



**2023**

# **Master Plan Update**

**PAGE FOR RESOLUTION OF ADOPTION GREEN OAK  
CHARTER TOWNSHIP 2023 MASTER PLAN (OPEN  
SANS)**



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## INTRODUCTION

### What is a Master Plan?

The Green Oak Charter Township Master Plan states the goals, objectives, and strategies regarding land use and development the Township plans to pursue. Planning is a process which involves the selection of policy choices relating to land use, growth, and development in the community. The Master Plan is the primary official Township document which sets forth growth and development policies for the future of the community.

The Township derives its authority for the preparation of a Master Plan from Public Act 33 of 2008, the Michigan Planning Enabling Act (MPEA). Section 33 of the MPEA states:

“A master plan shall address land use and infrastructure issues and may project 20 years or more into the future. A master plan shall include maps, plats, charts, and descriptive, explanatory, and other related matter and shall show the Planning Commission’s recommendations for the physical development of the planning jurisdiction.”

The Master Plan is used in the following ways:

1. The Plan is a **general statement of the Township’s goals and policies** and provides a single, comprehensive view of the community’s desires for the future.
2. The Plan serves as an **aid in daily decision-making**. The goals and policies outlined in the Plan guide the Planning Commission, Township Board, Zoning Board of Appeals, and other Township bodies in their deliberations on zoning, subdivision, capital improvements and other matters related to land use and development.
3. The Plan provides the **statutory basis upon which zoning decisions are made**. The Michigan Planning Enabling Act requires that the Zoning Ordinance be based upon a plan designed to promote the public health, safety, and general welfare. The Master Plan and accompanying maps lay the groundwork for but do not replace other Township Ordinances, specifically the Zoning Ordinance and Map.
4. The Plan **coordinates public improvements and private development** supported by the Township’s Capital Improvements Plan. For example, public investments, such as road or sewer and water improvements, should be in areas identified in the Master Plan as resulting in the greatest benefit to the Township and its residents.
5. The Plan serves as an **educational tool** and gives citizens, property owners, developers, and adjacent communities a clear indication of the Township’s direction for the future.



## Roadmap of the Document

The Master Plan begins with an Introduction Chapter. This chapter describes relevant background information, including location details and a demographic snapshot of the community. A description of how development decisions are made with the Township concludes this chapter.

The Public Input Chapter details the community engagement activities that contributed to this Master Plan. Activities included a survey and an open house.

The subsequent Goals Chapter outlines the specific goals of this Master Plan and the planning strategies for reaching them. The goals are divided into eight sections: Community Identity, Natural Resource Conservation, Natural Rivers, Growth: Residential, Growth: Commercial and Industrial, Community Facilities and Services, Community Infrastructure, and Rural Character.

The Future Land Use Plan Chapter describes land use categories envisioned within the Township. The corresponding Future Land Use Map is a visualization of the long-term land use and development goals of the Township.

The Special Study Areas chapter describes three development goals which require unique and specific attention. These study areas are the Village Place shopping area, the Legacy Planned Unit Development at the Legacy Center sports complex, and Complete Streets strategy for making roadways more user friendly. This chapter also includes the non-motorized pathway plan.

The Implementation Chapter identifies and describes how the Township Board, Planning Commission, Township staff, and regional partners can work together to enact the strategies as described in the previous chapters. This chapter also describes the Capital Improvements Program and identifies potential funding sources. An implementation Matrix is included to summarize suggested implementation for each strategy outlined in this plan.

Lastly, the Appendix presents data, charts, and tables that illustrate relevant demographic features, economic characteristics, household and housing characteristics, and existing land use maps.

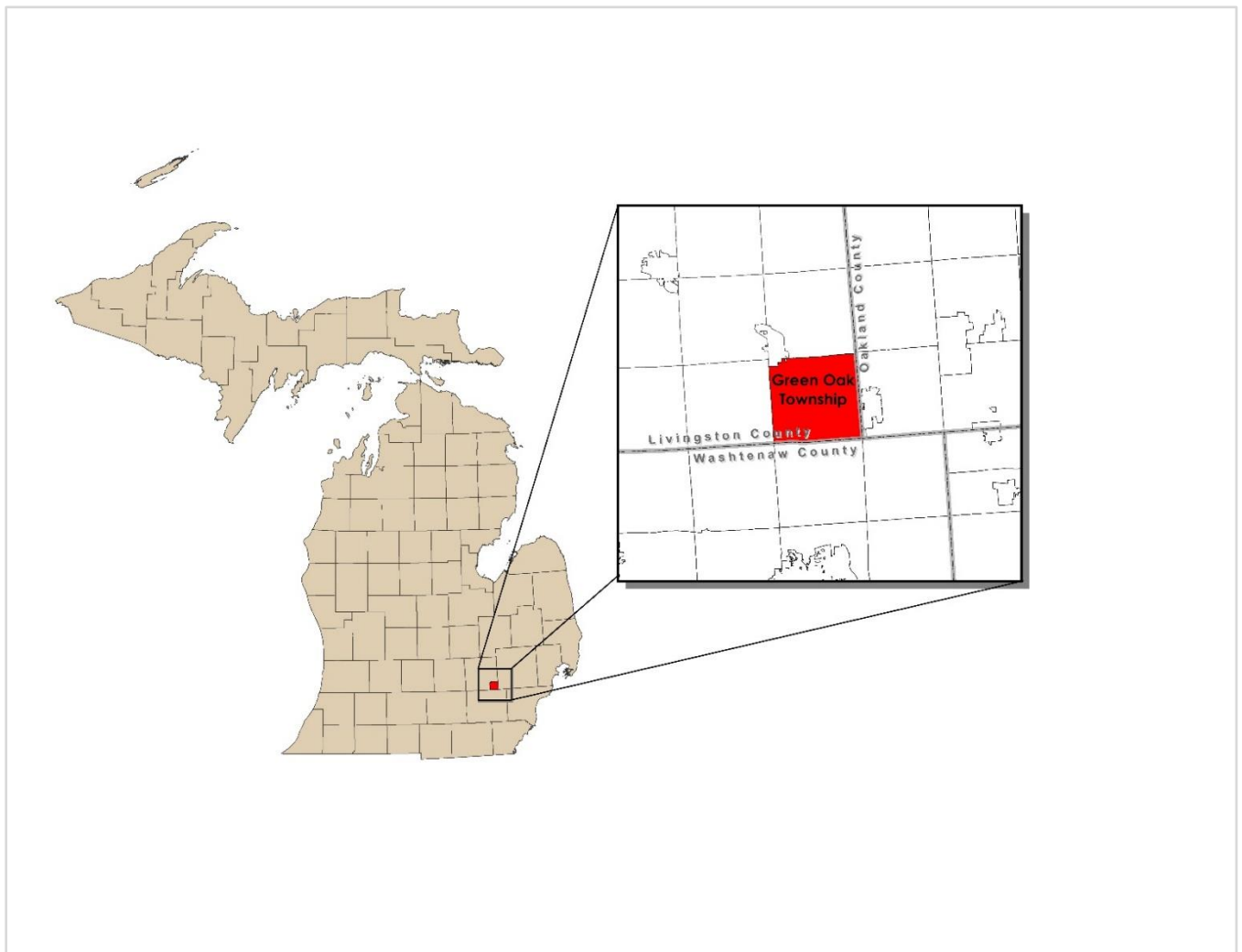


## Green Oak Township Background

### Location

Green Oak Charter Township is located in the southeastern corner of Livingston County (see Figure 1 below), adjacent to Oakland County to the east and Washtenaw County to the south. The Township is comprised of nearly an entire geographic township, totaling approximately 36 square miles. The Township is immediately adjacent to Brighton Township and the City of Brighton to the north, Hamburg Township to the west, Lyon Township and the City of South Lyon to the east, and Northfield Township to the south. The cities of Ann Arbor, Novi, and Wixom as well as the Village of Pinckney are within ten (10) to fifteen (15) miles. Green Oak Charter Township is less than two (2) hours driving time from most of the State's major market areas, particularly Detroit and Lansing.

Figure 1: Green Oak Township Location Map





*Demographics Snapshot*

[The following demographic information describes the most pertinent data, detailing the current and future population, economic, and housing conditions in Green Oak Township. Further details and data are included in the appendix. Data is continuously updated, and the most recent demographic data can be found at SEMCOG.org.](#)

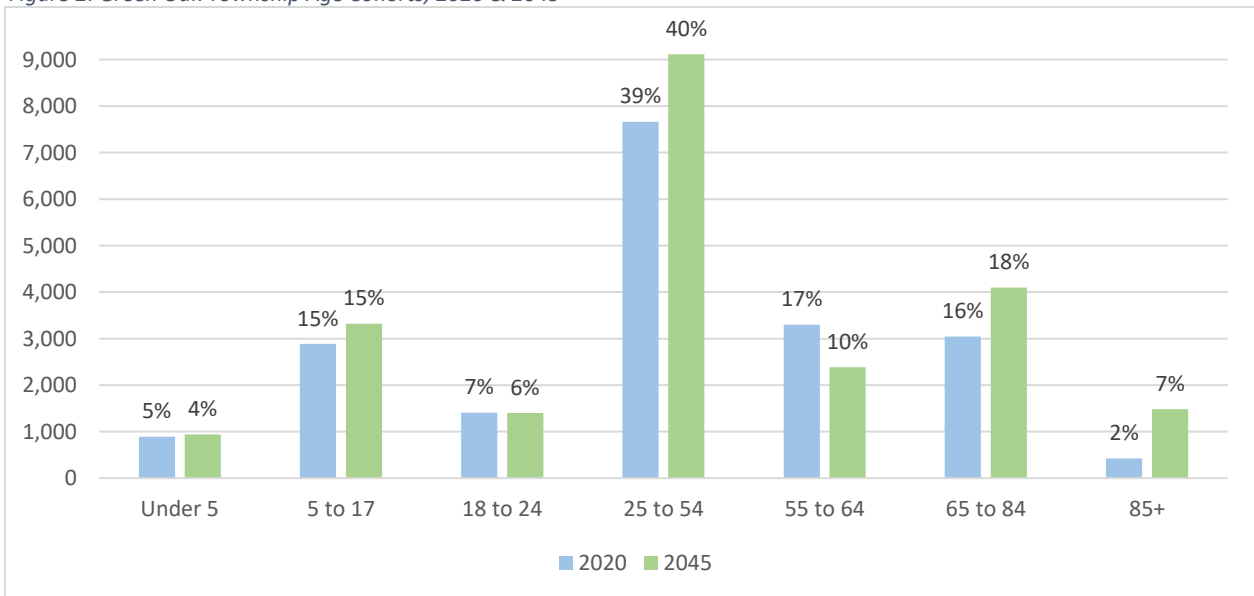
**Growing and Aging Population**

Since 1960, Green Oak Charter Township’s population has grown at rates of up to 64% per decade. In recent years, Green Oak’s population growth rate surpassed that of Genoa Township and South Lyon, making Green Oak the second fastest growing community in Livingston County during the 2010 - 2020 period.

The population reached 18,890 at the 2020 Census. It is expected to grow an additional ~~3829~~ by 2050 to approximately ~~22,750~~26,127. The population is distributed evenly among the different age groups, but the Township is aging. In 2000, the median age in the Township was 36.9 years. In 2010, the median age rose to 42.3 years. By 2020, the median age had reached 45.4 years. The proportion of the population over age 65 is expected to grow substantially through 2045.

[The 2050 SEMCOG projections show continued population growth reaching 26,127 by 2050: a nearly 15% increase in just five years.](#) Preparing for this shift in Township age structure will demand planning for senior housing, accessibility, and services.

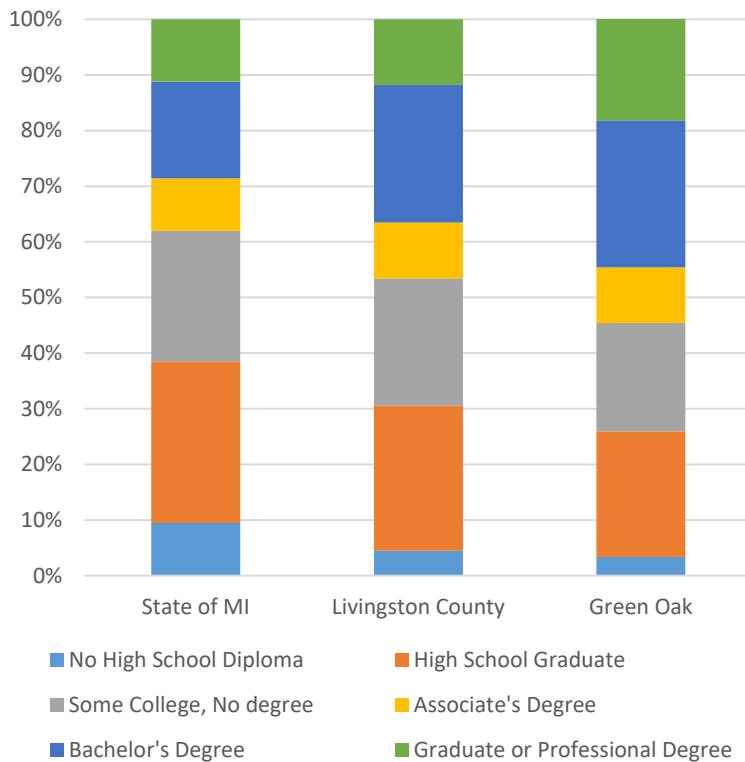
Figure 2: Green Oak Township Age Cohorts, 2020 & 2045



Source: SEMCOG, 2045 projections



Figure 3: Green Oak Township Educational Attainment, 2020



Source: ACS 2020, 5-year

Figure 4: Green Oak Township forecasted job growth by sector, 2020-2045

Forecasted Jobs by Industry Sector	% Change 2020-2045
Natural Resources, Mining, & Construction	6.89%
<i>Manufacturing</i>	-16.97%
<i>Retail Trade</i>	-12.16%
Information & Financial Activities	12.31%
Professional and Technical Services & Corporate HQ	43.90%
Administrative, Support, & Waste Services	17.73%
Healthcare Services	105.76%
Leisure & Hospitality	29.14%
<b>Total Employment Numbers</b>	<b>7.30%</b>

Source: ACS 2020, 5-year

### High Educational Attainment

Over 95% of Green Oak adult residents have earned at least a high school diploma. The proportion of residents holding higher education degrees is significantly higher than both the County and State. The high educational attainment of the residents influences the industries [and businesses](#) in the Township. By attracting employers who offer employment for Green Oak residents, the Township can help the community live where they work.

### Changing Industries

As Green Oak and Livingston County grow, new employment opportunities will be needed. By 2045, employment in many industry sectors is expected to change.

The table to the left shows significant forecasted changes in specific employment sectors. [In 2020, the Manufacturing sector had the highest employment numbers in the Township and is also projected to experience the greatest decline in jobs by 2045. 35% of Green Oak residents work in Livingston County, so it's](#)



[difficult to determine to what extent employment changes will impact the Green Oak residents. Complete employment numbers by sector are available in Appendix X.](#)

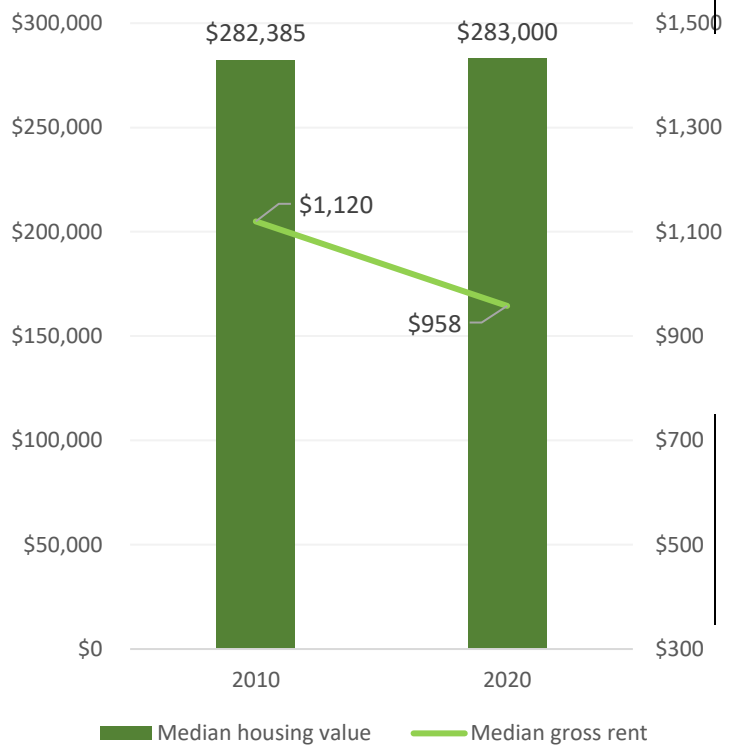
These work opportunities, most of which require higher education, will complement the community’s employment needs. The growth of these industries in Green Oak may also attract new residents with higher education.

Figure 5: Green Oak Township median housing value and median gross rent, 2010 - 2020

**Housing and Rental Values**

The vast majority of the homes in Green Oak Charter Township are single-family, owner-occupied units. Unlike rest of Livingston County and the Southeast Michigan region, the median housing value in Green Oak increased between 2010 and 2020, albeit marginally.

Ten percent of [occupied](#) homes in Green Oak are occupied by renters, [about twice as high as the renter rate in neighboring Hamburg and Brighton Townships, but half the renter rate of Northfield Township](#). According to SEMCOG, that number is expected to increase by 2045. While the median housing value in Green Oak increased, the median gross rent declined by over \$160/month from 2010 to 2020. The county and region averages for rent only declined by about \$14 - \$21/month per rental housing unit during this time period. Like most areas in the region, Green Oak needs to plan for adequate and attainable housing. Increasing housing values and declining rental values allude to greater opportunities for housing attainability in Green Oak Township. However, these patterns may change as the household structure changes in the Township.



Source: SEMCOG, 2020



### Household Structure

While the population of Green Oak Township has increased, the household size and family size has declined. The table to the right shows the changes in household structure from 2000 to 2020. Household size refers to all people living in the same home, and family size refers to all people living in the same home who are related by birth, marriage, or adoption. Green Oak f~~Families are have having~~ fewer children and more adults are livinge alone, so there is an increasing demand for housing units but fewer people occupying those units.~~The table to the right shows changes in household structure from 2000 to 2020.~~ Due to these ~~is~~ demographic changes, additional -- but potentially smaller -- more housing units, particularly for smaller households, will may be needed.

Figure 6: Green Oak Township household structure, 2000 - 2020

	2000	2010	2020
Number of Households	5,438	6,450	7,231
Average Household Size	2.79	2.69	2.59
Average Family Size	3.15	3.08	3.02

Source: Census, 2010 and ACS 2020

### How Development Decisions are Made

Development decisions in Michigan are permitted by and regulated through two main laws: the Planning Enabling Act and the Zoning Enabling Act. While many other local, state, and federal laws could come into play, these two laws outline the basic steps that a local government must take to plan for and regulate development within its boundaries. These laws balance the rights of the property owner with a local government’s responsibility to protect the health, safety, and welfare of its residents.

Reviewing and approving development proposals can be a complex process. In many instances, various boards and departments are responsible for reviewing and approving new development in Green Oak Charter Township. The following describes, in general, the responsibilities of the Township:

#### Township Board

The Township Board sets government policy for Green Oak Township and is the elected local legislative body of the township. The Green Oak Township board consists of the Supervisor, Clerk, Treasurer and four Trustees. They adopt an annual budget that determines the scope of township services.

The Board also adopts both general and zoning ordinances to protect the community's health, safety, and welfare. They oversee all township employees, programs, and services.

**Planning Commission**

The responsibility of the Planning Commission is to guide and advance the efficient, coordinated development of the Township in a manner that will promote the health, safety, and general welfare of its residents. They are the primary commission that reviews development proposals. The Planning Commission reviews projects to ensure that development adheres to the Township's Master Plan, Zoning Ordinance, and allows a reasonable use of the property.

**Zoning Board of Appeals**

The Zoning Board of Appeals (ZBA) hears variance requests from property owners or developers who, because of hardships or practical difficulty, cannot meet the requirements of the Zoning Ordinance and feel there is a unique circumstance that limits the applicability of certain requirements.

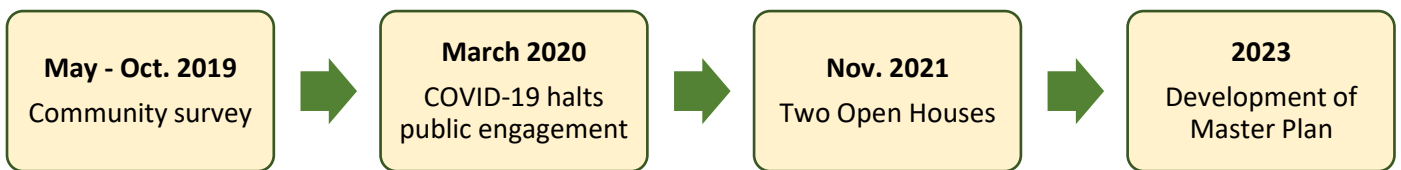


# PUBLIC INPUT

## Introduction & Process

Public engagement opportunities during the Township’s master planning process included a community survey and two public open houses. The public input shared formed the basis of the goals in the next chapter. The below process diagram illustrates the timeline of public engagement.

Figure 7: Public Engagement Timeline



## Community Survey

From May 8, 2019 to October 29, 2019, a twenty-seven (27) question community survey was made available online to Green Oak Charter Township community members, with paper copies available upon request. Two hundred and thirty-three (233) people responded to the survey, 96% of whom lived in Green Oak Township.

The results of the survey indicated that the Green Oak community members valued the parks and recreation, friendliness of community members, and rural residential character of the Township. The majority of survey respondents were interested in additional housing and low-intensity commercial developments that fit within the fabric of the community, including independent restaurants and alternative energy generation. Most respondents communicated the desire to limit high-intensity commercial uses within the Township.

A majority of respondents supported environmental protection and preservation measures. When asked about using smaller residential lots as a trade off for broader open space preservation, respondents were roughly split on the issue.

Respondents indicated strong support for road and non-motorized path improvements. However, the survey results showed little support for accessibility to fixed bus routes and mass transit.

[Updated community survey results, particularly after the COVID-19 pandemic, may offer additional insight into community values. The survey results report is in the Appendix.](#)

## Open House

To solicit public input on issues indicated as important to residents in the community survey, two open house events were held on Thursday, November 4, 2021 and Saturday, November 6, 2021. Participants visited eight stations, with voting activities about topics noted as important by survey respondents. The stations were:

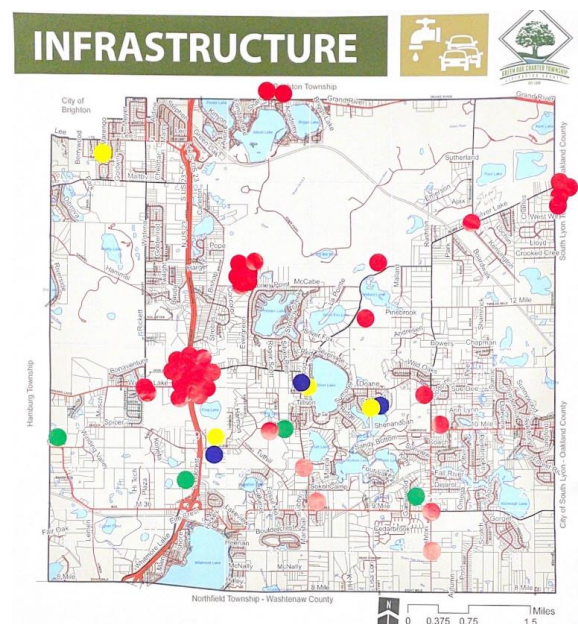
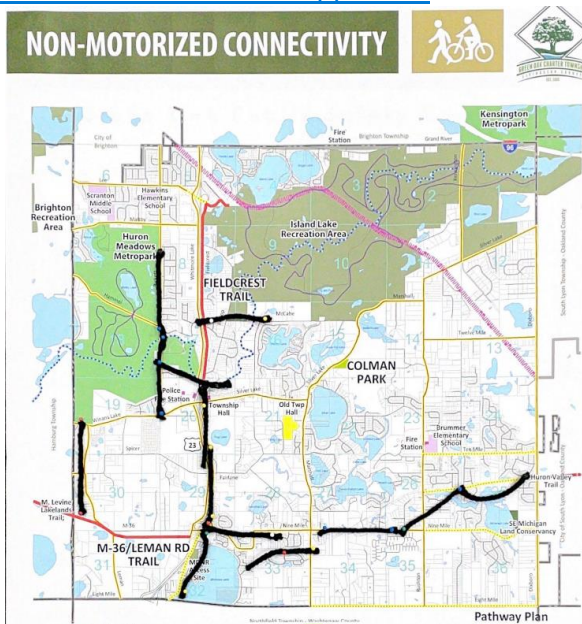
- Land Use
- Housing Options
- Infrastructure
- Non-motorized connectivity
- Parks & Recreation
- Park Amenities
- Open Space & Environmental Preservation
- Communication

The Open House participants shared similar concerns and values with the Green Oak community members who participated in the 2019 community survey.

Participants indicated broad support for additional parks and recreation facilities with lesser support for multi-family residential, single-family residential, and industrial developments. The most favored residential type was single-family housing, particularly on large lots.

In terms of infrastructure, participants indicated that traffic was their greatest concern. They identified the Silver Lake Road and US-23 junction as the most problematic traffic area. Demand for non-motorized connectivity, including trails, pathways, bicycle paths, and sidewalks, was high. Broad support was expressed for environmental preservation and protection, including wetland, waterway, and tree preservation with a lesser emphasis on green infrastructure and sustainable design programs.

Open House feedback indicated a demand for official Township communication emails or newsletters to supplement the popular Township website. The feedback in terms of communication during the Open Houses was consistent with the results of the [2019](#) community survey. [Maps from the Open House are included in the Appendix.](#)





## GOALS

The goals are based on previous Master Plans, public input from the Master Plan process described in the previous chapter, public meetings, and Planning Commission discussions. These goals should be reviewed annually as part of the Planning Commission's work plan and then evaluated once every five years.

These goals provide guidance for future land use decisions in the Township, such as rezonings, special land use and planned unit development application reviews.

### COMMUNITY IDENTITY

#### Goal

Green Oak Charter Township's community identity should emphasize the Township's rural atmosphere, diverse natural features, historical significance, and the commitment to maintain these elements while effectively managing growth.

#### Objective 1

~~Promote~~Protect the Township's natural features while providing accessibility to these assets for residents and visitors.

#### Strategies:

1. Maintain and protect the natural features of the Township that are significant to its composition, such as wetlands, woodlands, and water bodies.
2. Recognize and promote the importance and significance of open space in all planning activities.
3. Promote the Huron River Watershed as a major identity element of the Township.
4. Coordinate efforts with the Huron Clinton Metro Authority and the Michigan Department of Natural Resources to promote the Natural River District and existing parks.
5. Maintain, ~~and~~ develop, and promote non-motorized bicycle and footpath connections within the Township to the Lakelands Trail Pathway and other regional parks.
6. Ensure that non-motorized bicycle and footpath options are safe.
7. Coordinate with and support the Greenway efforts in Livingston County.

## Objective 2

Foster community awareness, involvement, and sense of pride.

### Strategies:

1. ~~Support~~ Promote Township and other community organizational sponsored events celebrating the heritage and natural features of Green Oak Charter Township.
2. Increase communication of Township activities and ongoing services via print and virtual newsletter, and/or web site development.
3. Continue coordination and communication between Township officials, Committees, citizen organizations, Planning Commission, Environmental Research Council, and Historic District Commission.
4. Identify the major and minor entry points into the community and treat these areas with special consideration during the site plan review process to maintain community character. Review the Zoning Ordinance and consider unique setback and landscaping requirements for these areas.
5. Encourage participation and inclusion of community members from diverse backgrounds.
6. Support the Historic District Commission in their efforts to safeguard exteriors of historic buildings and educate the community regarding the Township's historic heritage.
7. Maintain, add to inventory, and encourage tours of historic sites, homes, and buildings in the Township.



## NATURAL RESOURCE CONSERVATION

### Goal

Conserve and enhance the Township's abundant natural resources, including lakes, rivers, wetlands, woodlands, and rolling topography. ~~Green Oak Charter Township will work to protect~~ [Green Oak Charter Township's](#) vast ground and surface water resources by maintaining its progressive leadership in groundwater protection ~~and establishing a future legacy.~~

### Objective 1

Protect the Township's water resources to ensure quality potable water.

#### Strategies:

1. Site commercial and industrial land uses which use or process hazardous materials away from environmentally sensitive lands or aquifer recharge areas [\(see Appendix\)](#).
2. Coordinate groundwater protection efforts with the Environmental Research Council, Livingston County Health Department, and the Michigan Department of Environmental Quality (MDEQ).
3. [Update Wellhead Protection Ordinance based on the latest available groundwater resource data.](#)

### Objective 2

Provide continuing care and protection for the Township's surface water resources including lakes, rivers, streams, tributaries, and wetlands.

#### Strategies:

1. Require isolation buffers between industrial or other potential polluting uses and recharge areas.
2. Establish programs and appropriate land use regulations to reduce or eliminate the impact of failing septic fields on nearby surface waters.
3. Promote the extension of the Township's sanitary sewer system to serve lakefront areas with water quality problems associated with failing septic facilities.
4. [Encourage limitations on fertilizer and pesticide use near lakes, rivers, streams, and wetlands.](#)

### Objective 3

Protect the Township's natural landscape from degradation, including [woodlands, topography,](#) steep slopes, wildlife habitat, ~~and~~ [flora,](#) and fauna.

#### Strategies:

1. Coordinate with the Michigan Natural Features Inventory (MNFI) to identify natural features and habitat areas of significance to facilitate their protection.
2. Discourage development in areas with steep slopes and consider greater setbacks for bluff areas.
3. Encourage the preservation of coordinated open space systems that are contiguous between developments projects.
4. Consider programs for donation or purchase of conservation easements to protect significant natural features.
5. Encourage the use of P.A. 116 Farm and Open Space agreements.
6. Consider the use of purchase of development rights as a method of preserving natural features.
7. Ensure any potential renewables projects are developed on sites that will not require a substantial environmental impact.
8. Consider enacting [an](#) ordinance to limit soil erosion during [and after](#) the construction process.

### Objective 4

Manage the Township's air quality, noise levels, light pollution, and ~~other~~ visual intrusions ~~by ensuring proper separation of residential and non-residential areas.~~

#### Strategies:

1. Attract environmentally low-impact industries such as hi-tech or research related uses.
2. Enforce [EPA and OSHA](#) industrial performance standards for noise, vibration, fumes, gases, glare, etc.
3. Coordinate protection strategies with ~~Michigan Department of Environmental Quality (MDEQ)~~ [the state's environmental agency](#), the ~~Environmental Protection Agency (EPA)~~, and Michigan OSHA.
4. [Explore options to create buffering along I-96 and US-23 to limit the noise impacts.](#)



5. Identify view sheds and promote sensitive development in those areas via scenic easements.

**NATURAL RIVERS****NATURAL WATER BODIES**

**Goal**

Preserve, protect, and enhance the Huron River Watershed ~~and its tributaries~~.

**Objective 1**

Continue management programs and develop new techniques that are designed to preserve and enhance the resources associated with Natural Rivers and tributaries.

**Strategies:**

1. Promote the protection of natural vegetation along shoreline areas and prohibit the dredging and filling of wetlands areas adjoining river front property.
2. Encourage activities of Lake Associations and River Associations and their efforts to maintain water quality, lake management, and lake loading studies.
3. Encourage lake ~~and~~ river front property owners to control application of pesticides, fertilizers, and other forms of nutrient loading.
4. Promote the preservation of a twenty-five (25) foot wide vegetative buffer along the lakes and rivers to help filter sediment and contaminants.

**Objective 2**

Maintain the Township's existing regulatory structure and develop new zoning regulations or other guidelines that are effective in the protection and enhancement of waterways.

**Strategies:**

1. Limit density in lakeside areas and enforce State and Natural River Overlay District regulations regarding setbacks and zoning, particularly in areas not served by sanitary sewer.

2. Maintain existing RF (five acre) zoning where it overlaps with the Natural River Overlay District.
3. Reduce the allowable percentage of impervious surfaces in the Natural River Overlay District.
- ~~4. Identify view sheds and promote sensitive development in those areas via scenic easements.~~
45. Develop more stringent stormwater management requirements along rivers and tributaries.
56. Identify areas that warrant protection through conservation easements, purchase of development rights, or fee simple purchase for public ownership.



## GROWTH: RESIDENTIAL

### Goal

~~Explore and develop residential growth management methods that maintain~~ Maintain a balance between the Township's rural character, its natural resources, and a range of housing opportunities that are necessary to meet the physical and financial needs of current and future residents.

### Objective 1

Insulate existing rural residential areas from incompatible development that detract from their rural character.

#### Strategies:

1. Maintain low density residential uses in agricultural areas to prevent land use conflicts.
2. Provide land use buffers or transitional land use areas between existing or proposed single-family residential areas and areas of commercial and industrial uses.
3. Maintain maximum lot coverage requirements to provide sufficient open space to serve each type of dwelling unit either by large lot sizes or large common open space areas.
4. Plan higher density residential development only in areas that are properly serviced with public utilities and adequate roadway networks.

### Objective 2

Manage new residential development in ways that are effective in maintaining the rural character of the-Township.

#### Strategies:

1. Establish utility service districts with distinct boundaries and restrict new development to areas served by public utilities.
2. Consider programs such as purchase or donation of development rights, conservation easements, and scenic easements.

3. Support greenway efforts and coordinate with planned open space in existing and proposed residential areas.
4. Ensure that where development ~~that~~ is permitted in or adjacent to wooded areas or significant specimen trees, the site will be planned, constructed, and maintained so that existing healthy trees and vegetation are preserved to the maximum feasible extent.
5. Introduce mixed housing options and requirements, cluster bonuses, and density bonuses in new developments that are outside of rural areas to concentrate housing in more developed areas of the Township.

### Objective 3

Foster the development of diverse housing types that meet the physical and financial needs of current and future Township residents.

#### Strategies:

1. Promote the development of multiple-family and attached single-family residential housing in appropriate areas.
2. Encourage the development of ranch-style house and condominium developments suitable for the Township's aging population.
3. Consider adopting a policy that requires a diversity of price points so that new residential developments are suitable for Township residents in various stages of life or economic circumstances, including young people, families, and seniors aging in place.
4. Consider property tax incentives for rental housing priced below the area median incomeAMH.



## GROWTH: COMMERCIAL AND INDUSTRIAL

### Goal:

Manage commercial and industrial development to provide adequate services for Township residents and visitors, support employment and tax base, and strengthen the local economy while maintaining rural character.

### Objective 1

Limit commercial and industrial expansion to designated zones.

### Strategies:

1. Promote attractive and low-intensity industrial or office research uses within the Kensington Road industrial corridor.
2. ~~Ensure~~ [Review standards for that](#) industrial and commercial uses [to ensure that these sites](#) are well buffered ~~between~~ [from](#) residential uses.

3. Identify re-development alternatives for existing industrial uses currently located in residential areas.
4. Discourage the introduction of new commercial areas which by their location and method of development may encourage the creation of new "strip commercial" zones.
5. Develop design guidelines to encourage quality design and architecture.
6. Promote shared service drives to minimize number of curb cuts along major roadways.
7. Coordinate commercial development along Grand River Avenue with Brighton Township.
- [8.](#) Development that is permitted in or adjacent to wooded areas or significant specimen trees will be planned, constructed, and maintained so that existing healthy trees and vegetation are preserved to the maximum feasible extent.
- [8-9.](#) [Coordinate implementation of the M-36 Corridor Plan with the Hamburg Township M-36 Plan.](#)

### Objective 2

Cluster industrial and commercial uses in designated areas to minimize negative impacts on less intense land uses.

#### Strategies:

1. Explore ways to cluster and/or stack commercial and industrial uses.
2. Explore the inclusion of shared parking regulations in the Zoning Ordinance.
3. Consider development of a Commerce Park to cluster commercial, industrial, and research uses and to prevent "strip commercial" developments.
- [4.](#) [Ensure that residential areas are adequately screened from industrial and commercial uses.](#)

### Objective 3



Promote economic development efforts within the Township’s commercial and industrial areas that are in accord with the community’s character, and growth and natural resource conservation policies.

Strategies:

1. Continue relationships with the Economic Development Council of Livingston County, Ann Arbor SPARK, Advantage Livingston, and similar groups to explore opportunities for development and redevelopment of designated commercial and industrial areas.
2. Provide opportunities for industrial growth north of M-36 and west of Whitmore Lake Road [along the M-36 corridor](#).

**COMMUNITY FACILITIES AND SERVICES**

Goal

Maintain quality facilities, [personnel](#), [equipment](#), and quick response time for emergency services. All facilities and services, such as schools, libraries, parks, police, and fire protection, must be functional, safe, and accessible to all residents. ▸

Objective 1

The Township should explore options for shared service agreements with adjacent communities such as recreational, governmental, and emergency services.

Strategies:

1. Continue the current coordination of library services with adjoining communities.
2. Provide opportunities for a variety of recreation activities, both active and passive, indoor and outdoor, throughout the Township and explore joint service relationships with adjoining communities.
3. Coordinate with schools to provide recreational opportunities.

Objective 2

Provide efficient governmental services and explore new technologies that provide for quality delivery and cost effectiveness.

Strategies:

1. Provide convenient access and one (1) stop service locations for residents.
2. Explore using computer kiosks to display Township information.
3. ~~Maintain an up to date~~Update the Township website to improve the ease by which for residents and community members can to access information ~~via the Internet~~.
4. Regularly evaluate the value and efficiency of Township services rendered in relation to tax dollars spent.

Objective 3

Provide quality facilities for current residents and that could attract potential residents.

Strategies:

1. Adhere to Master Recreation Plan for Green Oak Charter Township and continue shared services with South Lyon Area Recreation Authority.
2. Maintain a Recreation Committee to assess needs and develop recommendations for future park and recreation program development.
3. Provide adequate facilities and equipment for Police and Fire protection.





## COMMUNITY INFRASTRUCTURE

### Goal

Provide world-class infrastructure to service the residents, [businesses](#), and visitors of Green Oak Charter Township safely and effectively.

### Objective 1

Discourage expansion beyond the capabilities of current infrastructure. ~~Development should not be allowed without the prior or simultaneous completion of the infrastructure improvements necessary to support the growth.~~

### Strategies:

1. Infrastructure enhancements should parallel growth to maintain the health and safety of the Township.
2. Establish utility service districts with distinct boundaries in advance of further extension of municipal sewer and water systems.
3. Coordinate infrastructure improvements with adjoining communities to increase efficiency and save funds.
4. Coordinate with the Township Board in the development of a comprehensive Capital Improvements Program process to ensure necessary improvements are identified and completed.
5. Do not allow ~~inappropriate~~ extension of infrastructure improvements.
6. Adhere to current Subdivision Rules and Drainage Policies of the Livingston County Drain Commissioner and the Soil Erosion and Sedimentation Control Rules for Livingston County.
7. [Enact requirements for new commercial developments to provide electric vehicle \(EV\) charging station infrastructure.](#)
8. [Require PUDs to expand broadband internet infrastructure.](#)

### Objective 2

Promote the development of safe and efficient transportation infrastructure and circulation network.

#### Strategies:

1. Promote ~~managed~~ [the Livingston County](#) transportation plan and [encourage](#) road improvements, particularly in areas with high traffic or poor circulation.
2. Pursue available grant resources for needed improvements to roadways and sidewalks.
3. Monitor the installation and maintenance of private roads to ensure their long-term quality.
4. Actively pursue implementation of the goals and strategies outlined in the Township Pathway and Greenway Plan.
5. Support and develop non-motorized commuter and recreational pathways.
6. [Ensure that new developments' transportation networks interconnect with adjacent transportation networks.](#)



## RURAL CHARACTER

### Goal

Maintain the rural character of the community by ensuring that existing and future development is harmonious with the Township's unique natural resources and abundant open spaces.

### Objective 1

Promote the rural residential character of the Township by encouraging design guidelines that foster open space within [existing and future](#) development.

### Strategies:

1. Preserve parcels of land large enough for viable wildlife habitat, small scale agriculture, recreation, and woodlot management through clustered residential development and dedicated open space.

2. Encourage greenbelts along roadways, incorporating existing trees and vegetation and preserving existing tree canopy.
3. Discourage frontage splits along roadways to preserve rural roadway character.

### Objective 2

Promote the preservation of rural character through regulatory policies and techniques.

#### Strategies:

1. Consider programs such as purchase or donation of development rights, conservation easements, scenic easements, P.A. 116, and the creation of a land trust.
2. Promote flexible road standards which preserve natural features.
3. Maintain-Enhance zoning ordinance regulations that will preserve the Township's rural character.
4. Limit modification or removal of natural features including woodlands and woodlots, wetlands, stream corridors, steep slopes, groundwater recharge areas, mature trees, and fence rows.
5. Avoid disruption of stands of trees, specimen trees, or significant fence rows during construction processes.

## **FUTURE LAND USE PLAN**

The Land Use Plan presents an idealized view of future growth patterns in Green Oak Charter Township while providing practical guidance to local decision-makers regarding current issues. As a working document, it is the intent of this Plan to provide for and accomplish the following items:

- Establish future land use categories.
- Illustrate the location of proposed land uses and community facility improvements within the Township.
- Provide actions for implementation, for orderly development within the Township, and a descriptive rationale as to the arrangement of preferred land uses and density.
- Serve as the primary policy guide to local government regarding future land use decisions, investment and organization of public improvements, and coordination of private development.



- Assist the community in its effort to maintain and enhance a pleasant, safe and healthy living environment, and give substance to the community’s visions for the future.

## PLANNING CONSIDERATIONS

### Rural Character

The existing rural and natural character of Green Oak Charter Township has long attracted residents to the area. The lakes, streams, woodlands, and wetlands provide a pleasant natural environment. The Village Mixed Use zoning classification and prudent use of Planned Unit Developments (PUDs) create opportunities for higher density development while concurrently preserving the natural characteristics of the Township.

### Access to Services

The US-23 and I-96 expressways provide north-south and east-west accessibility for the Township and pose significant influences on growth and development within the Township. This proximity to commercial areas also offers the Township residents access to goods and services. The development of the US-23 corridor will continue to directly impact on the Township. Although the US-23 corridor has moderate constraints, its proximity to available utilities and accessibility to interchanges are attractive to potential development. The Township’s proximity to I-96 will primarily influence development in the Kensington Road/Silver Lake Road area.

### Concentration of Intense Uses

These expressways offer excellent locations for professional, research, and light industrial uses so that these uses are concentrated in more developed areas, maintaining the overall rural character of Green Oak Charter Township.

### Land Ownership

The abundance of publicly owned recreation/open space lands within the Township limits pose both advantages to and limitations on growth and development. The main advantage of expansive recreation/open space lands is its positive influence on residential attraction, professional business development opportunities, and quality of life, as those lands provide for unique recreational opportunities and relief from density. Publicly owned lands place limitations on growth since the potential for development and greater contribution to the Township’s tax base is extremely unlikely for the foreseeable future; however, it also reduces the need for government and utilities services on these lands.

### Floodplains and Wetlands

Another limitation on growth is the abundance of floodplain and wetland areas within the Township. The designation of floodplain and wetland areas and the restriction for their development are measures designed to protect the ecosystem. In addition to providing fish and wildlife habitat, floodplain and wetland areas also maintain and stabilize groundwater supplies, reduce flooding, and contribute to the improvement of water quality. Federal and State laws regulate encroachment, dredging, and filling within floodplain and wetland areas. Additionally, there is an abundance of soils within the Township that are unsuitable for septic systems due to slow permeability, high water table, or excessive slope. In some cases, limitations may be overcome with engineered septic systems or central sanitary sewers.— Development should be located elsewhere [and not](#) in areas where poor soils are associated with floodplains and wetlands.

## GUIDING FACTORS

The Land Use Plan guides future development patterns in the community to maintain the character of the community, protect the natural environment, ensure adequate services and public utilities, and provide for the general health, safety, and welfare of the Green Oak community. The [Future](#) Land Use Plan considers population growth, market trends, economic forecasts, and abstract goals such as “community character.” These factors are considered when determining land use designations and density.

### Roads

Accessibility and proximity to transportation infrastructure is essential in the location of land uses for the following reasons:

- Capability- It is more efficient and less disruptive to natural features when utilizing the existing transportation network, than to develop in areas where the system is not complete or is not capable of handling forecasted traffic volumes;
- Cost- The cost of new transportation infrastructure can negatively impact the Township’s funds, as opposed to maintaining and improving existing infrastructure;
- Density- Higher densities are generally more appropriate [in proximity close](#) to US-23 and other major roadways, but those higher densities will require significant infrastructure investment to repair and upgrade existing local roads to support higher traffic volumes.

### Sewer and Water

Proximity to utility services such as sewer and water is an important element in determining density within the Land Use Plan for the following reasons:

- High Density- Higher densities should be placed in areas where services are currently available allowing for a more efficient system that is cost effective, including in the area [surrounding within](#) Village Place shopping center;



- *Low Density*- Lower densities should be placed in areas where services can be extended without a great amount of difficulty or where individual wells or septic systems are the sustainable option to prevent an undue burden on the Township.

## **Watersheds, Rivers, Tributaries, and Drains**

The Huron River, Davis Creek, Spring Mill Creek and other tributaries in the Township are defined as sensitive environmental features. These features are an important consideration when determining locations and densities of uses within the Land Use Plan for the following reasons:

- *Public Benefit*- These water courses and their accompanying watershed areas are vital resources that provide public benefits including the maintenance of surface and groundwater quality, stormwater runoff control, recreational opportunities, and aesthetic qualities;
- *Natural Habitat*- The Township has recognized the importance of these features by designating these streams within Natural River Areas (P.A. 231 of 1970) as they provide habitats for fish and wildlife.
- *Density*- Areas that contain these sensitive features should not be considered for high or suburban-type development densities. Small lots within these areas can degrade natural resources. Clear cutting, dredging, filling, and other similar activities associated with the construction and development process can be harmful to these natural systems. Therefore, it is recommended that areas within proximity to rivers, tributaries, streams, and other watercourses be reserved for very low to medium development densities.

## **Natural Features**

Natural features play a vital role in the health of Township residents and the environment. Overall densities and lot sizes should be closely related to natural features within the area. In general, the Township may consider larger lots for environmentally sensitive areas and smaller or moderate size lots for areas more suitable for development. Larger lot sizes can provide for the following:

- *Flexibility*- Greater flexibility in the placement of the development, septic systems, and wells for each lot is important when considering the isolation distance requirements between the well and the septic system, where unsuitable soils exist, such as high water table or steep slopes, or where groundwater recharge areas exist that are unsuitable for development.
- *Protection*- Reduction of impervious surfaces reduces runoff and protects water quality (particularly when low-density areas are clustered to protect significant open space).

- Setbacks- Greater setbacks for septic systems and developments from ground water recharge areas and/or water bodies and courses.
- Buffers- Provision of buffers for runoff filtration of sediment and pollutants. Buffers and low densities also help reduce soil erosion and disturbances from construction activities.
- Preservation- ~~For~~ larger areas to be preserved which contain woodlands or wildlife habitat.
- Protection- Protecting property from hazards such as flooding, wet basements, and sagging foundations.

It is recognized that large lots do not always guarantee environmental protection. Large lots require more land and may reduce local control of wetlands, woodlands, or other environmental features. Small lots or cluster developments may be thoughtfully planned to preserve natural features and may be more appropriate than large lot development in some cases. In some cases, however, large lot development has the potential of creating fewer environmental impacts as noted in the aforementioned principles.

### **Adjacent Zoning and Land Use**

Adjacent zoning and land use are also very important factors to consider. The separation of land uses is no longer the prime objective of zoning; rather, zoning objectives allow for the following items:

- Transition- A logical transition of land uses, and, in carefully selected areas, application of Village Mixed-Use concepts and practices.
- Compatibility- Certain land uses are incompatible; for example, residential uses and intense agricultural operations, heavy industrial facilities, or substantial commercial uses may not be harmonious. Land use planning proposes an orderly transition of more intensive to less intensive land uses.

### **LAND USE CATEGORIES**

The Future Land Use Plan is portrayed on Figure 22. The following describes the key elements of the Plan by land use category.

#### *RESIDENTIAL LAND USE*

Non-public land within the Township is predominantly used for residential purposes. The Plan calls for multiple categories of residential land use, including single-family (very low, low, medium, suburban, mixed use and high density), multiple-family, and manufactured housing communities. In keeping with the Goals and Objectives of this Plan, the Land Use Plan will permit a range of housing types and development concepts.



The following residential land use categories and densities are provided within the Land Use Plan. Corresponding zoning which is applicable to the proposed land use designation is illustrated in Table 10.

**Table 10. – Residential Land Use Classifications and Corresponding Zoning Designations, 2014**

Residential Land Use Category	Residential Lot Density	Applicable Zoning District(s)
Very Low Density	1 unit/5 acres	Residential Farming RF
Low Density	1 unit/2 acres	Rural Estates RE
Medium Density	1 unit/1 acre	Single-Family R-3
Suburban Density	1 unit/1/2 acre	Single-Family R-2/R-2A
High Density	1 unit/less than 1/2 acre	Single-Family R-1/ Lake Area Residential LA

The recommended residential lot densities shall be considered net density, which shall exclude public road rights-of-way and private road easements, wetlands, steep slopes, open bodies of water, and/or floodplains. For all residential building sites, adequate building area shall also be set aside to accommodate a residence, garage, driveway, primary and reserve septic fields, and well. The following residential land use categories are reviewed using the following considerations.

Very Low Density Single-Family Residential

Very Low Density Single-Family Residential is planned for areas with existing and very low density development and certain lands in proximity to the Huron River and its tributaries, and is intended to provide for the following:

- Preservation of Rural Character- The continued preservation of open space, natural areas, and the rural atmosphere of the Township is a main goal of Very Low Density Single-Family Residential.
- Consideration of Sensitive Natural Features- Many of these areas contain floodplains and wetlands and are therefore considered to be least capable of supporting additional development due to natural resource and road conditions. Furthermore, it is unlikely that

these areas will be served by paved roads or sewers which could allow more dense development. Very low density is also common in areas designated by the Livingston County Soil Survey as having heavy soils not suitable for on-site septic use. Larger lot sizes are preferred in these areas in order to protect groundwater.

Very Low Density Residential areas are planned primarily in Sections 14 and 15 of the Township (and in select areas along the Huron River) where natural resource conditions, proximity to paved roads, and other factors prevent higher density development or where the current pattern of large lots prevails.

As indicated in Table 10, Very Low Density areas as designated on the Township's Future Land Use Plan would allow an overall density of one (1) dwelling unit for every five (5) acres. Presently, density in these areas may be reduced to one (1) unit for every two and one half (2 ½) acres if a proposed development is incorporated within a Planned Unit Development (PUD) Open Space Community or cluster option. Within these types of developments, large amounts of open space are set aside for protection of significant natural resources and for the preservation of rural character. The granting of higher density is allowed under a Planned Unit Development, or a cluster housing option as specified within the Green Oak Charter Township Zoning Ordinance. While overall density may be calculated at one (1) dwelling unit for every two and one half (2 ½) acres, the effective minimum lot size for building envelope areas shall not be less than one half (½) acre in size.

#### Low Density Single-Family Residential

Low Density Single-Family Residential is planned for areas with existing and adjacent low density development. Unlike Very Low Density Residential, Low Density Residential areas warrant road improvements in areas of poor road conditions because [the low](#) existing population densities [result in low road traffic volume](#) ~~are sufficient~~. However, Low Density Residential is similar to Very Low Density Single-Family Residential in providing for the following:

- Preservation of Rural Character- Low density and very low density designations are also preferred for the location of large acreage horse or livestock operations. These rural residential uses, in conjunction with optional livestock use, help preserve the preferred rural residential character of the Township.
- Consideration of Sensitive Natural Features- The areas designated for low density uses include large portions of land where soils and groundwater conditions warrant larger lots. Soils are often heavy in these areas and are often not suitable for smaller size lots. The proximity to natural river areas and tributaries [and wetlands](#) makes these areas sensitive to watershed resources and groundwater quality and are therefore only moderately capable of supporting additional development due to these natural resource conditions.



Low density residential development occurs primarily within the southeast quadrant of the Township, the Dixboro Road corridor, [section 21, section 23, the southern half of section 33](#), and select additional areas of established large lot development.

### Medium Density Single-Family Residential

Medium Density Single-Family Residential is planned for areas with existing medium density development and areas that are more capable of supporting additional development due to lack of constraining natural resource conditions. Medium Density Single-Family Residential areas are intended to provide for the following:

- Promotion of a Residential Atmosphere- Important factors when considering land for medium density (1 acre lots) development are having direct access to paved roads and compatibility with the existing zoning/land use of surrounding areas. Larger lots (1 acre and greater) are also more appropriate for those areas containing sensitive natural resources.

~~Such areas are located primarily throughout the southern half of the Township. A new area of Medium Density Single-Family Residential is planned at the southwest corner of Doane and Rushton Roads in Section 23 of the Township.~~ The central portion of the Township contains a large portion of the Township's most sensitive natural resources. This area includes the Huron River, Davis Creek, Spring Mill Creek and the chain of lakes. Lots less than one (1) acre in size are deemed to be inappropriate for these areas because of the need to protect these valuable resources.

### Suburban Density Single-Family Residential

Suburban Density Single-Family Residential is represented in areas with moderate density upon lands which are most capable of supporting development due to adequate natural resource conditions and roads. Suburban Density Single-Family Residential areas are intended to provide for the following:

- Promotes a Suburban Neighborhood Atmosphere- One-half (½) acre lots create a layout that is representative of suburban-type character in residential areas. It is the Township's intent to plan minimal areas of one-half (½) acre lots due to concerns regarding impacts to natural resources and concerns that one-half (½) acre lots provide insufficient land area for house, garage, septic field and necessary isolation distance of a well. In order for additional lands to be designated for one-half (½) acre zoning, sewer and water shall be available.

Areas of the Township that have existing one-half (½) acre lots include portions of the Ten Mile Road corridor, Silver Lake area, Rickett Road corridor, areas southeast of the City of Brighton, and additional select areas.

### High Density Single-Family Residential

High Density Single-Family Residential is represented in areas with existing high density development and where lands are most capable of supporting additional development due to the availability of [water and sewer](#) utilities, suitable natural resource conditions, and the adequacy of roads.

- *Promotes a Traditional Neighborhood Atmosphere*- A density of one (1) unit less than a one-half (½) acre creates a traditional neighborhood atmosphere where homes are located relatively close to one another. Location criteria for these high density areas includes availability of utilities, emergency services, fire protection, schools, proximity to US-23 and land capability.

These areas are in proximity to the City of Brighton and around Whitmore Lake. No additional high density areas are planned with this designation in the Township. Rather, sewer and water service are intended to assist or rectify existing developed areas where failing septic systems or ground water contamination necessitates extension of water and or sewer services.

### Multiple-Family Residential

Multiple-Family Residential is represented in areas with existing multiple-family development, proximity to available sanitary sewers, [public water systems](#), and existing adequate roads, including near the Village Place Shopping Center and the corner of Nine Mile and Rushton Roads in Section 35 of the Township.

### Manufactured Housing Communities

Six (6) licensed manufactured housing communities are currently located within the Township. When considered in conjunction with the substantial number of manufactured housing communities located in adjacent municipalities, it is believed that sufficient sites for manufactured housing exist, both locally and regionally. Given the large size of the Woodland Ridge community in Green Oak Charter Township, the Township is expected to have a surplus of manufactured housing stock for many years to come.

It is the Township's preference that any future petitions for manufactured housing communities be submitted in the form of a PUD. This will allow the Township and developer to work in cooperation on a specific parcel.

Consideration and successful siting will also influence a determination as to whether the site is appropriate and if sufficient analysis of site features has been conducted. Criteria used to evaluate a proposed manufactured housing community site will be based upon the following factors:



- Frontage on paved roads
- Capacity of roads and/or intersections to handle additional traffic
- ~~Proximity to~~ Use of an existing or anticipated sanitary sewer service district as part of the proposals
- Proximity to commercial services
- Proximity to a US-23 or ~~a freeway~~ I-96 interchange to facilitate traffic flow and provide quick access to freeways
- Consideration for impact on the school district capacity
- ~~Central~~ A central water system ~~or availability of quality groundwater in sufficient quantity~~
- Hydrogeological conditions where central wells will not have a negative impact on surrounding residential ~~surrounding~~ wells
- Lack of sensitive natural features such as ~~unique~~ wetlands, woodlands, steep slopes, and groundwater re-charge areas
- Proximity to emergency services including police and ambulance services
- Consideration of a Planned Unit Development Manufactured Housing Community with specified limits on density, setbacks, buffers, and land use controls

## COMMERCIAL LAND USE

Extensive use of the automobile has brought many drastic changes to lifestyles and the physical makeup of communities. The most vivid change has been to shopping habits and patterns. In suburban and rural areas, such as Green Oak Charter Township, an automobile is required for most types of shopping.

Commercial development in Green Oak Charter Township has been predominantly found in a linear or "strip" pattern on major roadways as opposed to planned clustered commercial areas or shopping centers. With the development of the Shoppes at Green Oak and Green Oak Village Place shopping centers, this trend is changing in favor of more consolidated, coordinated commercial development. However, it remains the Township's desire that further commercial development should have a local focus, not intended to compete with the larger regional shopping centers in Brighton, Novi, or Ann Arbor

and should be coordinated in shopping centers rather as opposed to haphazard strip development. Factors favoring clustered commercial vs. strip commercial are listed below:

#### Strip Commercial Development

- Potentially dangerous disruption of traffic flow resulting from uncontrolled turning and parking maneuvers
- Inadequate parking facilities
- Lack of coordination in commercial uses and activities
- Disorganized arrangement of buildings
- Difficult to service
- Does not promote one-stop shopping
- Potential blight issues, particularly when contiguous with residential zones
- Potential sign pollution

#### Coordinated Commercial Centers

- Functional grouping of buildings promotes aesthetic appeal
- Controlled ingress, egress, and interior circulation patterns
- Access from multiple major traffic routes
- Adequate parking facilities
- Overflow area for future expansion if needed
- Effective buffering from residential zones deters blight issues
- Uniform signage promotes aesthetic appeal

Commercial areas can be classified according to the function they serve. The following descriptions are generalized to allow a contrasting picture of the various types of commercial areas:

#### Convenience commercial areas

- Usually deal with goods that represent daily needs such as [everyday](#) goods, medicine, laundry service, and beauty and barber shops. Convenience commercial activities may be located either individually or in small centers which serve one (1) or more neighborhood trade areas.

#### Comparison commercial areas



- Provide commodities that are purchased less frequently. Therefore, there is a desire on the part of the consumer to compare price and quality at more than one (1) store. Uses typically found in comparison shopping areas include larger supermarkets and drugstores, discount stores, department stores, appliance and furniture stores, and specialty shops. Comparison commercial activities also may be individually located but are more typically found in shopping centers. Hence, comparison centers are normally larger than convenience centers, and have larger trade areas.

## General commercial areas

- Are often highway oriented and individually located. Such activities include gas stations, auto service and sales, eating and drinking establishments, motels, and similar uses. General commercial activities are frequently located in a strip commercial pattern.

The conclusion from this commercial zoning analysis is that zoned land for commercial development is available both now and in the future. It is anticipated that much of the comparison commercial shopping needs will continue to be met outside of the Township in Brighton, South Lyon and Ann Arbor, and within Green Oak Charter Township at the Lee Road interchange. It is likely that there will be continued expansion for local business and general business development in response to an increase in residential building activity, particularly along the US-23 corridor. These establishments could provide important residential service needs for local neighborhood areas.

The Master Plan calls for maintaining existing commercial uses that are currently scattered in individual locations around the Township. The further development of the Township's US-23 interchanges for commercial purposes should be restricted to those areas designated for commercial uses, near the interchange itself, and should generally serve the daily needs of the local market area. Commercial development within the M-36 Corridor should also be consistent with long range goals and studies, which promote traffic management, driveway access, landscaping, and potential sewer district service areas.

Given the size of property available for development at the Silver Lake Road interchange (primarily along Winans Lake Road), this Plan envisions a mixed-use development pattern containing residential development of various densities, with commercial development sufficient to meet the daily needs of Township residents.

Three (3) land use categories supporting commercial development are set aside in the Master Plan, as described below:

### Local Commercial

This designation is planned to provide commercial uses to support existing residents and local business needs. Local commercial uses would include stores, offices or other commercial activities that are small in nature generally serving Township residents rather than regional markets. Consideration factors include accessibility to water and sanitary sewers, paved roads, and lands capable of supporting development. Local commercial is appropriate in selected areas near the Silver Lake Road/US-23 interchange and Ten Mile/Rushton Road intersection as designated on the Future Land Use Map.

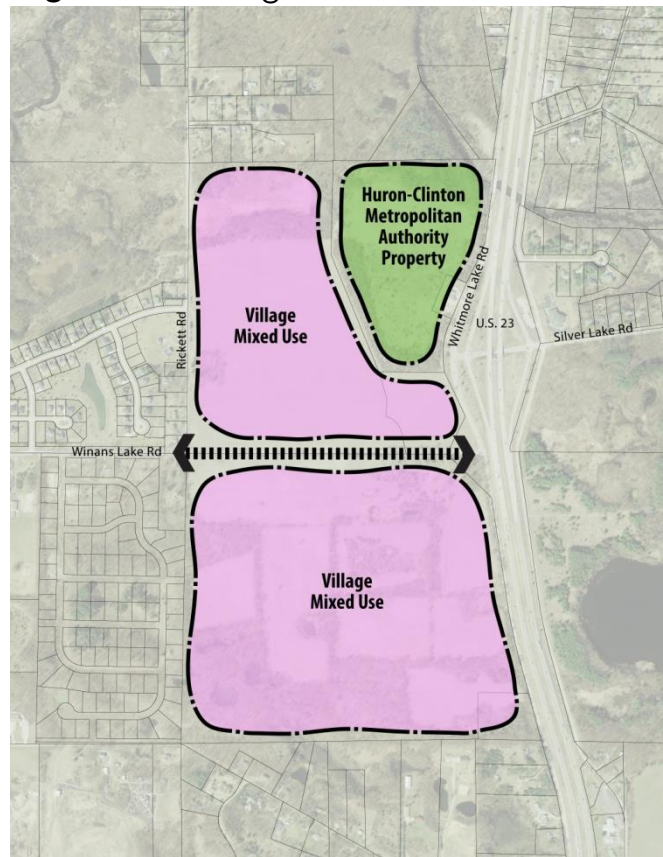
### General Commercial

General Commercial uses are larger in scale and cater to a regional market. These areas have a closer relationship with highway uses and could include automobile related services, restaurants, shopping centers, etc. The criteria for location of these uses include accessibility to water and sewers, [proximity](#) [direct access](#) to paved roads and lands capable of supporting development. General Commercial is appropriate near US-23 and M-36, US-23 and Eight Mile, and US-23 and Lee Road, and at select locations along Grand River Avenue, as designated on the Future Land Use Plan (Figure 22).

### Village-Mixed Use

The area to the north and south of Winans Lake Road, between Rickett and Whitmore Lake Roads, has significant development potential due to the large property size and immediate highway access available at the Silver Lake Road/US-23 interchange. It is not desired that this entire property be developed for commercial purposes, given the likely traffic and other impacts associated with a large-scale commercial development. Instead, the Village Mixed Use designation contemplates developing the designated area as a comprehensively coordinated mixed use development. Through careful integration of both residential and non-residential uses, the opportunity to produce a noteworthy “node” of development at this location with a strong “sense of place”, using placemaking tools, can be realized.

**Figure 20.** - Village-Mixed Use



Development within the Village Mixed Use designation requires:

1. Maintaining historical features of the landscape
2. Solving traffic-related issues at the intersections of Winans Lake, Rickett, Silver Lake, and Whitmore Lake Roads
3. Rezoning and site plan consideration by way of a Planned Unit Development

Additionally, traffic density issues at these intersections and ingress/egress traffic issues at the Silver Lake Road/US-23 interchange, require solutions concurrent with development. These solutions must provide for safe pedestrian and bicycle travel under US-23 adjacent to Silver Lake Road, as a connection segment to the Lakelands Trail System is envisioned for this area, along Whitmore and Silver Lake Roads, in the near future. The traffic solutions must also provide safe passage for pedestrian and bicycle traffic crossing on surface roads/ramps in the area. [The planned addition of flex lanes along US-23 are scheduled to address some traffic issues.](#)

The intent of the Village Mixed-Use district is to create a “village-like” atmosphere with areas of various uses that are interconnected, pedestrian-friendly, and blend community-oriented business development with single-family residential, attached multiple-family residential, and senior citizen housing/services. Commercial uses shall be of neighborhood scale and shall not include intensive commercial uses which are incompatible with surrounding residential uses. Development shall be aesthetically appealing and use best practices for construction, energy efficiency, and low environmental impact design strategies. The new Zoning District for Village Mixed Use has been established to accomplish the intent of this land use category. Specifically, it is envisioned that land within this approximately 286-acre designation be used as described on the following pages.

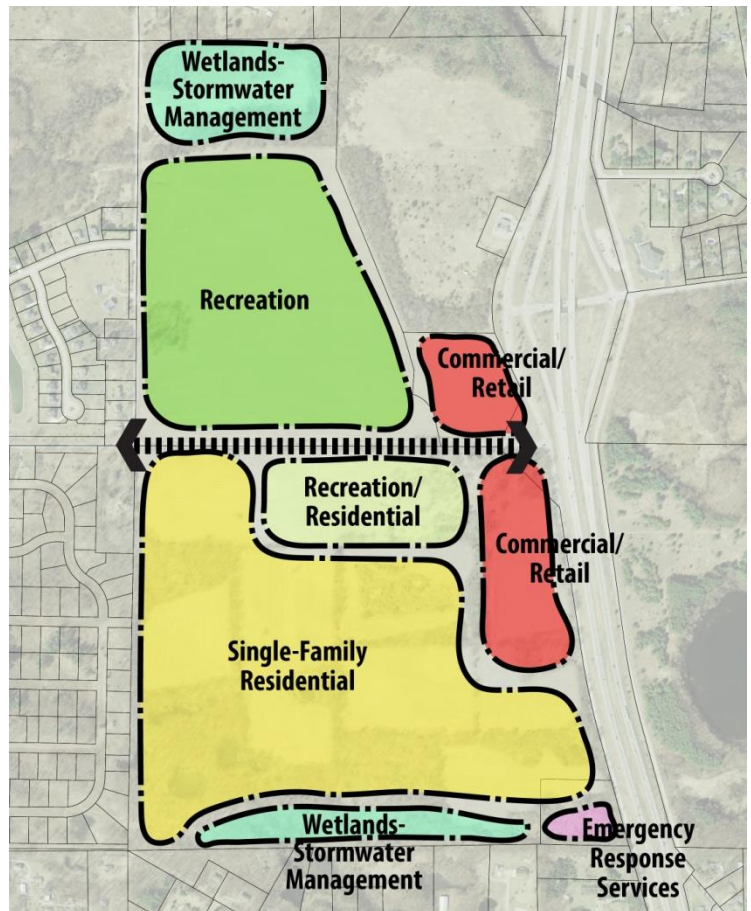
**PREFERRED LAND USE**

Senior citizen housing shall be considered including “meditation” gardens, walking trails, and connectivity to other areas within the larger Village Mixed Use area.

Neighborhood commercial-serving retail, service and office businesses shall be considered with the aggregate square footage of rentable space not exceeding 125,000 square feet and no ~~more than~~ one single (1) tenant occupying more than a total of twenty thousand (20,000) square feet.

Recreation for public use shall be considered, including open space areas, trails/pathways, local parks, sports fields, and recreation facilities.

**Figure 21. - Conceptual Development Plan**





Single-family housing shall be considered on varying lot sizes and widths.

Multiple-family housing shall be considered, including traditional apartments, condominiums, and/or townhouses garden-style apartment units.

Land Use Distribution

- Neighborhood Commercial/Retail/Office
- Recreation
- Single-Family Residential
- Multi-Family Residential
- Senior Housing
- Emergency Response Services
- Wetlands/Stormwater Management

The following criteria are established for the development of this area.

Opportunities + Constraints

- The area is currently under multiple-party ownership which poses a challenge in coordinating Planned Unit Development efforts; however, the Township will continue to work with the interested parties to promote the cohesive development of the site through the PUD process and tools.
- Redevelopment must be sensitive to surrounding residential areas and public lands.
- Wetlands and woodlands are significant features within this area.
- Storm water management south of Winans Lake road must be carefully designed to minimize off site runoff.

Site Design Policies

- Generous setbacks should be provided adjacent to Winans Lake and Whitmore Lake Roads.
- Non-residential development shall be consistent with the uses allowed in the applicable Village Mixed Use Zoning Districts.
- Uses such as large-format retail, entertainment establishments, gas stations and 24-hour uses shall be prohibited.

Site Design Policies

- Mixed-use development with first floor commercial and second floor residential is encouraged.
- Transit Oriented Development should be considered at this intersection in anticipation of future changes to the US-23 corridor and the opportunity for a mixed-use, pedestrian-friendly center.

- Civic and cultural amenities may be considered at this location and may include a future library, and/or senior center.
- No single commercial tenant shall exceed 20,000 square feet of area.
- Buildings shall not exceed two (2) stories for commercial uses and two and a half (2 ½) stories for residential uses.
- New development proposals will be evaluated by the appropriateness of land use and site design.

#### Site Access + Traffic

- Intersection improvements at Whitmore, Winans, and Silver Lake Roads shall be prioritized, and include measures to alleviate increased traffic volumes, traffic safety and sight visibility.
- Future development and any anticipated increase in traffic shall be sensitive to residential areas.
- Pedestrian activity and connectivity to the adjoining Silver Lake Road/US-23 interchange is encouraged to promote safe non-motorized travel to the development.
- Placemaking concepts and tools shall be incorporated and include a gateway or entrance plaza with an open space feature near Whitmore Lake Road, which utilizes and preserves a portion of the mature trees.

#### Infrastructure

- The availability of adequate central water and sanitary sewer facilities shall be determined prior to the approval of new development.

#### Natural Resources

- Preservation of the mature trees along Winans Lake Road should be assured.
- Preservation of significant wetlands and woodlands is required along with innovative stormwater controls and riparian buffers. Future development shall consider sidewalk or safety path connections to the Huron Clinton Metropolitan Authority property to the west and north.

#### Development Design Guidelines

- Extensive landscaping shall be provided to soften the visual impact of the development and screen adjacent uses from parking lot lighting.
- Commercial developments shall be generously landscaped with perimeter plantings and interior landscape areas.



- Site lighting shall be controlled.
- A significant portion of parking fields shall be in the rear or side and screened from views along major roadways.
- Shared parking and driveways are encouraged.
- Pedestrian connections shall be provided along all frontages.

#### Development Design Guidelines

- High quality architecture shall be emphasized with generous window areas, recesses, projections, and architectural details.
- Masonry building materials such as brick and stone are encouraged to maintain a permanent, clean, and attractive image.
- Primary building entrances shall be clearly defined with sheltering elements such as an awning, arcade, or portico.
- First floor architecture shall be compatible with sidewalk areas and provide an attractive interface between buildings and pedestrian areas.
- Architectural components including HVAC unit shielding, dimensional shingles, and attractive signage/awnings shall be utilized in all non-residential building design.
- Adjoining residential uses shall be buffered by appropriate setbacks, landscaping, limited building height, and compatible architecture.



## *INDUSTRIAL LAND USE*

Key conditions in the location of industrial lands are the accessibility to adequate roads, availability of rail (where needed), availability of adequate water supply and wastewater disposal, and compatibility with neighboring land uses. A large industrial area exists along the Kensington Road corridor, including the Kensington Pines Industrial Park and Emerson Drive. This is an ideal industrial location due to its proximity to I-96 and its relative isolation from existing residential areas; although, these areas are now becoming fully occupied. Other limited industrial areas include existing individual uses found in scattered locations around the Township. At some locations in the Township, older isolated areas of existing industrial uses exist which are incompatible with adjacent residential uses. These areas will be planned for various mixed uses in the future once these industries close. However, other less intense uses may be appropriate for these areas as well such as local commercial or office, subject to property law and regulation, including potential remediation action.

Two (2) categories of industrial land uses are set aside in the Master Plan, described below:

### Light-Limited Industrial

Light-Limited industrial areas are designated to accommodate uses enclosed mainly within a building whose external effects are not experienced beyond their own property lines. Such areas are intended to remain Rushton and Silver Lake Road; along Park Place and Boardwalk; in the Kensington Pines Industrial Park; south of Maltby Road on Whitmore Lake Road; along Grand River Avenue; and along the central portions of the M-36 corridor. It is worth noting that should the State correctional facilities along M-36 ever be sold and redeveloped, it is the Township's intent that these areas be put to light industrial use. Additionally, the area along Whitmore Lake Road north of Eight Mile is an area that is intended to support future light industrial development.



## General Industrial

General industrial areas are for industries whose influence or environmental effects are sometimes experienced beyond their own property line. General industrial areas are largely confined to areas of existing general industrial use. The largest general industrial area is located on the west side of Kensington, ~~and north of~~ Silver Lake Roads, and east of Rushton. Future expansion of general industry will likely occur in this area.

### *RESEARCH-OFFICE LAND USE*

Research-Office is a category that provides areas for research and office uses which are clean, attractive, and developed in a campus-type setting. The area planned for research/office activities is focused on the southwest corner of Whitmore Lake and Maltby Roads, to provide maximum visibility from and accessibility to the expressway and may be appropriate in mixed use developments.

### *PUBLIC/SEMI-PUBLIC LAND USE*

Areas set aside for public, semi-public, and institutional uses are confined to those existing uses in the Township. This would include schools, state facilities, cemeteries, fire stations, police, and Township offices.

If lands should ever be converted from public ownership to private ownership, the zoning of this property shall be rezoned in accordance with the Michigan Zoning Enabling Act (PA 110 of 2006) and as directed by the Township Master Plan and Zoning Ordinance.

### *RECREATION-CONSERVATION LAND USE*

The abundance of recreational lands provided by HCMA and the State of Michigan has already been discussed. The greatest expanse of planned open space is found in the Island Lake Recreation Area. The preservation of the Huron River corridor in open space will be afforded through its designation under the Michigan Natural River Program and the Township Natural Rivers Overlay District. This also includes the southeast tributary and Davis Creek.

Recreation-Conservation uses are also appropriate for designated or future greenway corridors, such as the Lakelands Trail pathway system. These corridors could include connecting recreation areas utilized for bike paths, pedestrian easements, horse trails or scenic easements. The intent is to link

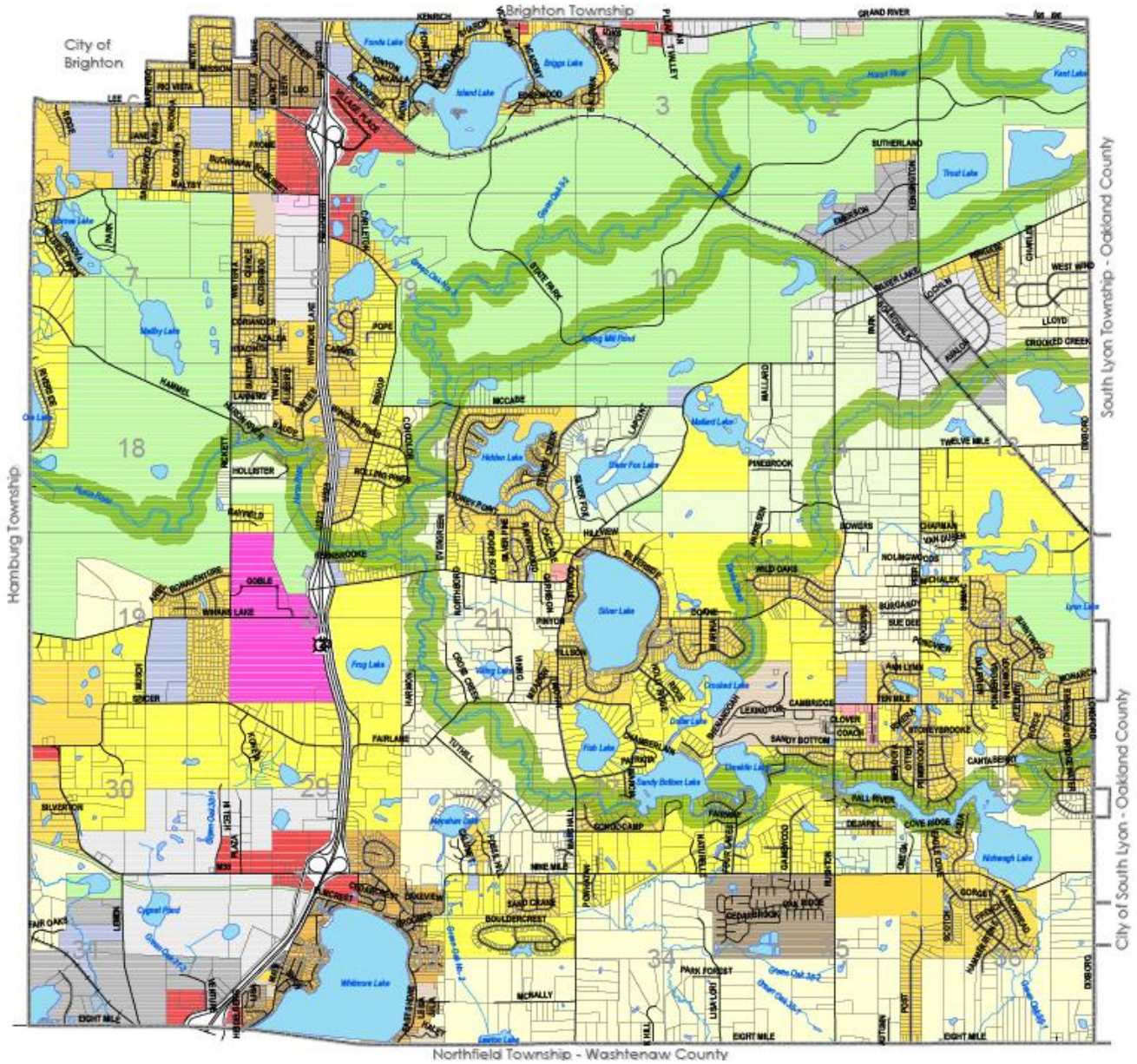
Township open space or conservation areas within an entire greenway system. Future development is encouraged to provide greenway linkage incorporated within subdivision, site condos or site plans.

*NATURAL RIVER AREAS*

Green Oak Charter Township includes rivers and creeks which are designated for protection under the Natural River Act (PA 59 of 1995 and PA 451 of 1994) by the Michigan Department of Natural Resources and under the Township Natural Rivers Overlay District. Generally, the area four hundred (400) feet from the ordinary high-water mark on each side of and parallel to the Huron River and its tributaries, Davis Creek and Spring Mill Creek, is designated as Natural Rivers Overlay District. Regulations include a building setback of one hundred twenty-five (125) feet from the river or fifty (50) feet from the tributaries.

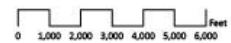


FUTURE LAND USE MAP



- Very Low Density Residential
- General Commercial
- Low Density Residential
- Village Mixed Use/PUD
- Medium Density Residential
- Research Office
- Suburban Density Residential
- Limited Industrial
- High Density Residential
- General Industrial
- Multiple Family
- Public - Institutional
- Manufactured Home Park
- Recreation - Conservation
- Local Commercial
- Natural River

Future Land Use  
Green Oak Charter Township  
Livingston County, Michigan



Base Map Source: Livingston County Data

Adopted January 2023  
Carlisle/Wortman Associates, Inc.  
Ann Arbor, Michigan





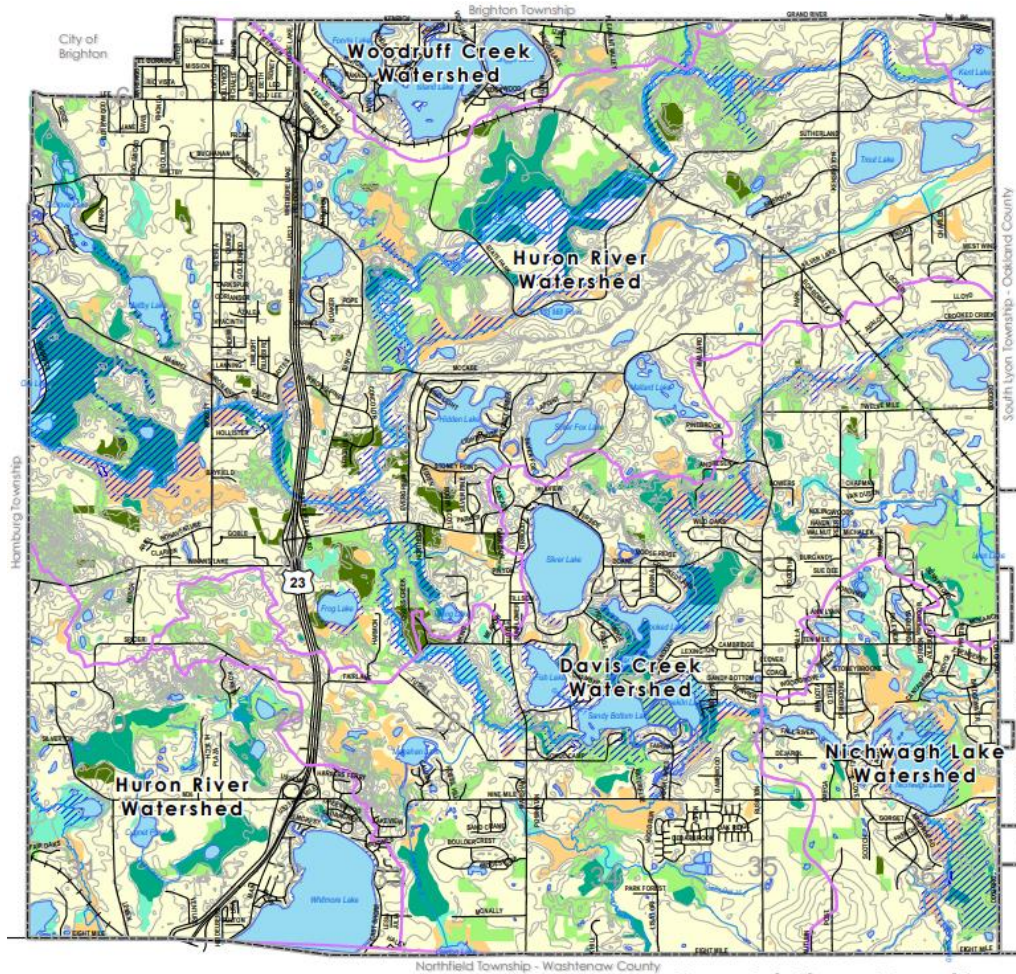


# SPECIAL STUDY AREAS

Certain areas of the Township have received additional planning attention intended to supplement the guidance set forth in this Master Plan. Specifically, these areas include Environmental Conservation & Preservation, Village Place, the Legacy Center, and Complete Streets. These special study areas are discussed below.

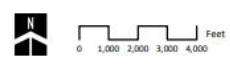
## Environmental Conservation and Preservation

As mentioned in the Goals chapter, the rural character and environmental preservation of Green Oak Township are critically important to maintaining the Township’s identity and improving the quality of life for current and future residents and visitors. Unique, sensitive, and beneficial forests and waterways are found throughout the Township, as indicated in the Natural Features Map below.



**Green Oak Charter Township  
Natural Features**

- Central Hardwood Forest
- Pine Forest
- Forested Wetland
- Scrub-Shrub Wetland
- Emergent Wetland
- Contour Elevation
- Watershed Boundary
- Floodplain



To ensure the preservation of sensitive natural features and to improve access to nature, special attention ought to be given to environmental conservation and preservation. Future developments, projects, and programs should be specifically reviewed to ensure that they comply with the environmental conservation and preservation strategies outlined in the Goals chapter of this Master Plan and reflect the broader intention of the Township Board to maintain the natural character and quality of the community. For development actions that comply with alternate Master Plan goals but pose environmental risks, special attention should be given to explore creative mitigation solutions.

### Village Place

Village Place is a privately owned and operated commercial center, east of US-23 and south of Fonda Lake. Termed a “lifestyle center” and zoned as a Planned Unit Development (PUD), Village Place houses over eighty (80) individual tenants in an integrated, pedestrian-oriented shopping center with elaborate and carefully coordinated architectural and landscape design. Both this center and the adjacent Green Oak Shoppes to the west across US-23 draw from a much wider market area than the older commercial uses in the Township. These consolidated, coordinated commercial developments reflect the shifting preference away from strip commercial development.

Village Place and the neighboring Green Oak Shoppes area have changed in recent years, and vacant storefronts pose challenges to current and future tenants. Zoning [designations](#) should be updated to allow opportunities for the mix of land uses on this site will best serve the area. As the use of this lifestyle center diversifies, attending to the needs of both commercial visitors and residents will pose unique challenges. The current grid layout already offers walkable corridors between parking areas that lend themselves to residential infill. Allowing the conversion of existing commercial buildings or the redevelopment of parking areas to infill with residences, such as townhouses or low-rise multiple family, may support diverse uses but also requires careful planning. Monitoring the traffic circulation, parking, and necessary residential services in this complex will require special attention.

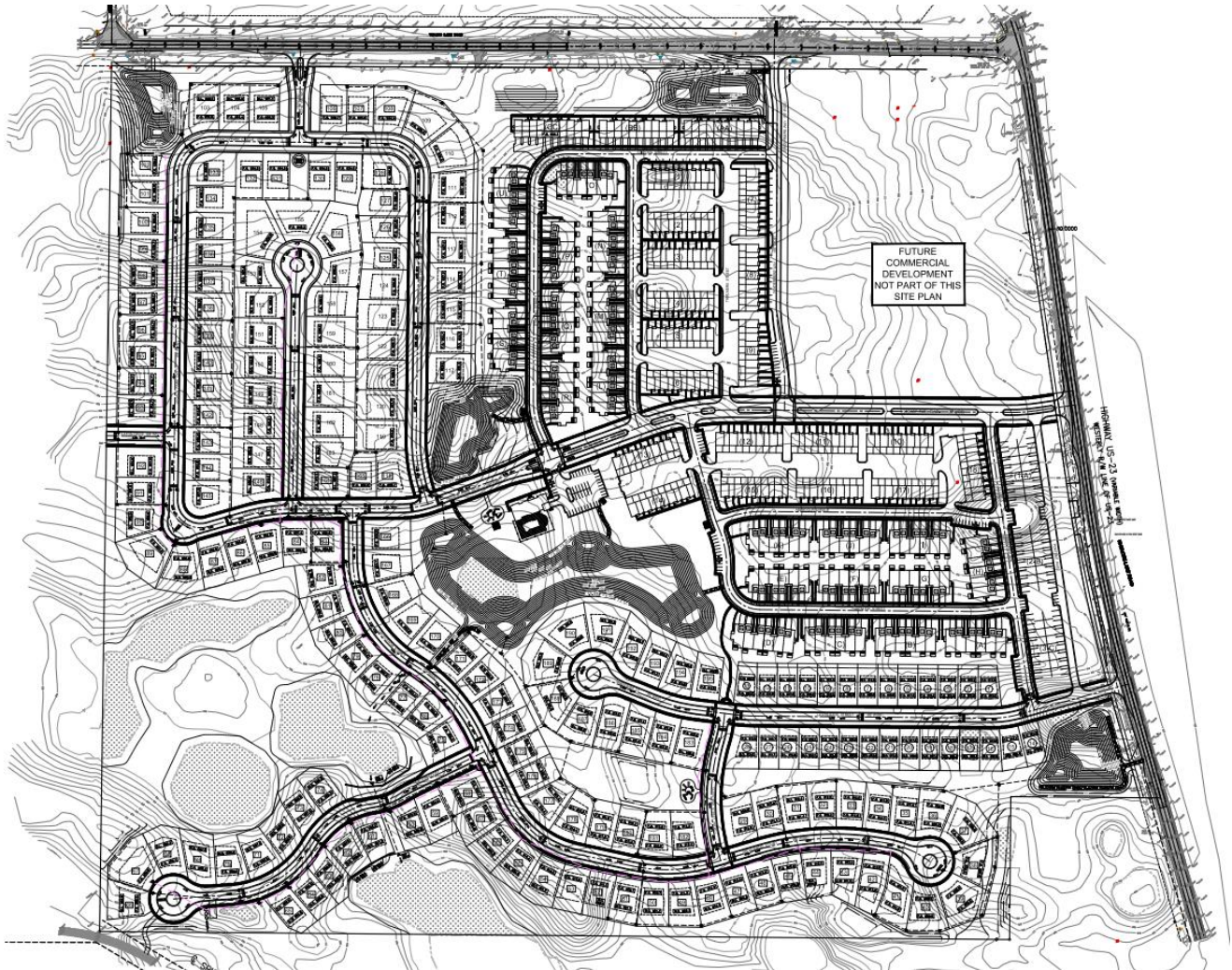


Source: Livingston County GIS

### Legacy Planned Unit Development (PUD)

The Legacy PUD areas encompasses over 300 acres of privately owned and operated land, hosting the Legacy Center Sports Complex, two planned commercial areas, and a planned mixed density residential Legacy Park Open Space project. The first Legacy Center sports complex PUD site plan was approved by the Township Board in 2012. The sports complex contains both outdoor and indoor sporting facilities that serve Green Oak Township and surrounding communities. Facilities include a multipurpose field dome, field house, outdoor fields/courts, and an indoor arena. Both commercial and residential uses have been planned on adjacent parcels to the sports complex, with over 550 housing units planned. As a PUD, the Legacy Center experiences flexible land use standards, unique to other zoning designations in the Township.

As Legacy Center and Legacy Park expand their facilities to include commercial and residential developments, the traffic and environmental impacts should be monitored to ensure that the PUD standards continue to align with the township goals outlined in this Master Plan.



Source: Legacy Park Site Plan Application

## Complete Streets

On August 1, 2010, the State of Michigan legislature signed into law the Complete Streets amendments to the State Trunkline Highway System Act (Act 51 of 1951), and the Planning Enabling Act (Act 33 of 2008). The law provides an approach to transportation planning and design that considers *all* street users – vehicles, pedestrians and bicyclists of all ages and abilities – during the various planning and design stages of a transportation project. It also requires that the Michigan Department of Transportation (MDOT) and local road commissions consider the community’s goals and desires for road projects within their boundaries.

Complete Streets provide facilities that allow all users, irrespective of their age or abilities, to use the street as a mode of transportation. A Complete Street allows pedestrians, bicyclists, transit users and those with disabilities to use roads easily and safely in their community. Communities with Complete Streets Policies help to ensure that engineers and planners design roadways to accommodate all users, not just motorists.

Facilities that make a street “complete” depend on the existing conditions and the intended users. It’s never a “one-size-fits-all” scenario. Examples include curb ramps, audible or tactile signals for blind pedestrians, longer crossing times, smooth sidewalks and bike lanes that are free of obstacles, and transit stops that can be easily boarded.

### *Complete Street Examples*



This two-lane road includes a three (3) foot wide bike lane, which is clearly marked by signs on nearby posts and on the path itself.



Bicycle trails that are totally separated from the roadway allow safe non-motorized transportation with minimal conflicts with traffic.



This pedestrian crosswalk requires the pedestrian to push a button to signal vehicles to slow and stop. When not lit, it does not impede traffic flow.

### Benefits of Complete Streets

Complete Streets provide numerous benefits, including:

- Improved safety for all users, including pedestrians, bicyclists, transit riders and drivers.
- Improved human health by encouraging walking and bicycling.
- Decreased car traffic, reducing dependence on gasoline and petroleum products, and improved air quality.
- Provides more transportation options.
- Fosters livable communities.

## Non-Motorized Pathway Plan

The following page presents a non-motorized connection map, indicating existing and proposed connections based on public feedback. The non-motorized pathway plan and corresponding map is maintained [within](#) and updated [within](#) the Parks and Recreation Plan.

- The Township acknowledges the greater need for non-motorized transportation facilities, and the Township's desire to maintain and expand the Lakelands Trail pathway system for residents to safely walk or bicycle, linking local recreational and open spaces, like Island Lake State Recreation Area, with residential areas, schools, community facilities and shopping.
- Pathways shall be multi-use and separated from the road surface. If not possible, then pathways should share a portion of the road surface.
- Improve connections within and between parks and natural areas,
- Consider connections for Safe Routes to Schools, trail crossings, and areas or population groups with limited transportation options.
- Developments that are subject to site plan or subdivision approval should incorporate complete street elements.
- The Township will explore the creation of Zoning Ordinance regulations that require the installation of safety paths along roadways, inside the Township right-of-way, to provide connections between the development and other land uses.

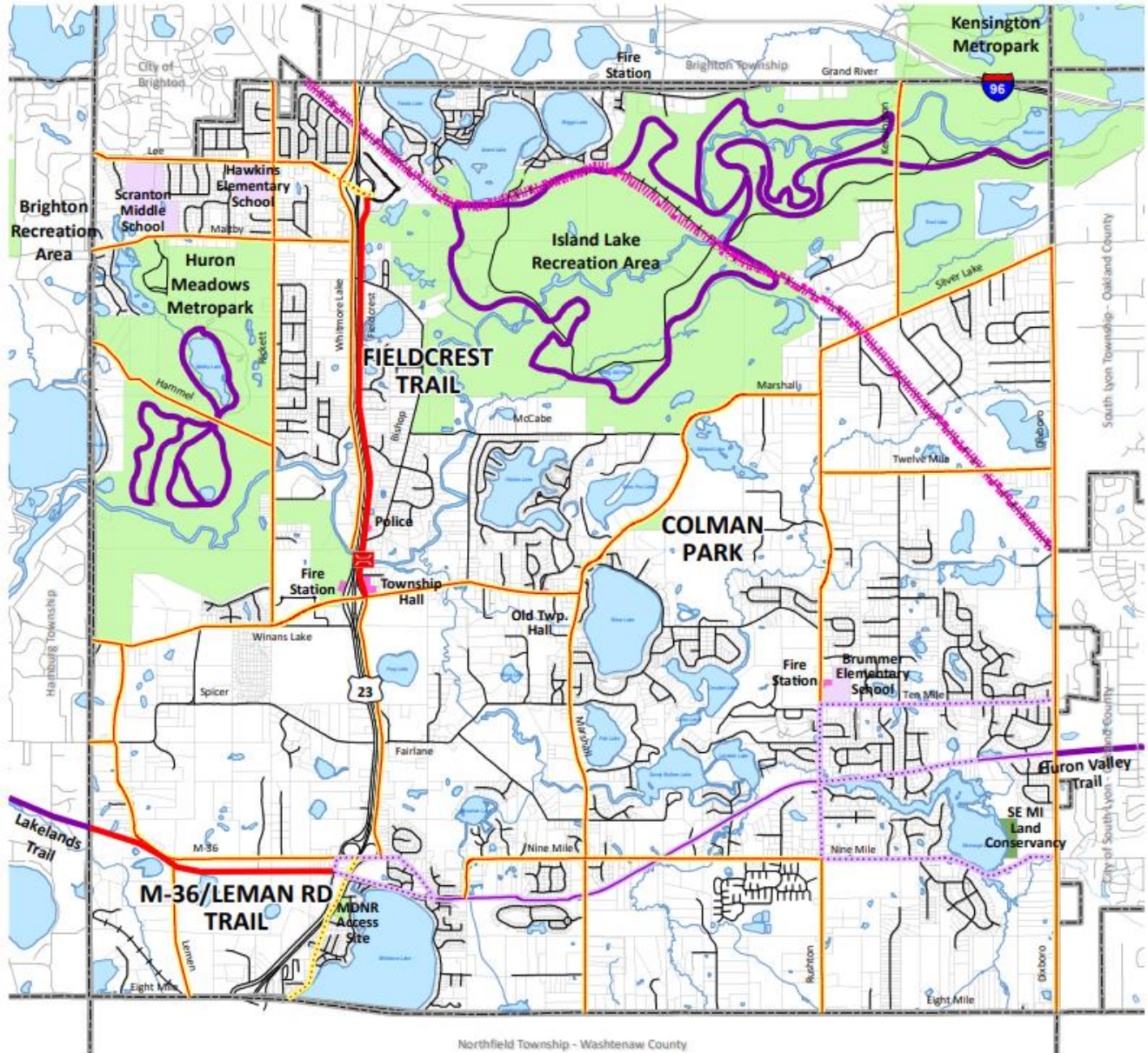


Figure 9

- |  |  |  |                     |
|--|--|--|---------------------|
|  | Existing Pathways                                  |  | Parks               |
|  | Proposed Pathways                                  |  | Preserved Land      |
|  | Potential Pathways - Further Study Required        |  | Schools             |
|  | Existing Trail                                     |  | Township Facilities |
|  | Proposed Trail                                     |  |                     |
|  | Potential Trail - Further Study Required           |  |                     |
|  | Potential Trail with Rail - Further Study Required |  |                     |
|  | Potential Non-Motorized Bridge                     |  |                     |

**Non-motorized Pathway Plan**

Green Oak Township  
Livingston County



Source: Livingston County Base Map Data

9-10-15  
Carlisle/Wortman Associates, Inc.  
Ann Arbor, Michigan



## **IMPLEMENTATION**

Once adopted, the Green Oak Master Plan is the official policy guide to be used by the Township Board and Planning Commission to solve the existing and anticipated community development problems and take advantage of the opportunities identified in this document. Through text and maps, the Master Plan illustrates the attitude and desire of the community toward future growth and development. Further, the Plan also promotes continuity in development policy as memberships on the Planning Commission and Board change over the years. To implement the Master Plan, the following specific recommendations are made:

### **TOWNSHIP POLICY**

The Master Plan is the official policy document regarding the development of the community. It establishes an idealized goal toward which the entire community can work. The Plan establishes the foundation against which private and public development proposals can be based. Too often, local officials and citizens find themselves in a reactive role to development proposals within their community. Without a firm base of information, communities must either yield to development pressures or be criticized for arbitrary denials. In addition, decisions regarding public improvements are often made incrementally and not related to any overall concept.

### **ZONING**

The Land Use Plan reflects long-term desired growth patterns and land uses. The chief tool used to implement the Land Use Plan is the Township Zoning Ordinance. Future rezoning requests should be reviewed for agreement with the basic proposals of the Master Plan, and more specifically, the Land Use Plan and Zoning Plan.

### **OPEN SPACE PLANNING**

Various methods of open space planning, including cluster housing and planned unit development, offer the potential of setting aside tracts of open space while allowing the property owner some potential for development. This is desirable for both the property owner and the Township. The property owner is able to develop portions of the site while maintaining significant areas of open space helping to maintain the rural character of the Township. Preservation of open space promotes the general ambiance and property values for current and future residents. There are existing methods available and several methods currently proposed by the State to help ensure the maintenance of open space.

The following are examples of existing methods that can be utilized to ensure the maintenance of open space. It is emphasized that these methods are options only and will require incorporation or



adjustments within the Zoning Ordinance. This Master Plan, in conjunction with Township Board concurrence, authorizes the Planning Commission to explore new open space zoning options. These options are described below.

## *ZONING REGULATIONS*

Zoning standards can be written to include and promote open space in development. A Cluster Housing Option included in the Zoning Ordinance encourages developers to set aside areas of open space in subdivision development. The open space would then be restricted pursuant to the Zoning Ordinance (i.e., special use permits) and could be developed only under circumstances agreed upon by the developer and Township during site plan review. Clustering with agreements for open space preservation are the most important technique for open space preservation and should receive priority attention for zoning implementation.

A second method used to maintain open space is the Planned Unit Development (PUD). A PUD is a rezoning that is tied to a specific plan. If an open space element is included as a part of the PUD, an amendment of the PUD, or a rezoning, would be required to alter the open space. The Township can then, of course, either approve or deny the amended PUD.

A development which proposes the use of Planned Unit Development or the Cluster Housing Option is eligible for a density bonus. For example, areas that are designated very low density residential with a corresponding density of one (1) dwelling unit for every five (5) acres would be allowed to increase density calculated at a rate of one dwelling unit for every two and one half (2 1/2) acres if the development is incorporated within the Planned Unit Development/Open Space Community or Cluster Housing option. It is believed that this density bonus is warranted due to the amount of open space that would be required to be set aside in order to make such development eligible for PUD or cluster option development.

## *RESTRICTIVE COVENANTS + DEED RESTRICTIONS*

These types of regulations can be used when open space is included as a part of residential subdivision. Depending on how these documents are written, restrictive covenants and deed restrictions can be effective, requiring both Township, subdivision association and/or individual parcel owner approval for any substantial changes to the approved plan. These restrictions, though effective, can be somewhat difficult to monitor and enforce.

## *LAND TRUST*

Open space created through cluster housing, sliding scale or a PUD can be placed into a land trust. A land trust is an organization that holds the development rights for a given piece of property through a

recordable agreement with the property owner and, in some cases, the Township. Land Trusts are normally non-profit organizations that work directly in protecting land for its natural, agricultural, scenic, historic, and productive uses.

Land Trusts may acquire development rights through donation and, in rare cases, may purchase those rights. It should be noted that enrollment of lands in a Land Trust is a serious proposition as it is unlikely that the Trust will relinquish development rights except under extreme circumstances. Land Trusts can use conservation easements as a tool for preservation and can also offer long range tax incentives for property owners. Within Livingston County, the Livingston Land Conservancy ([www.livingstonlandconservancy.org](http://www.livingstonlandconservancy.org)) is available to help property owners and Township officials implement open space preservation with appropriate funding.

### *CONSERVATION EASEMENT*

Conservation easements are legal instruments executed between two (2) or more parties where the property owner “gives up” the right to develop to the other party (or parties). Traditionally, the property owner receives something in return. This may be a payment, a tax break, a service, or anything agreeable to the parties. The easement remains in effect for the period agreed upon and cannot be broken unless all parties agree. This is one of the most powerful tools for protecting open space because the term of the agreement can be long or short, the agreements are less subject to changes in township government, and they are more readily identified during a sale. The inclusion of a third party to the agreement in addition to the property owner and the community, such as an environmental conservancy group, might strengthen the long-term probability that the agreements would be maintained. The State of Michigan authorizes conservation easements under Act 197 of 1980, the Conservation and Historic Preservation Easement Act.

### *FARMLAND AND OPEN SPACE PRESERVATION ACT*

The Farmland and Open Space Preservation Act (P.A. 451 of 1994, Part 361) provides for a development rights agreement for locally designated open space. This technique is similar to the conservation easements discussed earlier. It requires both local and state approval of the application. No subsequent development can occur without the permission of the community. Farmland eligibility is governed by the size of the farm and, in two instances, by the income of the farm. A parcel may be enrolled if one of the following applies:

1. The parcel is forty (40) acres or more in size and at least fifty one percent (51%) of the land is in active agriculture.
2. The parcel is less than forty (40) acres in size but at least five (5) acres in size, more than fifty one percent (51%) of the land is in active agriculture, and the agricultural land produces a gross annual income in excess of two thousand dollars (\$2,000) per tillable acre.



3. The farm has been designated as a specialty farm by the Michigan Department of Agriculture, is at least fifteen (15) acres in size, and has a gross annual income in excess of two thousand dollars (\$2,000) per year.

The tax benefits realized are through a reduction in value of the dedicated open space land due to relinquishment of the development rights by the property owner(s). The term of open space easements ranges from a minimum of ten (10) years to a maximum of (90) years.

Local units of government may terminate an open space agreement at any time if they determine that development of the land is in the public interest and the property owner(s) agrees. The property owner(s) may request termination of an open space agreement by applying to the local governing body. The petitioner is required to pay a penalty plus interest on the development rights during the period it was held by the local unit of government.

The primary purpose of these agreements is the permanent dedication of open space. Some agreements have a spin-off advantage of a tax benefit; the taxing benefit is a windfall for the property owner and should not be viewed as the primary reason for the dedication of open space.

#### *PURCHASE OF DEVELOPMENT RIGHTS*

Purchasable Development Rights (PDR's) are used to compensate a landowner for value of lost development rights in exchange for maintaining the property at a desired use and density. PDR programs can be used to preserve resources, open spaces, and even affordable housing areas. A PDR can be used to buy some or all of the development rights of a landowner.

#### **NON-CONFORMING ZONING**

In some areas of the Township, the Master Plan recommends larger lots and lower densities than what is currently recorded. This non-conformity is especially prevalent around lake areas where the Master Plan and zoning regulations require larger lots than what is currently provided. Larger lots and lower densities are preferred because of environmental concerns and overcrowding. The Planning Commission recognizes that the current non-conforming status may place limitations on property owners who wish to re-build or expand. It is recommended that the Township consider Zoning Ordinance amendments which would modify regulations pertaining to non-conforming lots and/or structures, thereby easing current regulations and making it easier for property owners to utilize non-conforming lots or structures.

## CAPITAL IMPROVEMENTS PROGRAM

The Township's role in providing and financing community facilities will undoubtedly increase in the future. An orderly procedure for planning and financing such facilities can be achieved through the adoption of a Capital Improvements Program (CIP) attached to the annual budgeting process. The CIP is a schedule of projects developed for a six (6) year period and contains estimated costs and sources of funding. The CIP should be updated annually in conjunction with the preparation of the Township budget. The Planning Commission has resolved to have the CIP formulated by the Township Board; however, the Planning Commission should coordinate on CIP efforts especially when land use related improvements, such as water, sewer, and road funding, are being considered.

The impression created by a community is often directly related to its public buildings, parks, and roads. The adequacy of these public facilities has a direct influence upon the Township's ability to attract new residents, businesses, and industry. At the time the program was first adopted (in 1997), there was an acknowledged gap between the facilities that existed and those which residents desired. This was a result of rapid population growth, increased expectations of new residents, costs of public improvements, and constrained public budgets. However, since the Master Plan's first adoption, many advancements have been made in the provision of public facilities and services, including the development of a new Township Hall, [a new police headquarters](#), a community park, key utility extensions, and a Township website, to name a few. This is not to say that further enhancement of the Township public facilities and infrastructure is unnecessary; rather, a number of improvements are explored and discussed in this section and throughout Master Plan.

An overly ambitious Master Plan will not guarantee a solution to the problem. This plan attempts to identify broad areas of need and priority, rather than specific projects. Such an approach is intended to initiate coordination between the Township Board and Planning Commission and provide guidance to the Board regarding the allocation of tax dollars towards public improvements. The Capital Improvements Program is strongly coordinated with the Land Use Plan so that funds are devoted to projects that will benefit the greatest number of Township residents and visitors.

### *COMMUNITY FACILITIES, SERVICES, AND UTILITIES*

Efforts should be directed to the following areas of need:

- *Water and Sewer Extensions*- The growth and development of the US-23 and M-36 corridors discussed in the Plan will depend on the availability of adequate water and wastewater service. While utility extensions have been achieved in the vicinity of the Lee Road interchange and the northwest corner of the Township, much of the remainder of the US-23 and M-36 corridors remain void of wastewater service.



- Township-Wide Solid Waste Collection and Recycling- The Township should consider soliciting bids for Township wide solid waste collection. This would maximize efficiency in collection, provide cost savings for residents, increase recycling, and reduce illegal dumping of household materials.
- Schools- Three (3) school districts service the Township. These include the Brighton, South Lyon and Whitmore Lake School Districts. This Master Plan recommends that any future schools be carefully sited and that location criteria be established that considers the following: First, school districts may wish to explore options for expansion at existing school sites when appropriate; some of these sites have adequate room for additional school facilities. Second, any future school sites should be located on paved roads and near residential or neighborhood areas. School officials and Township Officials are encouraged to maintain open communication regarding long range school facility planning.
- ~~Police Station- An upgrade of the police facilities will be needed in the near future. Renovation of the existing facility and/or the development of the five (5) acre parcel that is part of the Village Mixed Use 2 Zoning District (on the west side of Whitmore Lake Road, south of Winans Lake Road) should be considered.~~

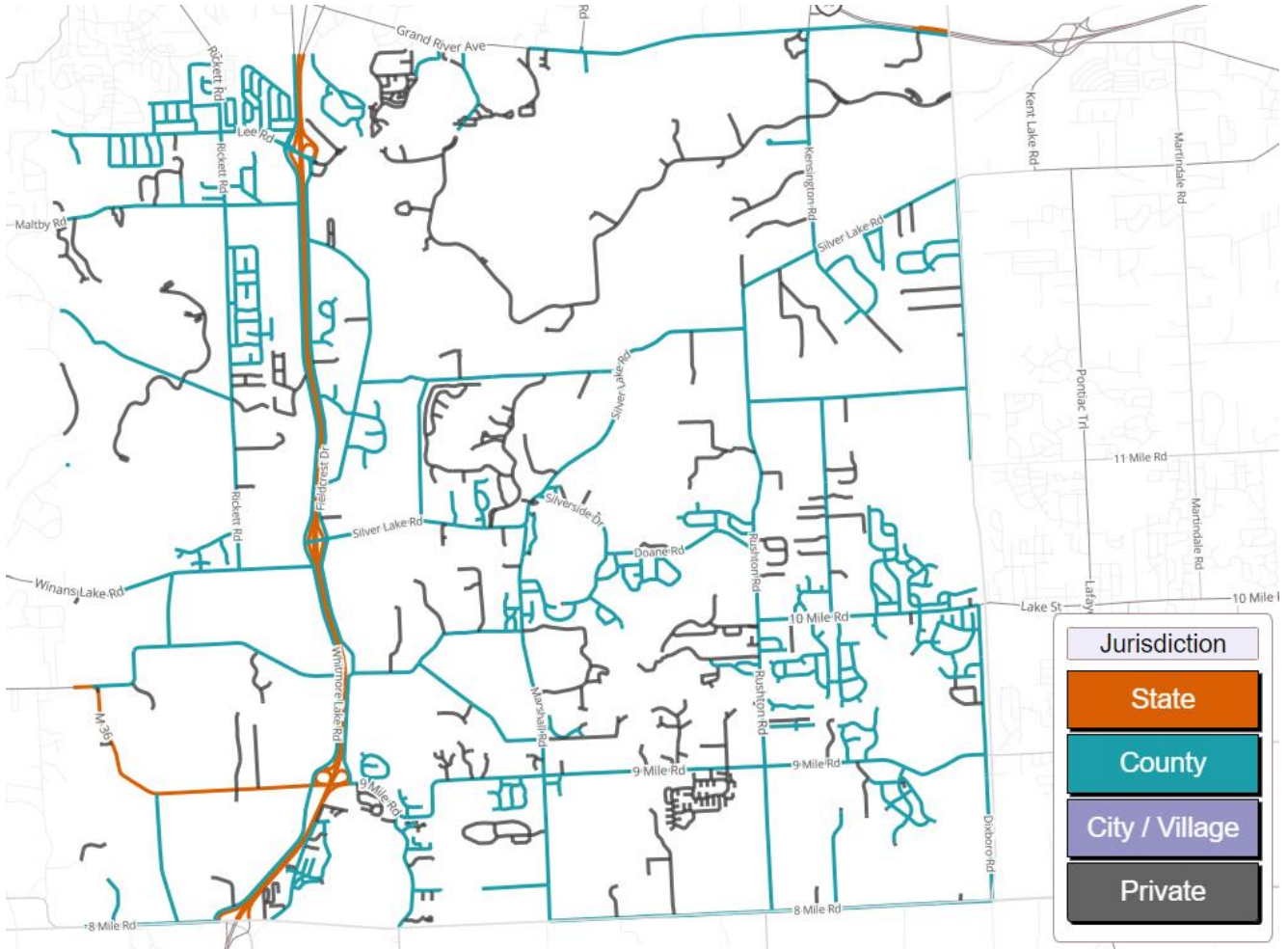
## ROADS

The road network detailed in the Master Plan is a hierarchy, based upon the function that each road serves. The four (4) [road classifications](#) which are defined below include major thoroughfares, minor thoroughfares, collector roads, and local streets and roads.

- Major Thoroughfares - The function of major thoroughfares is to carry larger volumes of traffic either between activity areas within the Township or through the Township. They also provide access to the expressways which serve the Township. Improvements to major thoroughfares rate the highest priority within the Township.
- Minor Thoroughfares - The function of minor thoroughfares is much the same as major thoroughfares, although more moderate volumes of traffic are carried. Improvements to minor thoroughfares rate the second highest priority within the Township.
- Collector Roads - The function of collector roads is to collect traffic from residential areas and carry it to major or minor thoroughfares. Traffic volumes are generally low. Improvements to collector roads rate the third highest priority within the Township.

- Local Streets or Roads - The function of local streets or roads [are](#) to provide direct access from individual properties. Traffic volumes are very low. Improvements to local streets or roads rate the lowest priority within the Township.

Figure 3 Road Jurisdiction, Green Oak Township



Source: SEMCOG

It is the intent of this plan to provide guidance regarding the allocation of future road improvement funding towards roads that function to benefit the greatest number of Township residents and visitors. For example, it makes little sense to improve a collector road which empties onto a major thoroughfare in a state of disrepair. No attempt has been made in this Master Plan to propose costly road relocations or alter basic road patterns that have been established for years.

The Master Plan also establishes long range road improvements for the Township. These projects are intended to upgrade the Township's road system by providing safe and efficient travel throughout the Township. General long-range improvements are listed on the following pages.



1. Work with the Livingston County Road Commission to prioritize and attempt to fund improvements to major problem intersections in the Township.
2. Several bridges have inadequate load bearing capacity and must be replaced as County, State and Federal funds become available. These include certain bridges over the Huron River and the Southeast Branch of the Huron River.
3. As Livingston County Road Commission funds or as special assessment districts are formulated, certain road segments should be considered for paving.
4. The west shore neighborhoods of Whitmore Lake have had their access severely restricted by the construction of US-23. The only outside access to the neighborhoods (approximately 200 homes and two mobile home parks) is from the south via the North Main Street/Eight Mile Road/US-23 interchange. This intersection becomes severely congested at times. Extension of North Main Street (old US-23) north to the Nine Mile/US-23 interchange could occur, but environmental and traffic impacts on the Nine Mile/US-23 interchange may rule out this alternative. Therefore, redesign of the North Main/US-23 intersection must occur before approval of additional housing units in the area are provided for. Future residential densities shall be directly related to the design capacity of the intersection.
5. The Briggs-Fonda-Island Lakes neighborhoods were developed as summer resort/second home communities. The road rights-of-way are very narrow and winding. Although significant sanitary sewer extension projects have been completed in these areas to replace failing septic systems, further extensions may be necessary. As the neighborhoods have converted to year-round residences, utility infrastructure has become insufficient. Issues within this area of the Township include:
  - Need for properly paved roads, engineered to an acceptable public road standard
  - Lack of coordinated stormwater facilities
  - Need for public sanitary sewer service in unserved areas
  - Long-term need for an improved source of water
6. The Township has four (4) US-23 interchanges within its governmental limits. These interchanges include:
  - Eight Mile Road

- Nine Mile Road
- Silver Lake Road
- Lee Road

When this Plan was first drafted, all four (4) of these interchanges had inherent safety concerns. However, with the recent development of the Green Oak Village Place shopping center at the Lee Road interchange, significant improvements have been installed. At the remaining interchanges, however, issues such as excessive ramp speed, turning movements, sight visibility and driveway access continue to present issues. These concerns also affect adjoining land use. For example, if additional or new commercial uses are developed at these interchanges, these land uses could generate additional traffic and congestion, [such as the Legacy Park area traffic- Improvements may be needed to support the new police and fire department headquarters at the Silver Lake Interchange. The US-23 flex lane construction and improvements proposed for the Silver Lake and Nine-Mile interchange intend to offer traffic alleviation.](#)

Given the success achieved through the partnership with the developer of the Green Oak Village Place project, the Township shall seek to follow a similar approach to improvement of the Township's other interchanges. This is particularly necessary because of the budget constraints experienced by both County and State agencies. The Township should pursue continued coordination with the Livingston County Road Commission and the Michigan Department of Transportation to evaluate these interchanges and develop long range traffic safety improvements. Likewise, the Township should carefully assess the impacts of future land use and explore access management strategies to reduce traffic safety hazards.

In addition to the freeway interchanges, the Township has other intersections that are problematic. The Township should continue to monitor these intersections and encourage long range improvements by the Road Commission, which will increase capacity and traffic flow. Lane widening, signalization, [roundabout installation](#), or adjustment of traffic light phasing may also be needed to handle increased traffic flow at other key intersections throughout the Township.

## Funds

### FEDERAL + STATE FUNDS

Given the high cost of public improvements, many local units of government have become reliant on outside sources of funding. Green Oak Charter Township has already enhanced its ability to secure grant funds by adopting a Master Plan. The Plan not only sets priority for public improvements but should also be used to justify the need for such improvements to funding agencies.



## LOCAL FUNDS

The potential availability of grant funds does not eliminate the necessity to finance all or portions of projects with local funds. It is the rule rather than the exception that federal grants require the local unit of government to fund a portion of the project. Local funding can be raised through the following sources:

1. General Fund – The Township Board may make an appropriation from the general fund to finance certain improvements. However, this method is not considered entirely feasible because general funds are usually needed to finance essential services, leaving little available money for additional projects.
2. Revenue Sharing – Again, the Township Board may choose to appropriate a portion of federal and state revenue sharing funds for improvement projects. However, federal revenue sharing cannot be used as a local match to federal grants.
3. General Obligation Bonds – With the approval of the voters, the Township can sell general obligation bonds, usually having a long payback period and low interest rates. General Obligation bonds enjoy the backing of the full faith and credit of the Township. However, the sale of General Obligation bonds usually results in a millage increase.
4. Revenue Bonds – Revenue bonds are paid off through revenues generated by a project. For example, most municipal water systems are financed through revenue bonds with user charges paying off the bond. Revenue bonds are not necessarily backed by the full faith and credit of the Township, do not require voter approval, and usually are sold at higher interest rates than General Obligation bonds.
5. Special Millage – The Township Board may ask for voter approval to earmark increased millage for a specific improvement project.
6. Special Assessment – Many projects which benefit only a segment of the community rather than the community at large are financed through special assessments to the benefit of property owners. Drainage and street improvements are projects frequently financed through special assessments.
7. Impact Fees / Congestion Fees / and other forms of revenue generation that can lawfully be imposed on development activities to offset costs of capital improvements required because of the development activity.

## IMPLEMENTATION MATRIX

The timeline used in the matrix includes the following categories:

- Continuing items should be regularly reviewed on an ongoing basis.
- Immediate priority items should be tackled within one year of the Master Plan’s adoption.
- Short-term items should be accomplished within three to four years of the adoption of the Plan.
- Mid-range actions should be accomplished within 5 to 7 years of the Plan’s adoption.
- Long-term actions should be tackled within 10 years.

TB	Township Board
HDC	Historic District Commission
PC	Planning Commission
PZD	Planning and Zoning Department
SELCRA	Southeastern Livingston County Recreation Authority
LC	Livingston County
MDEC	Michigan Economic Development Corp.
TARC	Trail & Recreation Committee
LCWA	Livingston County Water Authority

Action	Priority Term	Responsibility Involvement	Funding
Community Identity: Preservation of and access to natural features			



Maintain the natural features of the Township that are significant to its composition, such as wetlands, woodlands, and water bodies	Cont.	PC, TB, PZD	Federal & State Grants
Recognize and promote the importance and significance of open space in all planning activities.	Cont.	PC, PZD	Impact Fees
Promote the Huron River Watershed as a major identity element of the Township.	Cont.	PC, TB	General Fund
Coordinate efforts with the Huron Clinton Metro Authority and the Michigan Department of Natural Resources to promote the Natural River District and existing parks.		TARC, SELCRA	Federal & State Grants
Maintain and develop non-motorized bicycle and footpath connections within the Township to the Lakelands Trail Pathway and other regional parks.	Short	PC, TARC, SELCRA	Revenue Sharing
Ensure that non-motorized bicycle and footpath options are safe.	Immediate	PZD	Special Assessment
<b>Community Identity: Emphasize and preserve Township's historic resources</b>			
Support the Historic District Commission in their efforts to educate the community regarding the Township's historic heritage to promote civic pride.	Cont.	HDC, TB	General Fund
Maintain an inventory of all historic sites, homes, and buildings in the Township.	Cont.	HDC	General Fund
Recommend historic sites to be designated by Township markers for the education, pleasure, and welfare of the citizenry.	Mid.	HDC	General Fund
Create specific historic districts to safeguard sites and protect the exterior of buildings.	Mid.	HDC	Impact Fees
Promote historic site tours.	Cont.	HDC	General Fund
<b>Community Identity: Foster community awareness, involvement, and sense of pride</b>			
Support Township sponsored events celebrating the heritage of Green Oak Charter Township.	Cont.	TB, HDC	General Fund
Increase communication of Township activities and ongoing services via print and virtual newsletter, and/or web site development.	Immediate	TB	General Fund
Implement more stringent setbacks and landscaping requirements for areas identified as entry points into the community.	Short	PC, PZD	General Fund
Encourage participation and inclusion of community members from diverse background.	Cont.	TB, PC	General Fund
<b>Natural Resource Conservation: protect potable water resources</b>			
Site commercial and industrial land uses which use or process hazardous materials away from environmentally sensitive lands or aquifer recharge areas.	Cont.	PC, PZA	General Fund
Coordinate groundwater protection efforts with state actors.	Short	LCWA	Federal & State Grants
Establish Septic System Maintenance Districts for those lake areas served by drain fields.	Mid.	PC, LCWA	Special Assessment
<b>Natural Resource Conservation: protect surface water resources</b>			
Promote impervious surface regulations to protect watershed areas.	Short	LCWA, TB	Millage, General Fund
Require isolation buffers between industrial or other potential polluting uses and recharge areas.	Short	PC, LCWA	Impact fee, General Fund
Establish programs and appropriate land use regulations to reduce or eliminate the impact of failing septic fields on nearby surface waters.	Short	PC, LCWA	General Fund
Promote the extension of the Township's sanitary sewer system to serve lakefront areas with water quality problems associated with failing septic facilities.	Long	LCWA	Revenue Bonds
Actively pursue implementation of the Phase II stormwater permitting process.	Immediate	LCWA, TB	Millage
Adopt stormwater design and maintenance ordinance and specifications manual.	Mid	LCWA, TB	Millage
<b>Natural Resource Conservation: protect natural landscape from degradation</b>			
Coordinate with the Michigan Natural Features Inventory (MNFI) to identify natural features and habitat areas of significance to facilitate their protection.	Short	LCWA, TB	Federal & State Grants

Discourage development in areas with steep slopes and consider greater setbacks for bluff areas.	Short	PC, PZA	General Fund
Encourage the preservation of coordinated open space systems that are contiguous between developments projects.	Cont.	PC, PZA	Impact Fees
Consider programs for donation or purchase of conservation easements to protect significant natural features.	Long	TB	Millage, General Fund
Encourage the use of P.A. 116 Farm and Open Space agreements.	Cont.	TARC, TB	General Fund
Consider the use of purchase of development rights as a method of preserving natural features.	Long	TB, LC	General Obligation Bonds
Ensure any potential renewables projects are developed on sites that will not require a substantial environmental impact.	Cont.	TB, LC	General Fund
<b>Natural Resource Conservation: manage pollution</b>			
Attract environmentally low impact industries such as hi-tech or research related uses.	Mid	TB, PC	General Obligation Bonds
Enforce industrial performance standards for noise, vibration, fumes, gases, glare, etc.	Cont.	TB, LC	General Fund
Coordinate protection strategies with MDEQ, EPA, and OSHA.	Cont.	TB, LC	Federal & State Grants
<b>Natural Rivers: Manage, preserve, and enhance natural rivers</b>			
Promote the protection of natural vegetation along shoreline areas and prohibit the dredging and filling of wetlands areas adjoining river front property.	Short	TB, PC, LCWA	General Fund, Impact Fee
Encourage activities of Lake Associations and River Associations and their efforts to maintain water quality, lake management, and lake loading studies.	Cont.	LCWA	General Fund
Control application of pesticides, fertilizers, and other forms of nutrient loading.	Cont.	LCWA	General Fund
Promote the preservation of a twenty-five (25) foot wide vegetative buffer along the lakes and rivers to help filter sediment and contaminants.	Short	PC, TB	General Fund
<b>Natural Rivers: regulations</b>			
Limit density and enforce regulations on setbacks and zoning in lakeside areas.	Cont.	PC, PZD	General Fund
Maintain RF (5 acre) zoning in Natural River Overlay District.	Cont.	PC, PZD	General Fund
Reduce allowable percentage of impervious surfaces in Natural River Overlay District.	Short	PC, PZD	General Fund
Identify view sheds and promote sensitive development through scenic easements.	Mid	PC, PZD, SELCRA	General Fund
Develop stringent stormwater management requirements along rivers and tributaries.	Short	PC, LCWA	General Fund
Identify areas that warrant protection through conservation easements, purchase of development rights, or fee simple purchase for public ownership.	Long	TB, SELCRA	General Obligation Bonds
<b>Residential Growth: Insulate rural residential areas</b>			
Maintain low density residential uses in agricultural areas.	Cont.	PC	General Fund
Provide land use buffers or transitional land use areas between existing or proposed single-family residential areas and areas of commercial and industrial uses.	Cont.	PC, PZD	General Fund
Provide sufficient open space to serve each type of dwelling unit either by large lot sizes or large common open space areas.	Cont.	PC, PZD	General Fund
Plan higher density residential development only in areas that are properly serviced with public utilities and adequate roadway networks.	Cont.	PC, PZD	General Fund
<b>Residential Growth: Maintain rural character</b>			
Establish utility service districts with distinct boundaries.	Short	TB, PC	General Fund
Consider purchase of donation of development rights, conservation easements, and scenic easements.	Long	TB, SELCRA	General Obligation Bonds



Enact Right to Farm regulations for farm type animals through zoning regulations and other Township policies.	Mid.	TB	General Fund
Support greenway efforts and coordinate with planned open space in existing and proposed residential areas.	Cont.	TB, LC, SELCRA	General Fund
<b>Residential Growth: Foster development of diverse housing types</b>			
Promote the development of multiple-family and attached single-family residential housing in appropriate areas.	Immediate	PC, TB, PZD	General Fund
Encourage the development of ranch-style condominium developments suitable for the Township's aging population.	Mid	PC, TB, PZD	General Fund
Promote residential development consisting of a diversity of price points.	Immediate	PC, TB, PZD	General Fund
<b>Commercial &amp; Industrial Growth: Limit development to designated goals</b>			
Promote attractive and low-intensity industrial or office research uses within the Kensington Road industrial corridor.	Mid.	PC, TB, PZD	General Fund
Ensure that industrial and commercial uses are well buffered between residential uses.	Cont.	PC, TB, PZD	General Fund
Identify re-development alternatives for existing industrial uses currently located in residential areas.	Mid	PC, PZD	General Fund
Discourage the introduction of new commercial areas which by their location and method of development may encourage the creation of new "strip commercial" zones.	Cont.	PC, PZD	General Fund
Develop design guidelines to encourage quality design and architecture.	Mid	PC, PZD	General Fund
Promote shared service drives to minimize number of curb cuts along major roadways.	Long	PC, PZD	General Fund
Coordinate implementation of the M-36 Corridor Plan with the Hamburg Township M-36 Plan.	Long	PC, PZD, MDEC	Revenue Sharing
Coordinate commercial development along Grand River Avenue with Brighton Township.	Long	PC, LC, MDEC	Revenue Sharing
<b>Commercial &amp; Industrial Growth: Cluster these uses</b>			
Cluster and/or stack these uses.	Mid	PC, TB, PZD	General Fund
Include shared parking regulations in Zoning Ordinance.	Mid	PC, TB, PZD	General Fund
Develop Commerce Park to cluster these uses and prevent "strip commercial" zones.	Mid	PC, PZD, MDEC	General Fund
<b>Commercial &amp; Industrial Growth: promote development that aligns with community character and goals</b>			
Establish relationships with orgs to re/develop designated commercial/industrial areas.	Cont.	TB, MDEC	Revenue Sharing
Provide opportunities for industrial growth north of M-36 and west of Whitmore Lake Road.	Short	TB, MDEC	General Fund
<b>Community Facilities and Services: shared service agreements</b>			
Continue coordination of library services with adjoining communities.	Cont.	TB	Revenue Sharing
Provide opportunities for a variety of recreation activities.	Cont.	TB, SELCRA, TARC	General Fund
Coordinate with schools to provide recreational opportunities.	Cont.	SELCRA, TARC, TB	General Fund
<b>Community Facilities and Services: provide efficient and effective services</b>			
Provide convenient access and one (1) stop service locations for residents.	Short	TB	General Fund
Introduce computer kiosks to display Township information.	Short	TB	General Fund
Maintain an up-to-date Township website for residents to access information via the Internet.	Cont.	TB	General Fund
Regularly evaluate the value and efficiency of Township services rendered in relation to tax dollars spent.	Cont.	TB	General Fund

<b>Community Infrastructure: discourage expansion beyond infrastructure capabilities</b>			
Infrastructure enhancements should parallel growth to maintain the health and safety of the Township.	Cont.	MDEC, TB	General Fund
Establish utility service districts with distinct boundaries in advance of further extension of municipal sewer and water systems.	Mid	TB, LCWA	General Fund
Coordinate infrastructure improvements with adjoining communities to increase efficiency and save funds.	Cont.	LC, LCWA, TB, MDEC	Revenue Sharing
Develop comprehensive Capital Improvements Program process to ensure necessary improvements are identified and completed.	Short	TB, PZD	Impact Fees, General Fund
Do not allow inappropriate extension of infrastructure improvements.	Cont.	PC, TB	General Fund
Adhere to current Subdivision Rules and Drainage Policies.	Cont.	LC	General Fund
<b>Community Infrastructure: develop safe and efficient transportation infrastructure network</b>			
Promote managed transportation plan and road improvements.	Cont.	LC, TB	General Fund
Pursue available grant resources for needed improvements to roadways and sidewalks.	Cont.	TB, TARC	Federal & State Grants
Monitor the installation and maintenance of private roads to ensure their long-term quality.	Cont.	TB, TARC	General Fund
Actively pursue implementation of the goals and strategies outlined in the Township Pathway and Greenway Plan.	Immediate	TARC, SELCRA	General Fund
Support and develop non-motorized commuter and recreational pathways.	Immediate	TARC, SELCRA	General Fund
<b>Rural Character: promote design guidelines that foster open space</b>			
Cluster residential development and dedicate open space areas.	Immediate	PC, PZD	General Fund
Encourage greenbelts along roadways.	Cont.	TARC, PC, PZD	General Fund
Discourage frontage splits along roadways.	Cont.	PC, PZD	Impact Fees
<b>Rural Character: regulatory policies and techniques</b>			
Consider purchase or donation of development rights, conservation easements, scenic easements P.A. 116, and the creation of a land trust	Long	TB, PC	General Obligation Bonds
Promote flexible road standards which preserve natural features.	Mid	TB, PC, PZD	General Fund
Adopt zoning ordinance regulations which will assist in maintaining rural character.	Immediate	PC, PZD	General Fund

## MASTER PLAN UPDATES

This plan should not become a static document. The Township Planning Commission should attempt to re-evaluate and update portions of it on a continual basis. The Land Use Plan should be updated as conditions require.



# APPENDIX

## Community Demographics

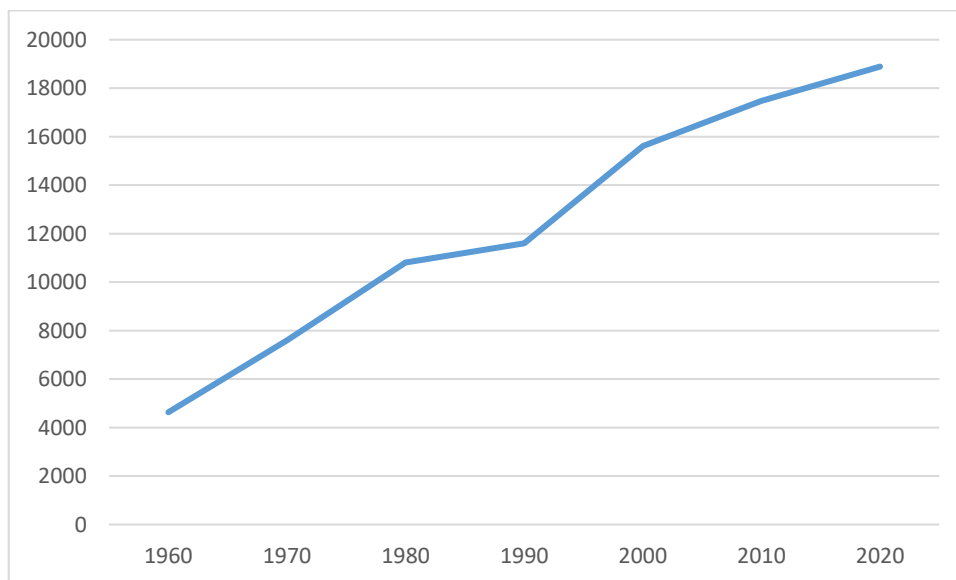
### POPULATION

In 1960, Green Oak Charter Township’s population was approximately 4,631. By 1970, the Township’s population had grown to 7,598, an increase of 64%. This substantial population growth continued, reaching 10,802 by 1980. The rate of growth slowed dramatically in the following decade, resulting in a population of 11,604 in 1990 – corresponding to a growth rate of only 7.4%

By 2000, the rate of growth increased once again. The 2000 population was 15,618, a 35% increase from 1990. This growth was consistent with the substantial population growth occurring in most of the adjacent communities: Livingston County was one of the fastest growing counties in the state between 1990 and 2000. The census demonstrated a nearly 12% increase in population of Green Oak between 2000 and 2010. Population growth slowed after 2010 to an 8% increase between 2010 and 2020.

Figure 1 below, illustrates the population trends of Green Oak Charter Township over the past sixty (60) years.

**Figure 1.** – *Township Population Trends, 1960-2020*



Source: U.S. Census, 1960-2020

Table 1 offers a comparison of the recent population trends of Green Oak Charter Township with those of neighboring townships, Livingston County, and the State of Michigan. While Green Oak has one of the smallest growth rates of the area in the 1980s, it retook its previous position as one of the faster growing communities in the 1990s. Green Oak managed to continue one of the fastest rates of growth in the surrounding area with nearly a 12% population increase between 2000 and 2010. Reflecting broader County-wide trends, the population growth decreased in Green Oak between 2010 and 2020. However, Green Oak’s population growth rate surpassed that of Genoa Township and South Lyon, making Green Oak the second fastest growing community in the County during the 2010-2020 period.

**Table 1. – Population Comparison**

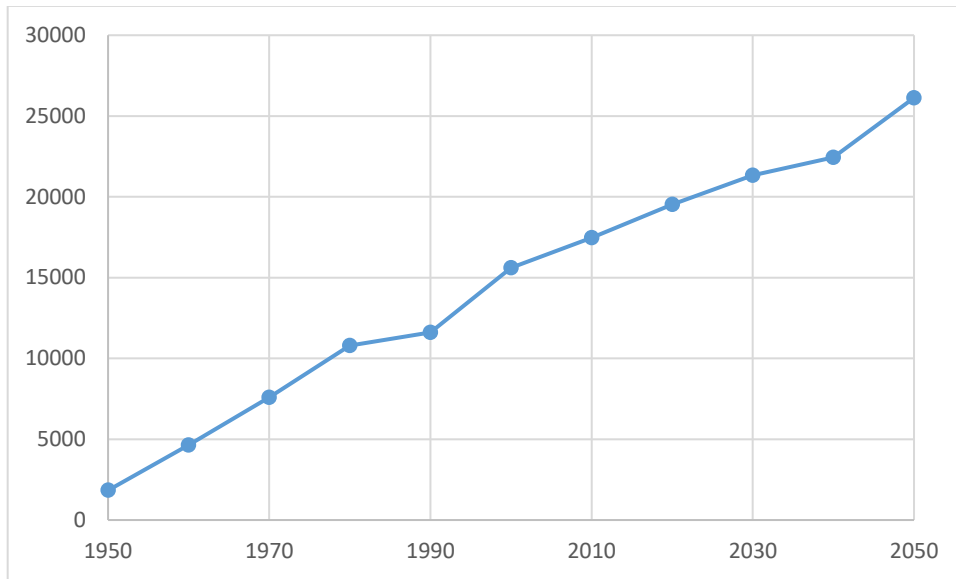
	1990	2000	Change		2010	Change		2020	Change		2045	Change	
			#	%		#	%		#	%		#	%
<b>Green Oak Township</b>	<b>11,604</b>	<b>15,618</b>	<b>4,014</b>	<b>35%</b>	<b>17,476</b>	<b>1,858</b>	<b>11.9%</b>	<b>18,890</b>	<b>1,414</b>	<b>8%</b>	<b>22,750</b>	<b>3,860</b>	<b>20%</b>
Brighton (City)	5,686	6,701	1,015	18%	7,444	743	11%	7649	205	3%	12,127	4,478	59%
Brighton Township	14,815	17,673	2,858	19%	17,791	118	1%	18756	965	5%	21883	3,127	17%
Genoa Township	10,820	15,901	5,081	47%	19,821	3,920	25%	20,470	649	3%	32,907	12,437	61%
Hamburg Township	13,083	20,327	7,544	58%	21,165	838	4%	21728	563	3%	32,907	11,179	51%
South Lyon (City)	6,479	10,036	3,557	55%	11,327	1,291	13%	11,818	491	4%	12,074	256	2%
Lyon Township	8,828	11,041	2,213	25%	14,545	3,504	32%	20,373	5,828	40%	26,408	6,035	30%
Northfield Township	6,732	8,252	1,520	23%	8,245	-7	0%	8,665	420	5%	12,388	3,723	43%
Livingston County	115,645	156,951	41,306	36%	180,967	24,016	15%	190,832	9,865	5%	241,566	50,734	27%

Source: SEMCOG Community Profiles



In ~~2023~~<sup>2018</sup>, the Southeast Michigan Council of Governments (SEMCOG) prepared its ~~2050~~<sup>2045</sup> Population Forecast. This projection incorporates data from the 2010 Census and the [American Community Survey \(ACS\)](#) related to jobs, and land availability along with current trends to project future population, housing, and employment for each community in southeast Michigan. As demonstrated in Figure 2, SEMCOG predicts that the Township will experience an increased growth rate of 34% between 2020 and ~~2030~~<sup>2020</sup> and then a decline in the growth rate through ~~to 2045~~.

**Figure 2. – Green Oak Charter Township Population Projections**

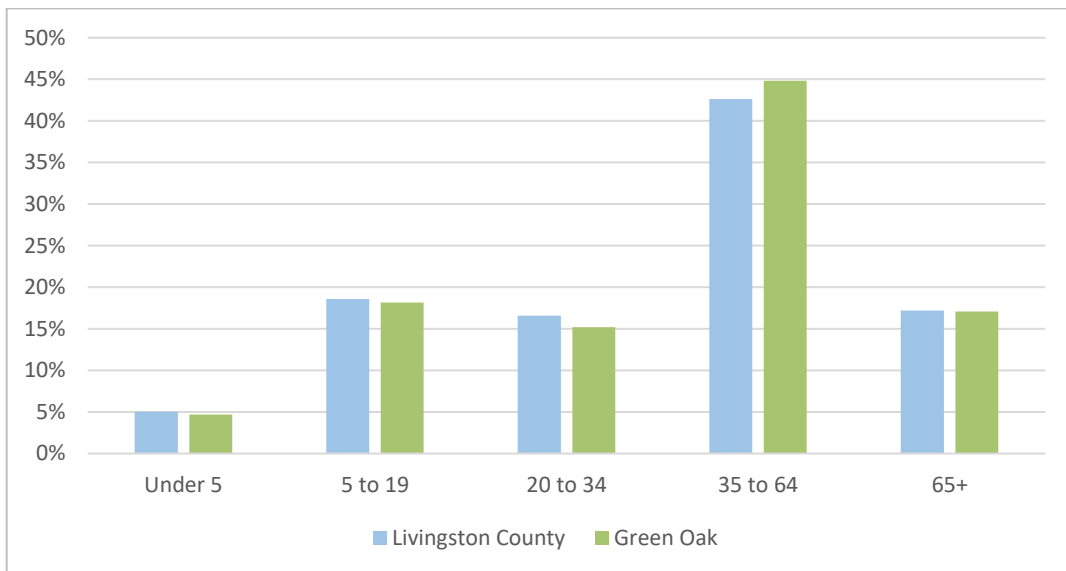


Source: SEMCOG Community Profile

## AGE

The median age in Green Oak Charter Township was reported by the 2020 American Community Survey as 45.4, which is a 7.3% increase from the reported 42.3 in 2010, and a 23% increase from 36.9 in 2000. Figure 3 depicts the population of Green Oak Charter Township and Livingston County by age group. It is clear from the graph that Green Oak Charter Township has an age distribution that is characteristic of Livingston County. Both Green Oak and the County at large have the greatest percentage of population in the 35 to 64 age category and are fairly equally distributed in terms of age.

**Figure 3. – Percentage of Population by Age**

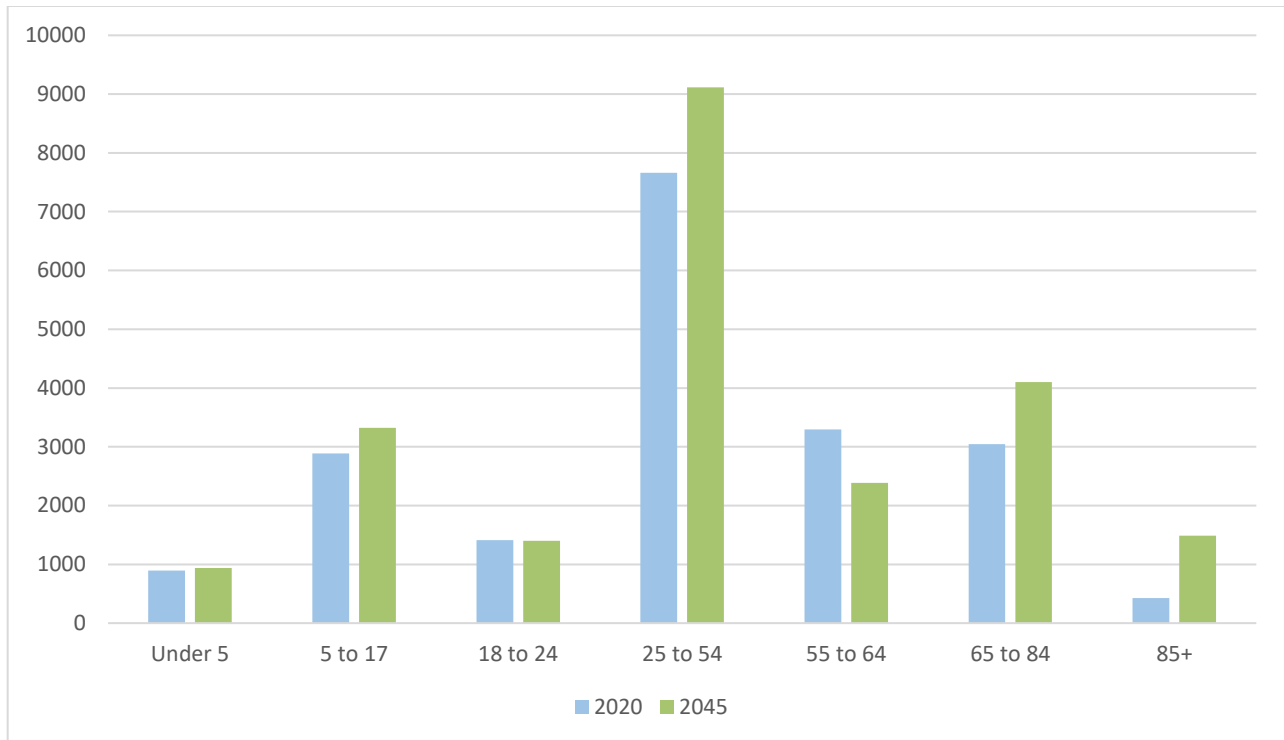


Source: SEMCOG Community Profile



As part of their population forecast, SEMCOG breaks down their projected population by age. This generates a forecast of how the age groups within the total population will grow/decline over the next 25 years. Figure 4 demonstrates the projected shifts in the population by age. The school-aged group (5-17) will increase along with the 25-54, 65-84, and 85+ categories. The other age groups represent a population decrease, with a significant decline in the 55-64 age group.

**Figure 4.** – *Projected Population by Age, Green Oak Charter Township*

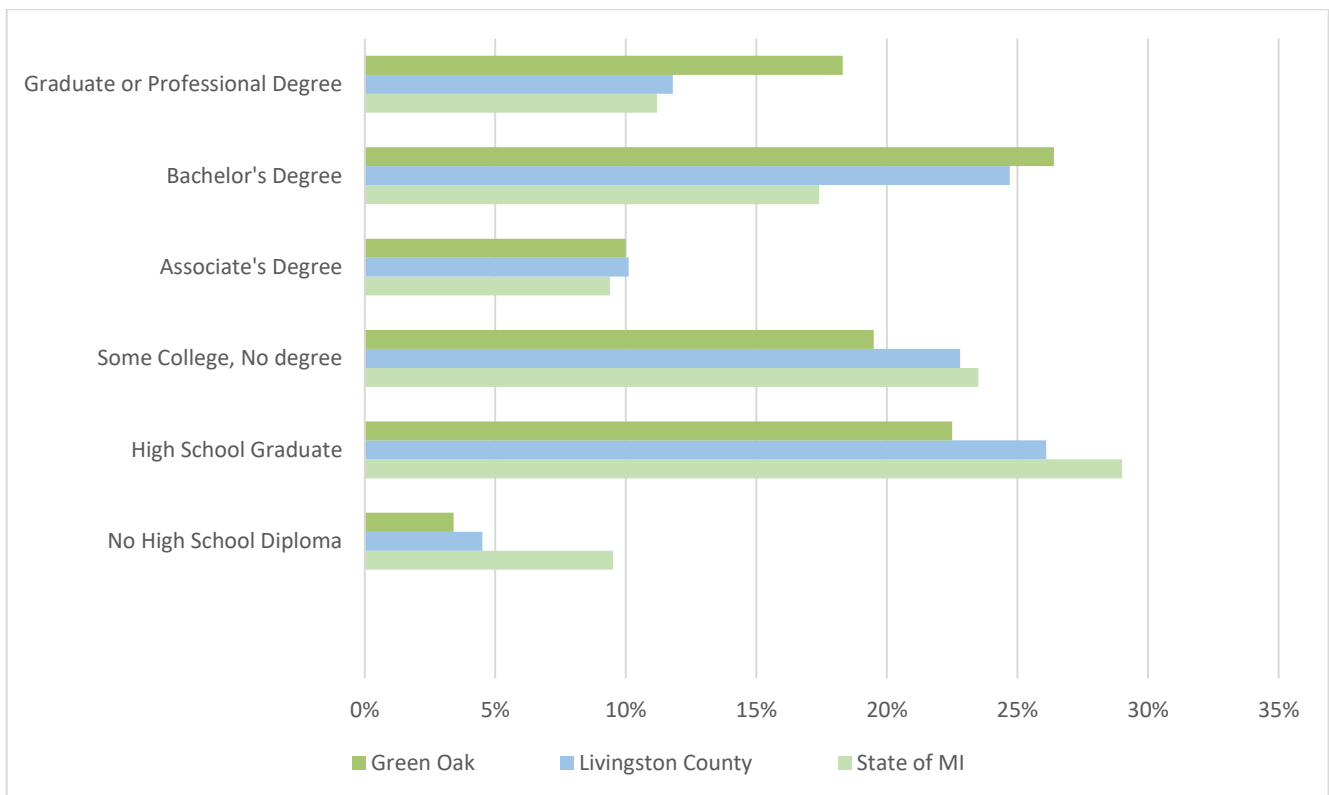


Source: SEMCOG Community Profile

## EDUCATION

Figure 5 illustrates a comparison of the educational attainment of individuals aged 25 and older in Green Oak Charter Township, Livingston County, and the State of Michigan. The number of individuals not graduating from high school in Green Oak Township decreased to 3.4% in 2020 from the 6.9% documented in 2010. The percentage of Green Oak residents earning either a bachelor's or graduate/professional degree is far above the state average. The percentage of Green Oak residents earning associate degrees is aligned with both the Livingston County and Michigan State averages.

**Figure 5. – Educational Attainment**



Sources: SEMCOG Community Profile and 2020 American Community Survey



ECONOMIC CHARACTERISTICS

LABOR FORCE

In 2020, the American Community Survey reported that Green Oak Charter Township’s labor force had reached a total of 10,010 individuals, up approximately 6.5% from 2010. Since 2005, the unemployment rate in Green Oak Township has ranged from 2.5% in May 2017 to 19.7% in May 2020. The unemployment rate as of September 2022 is down to 3.5%

([www.homefacts.com](http://www.homefacts.com)) During the Great Recession, Green Oak Charter Township’s unemployment numbers stayed relatively low and steady, differentiating the Township from unemployment trends witnessed both across Michigan and the nation. The Green Oak Township unemployment rate in ~~was~~ 2020 aligned, ~~however,~~ with global trends that resulted from the COVID-19 pandemic. The unemployment rate has since recovered to its historic trend.

EMPLOYMENT

Table 2 below demonstrates the breakdown of the employment of Township residents by occupation as reported in the 2010 Census and the 2015-2020 American Community Survey. Since 2010, the total workforce in Green Oak Charter Township has increased by 17.1%. Total sales and office occupations decreased during the ten-year period. All other occupation categories demonstrated increases since the year 2010. Management, business, science, and arts occupations increased the most over the last decade up 41.1% from 2010.

Table 2. – Employment by Occupation

	2010	2020	Change	
			#	%
Management, business, science, and arts occupations	3,235	4,565	1,330	41.1%
Service occupations	1,103	1,248	145	13.1%
Sales and office occupations	2,284	1,936	-348	-15.2%
Natural resources, construction, and maintenance occupations	843	860	17	2.0%
Production, transportation, and material moving occupations	796	1065	269	33.8%

Source: 2010 US Census and 2015-2020 American Community Survey

[Only 14% of Green Oak Township workers are also residents of the Township.](#) SEMCOG predictions indicate how various industry sectors' employment values are expected to change through 2045. As shown in Table 3, [employment within](#) Green Oak Charter Township is expected to see the greatest growth in Healthcare Services (+105.76%) followed by Professional and Technical Services & Corporate HQ (+43.90%). The industry sectors expected to see a decline in employment are manufacturing (-16.97%) retail trade (-12.16%), and Transportation, Warehousing, & Utilities (-0.24%)

**Table 3. – Employment by Industry**

Forecasted Jobs by Industry Sector	2020	2045	% Change 2020-2045
Natural Resources, Mining, & Construction	1,349	1,442	6.89%
Manufacturing	1,874	1,556	-16.97%
Wholesale Trade	743	753	1.35%
Retail Trade	1,217	1,069	-12.16%
Transportation, Warehousing, & Utilities	414	413	-0.24%
Information & Financial Activities	918	1,031	12.31%
Professional and Technical Services & Corporate HQ	820	1,180	43.90%
Administrative, Support, & Waste Services	688	810	17.73%
Education Services	198	220	11.11%
Healthcare Services	191	393	105.76%
Leisure & Hospitality	954	1,232	29.14%
Other Services	833	840	0.84%
Public Administration	378	410	8.47%
<b>Total Employment Numbers</b>	<b>10,577</b>	<b>11,349</b>	<b>7.30%</b>

Source: SEMCOG Community Profiles



*INCOME + POVERTY*

Median household income in Green Oak Charter Township was \$99,042 in 2020, and the per capita income was \$48,620. ~~Unlike 2000 in 2010, both~~Both the 2020 median household income and per capita income in Green Oak Township surpassed those of Livingston County as a whole (Livingston County 2020 - \$84,274 / \$41,039). The United Way of Michigan estimated in 2019 that 22% of Green Oak residents lived below the Asset Limited, Income Constrained, Employed (ALICE) Threshold: a measure of the basic cost of living within the county. The ALICE threshold incorporates additional factors beyond those assessed when determining the federal poverty line, including regional cost of living adjustments.

Table 4 demonstrates that Green Oak Charter Township continues to have a lower percentage of both households and persons living below the poverty line than Livingston County and Southeast Michigan.

**Table 4. – Poverty Level Comparison**

	<b>Persons in Poverty 2020</b>	<b>Households in Poverty 2020</b>
<b>Green Oak Township</b>	4.80%	4.30%
<b>Livingston County</b>	5.30%	4.90%
<b>Southeast Michigan</b>	13.80%	13.20%

Source: SEMCOG Community Profiles

## HOUSEHOLDS + HOUSING CHARACTERISTICS

### HOUSEHOLDS

The number of households has increased to 7,231 in 2020; this represents a twelve percent (12%) increase from 2010 and a thirty-three percent (33%) increase from 2000. In 2018, the American Community Survey categorized nearly seventy-seven (77%) of households in Green Oak Charter Township as “family households.” No updated data is available here. “Family households” consist of a householder and one (1) or more other people related to the householder by birth, marriage, or adoption; whereas “non-family households” consist of people living alone and households who do not have any members related to the householder.

Table 5 below depicts Household Demographics. The average household size was reported at 2.59 persons in 2020, down from 2.79 persons in the 2010 Census and 2.69 persons in the 2000 census. The average family size also decreased slightly from 3.15 persons in 2000 and 3.08 persons in 2010 to 3.02 persons in 2020. While the household and family sizes continue to decline, the number of households is increasing.

**Table 5. – Household Demographics**

	2000	2010	2020
<b>Number of Households</b>	5,438	6,450	7,231
<b>Average Household Size</b>	2.79	2.69	2.59
<b>Average Family Size</b>	3.15	3.08	3.02

*Source: 2000, 2010, and 2020 U.S. Census*

The changing household structure is aligned with broader trends observed in the region and will place additional pressure on the development of housing units to accommodate the increasing number of households.



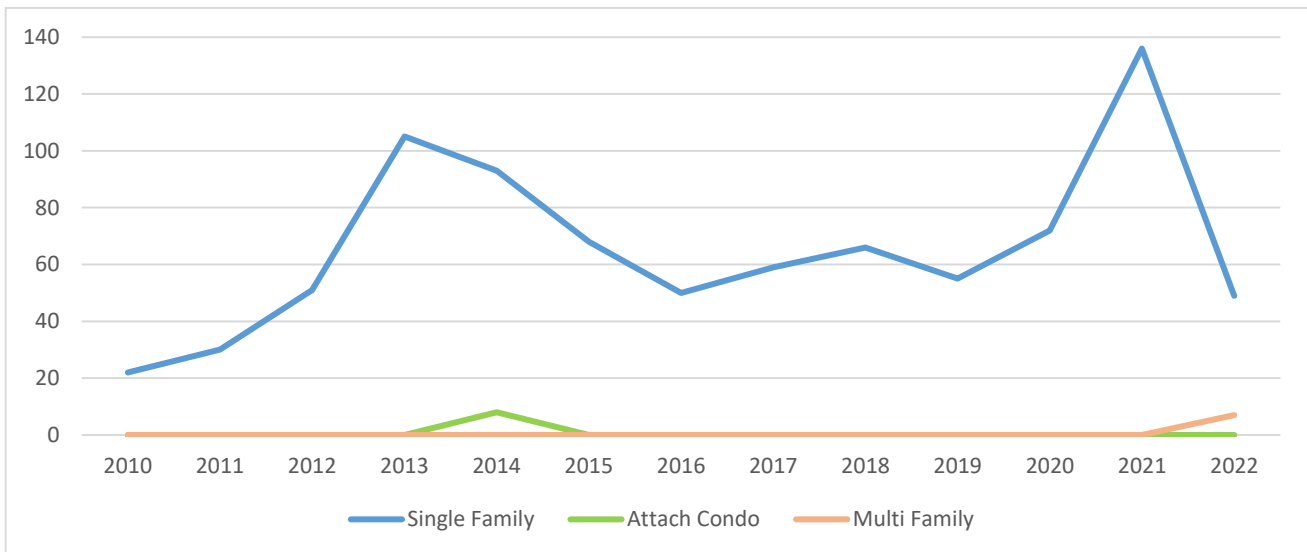
### HOUSING TENURE

As in previous years, the tenure of householders in Green Oak Charter Township is primarily owner-occupied (85% in 2020). This is a decrease from 2010 when 82% of units were owner-occupied. However, this distribution is similar to pre-Great Recession values when 85% of housing units were owner-occupied. Renter-occupied units comprised 10% of the total, and vacant units accounted for the remaining 5%, down from 8% vacant units in 2010. Rental housing units make up only a small percentage of the housing tenure of the Township, and the number of renter-occupied housing units increased by only 7.4% between 2010 and 2020, according to Census and American Community Survey data.

### NEW SINGLE FAMILY RESIDENTIAL DEVELOPMENT

Between 2000 and 2022, 1,713 new single-family residential homes, 90 attached residential condominium units, and 7 multi-family unit building permits were filed. All the 7 multi-family unit building permits filed in that period were filed in 2022. The housing boom peaked in 2004 with 159 total residential building permits and again in 2013 with 105 building permits. Residential building permit filing declined to 8 permits by 2009 but quickly rebounded. Surprisingly, building permit applications did not noticeably decline in 2020 or thereafter during the COVID-19 pandemic. Figure 6 below demonstrates Single-Family, Attached Condominium, and Multi Family Residential Building Permits in Green Oak Charter Township from 2010 to 2022.

**Figure 6. – New Residential Building Permits, 2010 – 2022**



Source: SEMCOG Residential Building Permits, 2022



*HOUSING COST*

Table 6, below, demonstrates the decline of housing value from 2010 to 2020. Unlike the Livingston County and Southeast Michigan averages which showed a decline in median housing value between 2010 and 2020, Green Oak Township experienced a slight increase in median housing value during that period. The change in median gross rent in Green Oak, however, was aligned with the broader County and regional changes in median gross rent: the values slightly declined. With the changes in household structure, noted earlier, demand for housing units to accommodate smaller households will likely rise. The seven multi-family housing building permits filed in 2022 may influence the availability of rental units, altering the median gross rent and housing tenure in Green Oak.

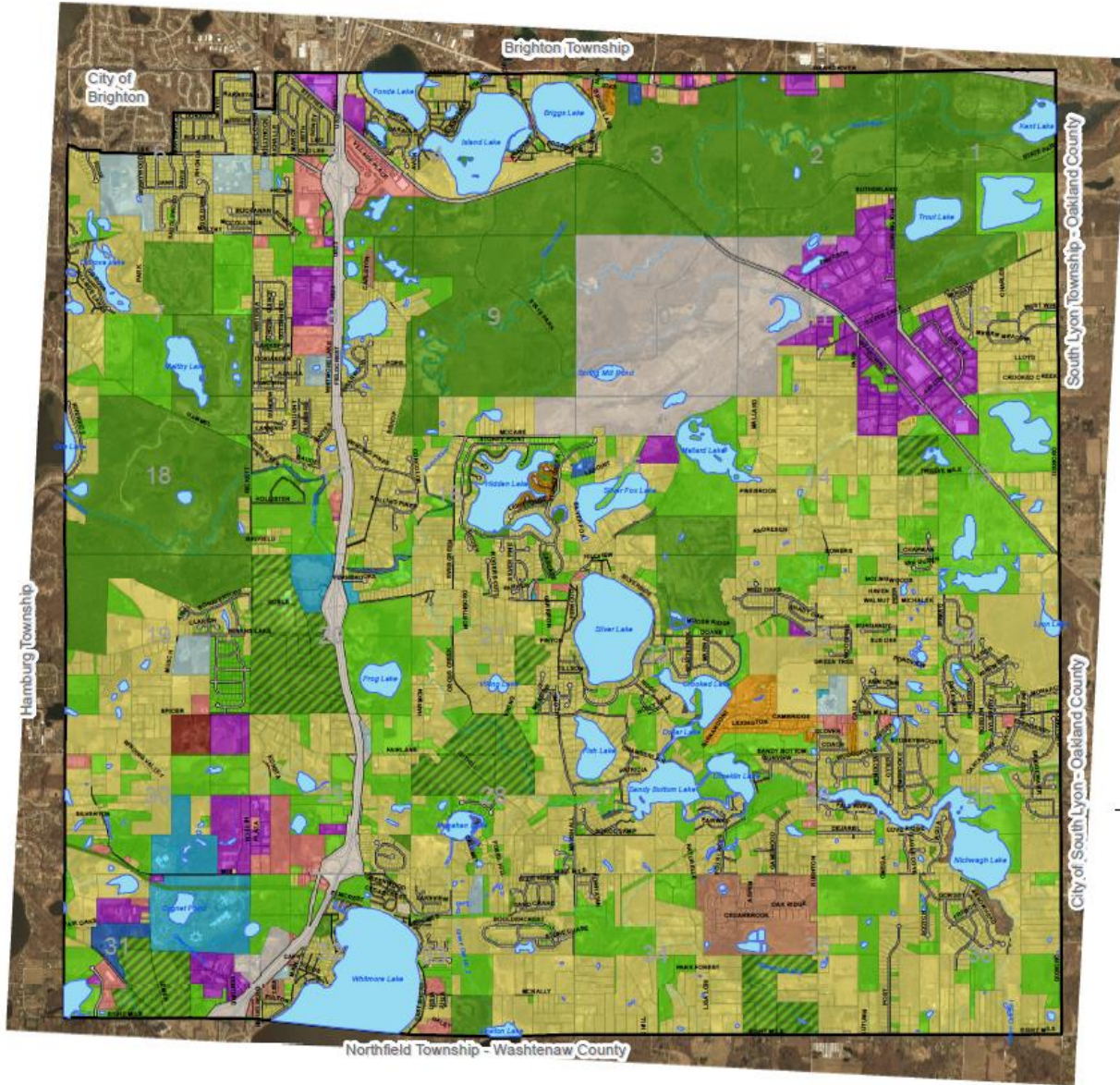
**Table 6. – Housing Value, Rent (in 2020 dollars)**

	Green Oak Township		Livingston County		Southeast Michigan	
	2010	2020	2010	2020	2010	2020
<b>Median Housing Value</b>	\$282,385	\$283,000	\$271,954	\$256,100	\$204,380	\$184,700
<b>Median Gross Rent</b>	\$1,120	\$958	\$1,081	\$1,067	\$997	\$976
















Source: SEMCOG Community Profile



Existing Land Use


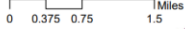


**LEGEND**

 Agricultural - Farming	 Multiple - Family Residential
 Cemetery	 Public Uses (Churches, Fraternal Organizations)
 Commercial	 Recreation
 Extractive / Mining	 Single - Family Residential
 Government	 Transportation / ROW
 Industrial	 Utilities
 Mobile Home Park Residential	 Other
	 Vacant / Open Space

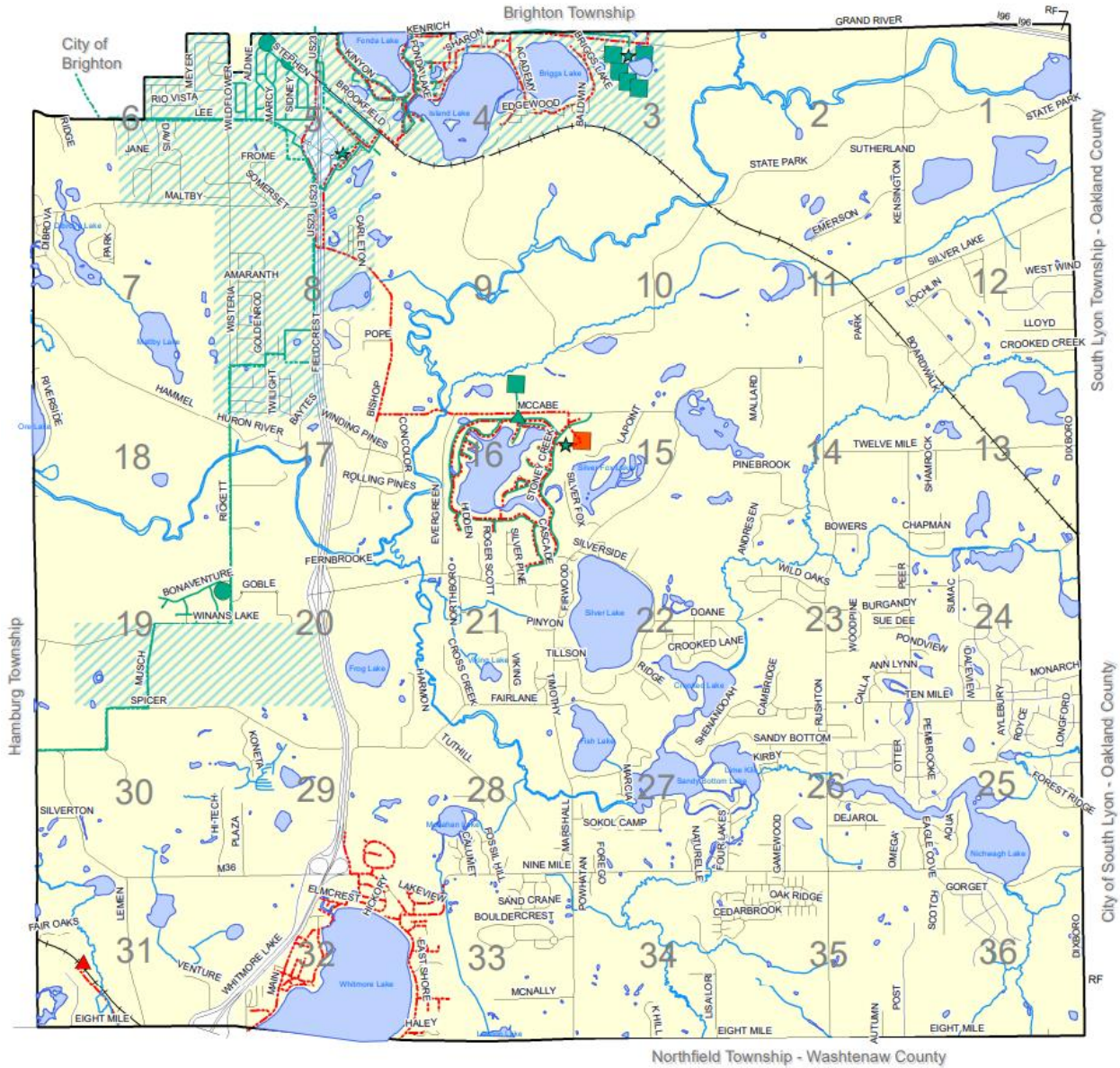
**EXISTING LAND USE:**

Green Oak Charter Township  
Livingston County, Michigan



  
 June 12, 2019  
 Carlisle/Wortman Associates, Inc.  
 Ann Arbor, Michigan

**Major Utility Systems Map**



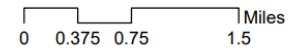


**LEGEND**

- Proposed Water District
- Water Main
- Elevated Storage Tank
- Production Wells
- Water Storage/Iron Storage Facilities
- Well House
- Sanitary Sewer Line
- Hidden Lake Treatment Plant
- Northfield Township Treatment Plant

**MAJOR UTILITY SYSTEMS**

*Green Oak Charter Township  
Livingston County, Michigan*

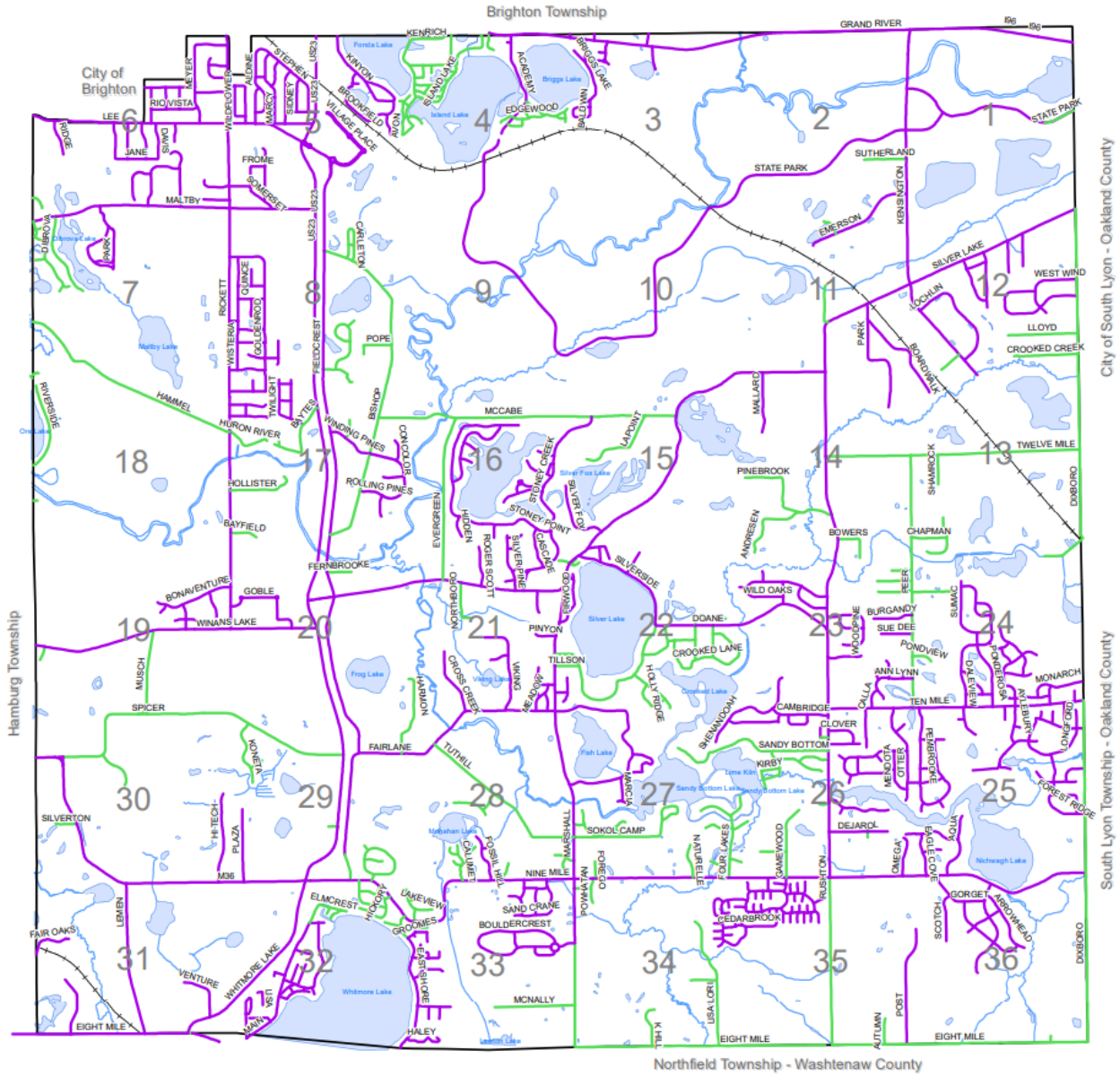


April 26, 2019  
Carlisle/Wortman Associates, Inc.  
Ann Arbor, Michigan



**Transportation Statistics**

Paved + Unpaved Road Map

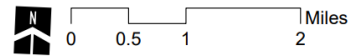


**LEGEND**

- Paved
- Unpaved

**TOWNSHIP ROADS**

Green Oak Charter Township  
Livingston County, Michigan

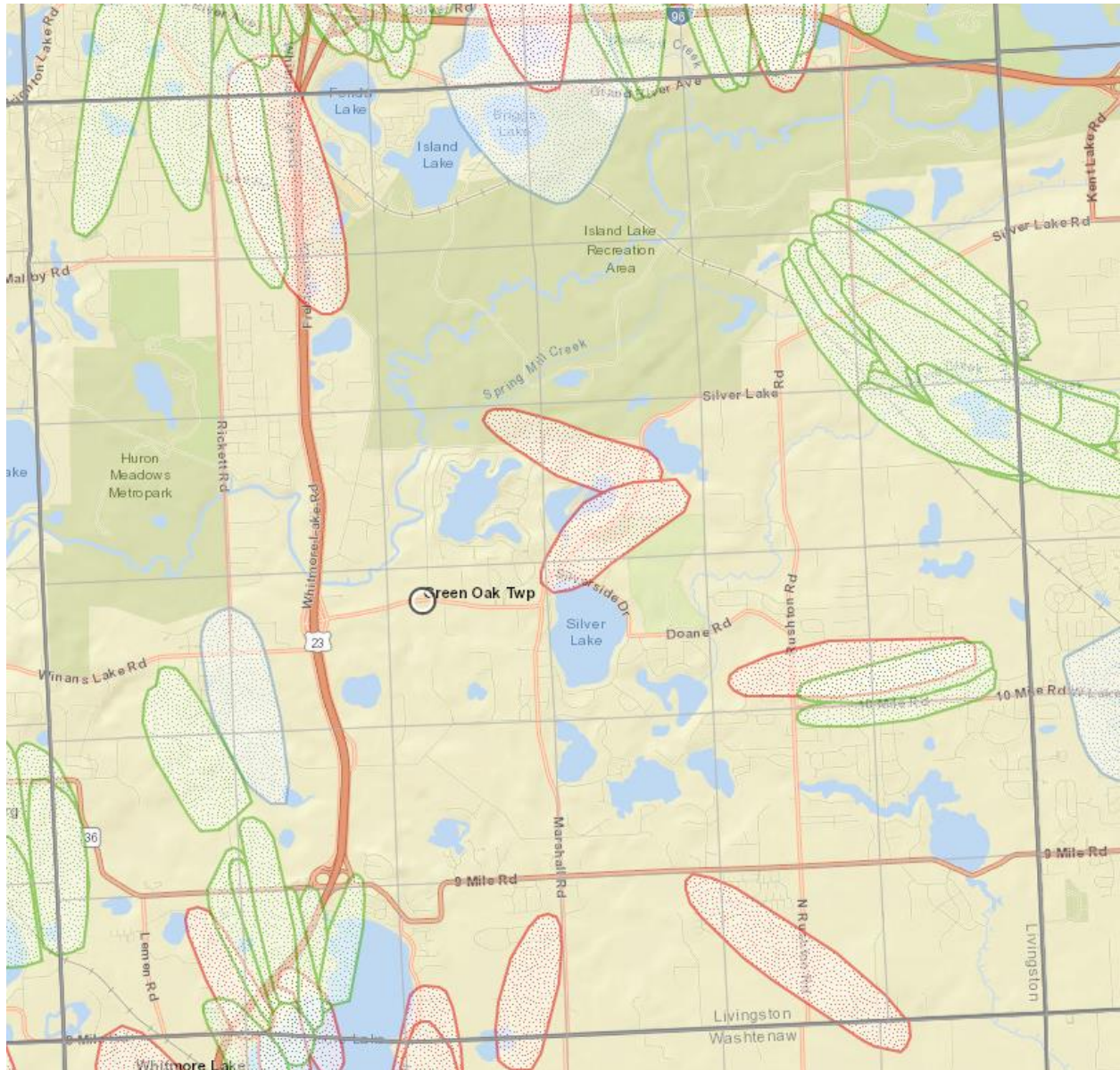


May 13, 2019  
Carlisle/Wortman Associates, Inc.  
Ann Arbor, Michigan



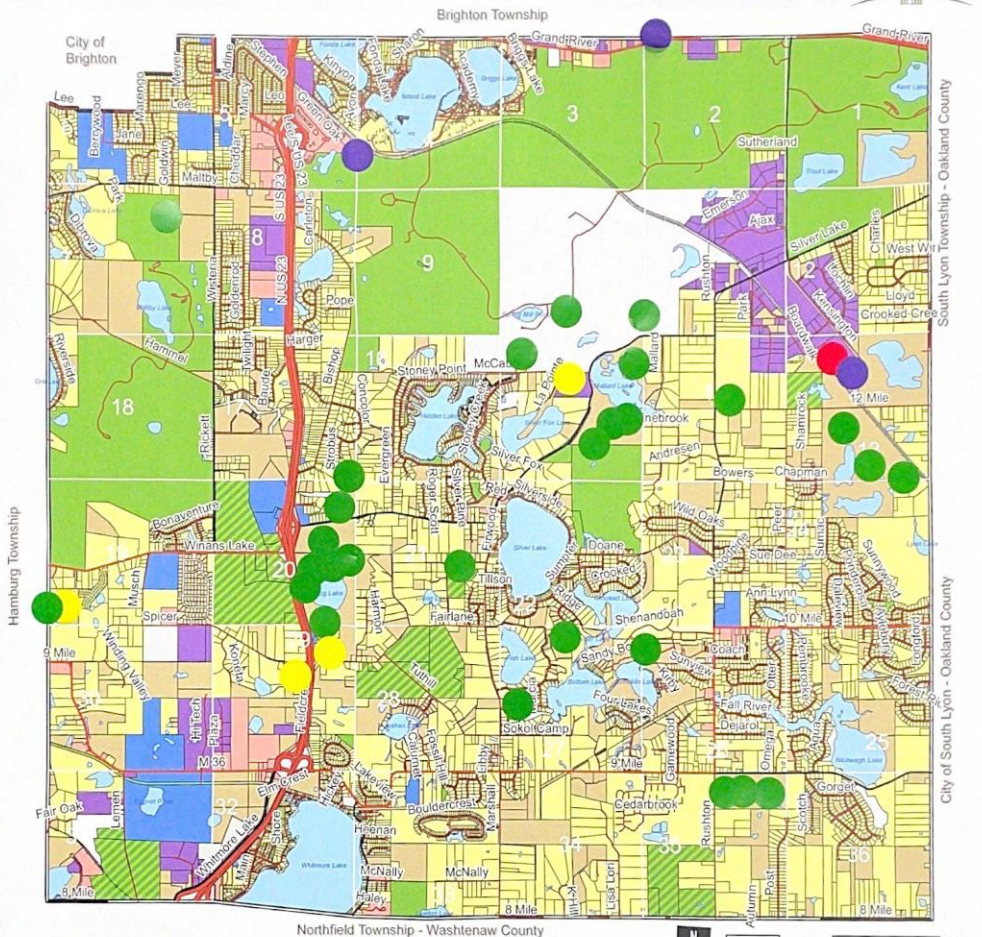
### Wellhead Protection Areas

Source: Department of Environment, Great Lakes, and Energy



[Open House Boards](#)

# LAND USE



## Existing Land Use Legend

- |  |                           |
|--|---------------------------|
| Residential                                      | Single Family Residential |
| Commercial                                       | Multi-Family Residential  |
| Industrial                                       | Commercial / Office       |
| Recreation                                       | Industrial                |
| Government & Public Uses                         | Recreation & Open Space   |
| Other  |                           |
| Agricultural - Farming                           |                           |
| Transportation, Communication, & Utilities (TCU) |                           |
| Vacant / Open Space                              |                           |

### Background

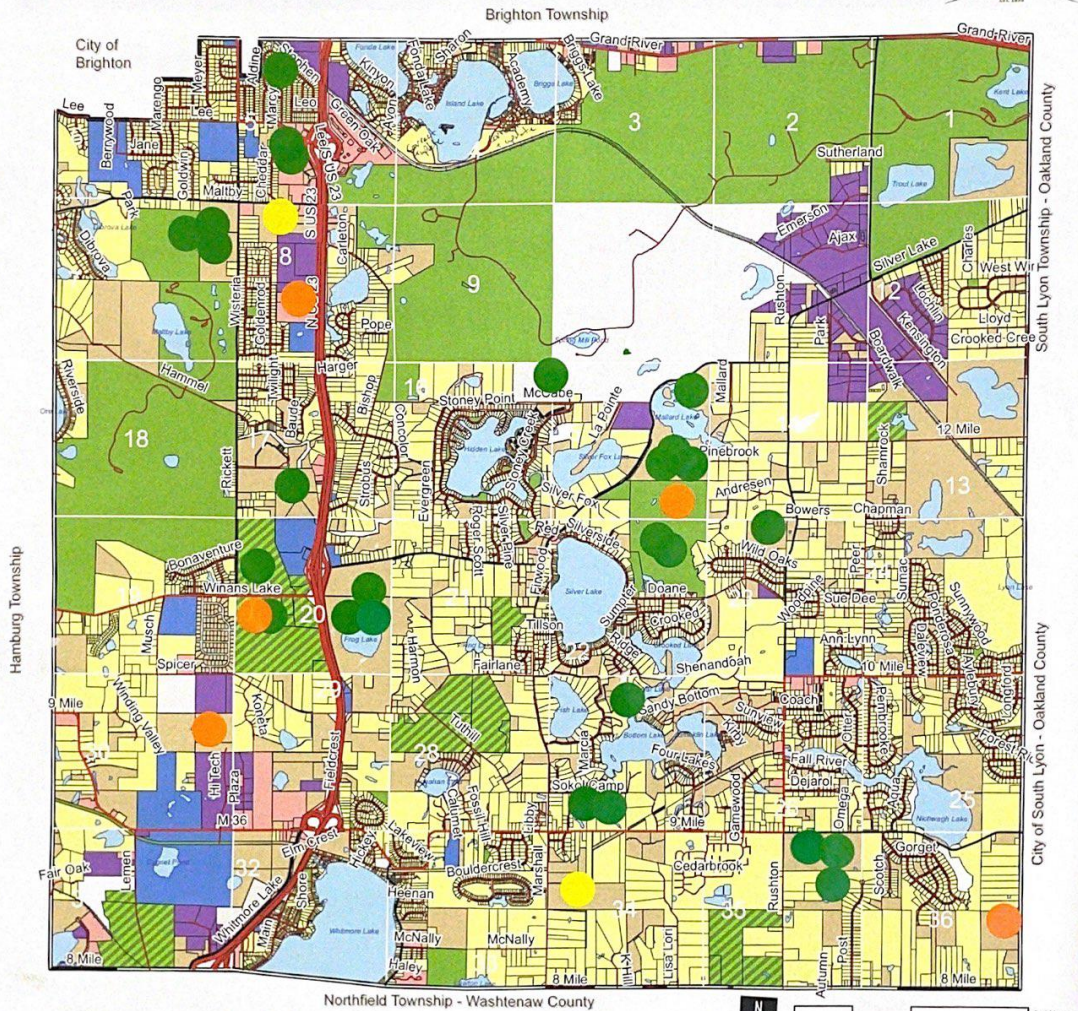
The Future Land Use map is a policy / planning tool included in a master plan which identifies where various land uses should be located in a community. The map is used to help decision makers when considering development and land use proposals.

### Directions

Take two (2) stickers for each land use type, and use those stickers to show us where you think new development should occur.



# LAND USE



### Existing Land Use Legend

- Residential
- Commercial
- Industrial
- Recreation
- Government & Public Uses
- Other
- Agricultural - Farming
- Transportation, Communication, & Utilities (TCU)
- Vacant / Open Space

- Single Family Residential
- Multi-Family Residential
- Commercial / Office
- Industrial
- Recreation & Open Space



0 0.375 0.75 1.5 Miles

#### Background

The Future Land Use map is a policy / planning tool included in a master plan which identifies where various land uses should be located in a community. The map is used to help decision makers when considering development and land use proposals.

#### Directions

Take two (2) stickers for each land use type, and use those stickers to show us where you think new development should occur.





# HOUSING OPTIONS



**Background**  
 Existing housing options in Green Oak Township are predominantly on large lots in rural areas or large homes within subdivisions. The community survey identified the need for more housing options, specifically identifying the need for more affordable options for seniors and young families.

**Directions**  
 Use up to three (3) stickers to indicate the top three housing types you would like to see developed in the township.

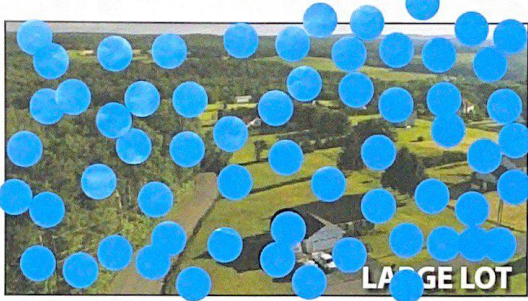
## SENIOR HOUSING

The senior population is the fastest growing age group in the United States. Senior housing is already at a premium, and lack of housing options is projected to get worse in coming years.



## SINGLE FAMILY HOUSING

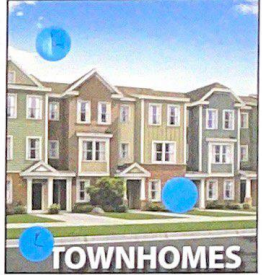
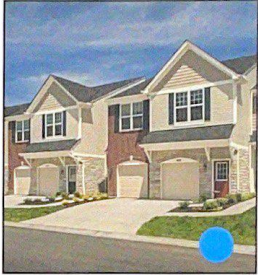
Single family homes come in three basic forms; large lot, large lot subdivisions, or small lot subdivisions.



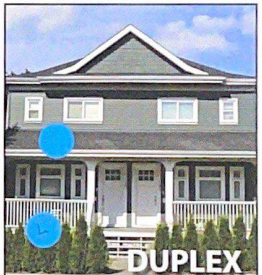
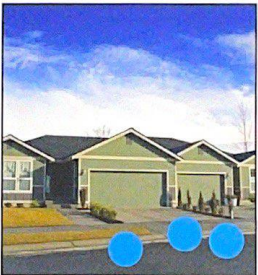
Rural lots, typically two acres or larger

## MULTI-FAMILY HOUSING

Multi-family housing can take a variety of forms, and can act as transitional zones between single family houses and other uses. They tend to have smaller footprints than single family homes.

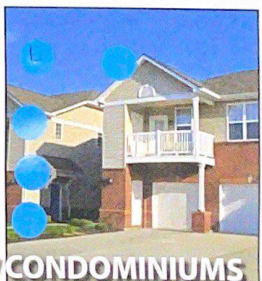
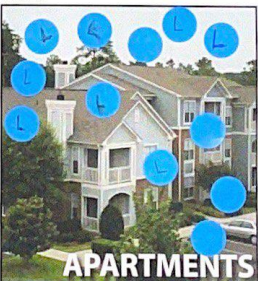


Subdivision developments with large homes on lots greater than 0.5 acres



Subdivision developments with small to medium sized homes on lots less than 0.5 acres.

Frequently owner-occupied, townhomes are single family homes that shares one or more walls with other units. Townhomes are frequently found in rows and can house multiple units. They typically have two or more stories.



A single building divided into two apartments with two separate entrances. Unlike townhomes, one owner owns the entire building, while individual units are rented.

Multiple units in one building block. Units are either rented (apartment) or owned (condominiums).

# HOUSING OPTIONS



**Background**

Existing housing options in Green Oak Township are predominantly on large lots in rural areas or large homes within subdivisions. The community survey identified the need for more housing options, specifically identifying the need for more affordable options for seniors and young families.

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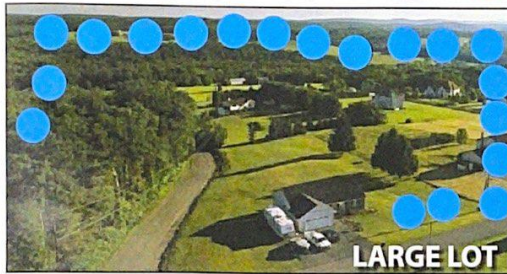
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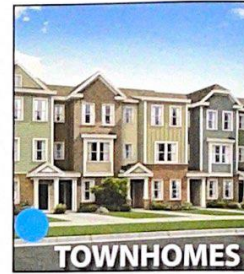
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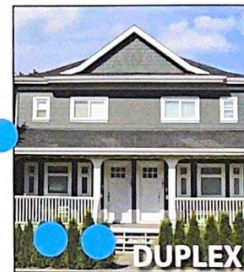
Rural lots, typically two acres or larger

## MULTI-FAMILY HOUSING

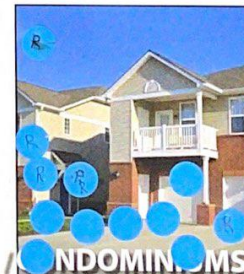
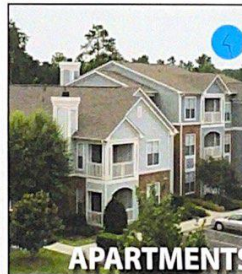
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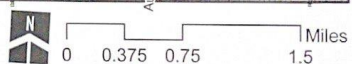
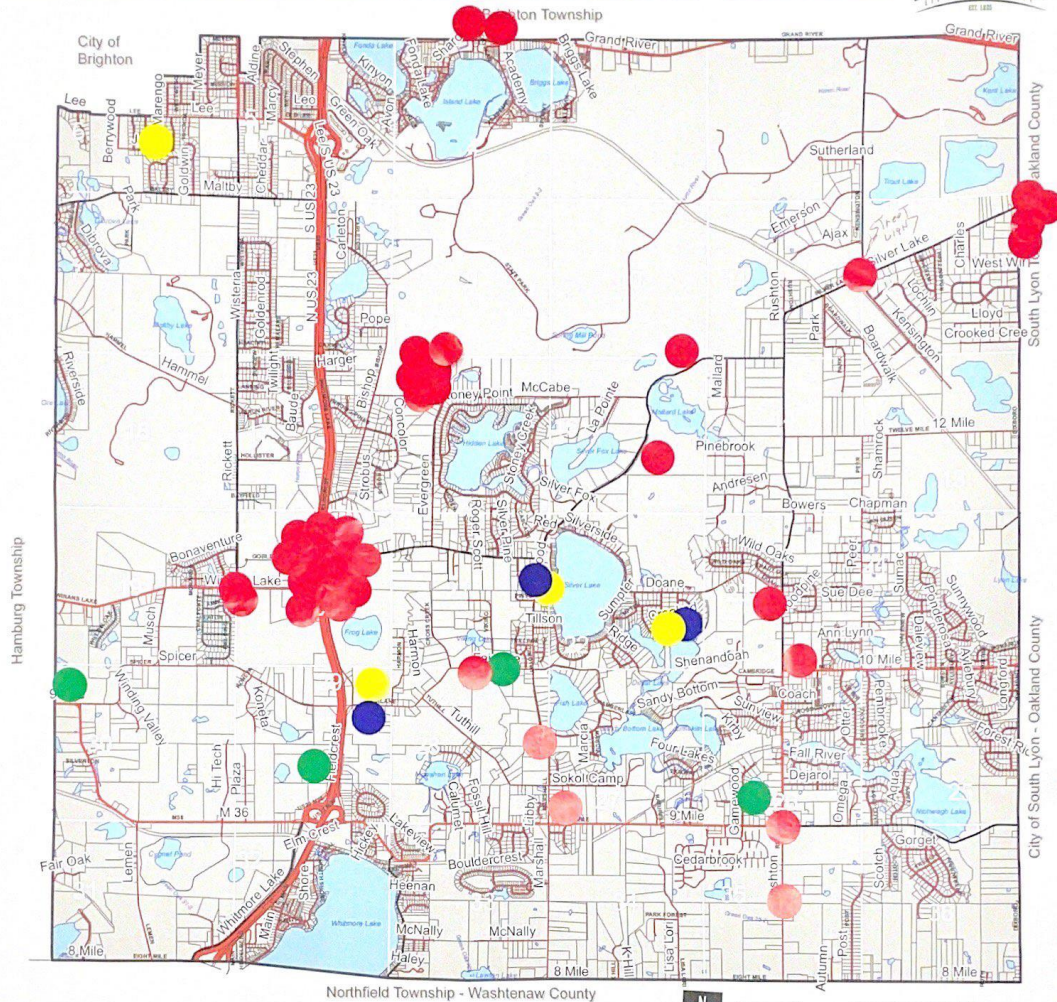
Subdivision developments with small to medium sized homes on lots less than 0.5 acres.



Multiple units in one building block. Units are either rented (apartment) or owned (condominiums).



# INFRASTRUCTURE



**Background**

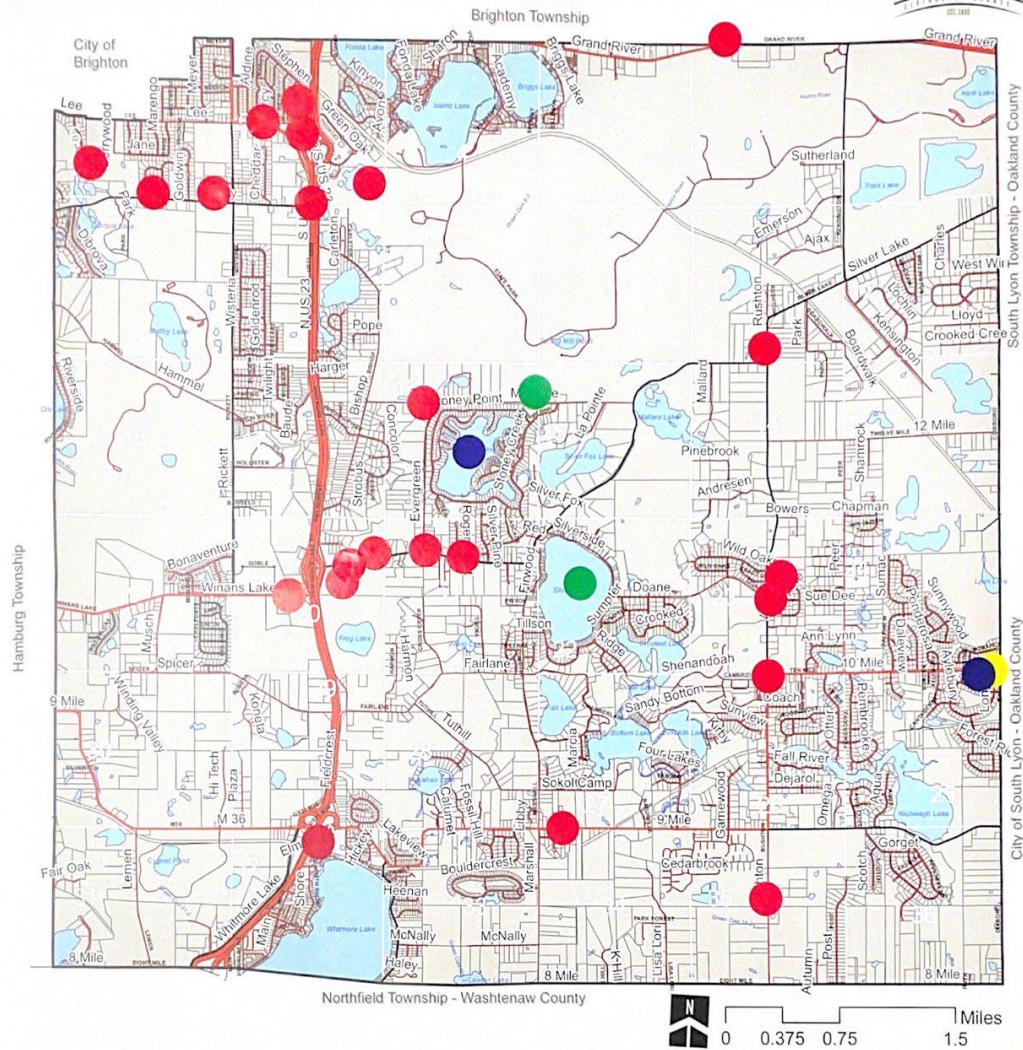
Community infrastructure includes the basic physical systems and facilities necessary for a community to function and thrive. Infrastructure includes:

- **Transportation** (roads, railways, airports, ports);
- **Utilities** (electrical grid, gas storage and distribution, drinking & wastewater systems, stormwater facilities, telecommunications, etc.);
- **Natural & recreational assets** (parks, agricultural/food systems),
- **Renewable energy resources** (wind, solar, geothermal, etc.); and
- **Community facilities** (schools, public safety, community centers).

The availability and capacity of certain types of infrastructure, especially roads, drinking water systems, and wastewater systems, are critical for development of certain types of uses and certain development densities. The Township uses infrastructure and land use planning to determine where water and sewer utilities should be made available.

- Directions**
- Use up to three (3) red stickers to indicate traffic problem areas.
  - Use one (1) blue sticker to indicate areas where water service should be expanded.
  - Use one (1) yellow sticker to indicate areas where sewer service should be expanded.
  - Use one (1) green sticker to indicate areas where internet and/or wifi service should be expanded.

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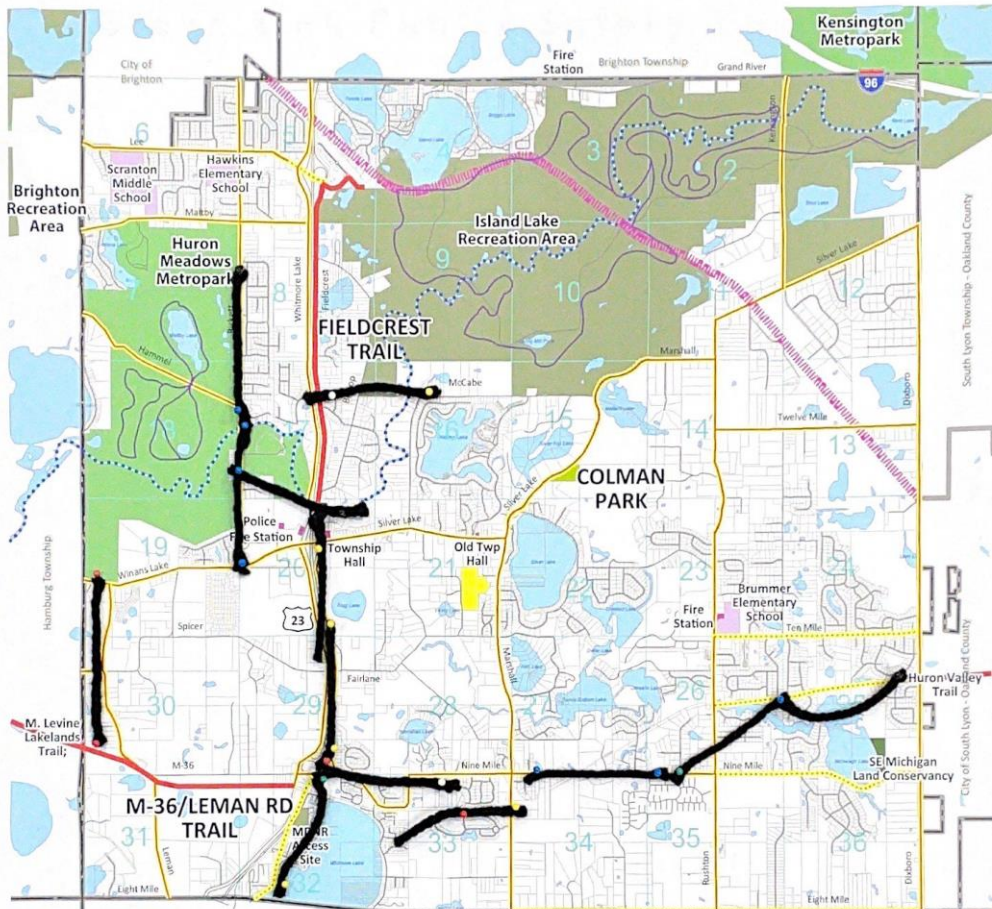
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# NON-MOTORIZED CONNECTIVITY



- Existing Pathways
- Proposed Pathways
- ⋯ Potential Pathways - Further Study Required
- Existing Trail
- Proposed Trail
- ⋯ Potential Trail - Further Study Required
- ⋯ Potential Trail with Rail - Further Study Required
- ⊠ Potential Non-Motorized Bridge

- Parks
- Preserved Land
- Schools
- Township Facilities

### Pathway Plan

Green Oak Township  
Livingston County



Source: Livingston County Base Map Data  
September 4, 2013  
Callida/Worlman Associates, Inc.  
Ann Arbor, Michigan

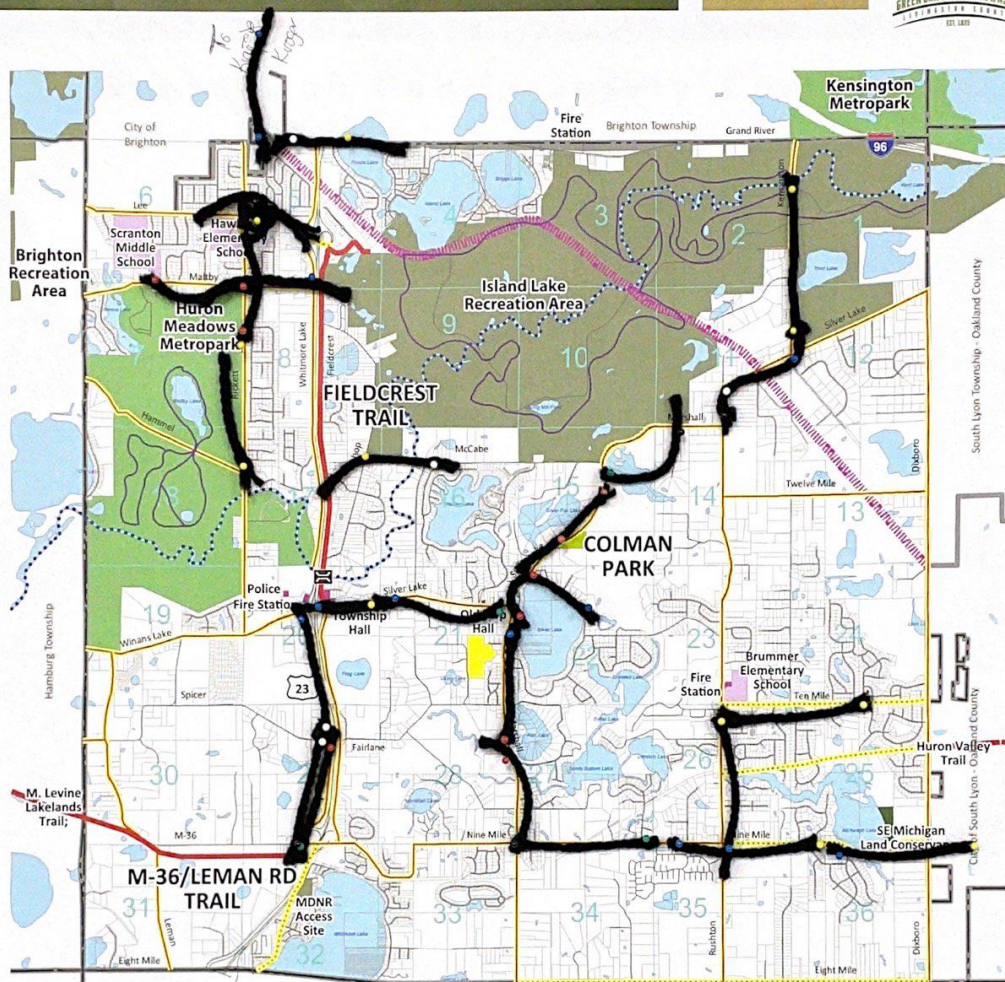
#### Background

Non-motorized facilities are sidewalks, bike paths, and trails which enable residents to travel through the community safely with minimal interaction with vehicles. Green Oak Township has an adopted non-motorized pathway plan. Trail and sidewalk development can be expensive; individual projects are usually developed in two miles trail segments.

#### Directions

You have been given a string which roughly equals two miles. Use the string and push pins to show us routes that you feel are a priority for trail development.

# NON-MOTORIZED CONNECTIVITY



- |  |                     |
|--|---------------------|
| Existing Pathways                                  | Parks               |
| Proposed Pathways                                  | Preserved Land      |
| Potential Pathways - Further Study Required        | Schools             |
| Existing Trail                                     | Township Facilities |
| Proposed Trail                                     |                     |
| Potential Trail - Further Study Required           |                     |
| Potential Trail with Rail - Further Study Required |                     |
| Potential Non-Motorized Bridge                     |                     |

**Pathway Plan**  
Green Oak Township  
Livingston County

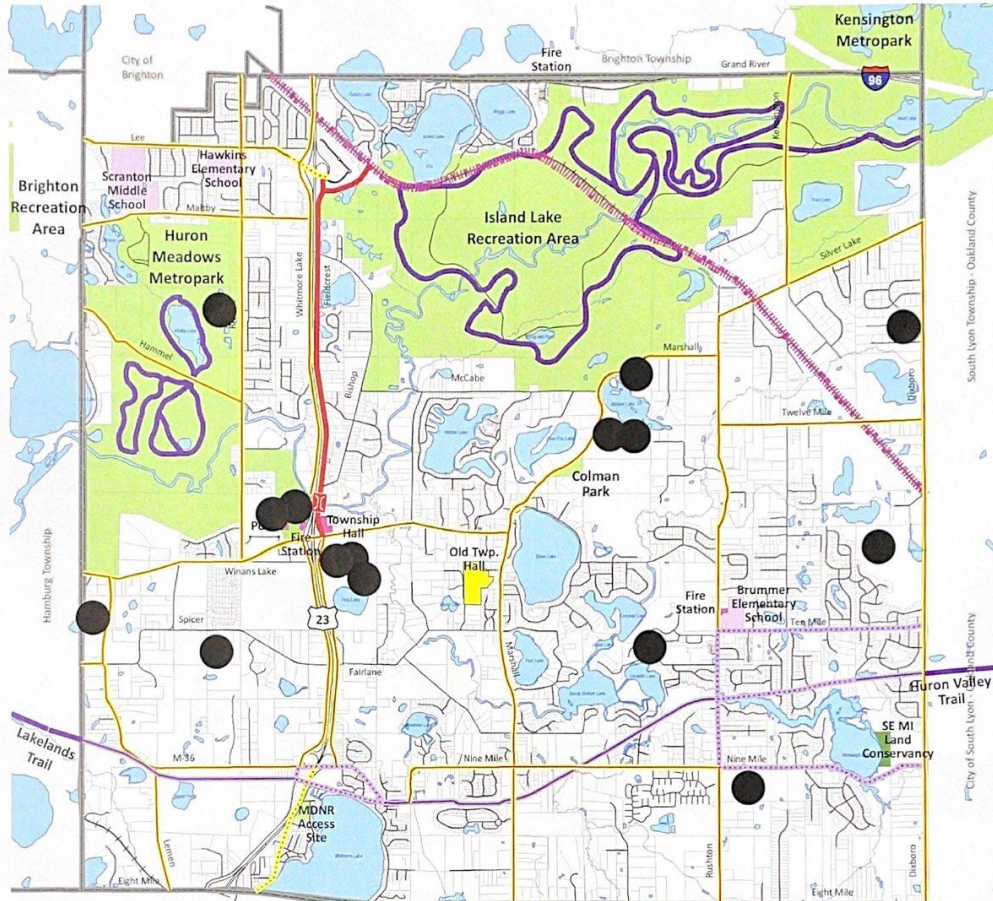
Source: Livingston County Base Map Data  
September 4, 2019  
Carlisle/Wortman Associates, Inc.  
Ann Arbor, Michigan

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# PARKS & RECREATION



- Existing Pathways
- Proposed Pathways
- - - - Potential Pathways - Further Study Required
- Existing Trail
- - - - Proposed Trail
- - - - - Potential Trail - Further Study Required
- - - - - Potential Trail with Rail - Further Study Required
- = Potential Non-Motorized Bridge
- Parks
- Preserved Land
- Schools
- Township Facilities

## Background

Green Oak Township contains approximately 6,514 acres of recreation land. Only 40 acres are owned by the Township; the remaining acreage are owned and maintained by the Huron Clinton Metropark Authority (HCMA) or the Michigan Department of Natural Resources (MDNR).

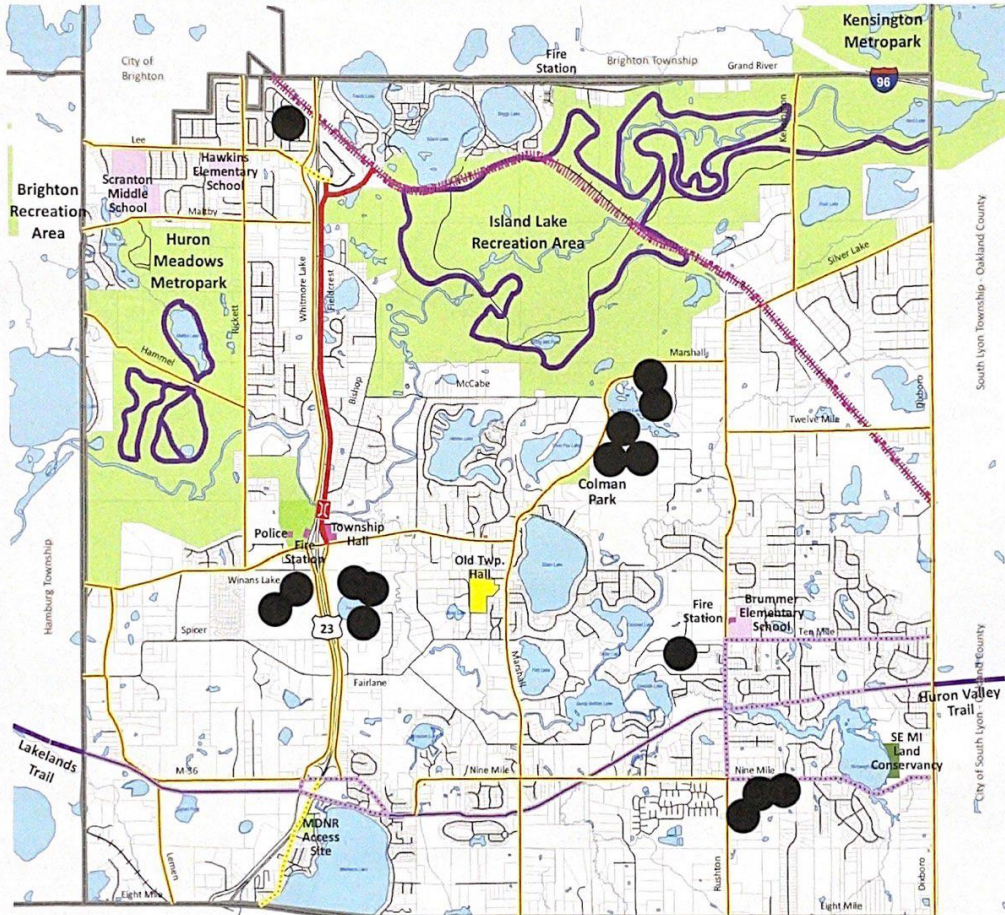
Responses in both the 2016 Parks & Recreation Plan and the current Master Plan community surveys indicated a need for more local (close-to-home) parks. Close-to-home parks are typically owned by the local municipality and service the recreation needs of residents within a service radius of up to two miles. They may take the form of mini-parks/tot lots (usually under 1 acre), neighborhood parks (typically 5 to 15 acres with some active-use amenities, intended to service the immediate area), or community parks (usually larger than 25 acres with special or active uses which service the entire community). Colman Park and the currently undeveloped Butt Park would both be considered neighborhood parks.

## Directions

On this map, use one (1) sticker to identify any locations which you feel would be good candidates for new park and recreation space.

On the Park Amenities board, use up to five (5) stickers to show us what kind of amenities you'd like to see in your local parks. If there you have an idea for something that is not already on the board, please write in your idea in the box at the bottom of the page.

# PARKS & RECREATION



- |   |  |                     |
|---|--|---------------------|
| Existing Pathways                           | Proposed Trail                                     | Parks               |
| Proposed Pathways                           | Potential Trail - Further Study Required           | Preserved Land      |
| Potential Pathways - Further Study Required | Potential Trail with Rail - Further Study Required | Schools             |
| Existing Trail                              | Potential Non-Motorized Bridge                     | Township Facilities |

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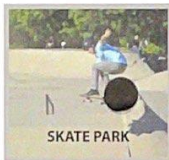
# PARK AMENITIES



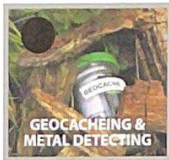
PLAY STRUCTURES



PATHWAYS (INSIDE PARK, PAVED)



SKATE PARK



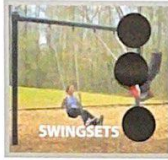
GEOCACHING & METAL DETECTING



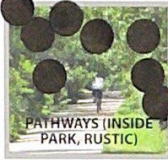
DISC GOLF



CAMPING



SWINGSETS



PATHWAYS (INSIDE PARK, RUSTIC)



DOG PARK



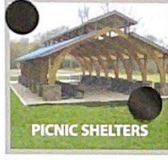
HORSESHOES



BASKETBALL COURTS



CANOE / KAYAK LAUNCH



PICNIC SHELTERS



TRAILS (BETWEEN PARKS)



SWIMMING POOL (OUTDOOR)



MODEL AIRCRAFT COURSE



BASEBALL / SOFTBALL DIAMONDS



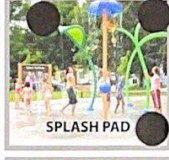
FISHING



GRILLS



BIKE RACKS



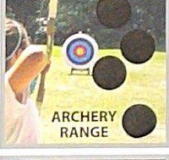
SPLASH PAD



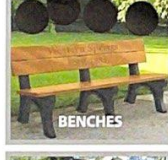
SHUFFLEBOARD



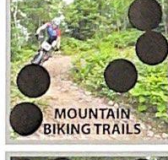
CRICKET FIELD



ARCHERY RANGE



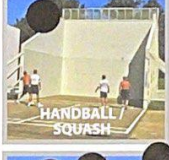
BENCHES



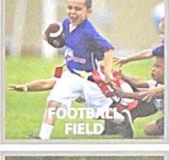
MOUNTAIN BIKING TRAILS



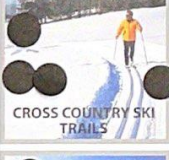
TREES LANDSCAPING



HANDBALL / SQUASH



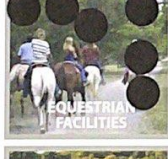
FOOTBALL FIELD



CROSS COUNTRY SKI TRAILS



AMPHITHEATER / STAGE



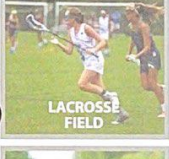
EQUESTRIAN FACILITIES



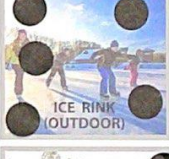
EXERCISE EQUIPMENT



HOCKEY RINK (OUTDOOR)



LACROSSE FIELD



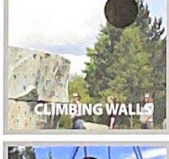
ICE RINK (OUTDOOR)



BATHROOMS



CONCESSIONS / CANOE RENT



CLIMBING WALLS



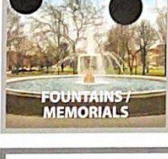
TENNIS COURTS



SOCCER FIELDS



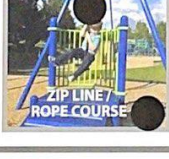
SLED HILL



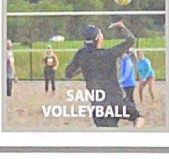
FOUNTAINS / MEMORIALS



COMMUNITY CENTER



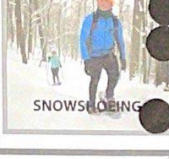
ZIP LINE / ROPE COURSE



SAND VOLLEYBALL



NATURAL AREAS



SNOWSHOEING

OTHER (NOT LISTED)

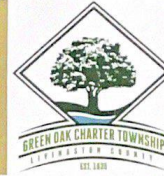
# PARK AMENITIES



OTHER (NOT LISTED)



# OPEN SPACE & ENVIRONMENTAL PRESERVATION



### SUSTAINABILITY RETROFIT PROGRAMS

Develop programs which offer financial or other incentives for property owners to implement green technology.

### ENHANCED STORMWATER MANAGEMENT

Methods to slow stormwater runoff, allowing water to infiltrate to aquifers and cleaning it in the process. These techniques also help reduce erosion and protect rivers and streams from sedimentation problems.

### STREAM & WATERSHED BUFFERS

Vegetated buffers slow stormwater runoff, allowing water to infiltrate and preventing pollutants from entering our streams and lakes.

### PROMOTE GREEN INFRASTRUCTURE

Green roofs, rain gardens, vegetated swales, permeable pavement, and tree plantings are examples of green infrastructure. Green infrastructure can help to control stormwater, reduce the heat island effect, and provide habitat.

## ENVIRONMENTAL PROTECTION

Green Oak Township is blessed with an abundance of high quality open spaces. These spaces help to protect our drinking water, provide recreation opportunities, and offer a number of other ecological services. What steps should we take to preserve these environments?

### WETLAND PROTECTION

Wetlands act as giant sponges, absorbing, holding, and filtering large amounts of water. Wetlands also critical habitat spaces, offering shelter to the most diverse variety of plant and animal species on the planet outside of rain forests and coral reefs.

### PROMOTE LOW IMPACT DESIGN (LID)

Requiring new developments to preserve existing natural features and promoting the use of LID techniques can help to reduce strains on existing infrastructure, lower overall development costs, and protect our air and water.

### TREE PROTECTION

Trees are important green infrastructure components, helping to reduce stormwater velocity, lessen the heat island effect in developed areas, and reducing the amount of pollution and CO2 in the air.

## LAND PRESERVATION

High quality landscapes and open spaces are frequent targets for new developments. How should these undeveloped spaces be treated? What can we do in our existing built spaces to ensure that high quality outdoor experiences are available in the future for our children and grandchildren?

### CLUSTER DEVELOPMENT

Require more compact development on a piece of land while simultaneously requiring a percentage of permanently protected open space on that land.

### TRANSFER OF DEVELOPMENT RIGHTS

Allows for greater density development in designated areas in exchange for the permanent protection from development on another piece of land.

### PROMOTE INFILL

By offering developers incentives to fill in gaps in built environments, we reduce the pressure to build in undeveloped spaces.

### OUTRIGHT LAND PURCHASE

Acquisition of properties through the use of general funds, grant monies, or donations. Properties can be retained as recreation facilities (parks) or held as nature preserves.

### ZONING ADJUSTMENTS

Zoning can be used to control where development can occur and determine what form that development should take.

#### Background

Environmental protection & land preservation were identified as high priorities in the master plan survey. There are a variety of different techniques which can be used to accomplish these goals.

#### Directions

Use up to five (5) stickers to indicate the top environmental protection techniques you would like to see implemented in the township.

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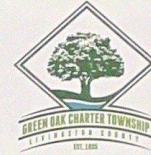
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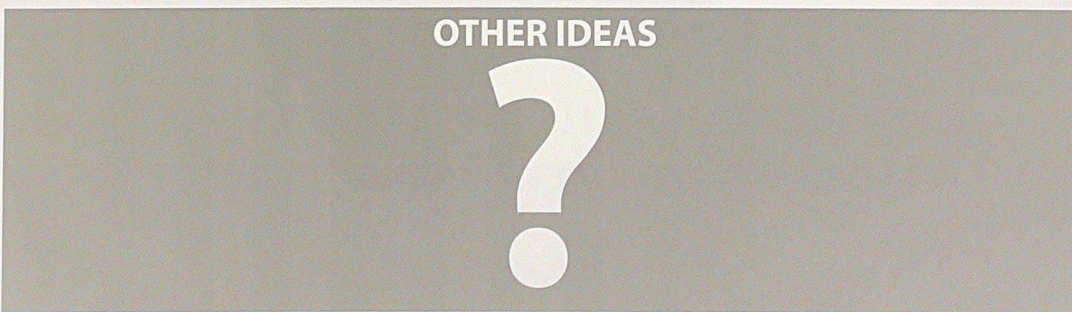
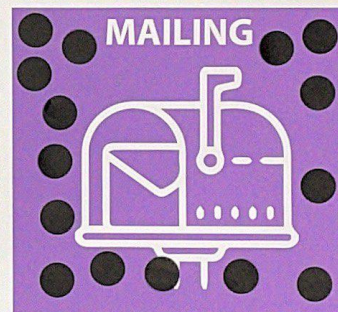
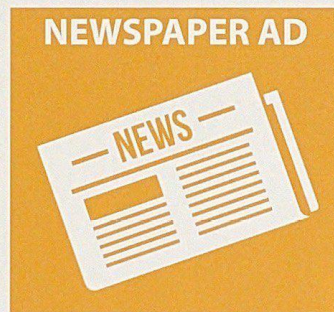
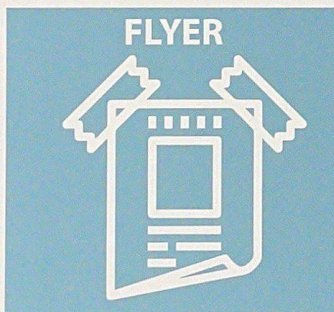
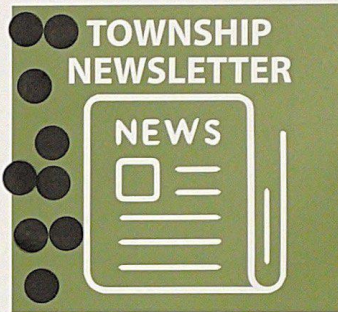
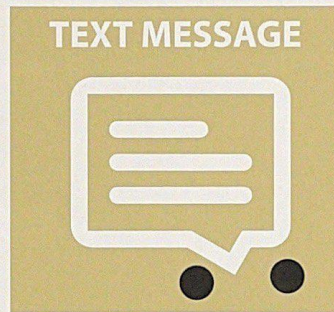
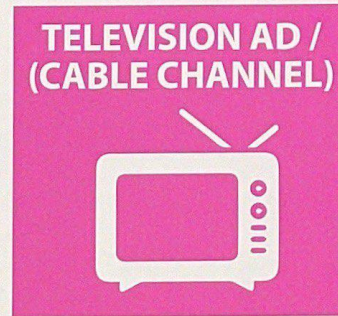
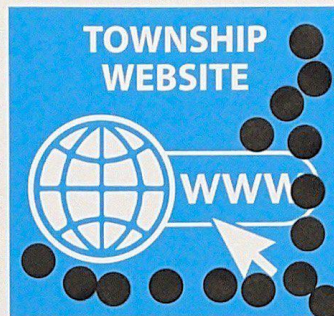
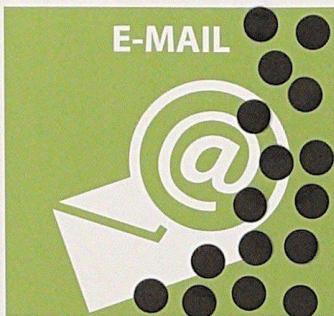


# COMMUNICATION



Communication between Township officials and residents is crucial to ensure that residents stay well informed regarding regulatory issues, new developments, and other items of concern.

How do you prefer to stay in touch with the Township? Please place up to three (3) stickers on the icons below. If you have an idea for a communication method that isn't shown, please write it on a sticky note and add it to the board.

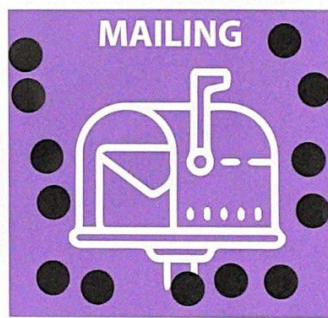
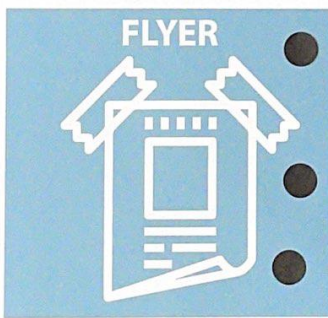
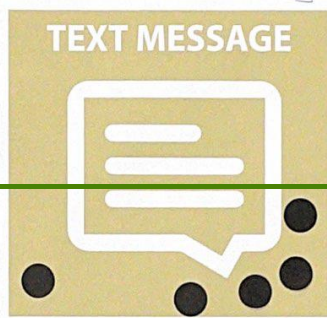
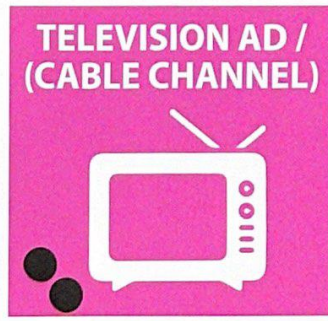
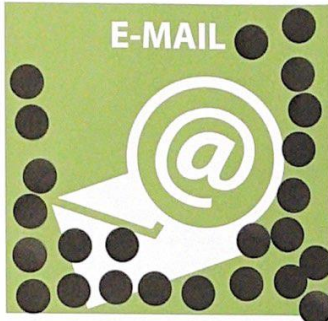


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**OTHER IDEAS**

Way finding signs  
TWP APPS  
Emailed newsletter