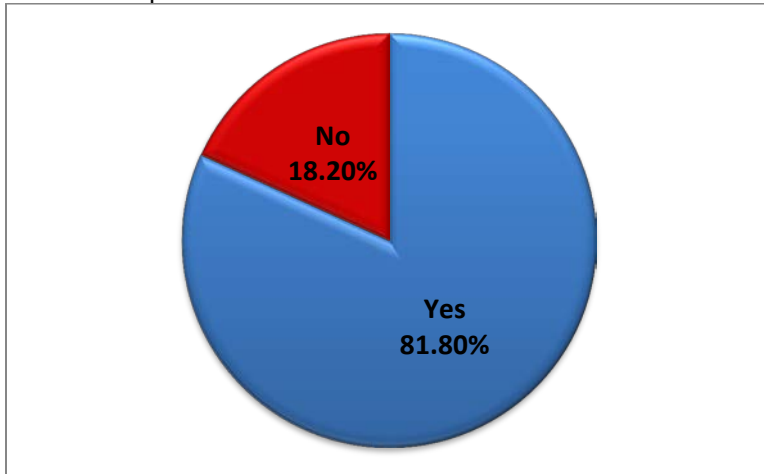
Infrastructure - Question 9 • How would you rate the overall condition of roads in the Township? (1=poor to 5=excellent)

Scale				
Poor – Excellent				
1	2	3	4	5
18.39%	33.78%	35.45%	12.04%	0.33%
Average Rating: 2.42				

Question 9 Discussion

Citizens, however, rate the overall conditions of roads in the Township as poor or less than fair.

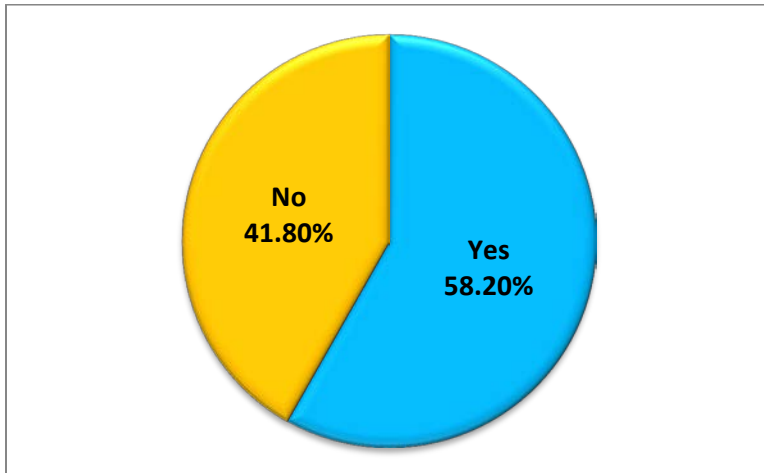
Infrastructure - Question 10 • Do you think the Township should do more to improve the conditions of the Township roads?



Question 10 Discussion

Citizens would like the Township to take steps to improve the conditions of the Saginaw County Road Commission's roads.

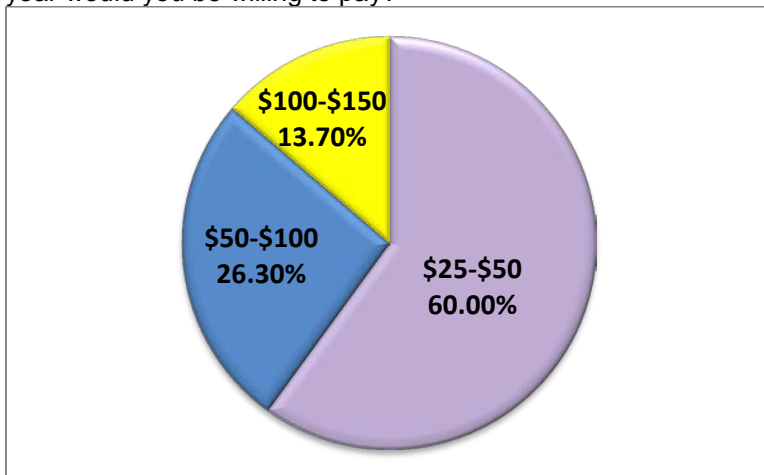
Infrastructure - Question 11 • Would you pay an additional property tax dedicated for just our Township Roads?



Question 11 Discussion

Nearly 60% of citizens are willing to pay additional taxes to improve roads within the Township.

Infrastructure - Question 12 • If your answer to the previous question was "yes", how much more per year would you be willing to pay?



Question 12 Discussion

Not many residents are willing to pay more than \$100 a year to improve roads.

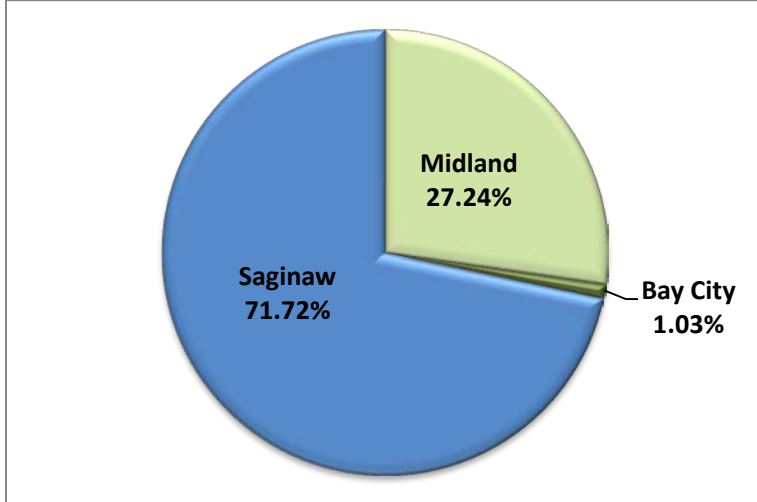
Community Drivers – Question 1 • How would you rate the transportation access to the local urban areas of Saginaw, Midland, and Bay City from the Township?

Scale				
Poor – Excellent				
1	2	3	4	5
9.0%	7.6%	29.1%	32.5%	21.8%
Average Rating: 3.51				

Question 1 Discussion

Of those surveyed, the majority believes that transportation access to the regional cities is a 4 on a scale of poor to excellent.

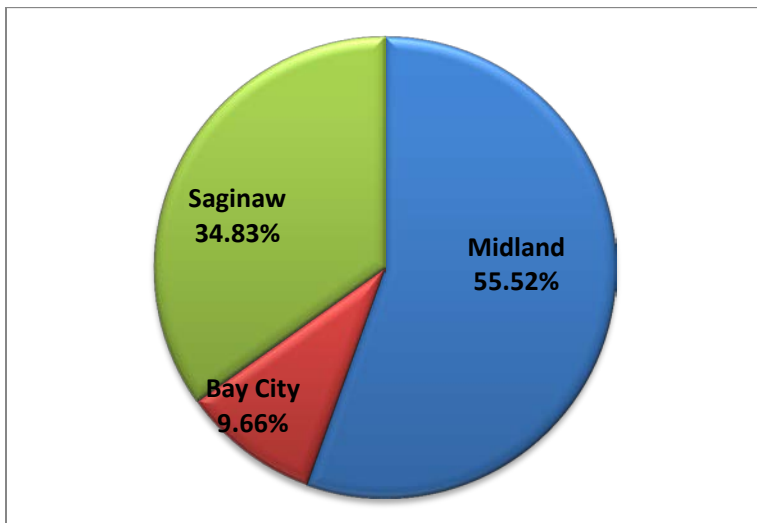
Community Drivers – Question 2 • In which urban area do you primarily shop?



Question 2 Discussion

Of those surveyed, 71.72% go to Saginaw to shop over the other regional cities.

Community Drivers – Question 3 • In which urban area do you primarily go for recreation?



Question 3 Discussion

Of those surveyed, 55.52% chose Midland for recreation over the other regional cities.

Community Drivers – Question 5 • Please rank the new developments that are important to you (closest to 1 is most important):

Answer Options	Rating Average
Improvement of Township Roads	4.38
Sidewalks	4.81
Pathway/trail way system	4.84
Library	5.33
Traffic calming measures to reduce traffic speeds	5.39
Swimming Pool	5.51
Boat launch on Tittabawassee River	5.98
Extension of sewer lines to new areas of the Township	6.04
Extension of water lines to new areas of the Township	6.08
“Bark Park’ or dog specific park	6.44

Question 5 Discussion

The top three new developments were rated by those surveyed as improvement of township roads, sidewalks, and pathway/trail way system, respectively.

Community Drivers – Question 6 • Please rank, according to importance, the areas you believe are in need of improvement (closest to 1 is most important):

Answer Options	Rating Average
Conditions of Township Roads	4.01
Prevent the loss of agricultural land	4.43
Sidewalks	4.62
More business in town	4.84
Park/recreation facilities	4.85
River Access	5.62
Water Systems	5.62
Sewer Systems	5.62

Question 6 Discussion

The most important area of improvement, ranked by those surveyed, is “conditions of Township roads.” The second most important is “prevent the loss of agricultural land.”

Community Drivers – Question 7 • Of the following; what places do you like to visit?

- Pat’s Food Center – 243
- Tittabawassee Township Park – 225
- Freeland SportsZone – 164
- 2nd Street Pub – 155
- Freeland High School Events – 149
- Riverside Restaurant – 136
- The Log Cabin – 102
- Memorial Park Building – 96

Question 7 Discussion

The most favored place in the Township, by those surveyed, is Pat’s Food Center.

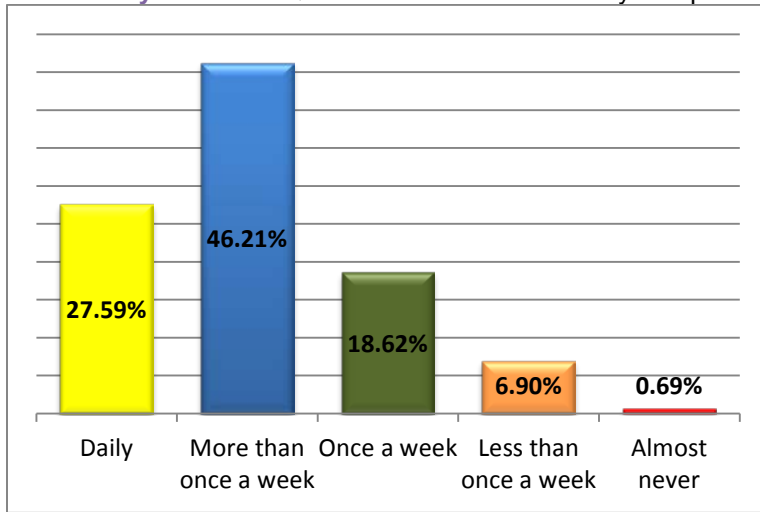
Community Drivers – Question 8 • How would you rate the importance of agricultural land in the Township?

Scale				
Not Important – Very Important				
1	2	3	4	5
1.95%	6.17%	16.88%	22.08%	52.92%
Average Rating: 4.18				

Question 8 Discussion

The majority of those surveyed believe agriculture land is very important in the Township.

Community Drivers – Question 9 • How often are you a patron of businesses located in the Township?



Question 9 Discussion

Of those surveyed, the majority are patrons of businesses within the Township multiple times per week.

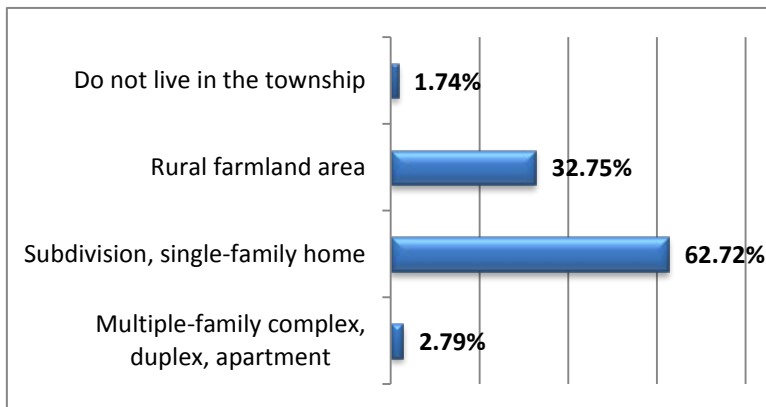
General Information – Question 1 • Why have you chosen to live in Tittabawassee Township?

Answer Options	Response Percent
Safe community & low crime rates	78.95%
Central location to Midland, Saginaw, and Bay City	73.33%
Quality of the Freeland Community School System	69.12%
Small town environment	63.16%
Pleasant neighborhoods	46.67%
Housing choices fit your needs	42.46%
Close to place of employment	28.42%
Freeland SportsZone	11.58%
Close to airport	7.37%
Good park system	7.37%
Nice downtown area	7.02%

Question 1 Discussion

The top three reasons people live in the Township include the safe community and low crime rates, central location to Midland, Saginaw, and Bay City, and the quality of the Freeland Community School System.

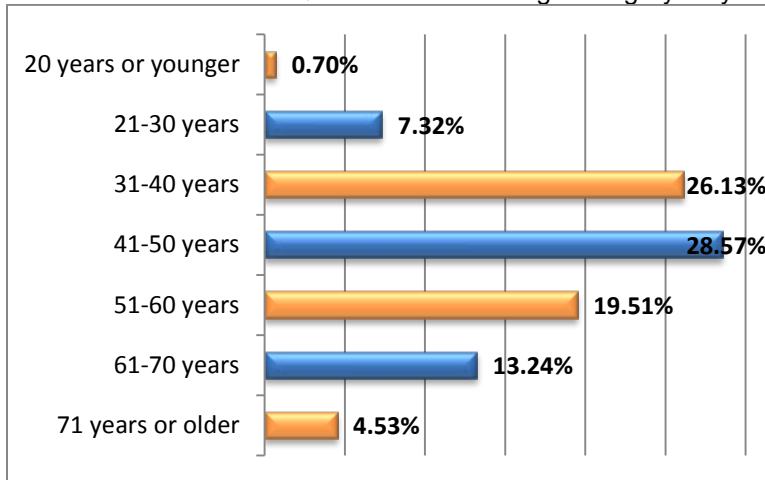
General Information – Question 2 • In what type of area do you live in the Township?



Question 2 Discussion

A majority of people categorize where they live as “Subdivision, single-family home.”

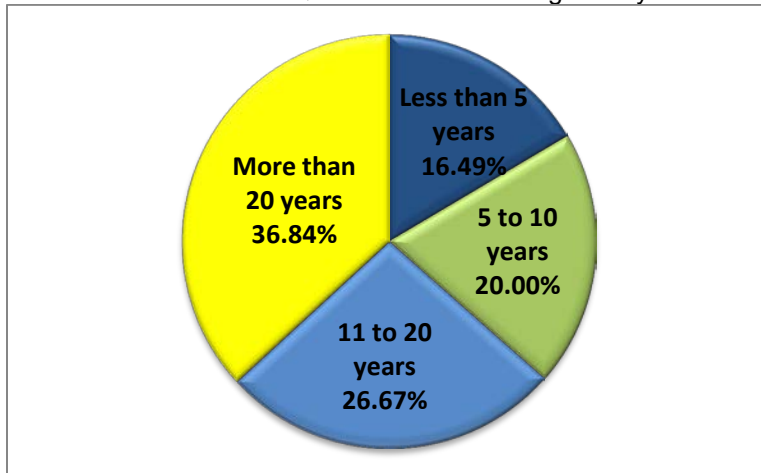
General Information – Question 3 • What age category do you fit into?



Question 3 Discussion

Respondents mainly consisted of those in the age group of 31-50.

General Information – Question 4 • How long have you lived in Tittabawassee Township?



Question 4 Discussion

63.51% of those surveyed have lived in the Township for over 11 years.

General Information – Question 5 • Do you consider yourself likely to live in Tittabawassee Township for the next 10 years

Yes	94.04%
No	5.96%

Question 5 Discussion

Almost all respondents said they were likely to live in the Township for the next 10 years.

Results Overall

The results of the Community Input Survey were used to inform policy discussion during the creation of this plan. The Township understands that the results do not represent the views of the entire population. However, a general understanding can be gained from a sample of this size.

Goals & Actions



> Introduction

As outlined in the Introduction, the Master Plan looks to accomplish the three goals of analyzing the current state of the community, identifying areas in need of improvement and defining goals and actions for the future. The Goals and Actions section is the primary portion which accomplishes the third and final goal.

Goals and actions outlined in this plan have been grouped into four categories. The categories are Agriculture and Natural Features, Focus Development Areas, Public Utilities and Transportation. Each category has its own introduction which highlights the goals and ways the actions will enact improvement. Additionally, each subset of goals and actions is detailed to fully communicate the reasoning of the Township.

The goals and actions outlined in this section are the product of community input and elected official brainstorming. The opinions of the residents and the general public are represented in the Community Input Survey. The actions were then primarily defined during meetings of the Planning Commission as well as a joint-session meeting between the Township Board of Trustees and the Planning Commission.

The following goals and actions illustrate the policy that Tittabawassee Township will have on a variety of issues and concepts.

Agriculture & Natural Features

Introduction

Historically, the success of Tittabawassee Township is rooted in its abundance of natural features and fertile soil. Today, agriculture is the largest land use by area in the Township; the second largest is natural features such as forested areas and water features. The 2018 Tittabawassee Township Master Plan seeks to continue the emphasized importance of the protection of these natural resources originally established in the 2013 Master Plan.

Farmland Preservation

Goals

- Encourage the approval of land to be a part of the Farmland Preservation Program (formerly P.A. 116)
- Keep farmland at current levels outside the Urban Growth Boundary (UGB)

Actions

- Monitor preservation through containing new development within the Urban Growth Boundary
- Continue to approve land to be part of the Farmland Preservation Program
- Revise zoning ordinance to prohibit subdivision development outside the Urban Growth Boundary
- Prohibit renewals of Farmland Preservation Program within Urban Growth Boundary
- Maintain the current location of the Urban Growth Boundary

Key Concepts

Preserving agricultural and natural-focused land within the Township, especially land located outside the current Urban Growth Boundary (UGB), is a foundational goal of the 2018 Master Plan. The Township plans to accomplish this through specific actions which encourage concentrated development and discourage leap-frog development. Actions will largely include the use of key state agricultural preservation programs to curb the loss of vital agriculture and natural land by development.

Enrollment of land in the State of Michigan’s Department of Agriculture and Rural Development’s Farmland Preservation Program (formerly P.A. 116) is one of the best ways to preserve agricultural land. In order to enroll, the land applicant must have approval from the local governmental unit meaning the Township has the authority to determine which land can join this program in the future. Where land is located outside the UGB or for land within the UGB that is not immediately adjacent to existing development, new approval or renewal of participation in the Farmland Preservation Program will be certain. Within the UGB, for parcels which abut existing development, new approval and renewal will be prohibited to allow for future development to be concentrated.

Lastly, it should be noted that the 2018 Master Plan maintains the existing location

Tittabawassee River Corridor

Goals

- Create the Tittabawassee River as a focal point of the community
- Maintain the natural greenbelt corridor

Actions

- Development of pathway system alongside the west bank of the river connecting Festival Park to Tittabawassee Township Park
- Preserve extent and expand as necessary the Greenbelt/Conservation zoning district within the 100-year floodplain
- Follow 2018 Tittabawassee Township Recreation Plan for river corridor use

of the Urban Growth Boundary. To fully preserve agricultural and natural land, the Township acknowledges this boundary should not be expanded in the future without amendment of the Master Plan.

Key Concepts

The Tittabawassee River and its adjacent floodplain is the longest continuous green space in the Township. Many species of wildlife can be found within this greenbelt corridor throughout anytime of the year. This aesthetically pleasing feature is not only a vital habitat to wildlife but also the main means of water drainage for the Township. The 2018 Master Plan sets a goal for the Township to work to make this feature a greater focal point of the community while maintaining the beauty, naturalness, wildlife habitat, and drainage value provided by this corridor.

The river corridor should continue to be preserved as a greenbelt. Low-impact, non-structural development should only be permitted within this corridor. When developing any new access amenities, the goals of the 2018 Tittabawassee Township Recreation Plan, determined through public input, will be followed.



Tittabawassee River

Focus Development Areas

Introduction

Tittabawassee Township is home to the community of Freeland. Downtown Freeland is located near the geographical center of the Township. This downtown area, also known as the Village Center, is the main commercial hub for the Township. This hub is mainly serviced by the major vehicle transportation routes of M-47 and Freeland Road. The 2018 Master Plan sets forth goals to maintain and improve downtown Freeland for businesses, present and future, and residents.

Downtown Freeland

Streetscape Appearance

Goals

- Continue to improve the aesthetic appearance within this area
- Develop a more uniformed aesthetic within this area

Actions

- Revise zoning regulations to require shared drives, shared parking and reduced signage
- Use available tools and funds of the Downtown Development Authority to encourage properties for redevelopment
- Work to convert high traffic stop signed intersections to roundabouts

Key Concepts

Downtown Freeland is home to a variety of business types, from strip malls, with uniform store fronts, to stand alone businesses. This mixture creates a complex visual aesthetic that, without a sort of unity, creates a disordered appearance. There also exists a collection of vacant or underutilized properties within this area. In order to improve this commercial district, steps must be taken to add a more uniform appearance to this area. The Township will use the available tools of the Downtown Development Authority to improve this area.

Downtown Freeland

Traffic Calming Measures

Goals

- Decrease traffic speeds on Main Street (M-47) within the Village Center
- Make Village Center safer and more user-friendly and accommodating for business patrons

Key Concepts

Businesses within downtown Freeland are overwhelmingly most accessed by patrons using a personal vehicle. Notable, added methods of transportation, including biking and walking, can increase access to businesses and increase patrons. Currently, sidewalks exist throughout the Village Center area but are underutilized due to the

Actions

- Work to obtain an enhancement grant from MDOT as a means of funding traffic calming measures
- Work to install traffic signal at Powley Drive and M-47
- Engage MDOT to inquiry about the possibility of a corridor study

over-built nature and high speed traffic of M-47 and the resulting poor pedestrian experience that it creates.

The Township will move forward to explore, carefully vet, and take measures to slow the traffic speed. Slower traffic speeds will not only benefit those who are using non-motorized transportation but will encourage easier and safer access to all businesses.



Public Utilities

Introduction

Tittabawassee Township provides residents with access to public water and sanitary sewer utilities. Since not all residents are located near these utilities, the Township must plan on how to best extend these facilities to new areas to serve existing or new development. Where these utilities are extended will largely determine where new greenfield growth will occur.

Extension of Water Utilities

Goals

- Continue to increase access of this commodity to Township residents
- Limit public cost of extensions

Actions

- Extend water only where reasonable and cost-effective and financially sustainable, except for necessary system transmission and looping
- Within Urban Growth Boundary, only extend to areas adjacent to existing development

Key Concepts

Providing residents with a valuable commodity is the primary goal of extending water utility lines. However, extension must be done in a way which is cost-effective and sustainable. When extending water lines to service new or existing development, the Township will consider the long term sustainability and the short term costs. The Township will also look at the potential of placing the initial extension expenses on the developer through development agreements to reduce the public subsidy of the extension.

Within the Urban Growth Boundary, water utility extensions will only be made to areas adjacent to existing development in order to greatly discourage leapfrog development. Exceptions will only be made in cases where an urgent health need exists.

Extension of Sanitary Sewer Utilities

Goals

- Concentrate growth and development, limit leap frog development
- Limit public cost of extensions

Actions

Key Concepts

Extending sanitary sewer utility lines within Tittabawassee Township will be a main tool in concentrating development and prohibiting leapfrog development. Extensions to the system will only be made when cost-effective.

-Within Urban Growth Boundary, only extend to areas adjacent to existing development

Within the Urban Growth Boundary, extensions will only be made to areas adjacent to existing development.

Storm Water Management

Goals

- Manage storm water more effectively
- Reduce issues caused by storm water

Actions

- Adopt a storm water management ordinance
- Create a storm water management plan to illustrate management practices and goals
- Create drainage districts
- Encourage the use of Best Management Practices (BMPs) to reduce degradation of water quality due to storm water runoff

Key Concepts

Effective storm water management ensures that property damage does not occur during minor or major precipitation events. With effective measures, issues can be reduced.

In order to manage storm water effectively, Tittabawassee Township will move towards adopting a storm water management ordinance as well as developing a storm water management plan which illustrates the specific management goals of the Township. Furthermore, the Township will plan to begin to adopt drainage districts to better allocate storm water of areas into certain drains.

Transportation

Introduction

Transportation within Tittabawassee Township is overwhelmingly dominated by roads and motorized traffic, particularly the personal automobile. In order to increase the use of other modes of transportation, such as railway and non-motorized transportation, the Township will begin to initiate policy to increase the greater use of other transportation facilities that already exist. Furthermore, the goals of this section include means of improving the quality of the transportation infrastructure and the expansion of infrastructure for non-motorized uses.

Roadways and Railways

Future Road Quality Improvements

Goals

- Asses road quality improvement needs regularly
- Improve the quality of roadways within the Township

Actions

- Create a 5-year road improvement plan
- Participate in the Saginaw Metropolitan Planning Organization
- Maintain an constructive dialog with MDOT and the Saginaw County Road Commission to analyze road conditions and prioritize improvement needs
- Seek improved and dedicated ways for funding of roadway improvements including the feasibility of a township road millage or special assessments

Key Concepts

All of the roads located in Tittabawassee Township are owned and maintained by the Saginaw County Road Commission (SCRC), the exception is M-47 which is owned and maintained by MDOT. The Township does not have the authority, or the funds, to enact improvements to roadways without the approval of the SCRC or MDOT.

Tittabawassee Township must begin to assess the quality of the roads on a regular basis and document the findings in an annual report. This report, along with planning, will be the basis of a 5-year road improvement plan. Using this plan, the Township can increase the effectiveness of its public funds which are used for road improvements.

Roadways and Railways

Use of Railways

Goals

-Encourage increase use of the Lake State Railway

Actions

- Increase the dialog with Lake State Railway
- Maintain dialog with current users of the railway to assess the benefits and identify where access could be improved

Key Concepts

The Lake State Railway runs diagonally through Tittabawassee Township from southeast to northwest. Along this seven-plus mile long stretch of railway is one access point, Freeland Bean & Grain. In order to increase the usage of the railway, Tittabawassee Township, working jointly with Lake State Railway, must increase access to this railway at adjacent properties. A workable dialog with Lake State Railway is the most vital part of this action plan. But, additionally, the Township should maintain a dialog with the businesses which make usage of the railway currently.

Pedestrian and Bicycle Accessibility

Non-Motorized Network

Goals

- Increase the non-motorized accessibility within the Township, including sidewalks and bike paths
- Begin integration into regional trail system

Actions

- Create a non-motorized transportation plan to coordinate the development of new additions to the current network
- Apply for DNR grant funding to complete already planned pathway projects
- Carry out goals within the *2018 Tittabawassee Township Recreation Plan*

Key Concepts

The non-motorized transportation network in Tittabawassee Township must be expanded to give greater access to residents. Currently, the system is inefficient and lacks widespread connection.

To begin increasing the non-motorized network, the Township must begin to develop a non-motorized transportation plan to effectively coordinate the development of new additions and the efficient use of funds. Furthermore, the Township should begin to work towards the specific development of a pathway or bike path. To accomplish this development, the Township should apply for grants from the DNR to match contributions.

Relationship with Zoning Ordinance



>The Relationship between the Master Plan and the Zoning Ordinance

Introduction

It is important to understand that the 2018 Master Plan is a document of illustration and planning, not law. The zoning ordinance, however, is law. This is the most important distinction between the two documents. Nonetheless, the two documents are inter-related and are designed to support one another.

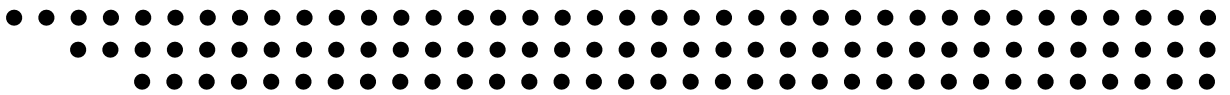
When enacting changes to the zoning ordinance, the Master Plan is the key document to aid the decision making process. It is meant to be referenced and utilized for all types of planning activities including zoning, rezoning, site plan development, and so on.

Future Land Use Map (FLU)

Within this plan, a future land use map has been created to spatially illustrate the goals of the plan. The Master Plan along with this map will be used to help guide zoning decisions for each land use. As an example of how this will be used, land planned for single-family residential within the Urban Growth Boundary is only suitable for rezoning if it is adjacent to existing development and adequate utilities for extension exist.

Future Land Use Categories	Zoning District
Agriculture	A-1 Agriculture
Commercial (Airport Business)	C-3 Regional Business
Commercial (Retail / Service)	C-2 General Business, C-1 Village Business or NB Neighborhood Business
Commercial (Office Park)	C-2 General Business or C-1 Village Business
Modular Housing	R-4 Manufactured Home Park
High Density Residential	R-3 High Density Residential
Medium Density Residential	R1-V Village Residential or R-2 Medium Density Residential
Low Density Residential	A-1 Agricultural, R-1A Rural Residential, or R-1V Village Residential
Industrial	I-1 Light Industrial or I-2 Heavy Industrial
Public / Institutional	Any District
Recreational	GC Greenbelt/Conservation or Any Other District
Floodplain	GC Greenbelt/Conservation

Additional Demographic Data



DATA DETAILS

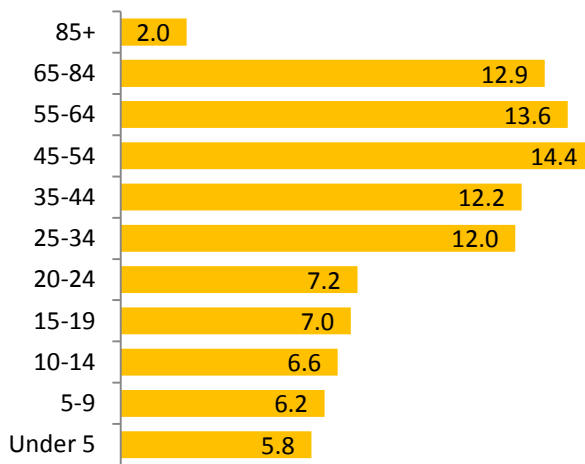
> *Population*

Table 1.1 Age distribution	Tittabawassee Township									
	1990			2000		2010		2015 est.		
	#	%		#	%	#	%	#	%	
Under 5	327	7.1		486	6.3	562	5.8	644	6.6	
5-17	922	19.9	5-9	566	7.3	687	7.1	803	8.2	
			10-14	501	6.5	659	6.8	717	7.3	
18-24	477	10.3	15-19	434	5.6	634	6.5	402	4.1	
			20-24	434	5.6	680	7.0	491	5.0	
25-34	743	16.1		1,411	18.3	1,406	14.5	1,848	18.9	
35-44	766	16.6		1,608	20.9	1,643	16.9	1,309	13.4	
45-54	583	12.6		1,117	14.5	1,488	15.3	1,606	16.4	
55-64	380	8.2		582	7.6	1,030	10.6	846	8.6	
65-84	396	8.5		525	6.8	846	8.7	1,041	10.6	
85+	33	0.7		42	0.5	91	0.9	94	1.0	
Total	4,627	100.0		7,706	100.0	9,726	100.0	9,801	100.0	
Median age	32.9	--		35.1	--	36.6	--	35.0	--	

Table 1.2	Saginaw County		Michigan
	2015 est. #	2015 est. %	2015 est. %
Under 5	11,373	5.8	5.8
5-9	12,455	6.3	6.2
10-14	12,000	6.1	6.6
15-19	14,101	7.2	7.0
20-24	14,415	7.3	7.2
25-34	22,424	11.4	12.0
35-44	22,424	11.4	12.2
45-54	27,119	13.8	14.4
55-64	27,525	14.0	13.6
65-84	28,182	14.4	12.9
85+	4,461	2.3	2.0

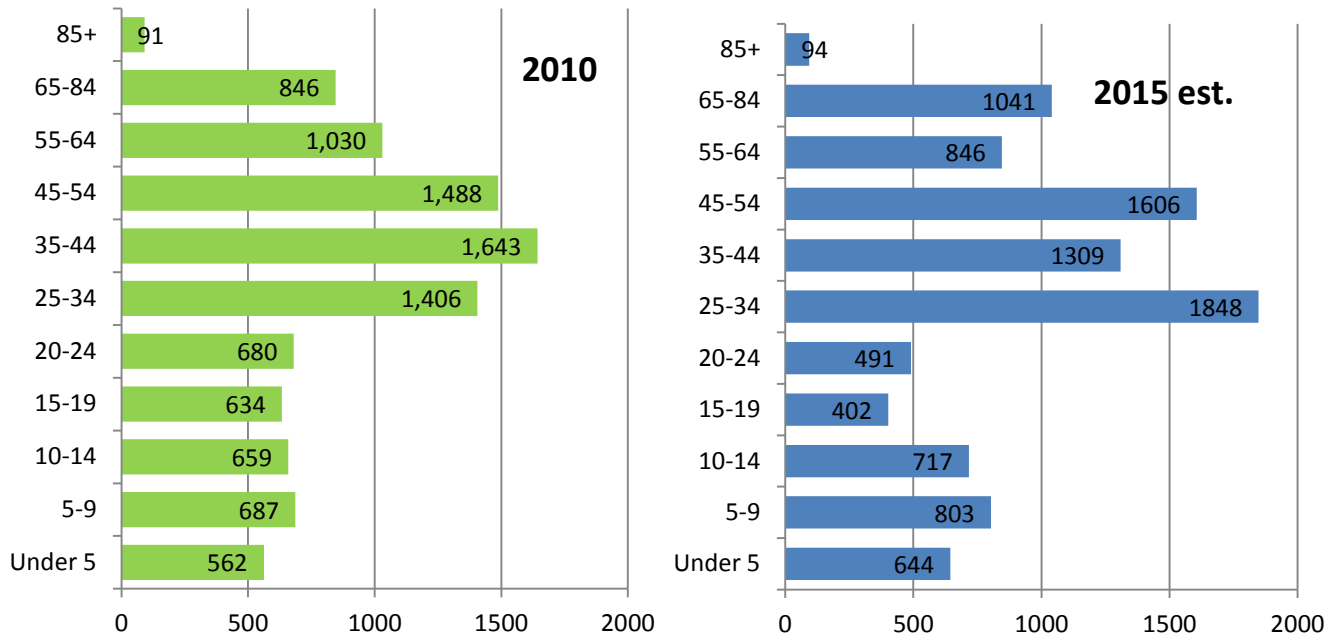
Source: U.S. Census Bureau. Profile of General Population and Housing Characteristics: 2010, Age Groups and Sex: 2000. ACS Demographic and Housing Estimates: 2015 estimates.

Michigan Age Distribution, 2015 est.



All population data from the US Census Bureau and American Community Survey includes the incarcerated population.

Tittabawassee Township Age Distribution



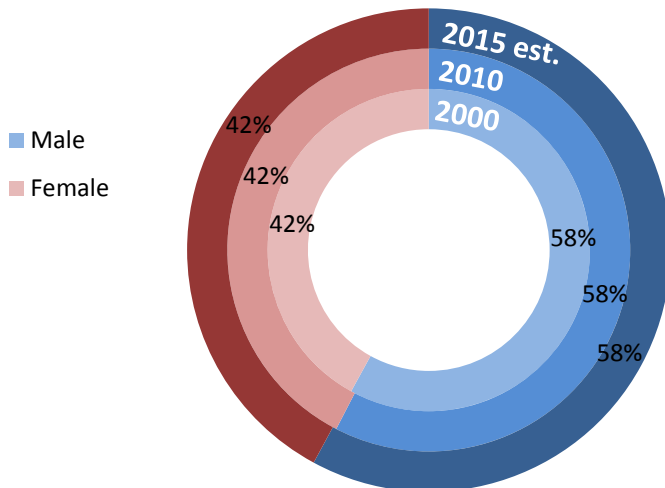
Source: U.S. Census Bureau. Profile of General Population and Housing Characteristics: 2010, Age Groups and Sex: 2000. ACS Demographic and Housing Estimates: 2015 estimates.

Gender Distribution

Male/Female Distribution	Tittabawassee Township							Saginaw County		Michigan
	2000		2010		2015 est.		% Change	2015 est.		2015 est.
	#	%	#	%	#	%		#	%	%
Male	4,466	58.0	5,600	57.6	5,674	57.9	+27.0	95,216	48.5	49.1
Female	3,240	42.0	4,126	42.4	4,127	42.1	+27.4	101,263	51.5	50.9
Total	7,706	100.0	9,726	100.0	9,801	100.0	+27.2	196,479	100.0	100.0

Source: U.S. Census Bureau. Age Groups and Sex: 2010, Age Groups and Sex: 2000. ACS Demographic and Housing Estimates: 2015 estimates.

Tittabawassee Township Gender Distribution



The Township's gender distribution is considerably skewed from that of Saginaw County and the State of Michigan due to the presence of the Saginaw Correctional Facility.

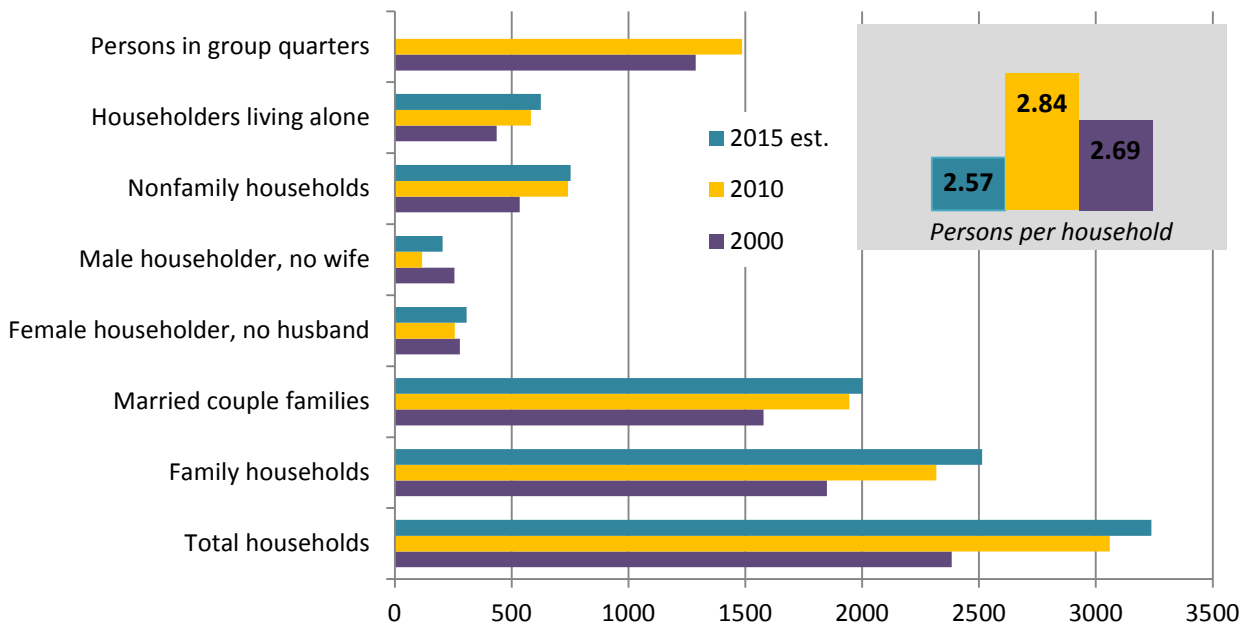
Source: U.S. Census Bureau. Age Groups and Sex: 2010, Age Groups and Sex: 2000. ACS Demographic and Housing Estimates: 2015 estimates.

Household Types

Table 1.3 Households	Tittabawasse Township						Saginaw County		Michigan
	2000		2010		2015 est.		2015 est.		2015 est.
	#	%	#	%	#	%	#	%	%
Total households	2,383	100.0	3,059	100.0	3,238	100.0	86,823	100.0	100.0
Family households	1,849	77.6	2,318	75.8	2,513	77.6	55,393	63.8	65.0
Married couple families	1,578	66.2	1,945	63.6	2,001	61.8	38,723	44.6	47.8
Female householder, no husband	279	11.7	256	8.4	308	9.5	12,850	14.8	12.7
Male householder, no wife	255	10.7	117	3.8	204	6.3	3,820	4.4	4.6
Nonfamily households	534	22.4	741	24.2	725	22.4	31,430	36.2	35.0
Householders living alone	436	18.3	583	19.1	625	19.3	27,002	31.2	29.1
Persons per household	2.69	--	2.69	--	2.57	--	2.39	--	2.47
Persons in group quarters	1,288	--	1,486	--	1,428	--	6,322	--	2.3

Source: U.S. Census Bureau. Households and Families: 2010, Households and Families: 2000. ACS Occupancy Characteristics: 2015 estimates.

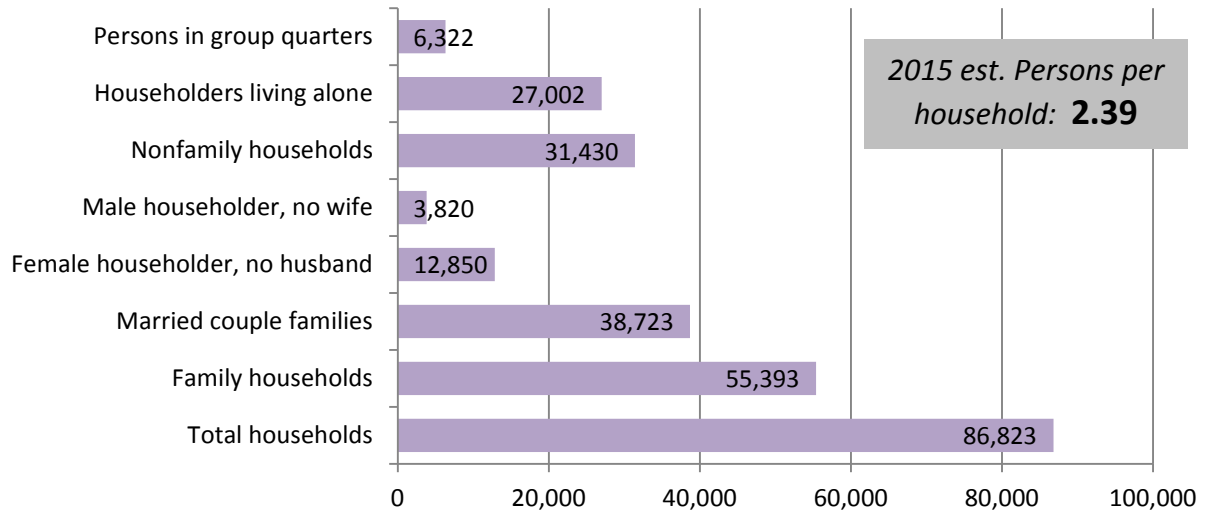
Tittabawasse Township Households



Source: U.S. Census Bureau. Households and Families: 2010, Households and Families: 2000. ACS Occupancy Characteristics: 2015 estimates.

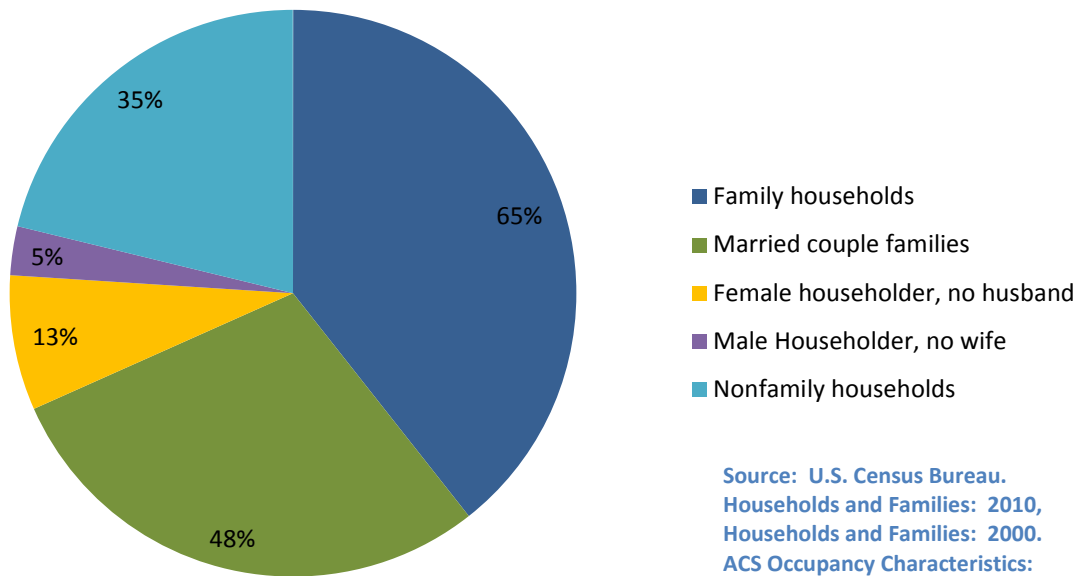
Most households within Tittabawassee Township are categorized as “family households”. This data trend is consistent with that of Saginaw County and the State of Michigan.

Saginaw County Households, 2015 est.



Source: U.S. Census Bureau. Households and Families: 2010, Households and Families: 2000. ACS Occupancy Characteristics: 2015 estimates.

Michigan Household Distribution



Source: U.S. Census Bureau. Households and Families: 2010, Households and Families: 2000. ACS Occupancy Characteristics: 2015 estimates.

Tittabawassee Township has a lower percentage than the State and the County in the category representing single-parent households, “female householder, no husband”.

DATA DETAILS

> *Economic*

Table 2.1 Labor force by industry	Tittabawassee Township		
	2000	2010	2015 est.
	#	#	#
Employed persons 16 and over	3,295	7,427	4,123
Agriculture, forestry, fisheries & mining	51	45	25
Construction	296	201	383
Manufacturing, nondurable goods	798	828	789
Manufacturing, durable goods	0		
Transportation	79	155	169
Wholesale trade	111	98	111
Retail trade	438	473	458
Finance, insurance and real estate	100	178	220
Health services	646	838	1,026
Educational services	0		
Other professional and related services	176	173	119
Public administration	105	151	280

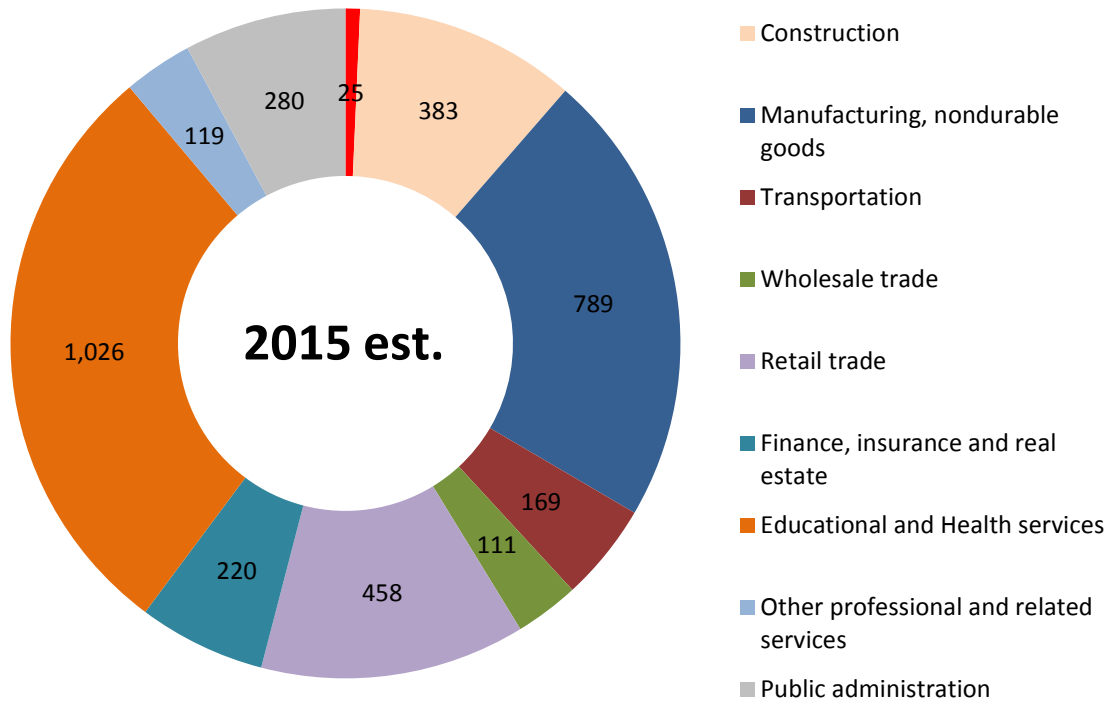
Table 2.2 Labor Force by Industry	Saginaw County		Michigan
	2015 est.		2015 est.
	#	%	%
Employed persons 16 and over	81,106	100.0	100.0
Agriculture, forestry, fisheries & mining	1,030	1.3	1.3
Construction	3,866	4.8	4.8
Manufacturing, nondurable goods	12,299	15.2	17.8
Transportation	3,319	4.1	4.2
Wholesale trade	1,988	2.5	2.4
Retail trade	10,994	13.6	11.4
Finance, insurance and real estate	3,833	4.7	5.4
Health services	20,963	25.8	23.9
Educational services			
Other professional and related services	4,040	5.0	4.7
Public administration	2,923	3.6	3.6

Top three employing categories are health services, manufacturing, and retail trade.

Tittabawassee Township's trend is consistent with that of Saginaw County and Michigan

Source: American Community Survey. SELECTED ECONOMIC CHARACTERISTICS, Profile of Selected Economic Characteristics: 2000 and 2015 estimates. *Margin of error for 2000: ±109.

Tittabawassee Township Labor Force by Industry

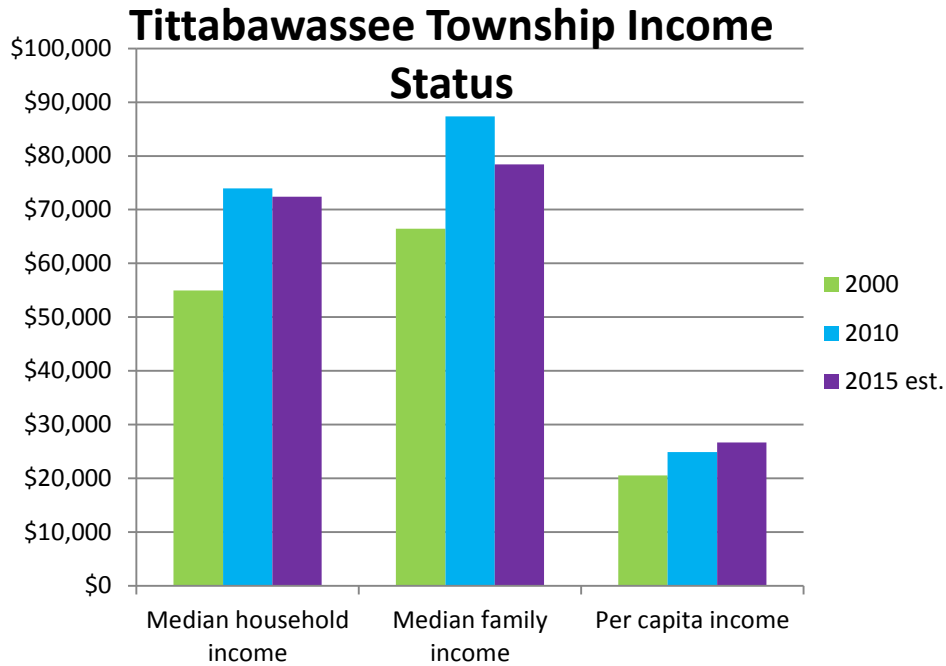


Graph from Table 2.1

INCOME AND POVERTY FOR FAMILIES AND HOUSEHOLDS

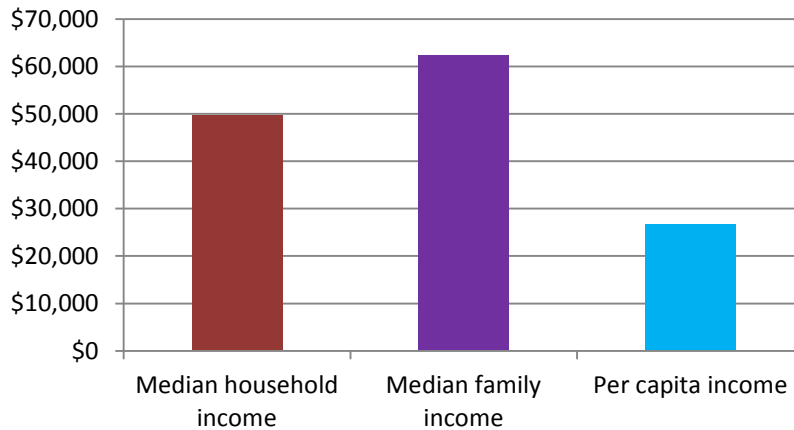
Table 2.3 Income and poverty status	Tittabawassee Township				Saginaw County	Michigan
	2000	2010	2015 est.	% Change 1990-2015 est.	2015 est.	2015 est.
Median household income	\$54,970	\$73,946	\$72,394	+31.7	\$43,042	\$49,576
Median family income	\$66,455	\$87,326	\$78,429	+18.0	\$54,210	\$62,247
Per capita income	\$20,554	\$24,906	\$26,699	+29.9	\$23,139	\$26,607
Percent of population below poverty level*	9.0	3.5	5.1	--	18.3	16.7

Source: American Community Survey. SELECTED ECONOMIC CHARACTERISTICS, Profile of Selected Economic Characteristics: 2000 and 2015 estimates. *Poverty level varies based on individual family sizes and income of family members



Graph from Table 2.3

Michigan Income Status, 2010



Graph from Table 2.3

The median household income, median family income, and per capita income for Tittabawassee Township all increased from 2000 to 2015 estimates. Median household income increased 31.7 percent to \$72,394 in 2015 estimates. Median family income increased 18.0 percent to reach \$78,429 in 2015 estimates. Per capita income increased 29.9 percent to \$26,699 in 2015 estimates.

*The median household income in 2015 estimates for **Tittabawassee Township** (\$72,394) was greater than both Saginaw County (\$43,042) and the State of Michigan's (\$49,576).*

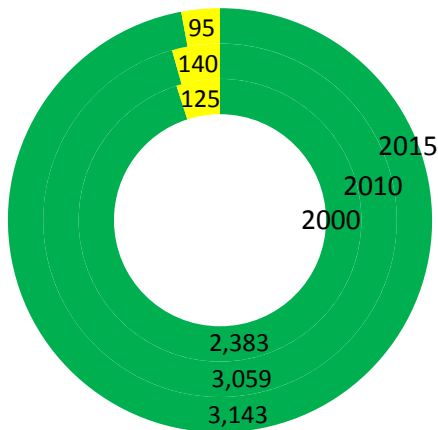
DATA DETAILS

> *Housing*

Table 3.1 Types of housing	Tittabawassee Township							Saginaw County		Michigan
	2000		2010		2015 est.		% Change	2015 est.		2015 est.
	#	%	#	%	#	%	1990-2010	#	%	%
Total housing units	2,508	100.0	3,199	100.0	3,238	100.0	+29.1	86,823	100.0	100.0
Occupied	2,383	95.0	3,059	95.6	3,143	97.1	+31.9	77,925	89.8	84.6
Vacant	125	5.0	140	4.4	95	2.9	-24.0	8,898	10.2	15.4
Units in structure										
1 (attached and detached)	2,111	84.2	2,479	77.5	2,876	88.8	+36.2	68,773	79.2	76.8
2-9	166	6.7	127	4.0	92	2.9	-44.6	9,377	10.8	9.3
10+	54	2.2	35	1.1	0	0	-100.0	5,371	6.2	8.6
Mobile home, trailer	177	7.1	179	5.6	270	8.3	+52.5	3,279	3.8	5.4
Other	0	0	0	0.0	0	0.0	0	23	0.0	0.0

Source: American Community Survey. UNITS IN STRUCTURE, UNITS IN STRUCTURE [11].

Occupancy of Housing in Tittabawassee Township

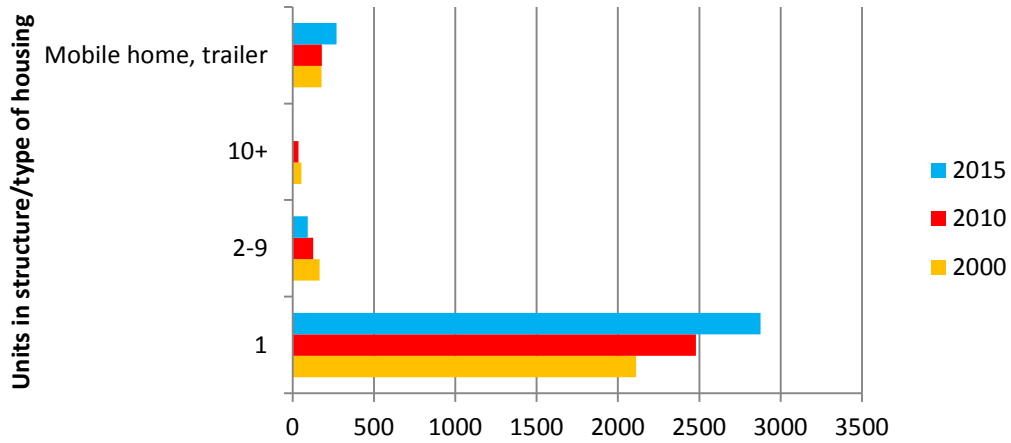


■ Occupied ■ Vacant

Graph from Table 3.1

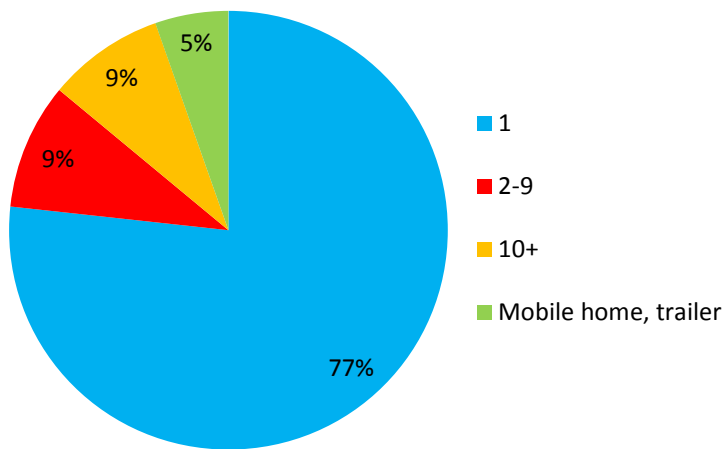
Vacancy Rate:
Tittabawassee Township
 2000: 5.0%
 2010: 4.4%
 2015: 2.9%
Saginaw County
 2015 est.: 10.2%
State of Michigan
 2015 est.: 15.4%

Tittabawassee Township Housing Types



Graph from Table 3.1

Michigan Housing Types, 2015



Graph from Table 3.1

Single-family homes make up the majority of residential development in Tittabawassee Township and this will not likely change into a dense development.

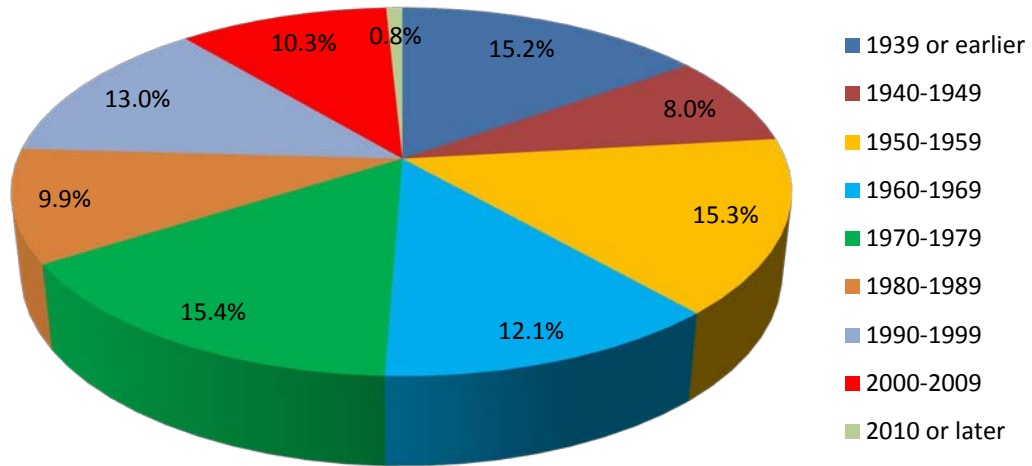
The majority of homes in Tittabawassee Township are single-family, with homes with one housing unit totaling 2,111 or 84.2 percent in 2000, 2,479 or 77.5 percent in 2010, and 2,876 or 88.8 percent in 2015 estimates. Occupancy rates were 95 percent in 2000, 95.6 percent in 2010, and 97.1 percent in 2015 estimates.

Age of Housing

Table 3.2 Age of housing	Tittabawassee Township		Saginaw County		Michigan
	2015 est.		2015 est.		2015 est.
	#	%	#	%	%
1939 or earlier	160	4.9	16,062	18.5	15.2
1940-1949	119	3.7	6,694	7.7	8.0
1950-1959	192	5.9	13,183	15.2	15.3
1960-1969	386	11.9	14,590	16.8	12.1
1970-1979	406	12.5	15,395	17.7	15.4
1980-1989	128	4.0	5,426	6.2	9.9
1990-1999	856	26.4	8,269	9.5	13.0
2000-2009	884	27.3	6,642	7.7	10.3
2010 or later	107	3.3	562	.6	.8
Total housing units	3,238	100.0	86,823	100.0	100.0

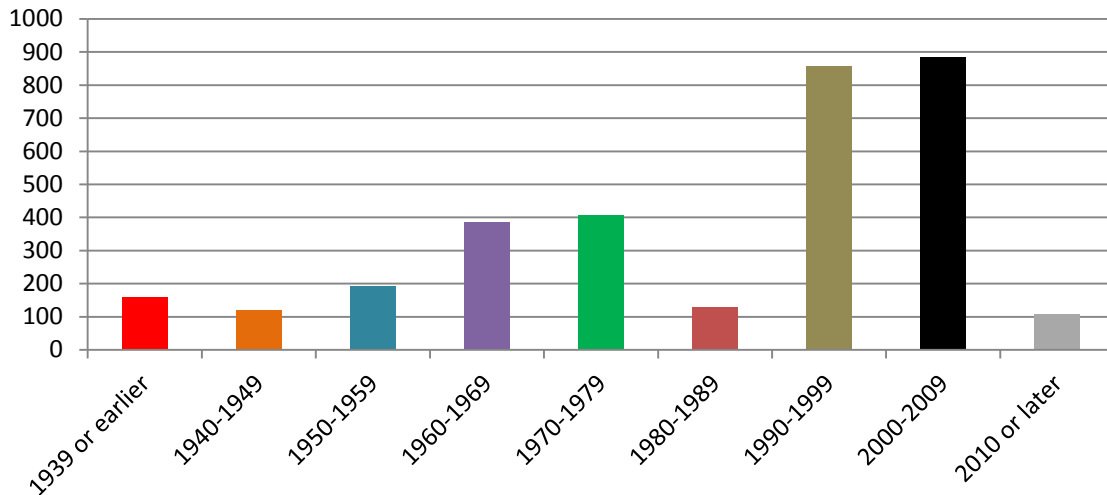
Source: American Community Survey. YEAR STRUCTURE BUILT, YEAR STRUCTURE BUILT [10].

Michigan Housing Age



Graph from Table 3.2

Tittabawassee Township Housing Age, 2015 est.



Graph from Table 3.2

Housing Value

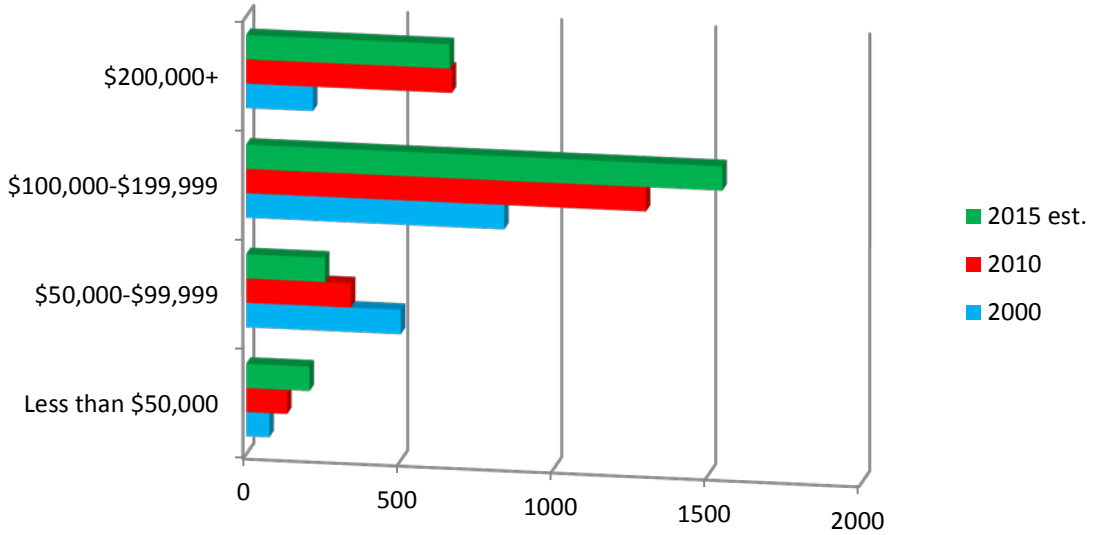
Table 3.3 Value of owner- occupied housing	Tittabawassee Township							Saginaw County		Michigan
	2000		2010		2015 est.		% Change	2015 est.		2015 est.
	#	%	#	%	#	%	1990- 2010	#	%	%
Less than \$50,000	75	4.6	133	5.5	206	7.7		12,864	22.9	15.7
\$50,000- \$99,999	502	30.6	340	13.8	256	9.6		17,597	31.3	24.3
\$100,000- \$199,999	838	51.3	1,298	53.2	\$100,000- \$149,999	696	26.1	11,457	20.4	19.7
					\$150,000- \$199,999	850	31.8	7,360	13.1	15.9
					\$200,000- \$299,999	507	19.0	5,176	9.2	14.1
\$200,000+	217	13.3	668	27.4	\$300,000- \$499,999	130	4.9	1,321	2.3	7.4
					\$500,000- \$999,999	7	0.3	343	0.6	2.3
					\$1,000,000 or more	17	0.6	152	0.3	0.6
Total	1,632	100.0	2,439	100.0	2,669	100.0		56,270	100.0	100.0
Median value	\$126,600	--	\$161,300	--	\$159,200	--		\$92,900	--	\$122,400

Source: American Community Survey. VALUE, VALUE FOR SPECIFIED OWNER-OCCUPIED HOUSING UNITS [25]. SELECTED HOUSING CHARACTERISTICS, VALUE: 2015 estimates.

As of 2015 estimates, there were 661 homes with a value at or above \$200,000 in Tittabawassee Township. The largest category of home values in the township is that of \$100,000 to \$199,999, with 1,546 homes in that range as of 2015 estimates. In 2000, there were 838 homes within this value range and 1,298 in 2010. Contrary to popular belief, after the prison was constructed in 1994, average home value doubled by the time the census was taken in the year 2000.

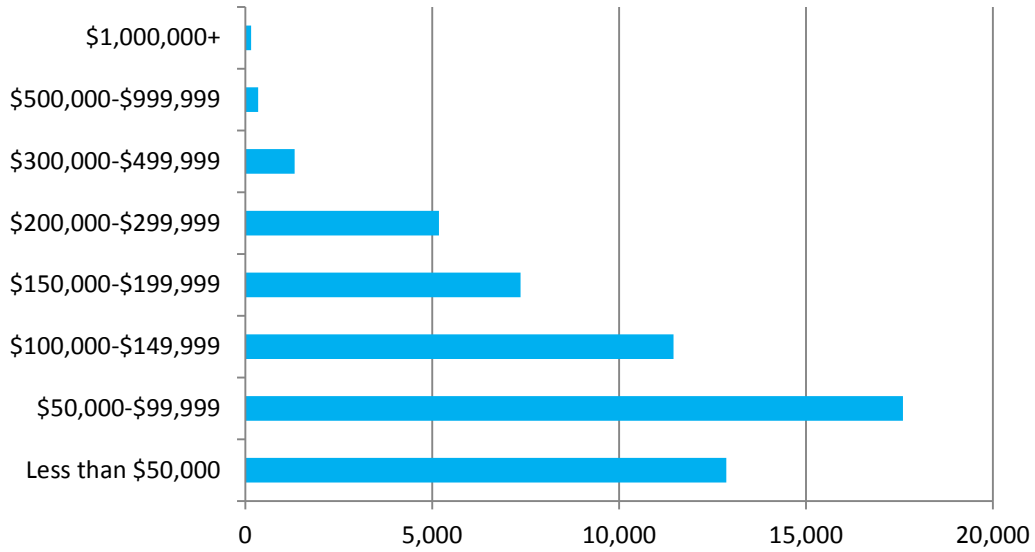
The number of homes valued at or above \$200,000 went from 217 in 2000 to 661 in 2015 accounting for 24.8% of total homes.

Tittabawassee Township Housing Value



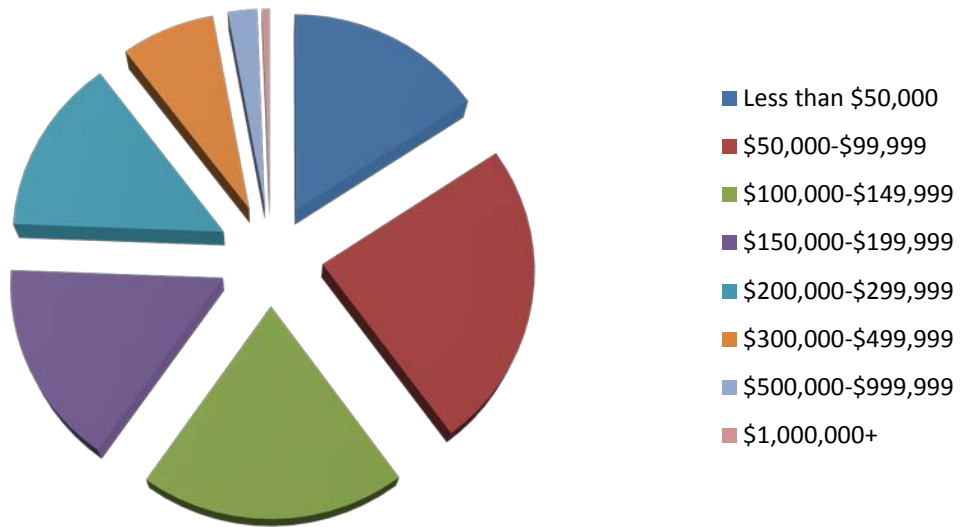
Graph from Table 3.3

Saginaw County Housing Value



Graph from Table 3.3

Michigan Housing Value 2015 est.



Graph from Table 3.3

Appendix of Maps



A Population Density

B Average Daily Traffic

C P.A. 116 Protected Land

D Water Utilities

E Tittabawassee River Access

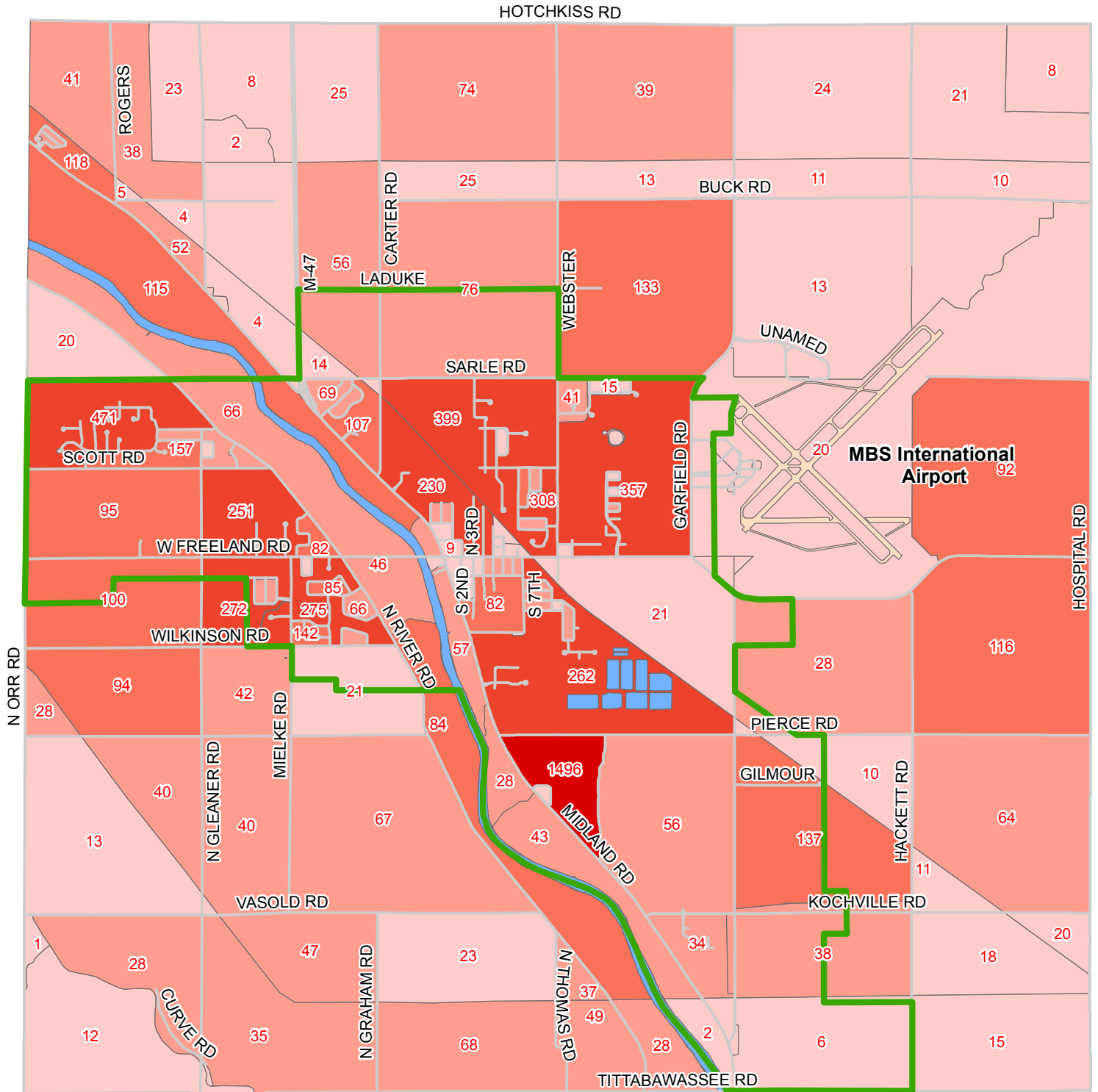
F Sidewalks

G Zoning

H Future Land Use

Tittabwassee Township

Population Density



Legend

- 0 - 25
- 26 - 76
- 77 - 157
- 158 - 471
- 472 - 1496
- Urban Growth Boundary



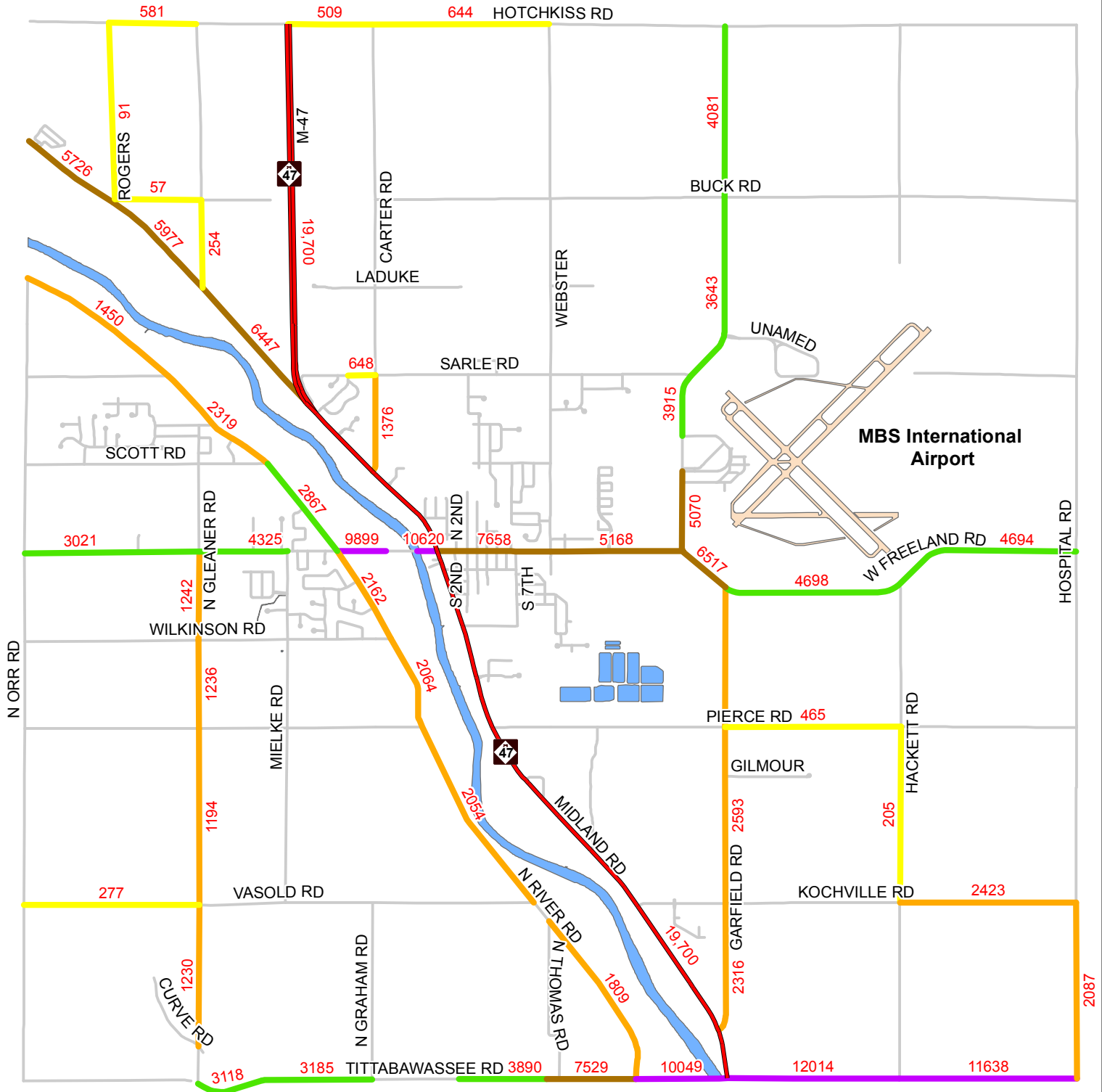
Source: Census 2010



Created 8/1/2017

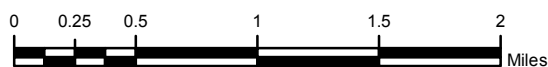
Tittabwassee Township

Average Daily Traffic Volumes



Legend

- 57 - 648
- 649 - 2593
- 2594 - 4698
- 4699 - 7658
- 7659 - 12014



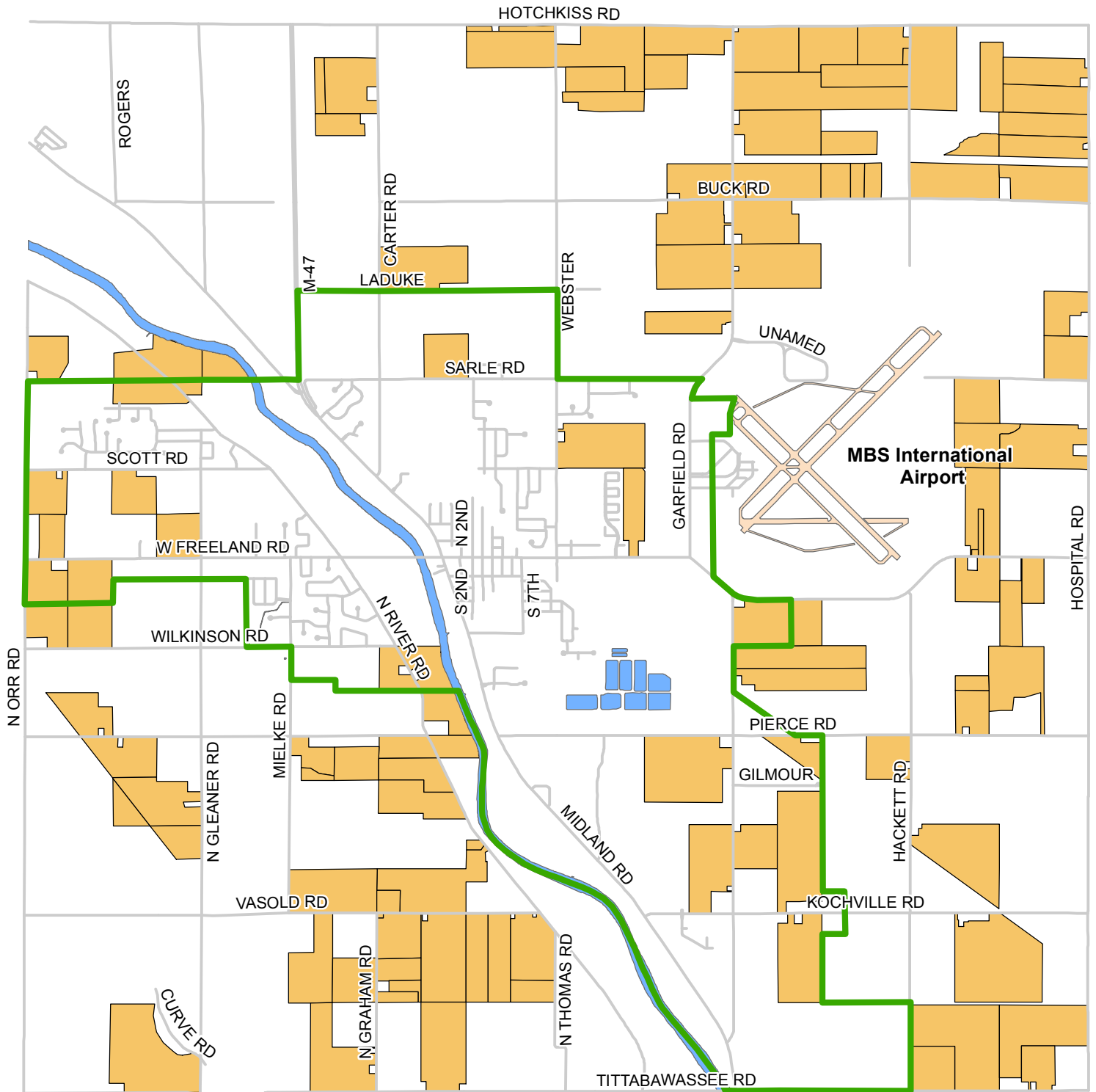
Source: Saginaw County Road Commission 2017





Created 8/1/2017

Tittabwassee Township

P.A. 116 Farmland Preservation Land



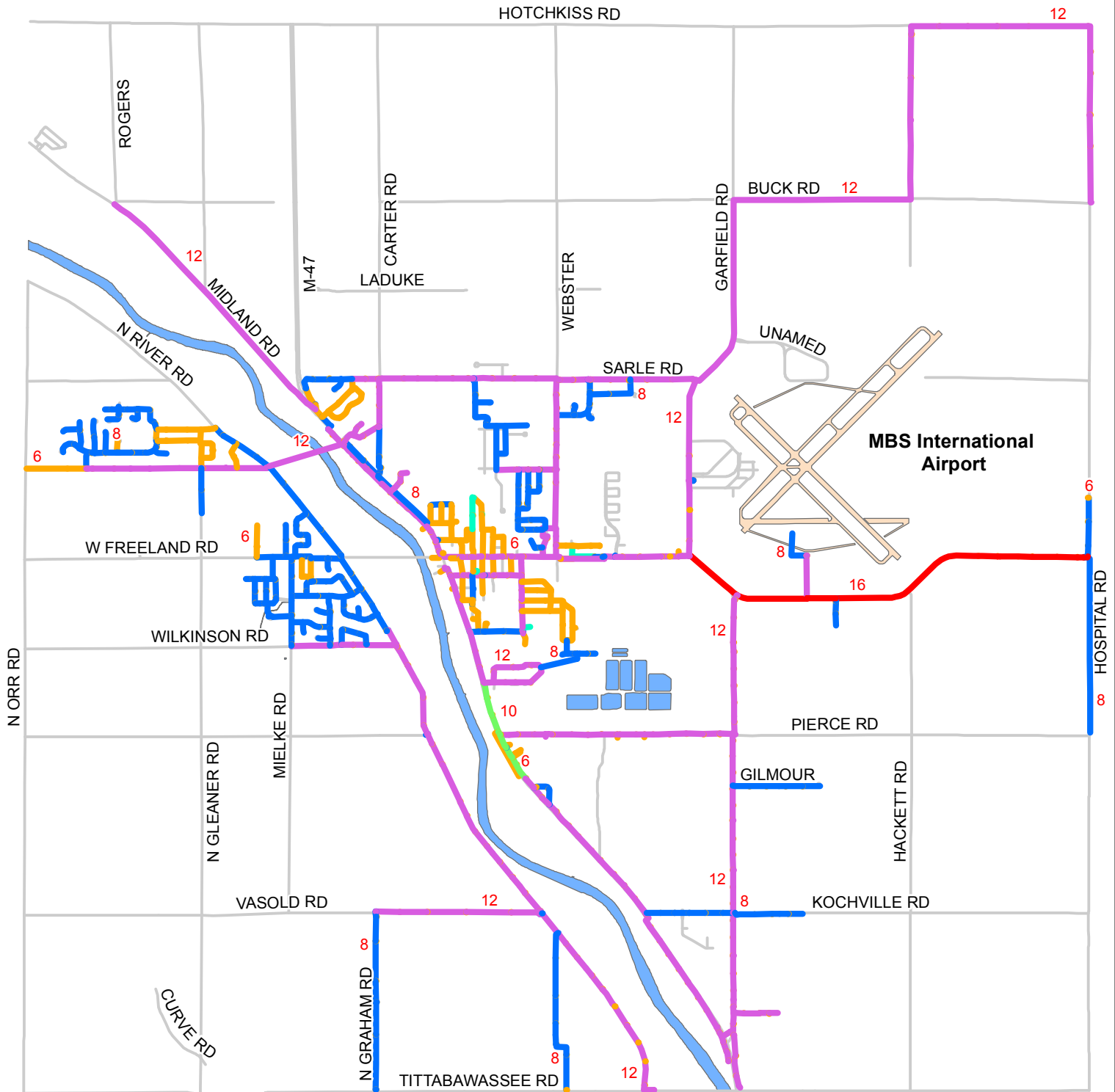
Legend

-  PA 116 Parcels
-  Urban Growth Boundary



Tittabwassee Township

Water Utilities

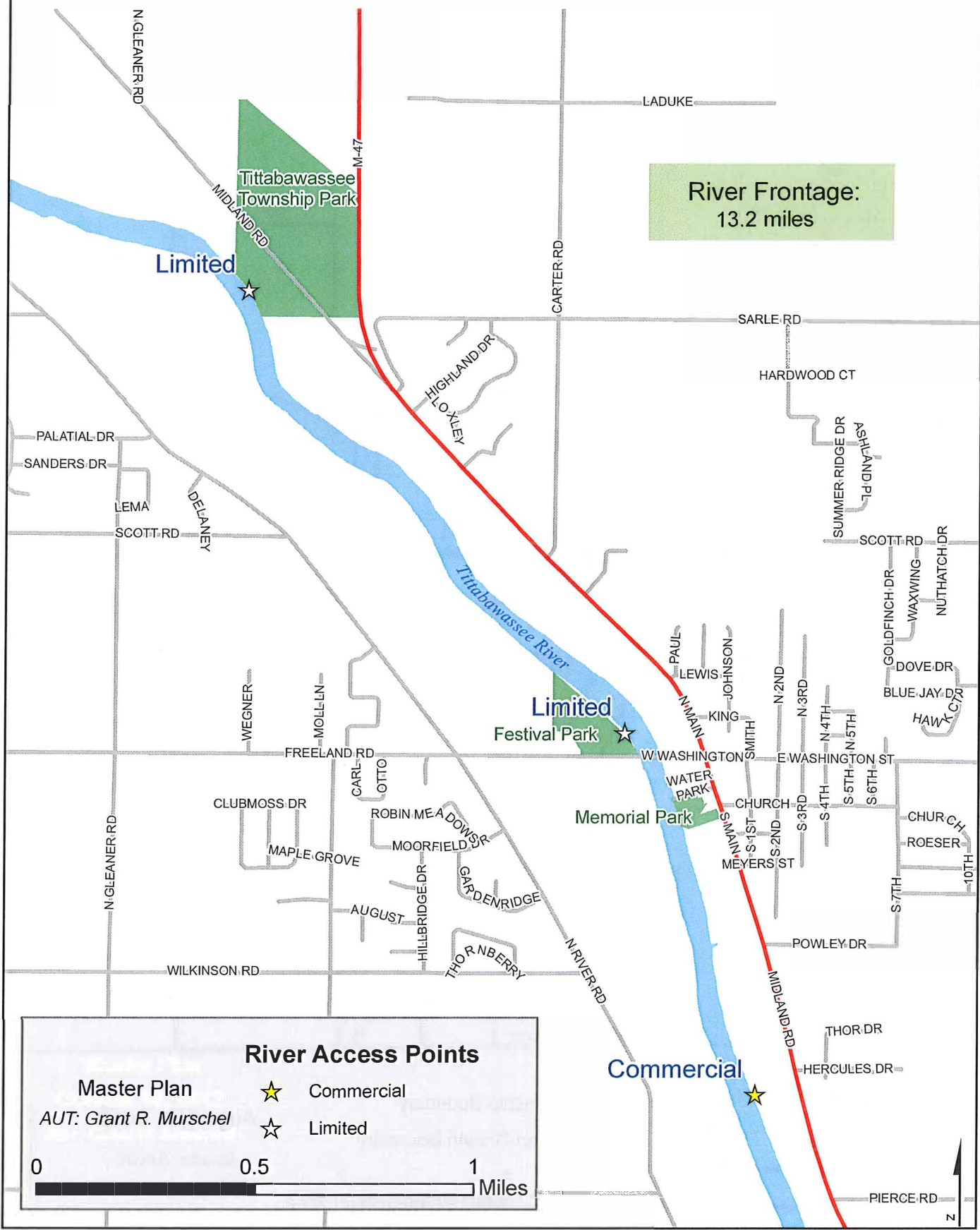


Legend

Water Main Size in Inches	
	4
	6
	8
	10
	12
	16



Tittabawasse River Access



River Frontage:
13.2 miles

Limited

Limited

Commercial

River Access Points

Master Plan
AUT: Grant R. Murschel

- ★ Commercial
- ☆ Limited

0 0.5 1 Miles




Tittabwassee Township

Sidewalks



Legend

 Sidewalks

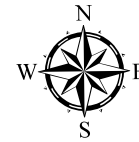


Tittabawassee Township Zoning

APPENDIX G



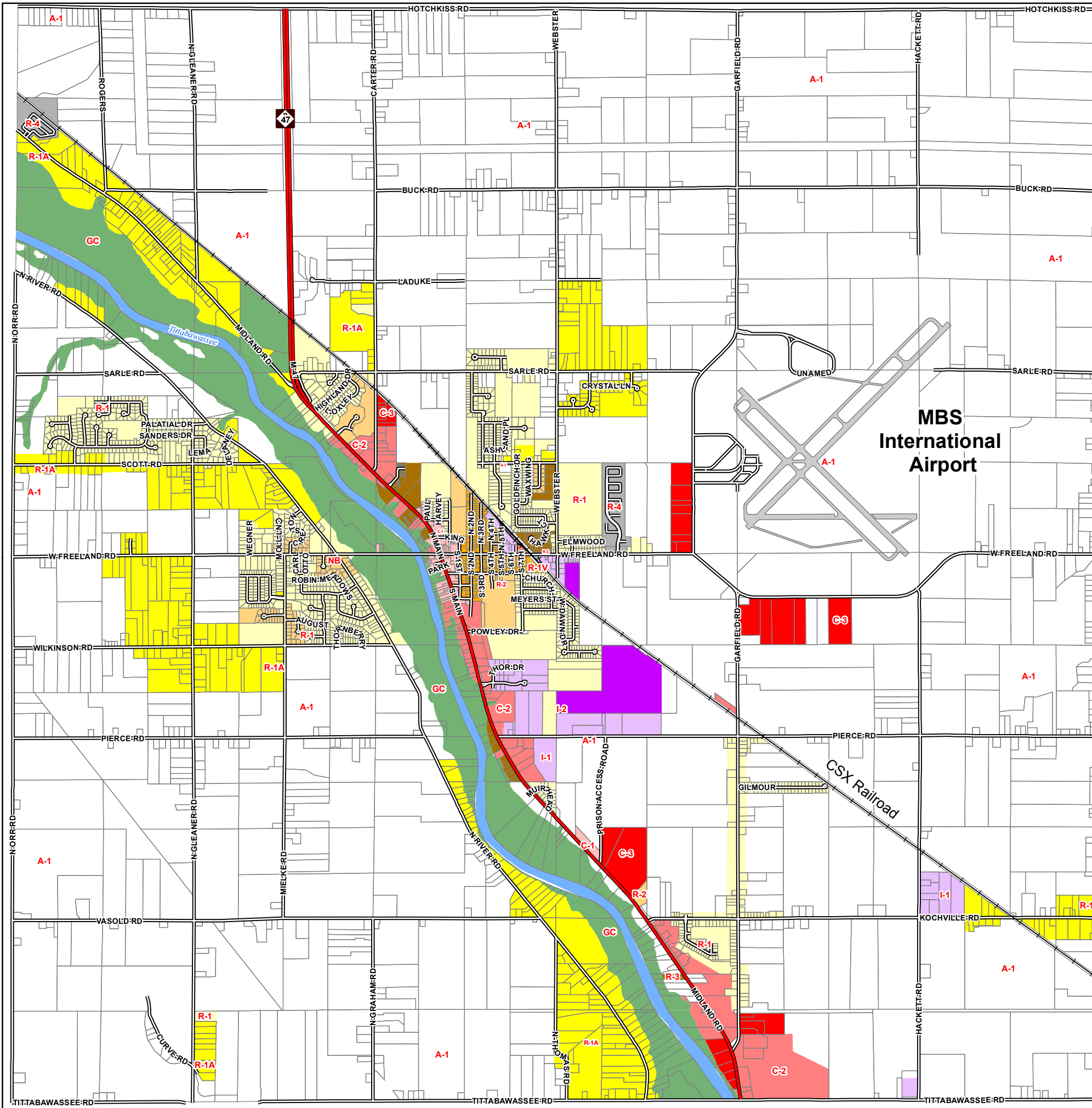
Created 8/31/2017



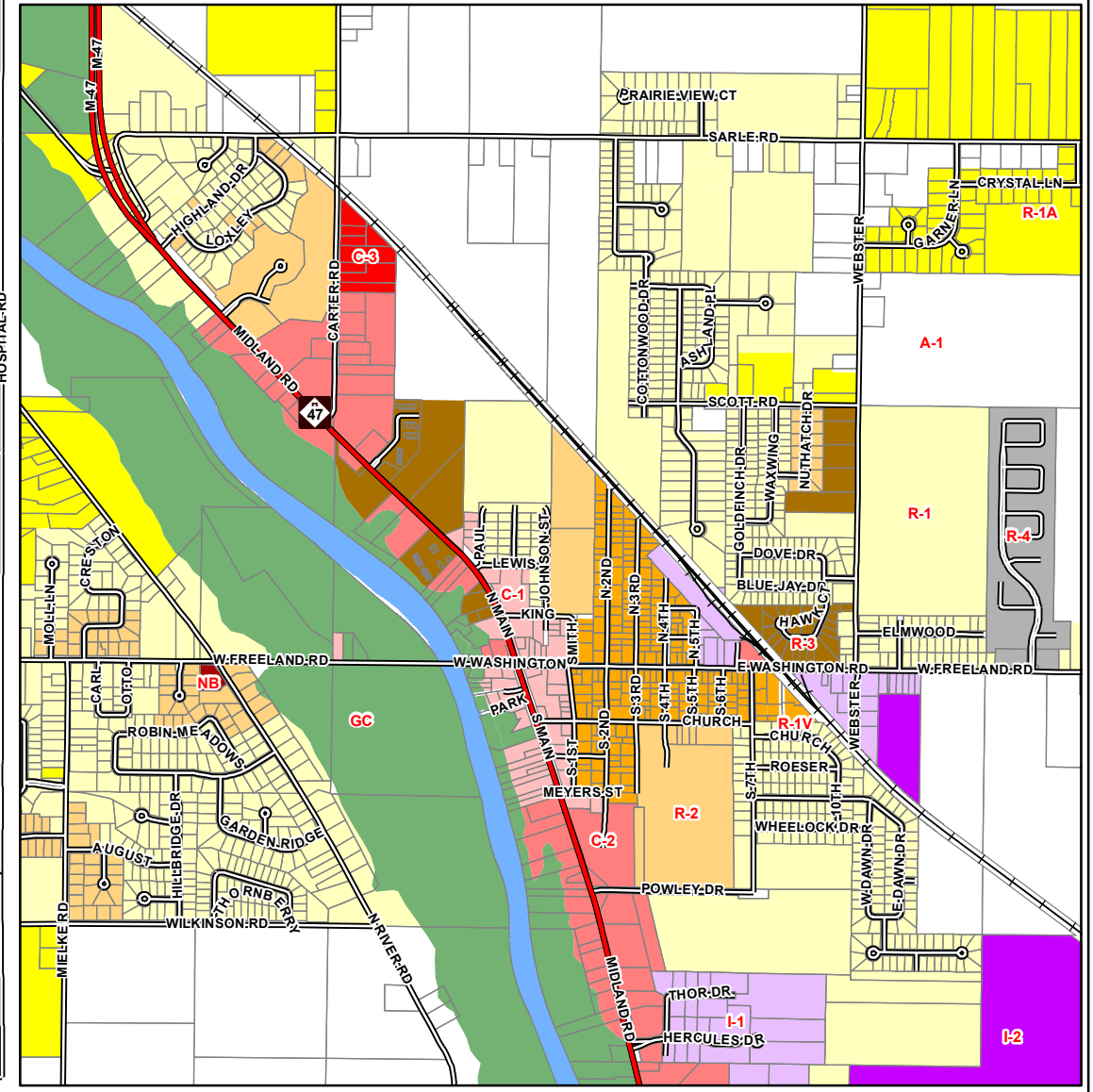
Legend

Zoning

- A-1 - Agriculture
- C-1 - Village Center
- C-2 - General Business
- C-3 - Regional Business
- NB - Neighborhood Business
- GC - Greenbelt/Conservation
- I-1 - Light Industrial
- I-2 - Heavy Industrial
- R-1 - Low Density Residential
- R-1A - Rural Residential
- R-1V - Village Residential
- R-2 - Medium Density Residential
- R-3 - High Density Residential
- R-4 - Manufactured Home Park



Freeland Area



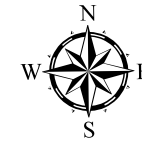
Tittabawassee Township

2025 Master Plan

APPENDIX H



Created 7/18/2017



Legend

Future Land Use

- Agricultural
- Commercial (Airport Business)
- Commercial (Retail / Service)
- Neighborhood Business
- Commercial (Office Park)
- High Density Residential
- Low Density Residential
- Medium Density Residential
- Modular Housing
- Industrial
- Public/Institutional
- Recreational
- Floodplain
- Urban Growth Boundary

