

THE PLACE

History & Regional Setting

Community Planning History

Historically Genoa Township was characterized by rural agricultural land uses, with resort-type development around Lake Chemung and the other 15 lakes in the region. In the early 1970's the rural character began to change. Suburbanites from the Detroit and Ann Arbor areas began looking at Livingston County as a convenient commute between this quiet lifestyle and metro area employment.

Following the residential growth have been supportive commercial and public facilities. The small town atmosphere associated with the cities of Brighton and Howell attracted residents, businesses and small industries to this area. Gradually the area began to establish its own healthy employment base. Providing sanitary sewer service in parts of Genoa Township has contributed to the rapid pace and intensity of its growth. According to Livingston County and Genoa Township figures, most of the recent development in Genoa Township has been residential.



The Township Hall sits on property that originally belonged to the Carl Christian Conrad family. It was first purchased from the United States Government in 1830. After the Civil War, there was no one left to farm the land, and it was purchased by John Schoenhals.

John had three daughters and one son. The son was named Oscar. Oscar married Lyle's father's sister Anna. In 1950, Anna bought the brick two-story home on ½ acre just east of the farm on Brighton Road for \$10,000, and Lyle bought the 149-acre farm on Dorr and Crooked Lake for \$15,000. The 2-story brick home on Brighton Road still stands today.

The land was farmed from 1950 until 1962 when the Michigan State Highway came through and condemned eight different parcels in the Township to construct Interstate 96. The State Highway Department gave the homesteaders 30 days to get out of their way. The Herbst family received \$17,500 for their condemned 43.9 acres, which was then cut in half on a 45° angle.

The dairy business was no longer viable because there wasn't enough land close to the barn to take care of the cows; the barn was now on the north side of the expressway and the house was on the south side. That was when Mr. Herbst went into the beef business, purchasing cattle from Mr. Fisher of the General Motors Fisher Body family.

Regional Setting

Genoa Charter Township is located in the southeastern part of Livingston County, Michigan. It is located between the cities of Brighton and Howell. The Grand River Avenue corridor and I-96 Interchange provide connect the Township business district to cities of Brighton and Howell. The Township is centrally and strategically located within 45 miles of Detroit, Lansing, Ann Arbor, Flint and Toledo. The Township has a total area of 36.3 square miles, of which, 34.2 square miles of it is land and 2.1 square miles of it (5.78%) is water.

MAP 1.1. GENOA TOWNSHIP: LOCATION



Data Sources: Counties, Municipalities, Roads: Michigan Geographic Framework, 2022. Map Exported: 2/17/2023 6:54 PM © 2022 Giffels Webster

Regional Planning

Livingston County Master Plan

2018

Livingston County Planning Department Staff in collaboration with the Livingston County Planning Commission drafted the Livingston County Master Plan. All twenty municipalities in Livingston County have a Master Plan and a Zoning Ordinance. This county-wide plan is intended to guide the content of these local municipal plans. The plan focuses on identifying an issue such as housing, infrastructure, etc. and provides a general path with general goals and highlighting best practices implemented or considered in surrounding communities and beyond.

The plan does not make any recommendations specific to Genoa Township. However, this plan provides extensive references to best management practices and encourages the local communities to duplicate some recommendations in their respective Master Plans. In general, the plan recommends Livingston County communities to focus on promoting regional public transit options, regional trail connections, and to expand/improve recreational options/facilities. The plan refers to worksheet tools for evaluating stormwater ordinances, evaluating aging in place readiness, and using placemaking as a tool for economic development.

Livingston County Transit Plan

April 2019

The Livingston County Transit plan was prepared for Livingston County and Livingston Essential Transportation Service (LETS). This plan provides a set of short, mid, and long-term action plans and related funding and governance options for implementation over the next 5-10 years. The plan aims to improve the existing LETS transit system and services. LETS is currently headquartered west of Howell, but the bulk of its pick-ups and drop-offs occur further east in the Grand River Avenue / I-96 corridor from Howell to Brighton through Genoa Township.

The plan refers to two action items that could directly impact Genoa Township and necessary improvements should be planned accordingly.

1. The plan foresees a new bus route along Grand River Avenue through Genoa Township with three potential bus stop locations. It is crucial to complete the sidewalk network along Grand River Avenue and to the future stops to create more equitable access to these services.
2. LETS is also considering a second facility near the City of Brighton. This would require the local municipality's cooperation in locating/developing a site and monetary contribution. The new facility would include a fueling station, bathroom, secured parking for LETS vehicles, 10 to 15 parking spots for visitors, and space for dispatch staff. It is estimated to cost 6-7 million with an approximate local share of 56,000 dollars. The location is yet to be determined.

Livingston County Parks and Open Space Plan, 2019 - 2023

May 2019

This Parks and Open Space Plan was not intended to plan for the recreation needs of the local units of government in Livingston County, but rather Livingston County government owned park land. It is projected that the City of Brighton and Handy and Genoa Townships will experience the largest percent growth in population, with over 60% growth, resulting in increased demand for recreational facilities to serve the users.

Genoa Township is home to Fillmore County Park which consists of 198 acres of land in the northeast quadrant of the Township, where agriculture is more prominent. It is easily accessed off Grand River Avenue about midway between the cities of Howell and Brighton. The entire park parcel was recently rezoned to Public and Recreational Facilities. There is a Master Plan for a phased development of the park.

One of the goals of this plan is to 'build mutually beneficial relationships with public and private park and recreation providers to help establish Fillmore County Park.' The recommended implementation strategy to achieve this goal is to maintain good communication with Genoa Township to avoid duplication of recreation facilities within the Township.



Livingston County Trails Plan

June 2020

The Livingston County Trails Plan was prepared by Livingston County, with the Livingston County Outdoor Network (LivOn) functioning as a Steering Committee throughout the planning process. The plan recommends a Livingston County Trails Vision that is organized in three pieces: the Near Term Network identifies connections using existing gravel road and local road routes; the Priority Routes identify major connections that should be implemented first; and the Long Term Network illustrates a trail vision that can be implemented as opportunities present themselves.

One of the priority routes connects Howell to Brighton along Grand River Avenue through Genoa Township. The plan notes that the Grand River Corridor priority trail route that is already under development by the communities along the corridor, including the Township, will provide bicycle and pedestrian improvements, but is not detailed further in the plan.

The plan focuses on routes that run through the southern part of the Township, enabling greater connections to recreation areas. The proposed Latson-Chilson-Brighton Road Trail would provide a connection between existing shared use paths; the public engagement process reinforced a strong desire to connect the neighborhoods along these corridors to nearby population centers through a separated facility. The plan recommends an 11' wide asphalt shared use path with 2' clear zones on either side following the north side of Brighton Road and east side of Chilson Road and Latson Road. The Chilson-Swarthout-Pettysville Road Paved Shoulder that is also outlined in the plan would connect the proposed pathways on Chilson Road and Brighton Road to the Brighton State Rec Area and the Mike Levine Lakelands Trail State Park. These trails would connect to the other proposed Maltby-Hamburg-Bauer Road Trail that would connect the southeastern corner of the Township to the City of Brighton, the Island Lake State Recreation Area, Huron Meadows Metropark, and Brighton State Recreation Area.

Grand River Avenue Access Management Study

June 30, 2014

The Grand River Access Management Plan was developed by the corridor communities in Livingston County along with the Michigan Department of Transportation (MDOT), the Livingston County Road Commission (LCRC), and the Southeast Michigan Council of Governments (SEMCOG). This plan provides a cooperative and coordinated approach to access for planned and existing development along the corridor.

The longest segment of the Grand River Avenue corridor extends through Genoa Township. The western half of the corridor in Genoa Township is under the jurisdiction of MDOT and the remainder under the LCRC. The Land Use along the corridor is mainly commercial with some industrial and single-family residential. Genoa Township's 2013 Master Plan recommends reconstructing Grand River Avenue with a narrow median in the existing right-of-way. The access management plan recommends implementing best management practices such as limiting driveways and minimum driveway spacing requirements at certain locations along Grand River Avenue. The plan also recommends incorporating the Grand River Avenue Access Management Plan into communities' local Master Plan either in total or by reference to provide a legal basis for requiring access design in the site plan review process. One of the plan goals is to promote continued coordination and communication among SEMCOG, MDOT, Livingston County, local governments, and the public during the development review process.

Crosstown Trail- Howell Area Non-motorized Trail Study

2003

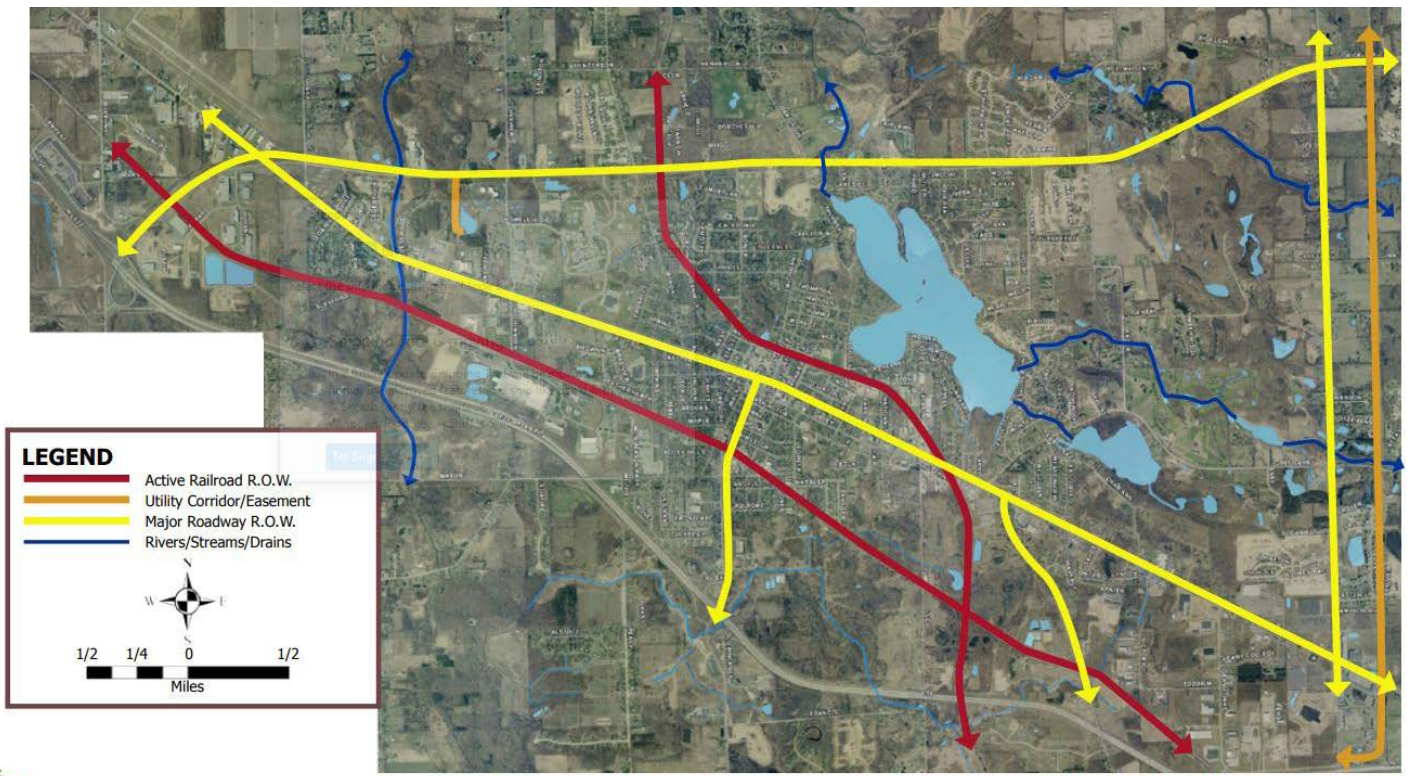
The city of Howell and MDOT developed this plan with a goal to creating a non-motorized transportation system connecting M-59, Latson Road, and I-96 BL (Grand River Avenue). The plan aims to use the Man-made corridors are areas such as road rights-of-way, active railroad rights-of-way, abandoned railroads, and utility corridors/easements to provide for safe non-motorized transportation. Genoa Township was one of the members of the steering committee.

The study area as defined in the plan includes areas immediately adjacent to and contained within the triangle created by M-59, Grand River Avenue, and the Detroit Edison utility corridor just east of Latson road. The area is contained entirely within Livingston County and within portions of the City of Howell, Howell Township, Genoa Township, Oceola Township, and Marion Township.

The eastern boundary of the crosstown trail loop. Referred to as Detroit Edison Corridor Spur is approximately 3.1 miles long that is located entirely within the Township and acts as the main north-south link between M-59 spur and Grand River Avenue Spur. This would be also connecting the Latson Interchange area near Grand River Avenue intersection to City of Howell.



Sketch of Proposed Detroit Edison Corridor Spur, Looking North from Aster Drive



INVENTORY & ANALYSIS: CORRIDORS MAP



Adjacent Communities: Long Range Planning

Oceola Township

2007

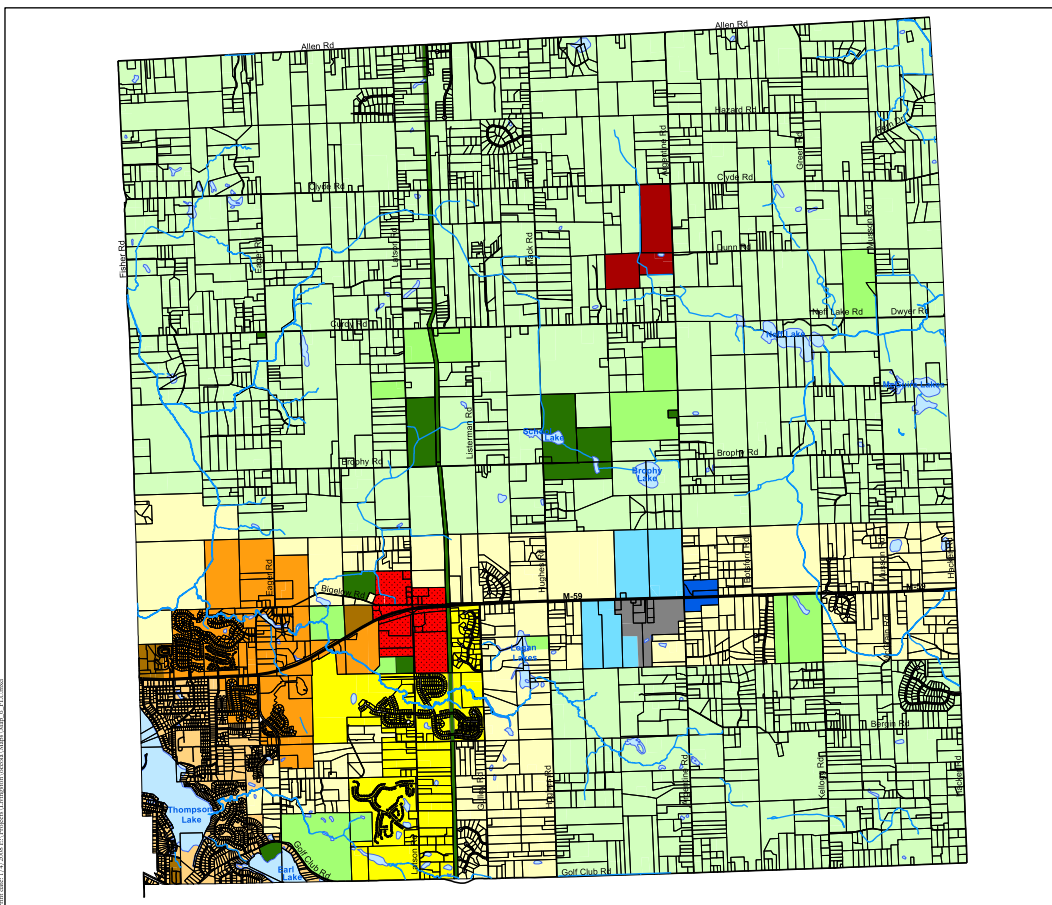
Land Uses. On western border with Genoa, Oceola Township has low/medium density residential and recreational uses planned. Agricultural and large lot residential uses are planned for the eastern half of the border with Genoa Township. This is compatible with the uses proposed along that border in Genoa, which include low-density residential, large lot rural residential, and agriculture/country estate.

Goals. Oceola and Genoa Townships are both highly auto-oriented communities. Both have goals to promote growth of residential areas near existing commercial nodes and major roadways and to promote nonmotorized transit through the development of greenways and trails. Both communities are interested in conserving open space and natural features, as well as adding and expanding industrial, technology, and research-based uses where appropriate.

Transportation/Non-motorized. Planning for a north to south greenways trail in the ITC corridor that connects with the Cross Town Trail is underway. This hike/bike trail would connect Genoa Township to the southwest corner of Oceola via Grand River.

Implementation. On western border with Genoa, Oceola Township has low/medium density residential and recreational uses planned. Agricultural and large lot residential uses are planned for the eastern half of the border with Genoa Township. This is compatible with the uses proposed along that border in Genoa, which include low-density residential, large lot rural residential, and agriculture/country estate.

Other. Oceola recognizes that many of their residents go to Genoa to shop.



Map 6
Future Land Use Plan

Oceola Township
Livingston County, Michigan

- State Highways
- Roads
- Agriculture/Large Lot Residential
- Low Density Residential A
- Low Density Residential B
- Low/Medium Density Residential
- Medium Density Residential
- High Density Residential
- Village Center
- Rural Commercial
- Office
- Mixed Use
- Industrial
- Public/ Semi Public
- Recreation/Open Space
- Water

Base Map Source: Livingston County Road Commission and Livingston County GIS, March 2006.

Data Source: McKenna Associates, Inc., November 2006.

0 3,500 7,000
Feet

McKenna
ASSOCIATES
INCORPORATED

3/05/2007
Adopted 11/8/07

Hamburg Township

2020

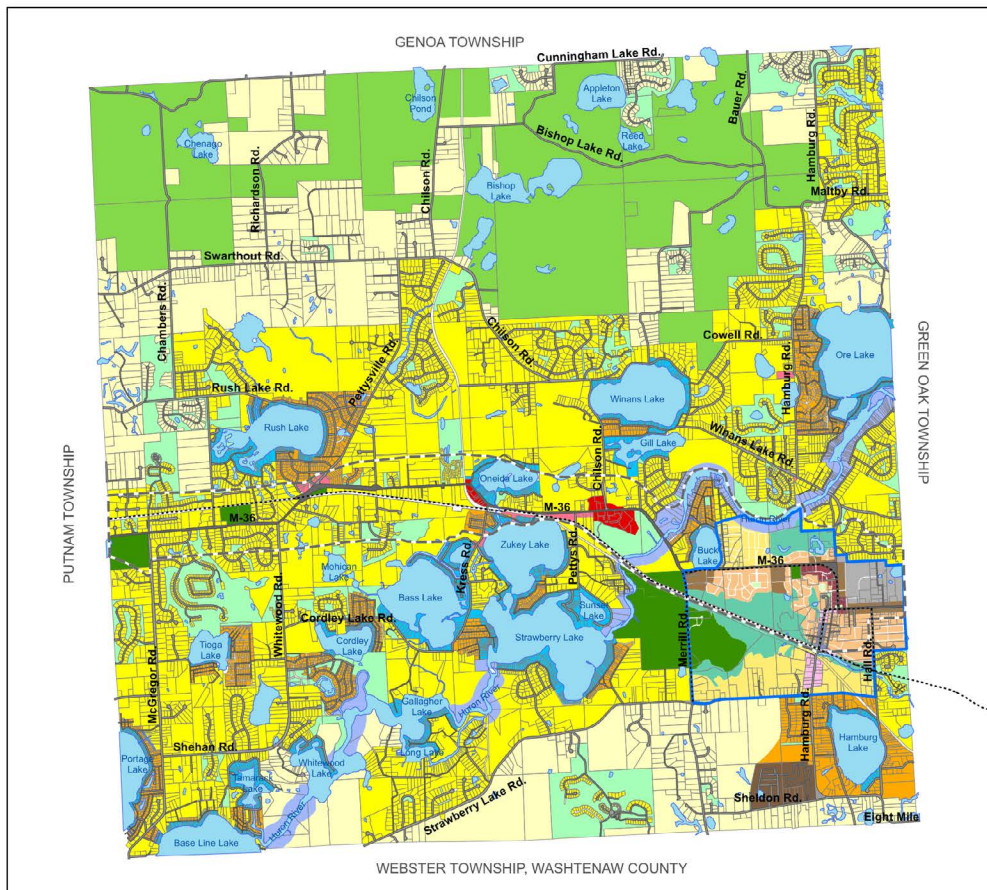
Land Uses. Hamburg's northern border with Genoa Township is planned to predominately allow public and private recreational facilities, with some conserved open space and low density residential. This is compatible with Genoa's planned uses of agriculture/country estates and low-density residential.

Goals. Hamburg Township and Genoa Township are both committed to preserving natural features while allowing development and growth where it is appropriate and conflict the least with surrounding uses. They are both invested in developing a mix of housing types to support all residents.

Transportation/Non-motorized. There is no set action plan for achieving the goals in this Master Plan. There are no proposed connections to Genoa Township.

Implementation. The Master Plan indicates an interest in working with the surrounding communities to expand mass transportation options in the area, particularly for the aging population.

Other. No relevant redevelopment strategies or area plans were discussed in the Master Plan.



Map 4
Future Land Use
Hamburg Township,
Livingston County, Michigan

- High Density Residential
- Medium Density Residential
- Low Density Residential
- Multiple Family Residential
- Waterfront Residential
- Natural River Residential
- Neighborhood Commercial
- General Commercial
- Conserved Open Space
- Public and Private Recreational Facilities
- Public/Quasi-Public
- Water Bodies
- M-36 Corridor
- Trail
- Village Center Area**
- Village Residential-2
- Village Residential-10
- Village Core
- Village Gateway
- Village Historic
- Village Transition
- Industrial
- Conservation District
- Parkland
- Village Boundary

0 0.25 0.5 1 1.5 2 Miles



Source: Hamburg Township, 2020

08/2020

City of Brighton

2020

Land Uses. The northern border with Genoa Township is zoned for innovation, and general and light industrial. The southern border with Genoa is a mix of moderate density mixed residential, single, family residential, and community service uses. This is not compatible with Genoa Township's planned residential (low density and large lot rural) and private recreation uses along Brighton's northwestern border. Uses are more compatible at the southern part of the border between the communities, where both communities have a mix of residential uses.

Goals. Both the City of Brighton and Genoa Township have goals to ensure that a range of attractive housing choices for all residents is available, and that residential options are accessible to neighborhood goods and services. Both communities emphasize the need to connect residential and commercial areas via motorized and non-motorized transportation, as well as the need for high quality site and building design in order to support neighborhoods, commerce, and employment centers. Goals to preserve open space and protect wetlands and woodlands are also common between the communities.

Transportation/Non-motorized. Brighton is proposing a bike route and a shared use path that nears the border with Genoa Township in two spots: the northwestern part of the city and just south of Brighton Lake. Their plan has an implementation matrix that outlines the action items under each goal, what plans it connects to, what groups are responsible for implementation, the time frame for completing the action item, potential funding sources, and supporting partners.

Implementation. During the visioning exercise for the City of Brighton's Master Plan, it was suggested that surrounding communities such as Genoa help finance additional parking options downtown.

Other. The City of Brighton has a specific downtown plan, which is a focus area for development.

Brighton Township

2020

Land Uses. The northern border with Genoa Township is zoned for single family residential, open space, and has some undeveloped land. The southern part of the border is zoned for institutional and commercial retail uses. This is compatible with Genoa's future Land Uses in this area, which include large lot rural residential, low density residential, and small lot single family residential uses. General commercial and neighborhood commercial uses along Grand River in Genoa are compatible with Brighton Township's zoning for the area.

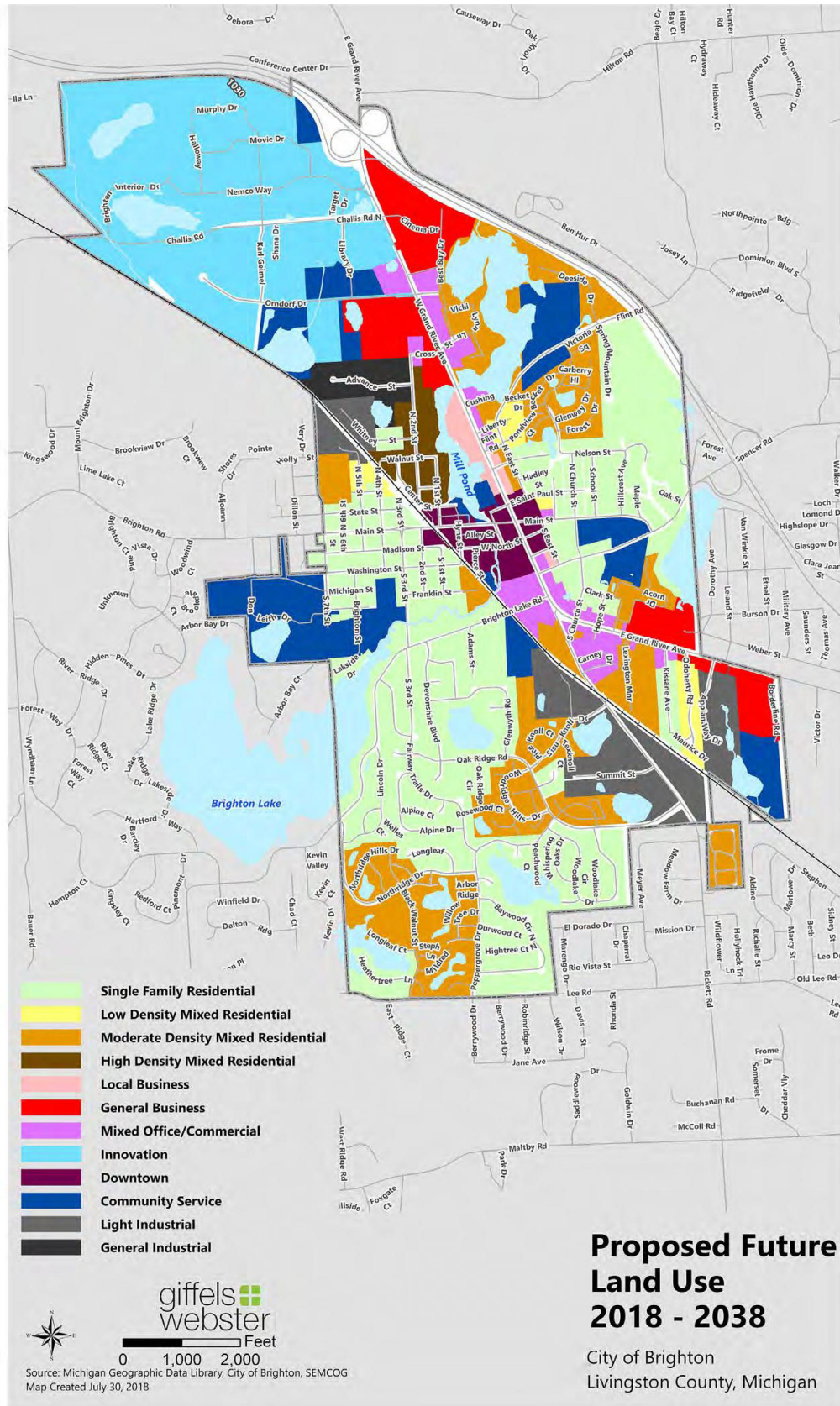
Goals. Both Brighton Township and Genoa Township are interested in providing a variety of home types in well-designed neighborhoods with a suitable amount and variety of businesses to offer goods, services, and employment opportunities and a provide a sustainable tax base to meet current and future needs of residents. They are also interested in creating a safe, multi-modal transportation system and are committed to encouraging conservation of natural features, especially water bodies and wetlands. Both communities are committed to being able to provide parks and open space for resident use.

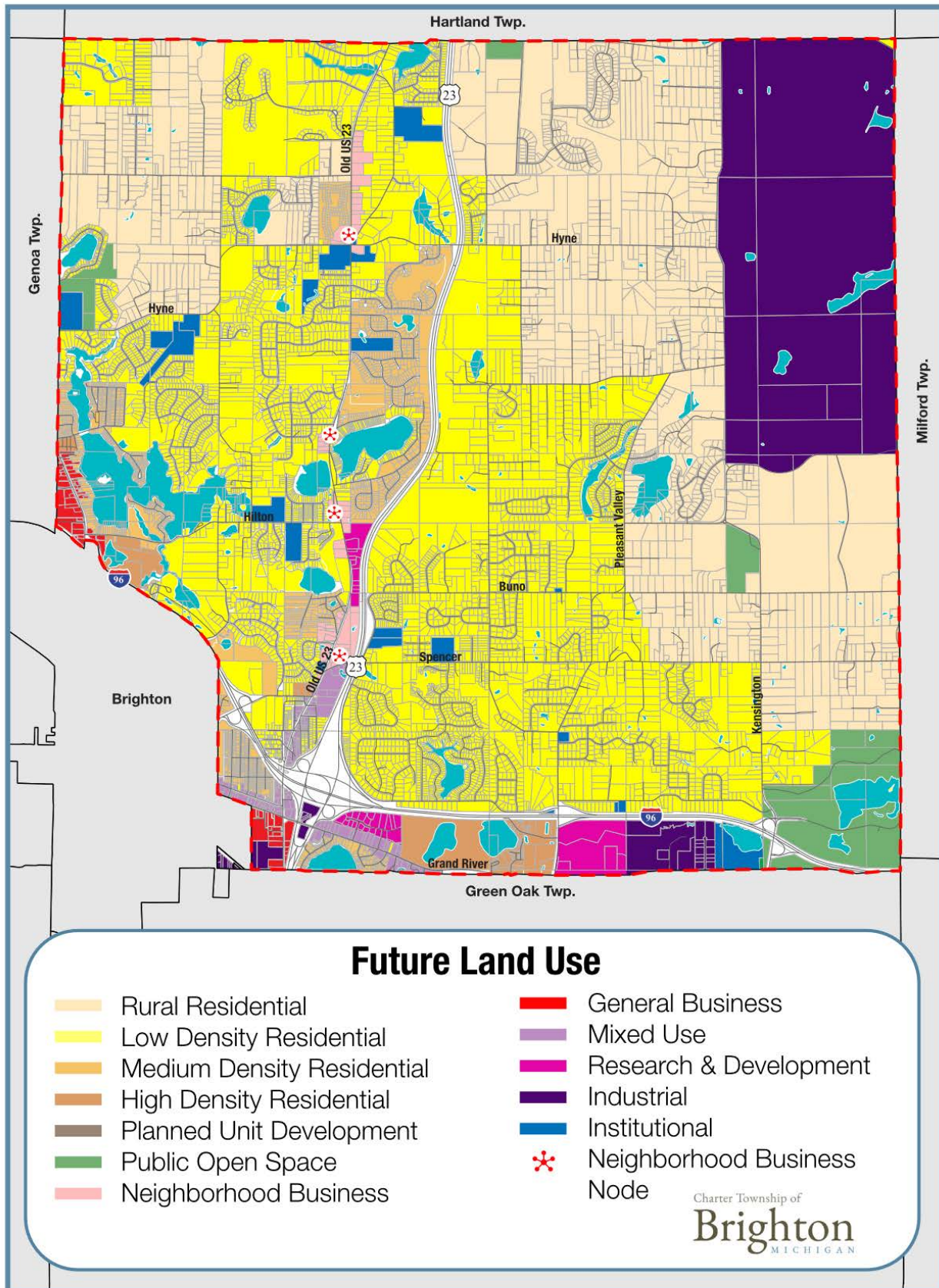
Transportation/Non-motorized. This Master Plan does not show any proposed future connections to Genoa Township. It does have a plan in place, including action items and responsible parties, for working towards transportation goals for motorized and non-motorized transportation.

Implementation. Brighton Township mentions need to coordinate with adjacent communities on road improvements and design, watershed and stormwater management, including developing a regional watershed plan and shared regulations.

Other. Clark Lake Park, located on the border with Genoa Township, proposed permitting public passive recreation access to Clark Lake Conservation Area for hikers and mountain bikers.







Marion Township

2015 (2021 underway)

Land Uses. Marion Township permits low density residential uses along its border with Genoa Township. This is compatible with the uses in Genoa, which are agriculture/country estate and large lot rural residential uses.

Goals. Marion Township and Genoa Township both stated goals to balance growth and development with preserving natural features. Both communities also have goals specific to protecting environmentally sensitive areas such as wetlands and water bodies from the impacts of development. They are both committed to recreational opportunities, although Genoa wants to maintain theirs while Marion would like to expand their offerings. Encouraging development only in areas where there is currently adequate infrastructure (Marion) and providing utility improvements where development is best suited and creating a growth boundary (Genoa) are also similar goals. Both communities are also interested in having industrial activities where it is compatible with surrounding uses. Similar to Genoa, Marion Township is also committed to encouraging a variety of residential dwelling types to meet the needs of a changing population. Finally, Marion Township is also interested in providing safe multi-modal transit options for all user, including promotion of a greenway system.

Transportation/Non-motorized. This Master Plan does not show any proposed future connections to Genoa Township, nor any action items or responsible parties for working towards transportation goals for motorized and nonmotorized transportation.

Implementation. Marion Township’s Master Plan has specific goals to “coordinate planning efforts with neighboring communities regarding shared resources such as corridors and commercial, conservation and development areas” as well as cooperating and cost sharing with other municipalities to provide public facilities and services. Another goal is to “encourage uniform or compatible Land Use planning and zoning across municipal boundaries by coordinating efforts with the surrounding Townships.”

Other. The official Future Land Use Map is a large, display-sized document that is separate from the Master Plan text and maintained by the Township.

City of Howell

2015 (2021 underway)

Land Uses. The southeast border of the Loop Area borders or is close to the border with Genoa, and is zoned for industrial uses. Genoa’s border with Howell has a small section of General Commercial uses at the northern-most section, followed by small lot single family residential which may not be compatible with uses in Howell. Further to the south is a small area for public/institutional/utility uses. The southern most part of the shared border is zoned for research and development uses.

Goals. Howell and Genoa Township are interested in making part of their industrial areas focused on technology. Both communities have noted an interest and need to protect natural features, particularly bodies of water and wetlands.

Transportation/Non-motorized. A truck by-pass, initiated by the City of Howell, is being planned. Additionally a non-motorized path system has been proposed, and a complete streets environment was suggested for the Grand River Area Plan.

Implementation. The City is encouraging Genoa Township to continue the Loop Road from Lucy Road eastward to Chilson Road, Grand Oaks Drive, and eventually Latson Road.

Other. No overall Land Use plan. Focus on small area plans, identifying opportunities, challenges etc. Two study areas that border Genoa include the Loop Area and East Grand River Area.

THE PLACE

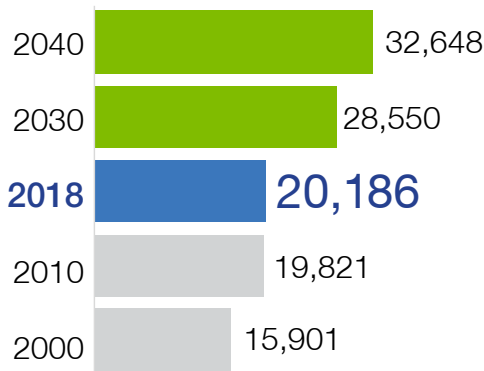
Demographics

Demographics

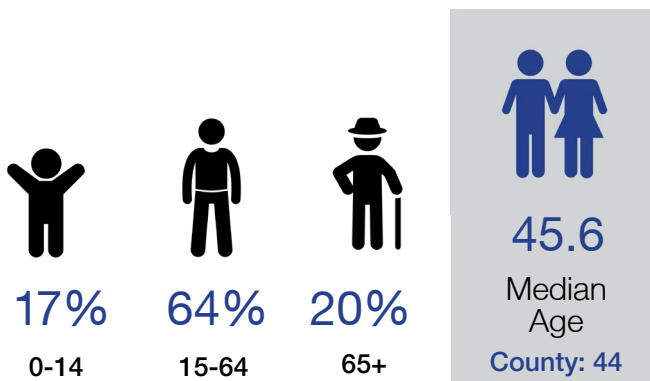
Understanding the demographics of a community is vital to sound policy making and planning. Demographics inform the trends in population, aging, migration, local economies, and much more. Master Plans rely on demographic analysis to better prepare for the issues and demands facing a community in the present and the future. The demographic makeup of a community contains valuable information that effects the types of resources, programming, and physical infrastructure required to meet the needs of residents and businesses.

The demographic estimates in this section were largely compiled by SEMCOG staff using data from the U.S. Census Bureau's American Community Survey 2014-2018 5-Year Estimates.

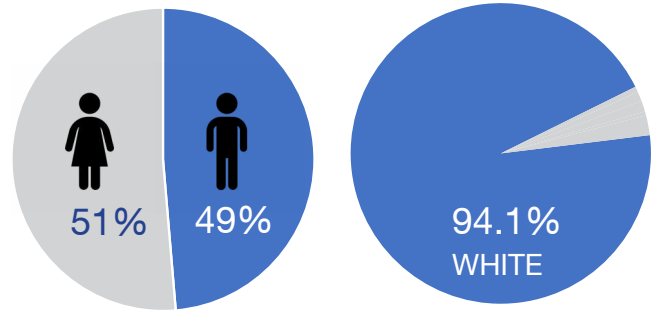
POPULATION GROWTH



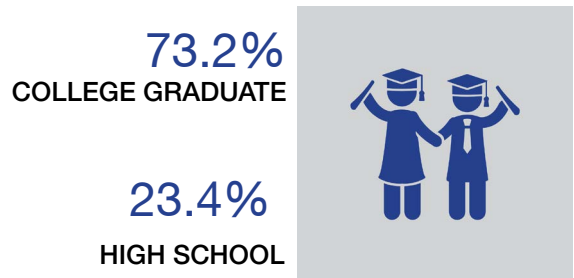
POPULATION AGE



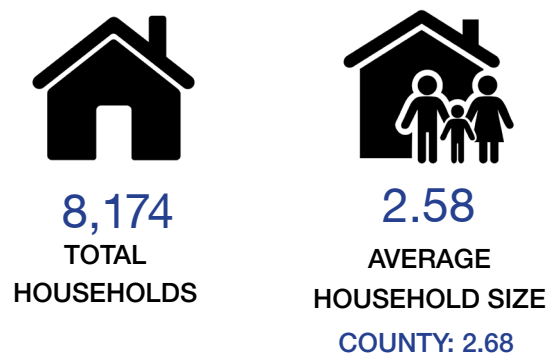
POPULATION GENDER & RACE



EDUCATIONAL ATTAINMENT



HOUSEHOLDS



Source Text: SEMCOG Community Profiles

Population

Proper planning for the future must consider the composition of the population and consider its likely future composition. Understanding where the Township has been and where it is likely to go is essential to projecting future needs.

Population

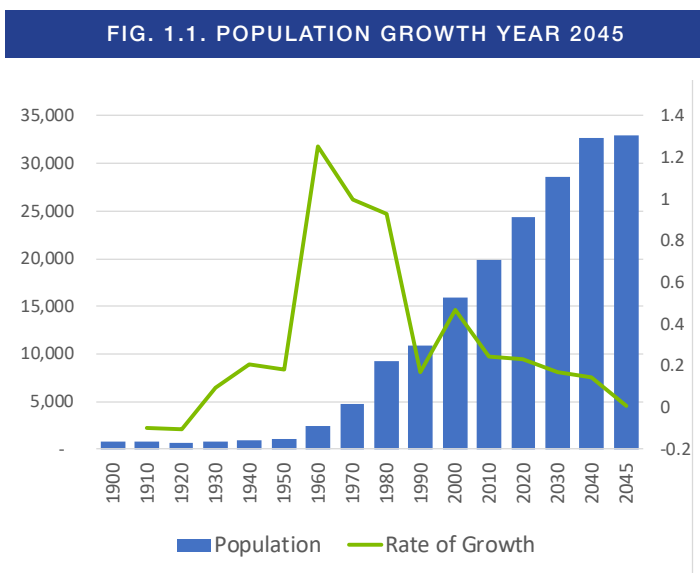
In 2018, the Township has a total population of 20,186. The table below provides a summary of general population characteristics for the Township.

POPULATION FORECAST BY AGE	
Total Population	20,186
Median Age	45.6
Male	9,822 (49%)
Female	10,364 (51%)

Source Text: ACS 2018

Population Growth Rate

According to SEMCOG forecasts, the total population of the Township is naturally expected to increase by 61 percent by the year 2045. However, as shown in the graph below, the rate of population growth is projected to steadily decline from 2020. This decline usually happens with a higher death rate, lower birth rates, or higher migration rates.

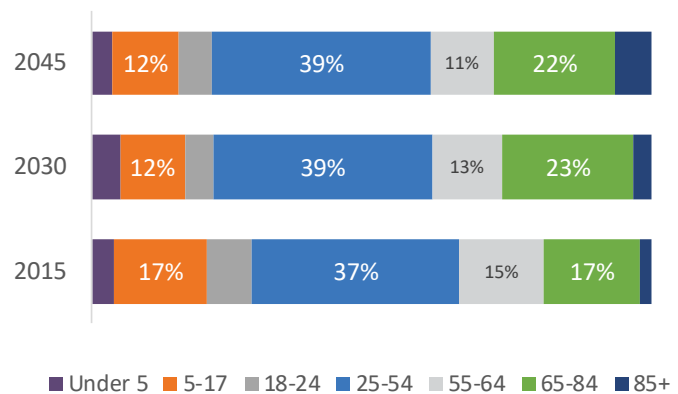


Source Text: SEMCOG Community Profiles

Population Forecast

The chart and the table provide information about the percent distribution of age groups in 2015 and projected data for the years 2030 and 2040. The percent distribution of different age groups in Genoa is fairly consistent between 2030 and 2040, even though the numbers indicate an alarming rise in the older adult population by 2045 (a 400% increase). The Township’s largest population cohort are adults aged 35-59—people who are typically in the workforce and in their family-forming years (see Chart below). The percent share of older adults to the total population is projected for a 6 percent increase from 2015 to 2045. The Township should consider policies to accommodate the needs of aging adults within the community.

FIG. 1.2. POPULATION DISTRIBUTION BY AGE (2015, 2030, 2045)

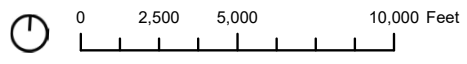
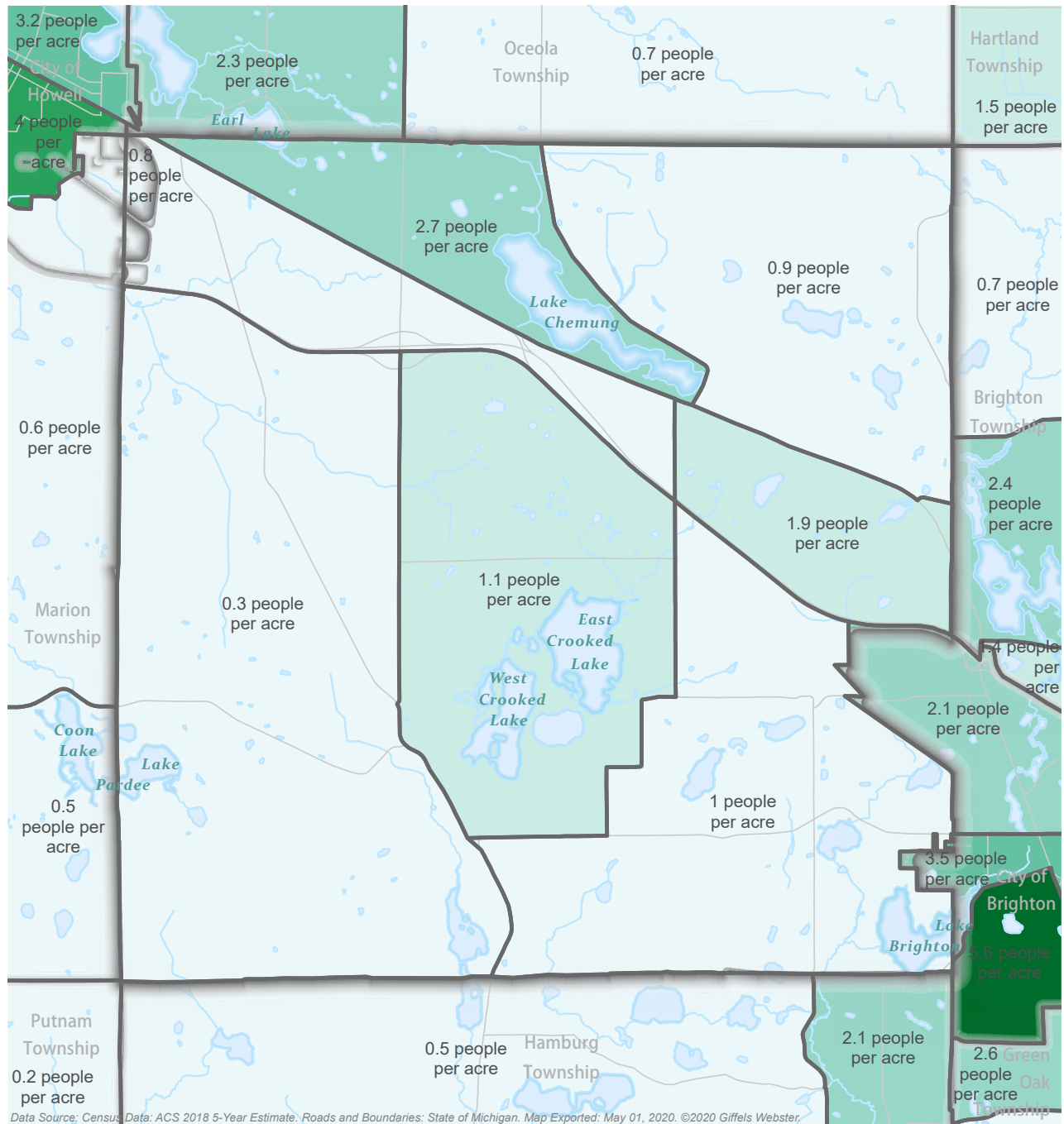


Source: SEMCOG Community Profiles

TABLE 1.1. POPULATION BY AGE				
Age Group	2015	2030	2045	Percent Change 2015 - 45
Under 5	796	1,404	1,188	49.2%
5-17	3,391	3,312	3,867	14.0%
18-24	1,646	1,470	1,993	21.1%
25-54	7,571	11,149	12,859	69.8%
55-64	3,091	3,609	3,735	20.8%
65-84	3,499	6,692	7,146	104.2%
85+	422	914	2,119	402.1%
Total	20,416	28,550	32,907	61.2%

Source Text: SEMCOG Community Profiles

MAP 1.2. POPULATION DENSITY PER ACRE



Population Density Per Acre
GENOA TOWNSHIP

Surrounding Communities

The demographic composition of the Genoa Township incorporates data about race, age, housing, population trends, income, education, and employment. This section compares the Township’s demographic characteristics to neighboring communities that share a border with Genoa.

Persons per Acre

The cities of Howell and Brighton have higher population density (persons/acre) in the County which is expected for an urban community. Genoa maintains a similar density compared to surrounding Townships. See the graph below for more details.

TABLE 1.2. SURROUNDING COMMUNITIES: POPULATION GROWTH (2000-2018)				
	Population 2018	Population 2010	Population 2000	Population Change (2000-2018)
Oceola Twp	13,991	11,936	8,362	67%
Howell	9,597	6,702	6,702	43%
Genoa Twp	20,186	19,821	15,866	27%
Livingston County	188,482	180,957	156,951	20%
Brighton	7,626	7,444	6,730	13%
Marion Twp	10,851	9,996	9,996	9%
Brighton Twp	18,570	17,791	17,673	5%
Hamburg Twp	21,602	21,165	21,165	2%



Source: SEMCOG Community Profiles

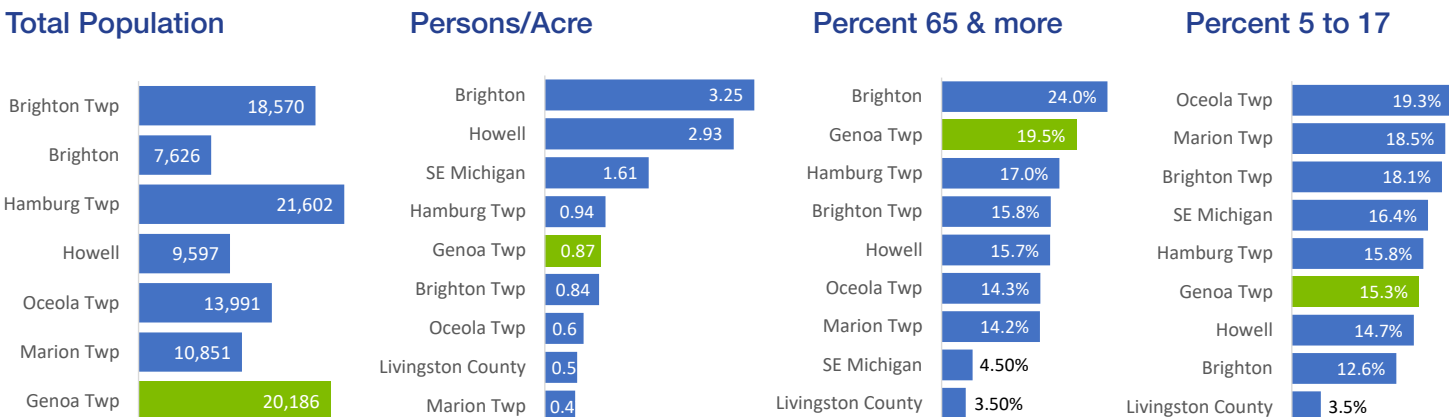
Population Growth

Many communities surrounding Genoa have been experiencing an increase in population since 2000. Oceola Township and the City of Howell have experienced the highest population growth between 2000 and 2018 followed by Genoa Township. However, Genoa Township has the largest population in the County after Hamburg Township.

Older and Young Adult Population

Compared to surrounding communities, Genoa Township has a higher percentage of the aging population over 65 years and a comparable percentage of the population of people between ages 5 to 16. This distribution essentially focuses on dependent people who are unlikely the primary breadwinners. This indicates that there is a larger share of people dependent on the working-age group on the Township.

FIG. 1.3. SURROUNDING COMMUNITIES: POPULATION, DENSITY, OLDER/YOUNG ADULTS

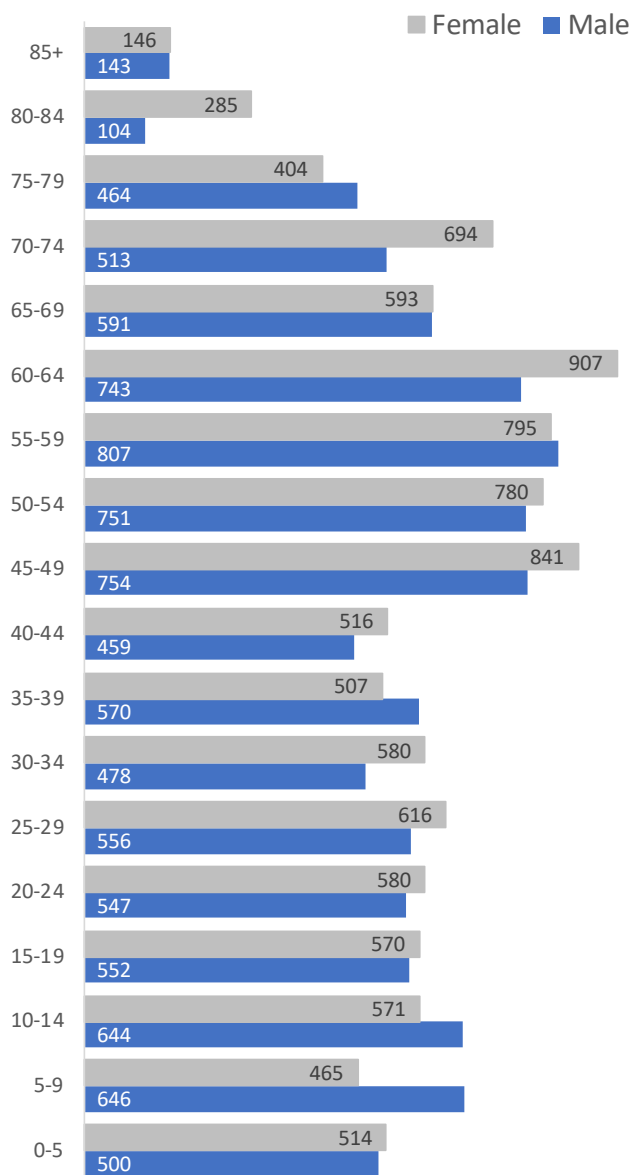


Source: SEMCOG Community Profiles

Population Cohort Analysis

It is essential to understand the population’s composition by age and sex to have a proper insight into demographic conditions and socio-economic trends. Genoa has an almost equal distribution of male and female population on average. However, the ratio varies with age (see chart to the left). As they age, the ratio of females to males is increasing.

FIG. 1.4. POPULATION DISTRIBUTION BY AGE AND SEX



Source: ACS 2018

Race

The racial composition in Genoa is predominantly white at 94.7%, Genoa’s racial distribution is consistent with most of the surrounding communities except for the more diverse city of Howell.



FIG. 1.5. RACE DISTRIBUTION: SURROUNDING COMMUNITIES

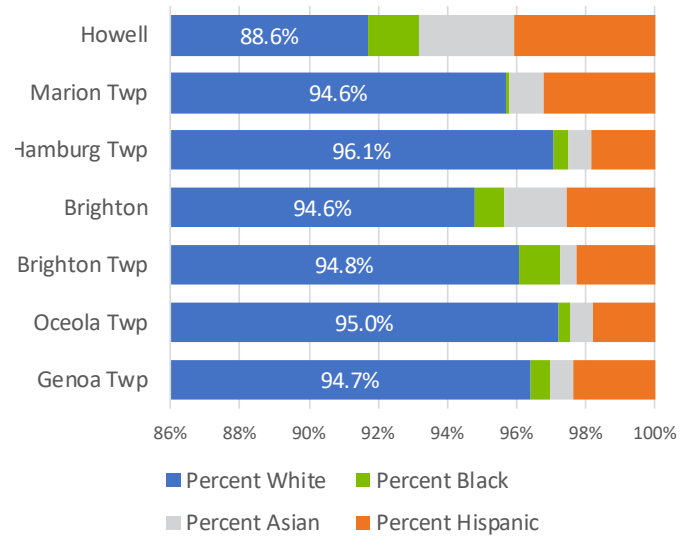


TABLE. 1.3. SURROUNDING COMMUNITIES

Race and Hispanic Origin	Census 2010	Percent of Pop-ulation 2010	ACS 2018	Percent of Pop-ulation 2018	Percent- age Point Change 2010-2018
Non-Hispanic	19,398	97.9%	19,716	97.7%	-0.2%
White	18,758	94.6%	19,120	94.7%	0.1%
Black	121	0.6%	114	0.6%	0.0%
Asian	203	1.0%	132	0.7%	-0.4%
Multi-Racial	231	1.2%	255	1.3%	0.1%
Other	85	0.4%	95	0.5%	0.0%
Hispanic	423	2.1%	470	2.3%	0.2%
Total	19,821	100.0%	20,186	100%	0.0%

Source: SEMCOG Community Explorer

Economy & Workforce

Economy & Workforce

Identifying trends in employment can help a community project future need for land for certain use categories and assess potential opportunities for economic development. This section provides a brief overview of the Township's existing economic base. This plan also includes a market study that looks deeply at commercial demand and employment

WORKFORCE

TOP 5 INDUSTRIES (2020)

- 17% RETAIL
- 13% LEISURE&HOSPITALITY
- 13% INFORMATION & FINANCIAL ACTIVITIES
- 10% HEALTHCARE
- 9% CONSTRUCTION

INCOME



\$81,364
MEDIAN HOUSEHOLD INCOME
 COUNTY: \$80,897

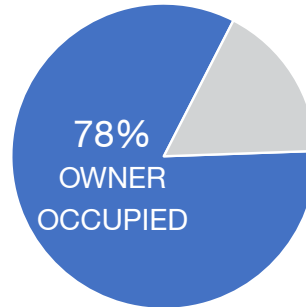


\$45,356
PER CAPITA INCOME
 COUNTY: \$38,399



5.5%
POVERTY RATE
 COUNTY: 5.6%

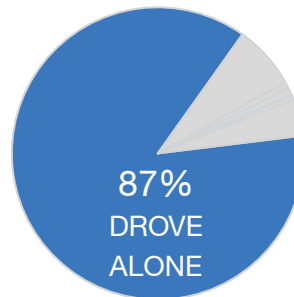
HOUSING



\$259,800
MEDIAN HOUSEHOLD VALUE
 COUNTY: \$233,400

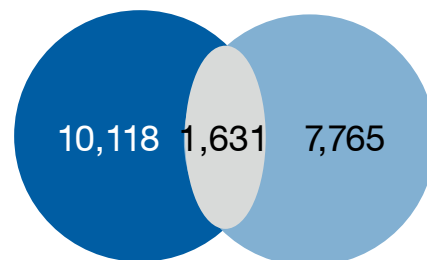
\$1,101
MEDIAN GROSS RENT
 COUNTY: \$1,011

TRANSPORTATION



29.3
AVERAGE COMMUTE TIME IN MINUTES
 COUNTY: 32.5

INFLOW-OUTFLOW



LIVING IN GENOA EMPLOYED OUTSIDE **EMPLOYED IN GENOA LIVING OUTSIDE**

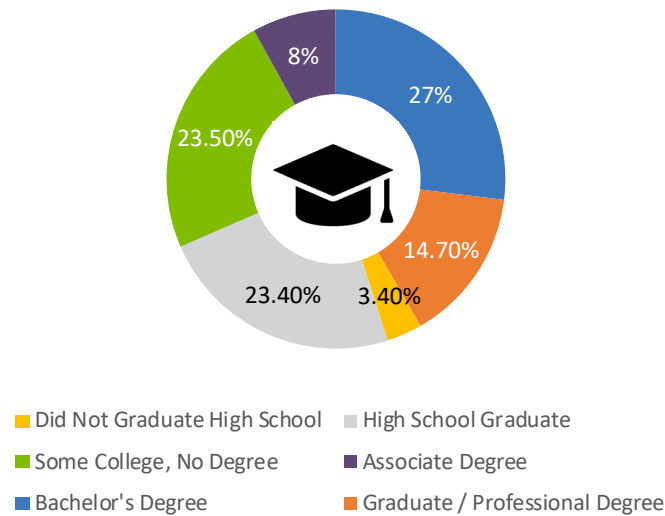
Source: SEMCOG Community Profiles

Source: U.S. Census Bureau, Center for Economic Studies, LEHD

Educational Attainment

The highest levels of educational attainment result in a higher skill set and ultimately contribute to the local job growth. In general, about 73% of residents older than 25 years have some kind of associate or a higher degree past high school. Genoa has a higher percentage of bachelor degrees or higher graduates among the surrounding communities after Brighton Township.

FIG 1.6. EDUCATIONAL ATTAINMENT: GENOA

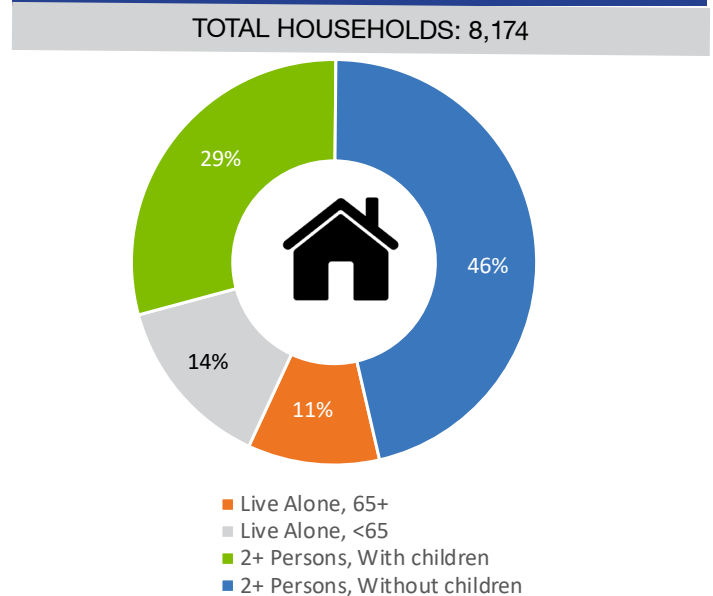


Source: SEMCOG Community Profiles

Households

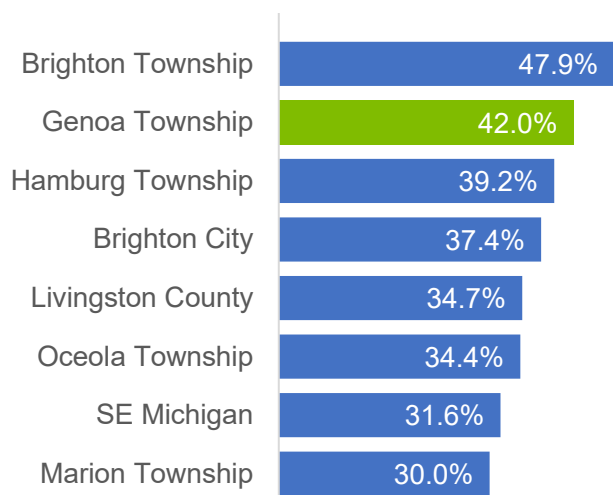
In 2018, there are a total of 8,174 households in Genoa. A majority of the households are younger couples with no children (46%). A quarter of the households are families with children. The remaining quarter is split between younger and older adults who live alone. The average household size is consistent with surrounding suburban communities, between two and three persons per household.

FIG. 1.7. HOUSEHOLD COMPOSITION: GENOA



Source: SEMCOG Community Profiles

FIG. 1.8. PERCENT BACHELORS DEGREE OR HIGHER: SURROUNDING COMMUNITIES



Source: SEMCOG Community Explorer

TABLE 1.4. HOUSEHOLD COMPOSITION: SURROUNDING COMMUNITIES

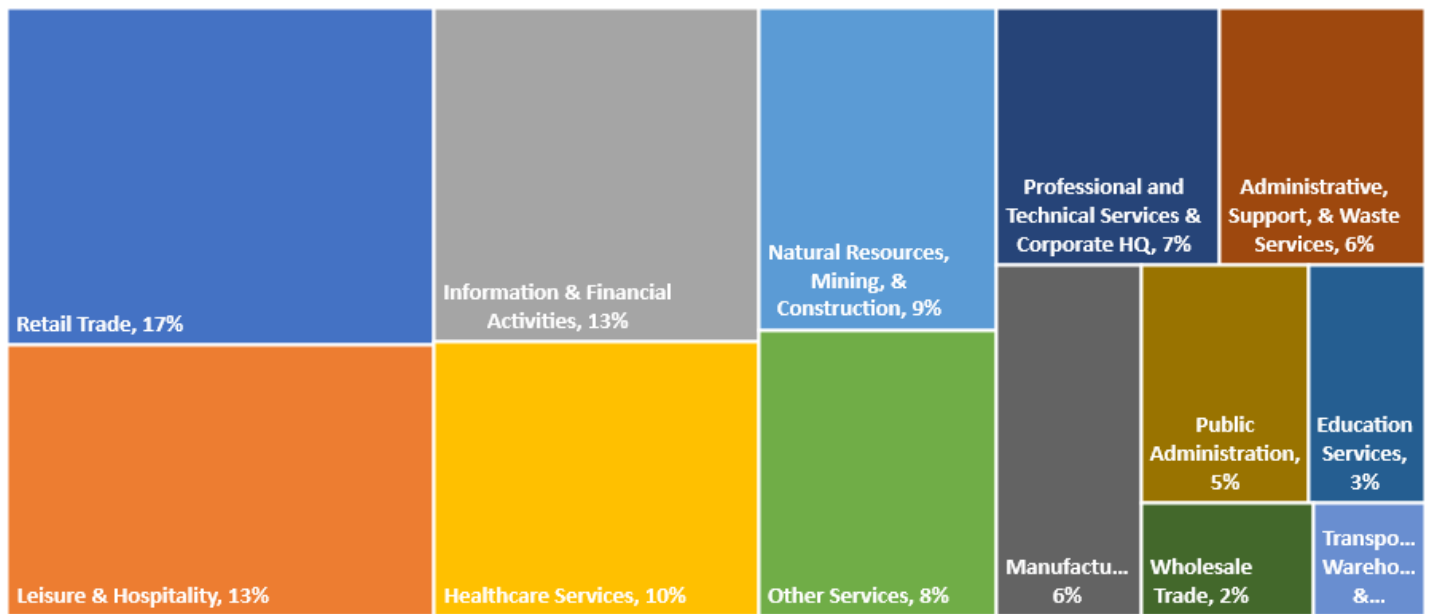
	Average Household Size	Percent Households with Seniors	Percent Households with Children	Percent Households with Internet Access
Livingston	2.63	28.9%	31.0%	85.7%
Genoa Twp	2.47	33.1%	29.3%	90.8%
Oceola Twp	2.87	26.5%	37.8%	95.6%
Brighton Twp	2.79	27.9%	34.6%	94.8%
Brighton City	2.03	37.0%	19.3%	87.2%
Hamburg	2.58	30.9%	30.3%	93.7%
Marion Twp	2.89	27.9%	31.8%	90.8%
Howell City	2.12	24.9%	27.6%	81.1%

Source: SEMCOG Community Explorer

Workforce

In 2020, Genoa Township produced a total of 12,202 jobs. The chart below shows the distribution of employment sectors for the Township. There is no dominant sector that contributes majorly to the local economy, however, the retail and hospitality sectors make up 35% of the total workforce.

FIG. 1.9. WORKFORCE DISTRIBUTION IN GENOA, 2020



Source: SEMCOG Community Profiles

2040 SEMCOG Job Forecast by Sector

The percent contribution of each of these industries to the total employment within the Township is relatively identical since 2015 and is projected to remain the same with minimal variation in 2045. Refer to the table below for more details.

Overall, there is a slight growth in total number of jobs are projected from 2015 to 2045 by 12 percent. Manufacturing jobs are projected to decrease by 28% by 2045. Except for retail and manufacturing, the remaining three of the top five industries are projected to increase over 20% by 2045. Refer to the table and the chart in the next page for more details.

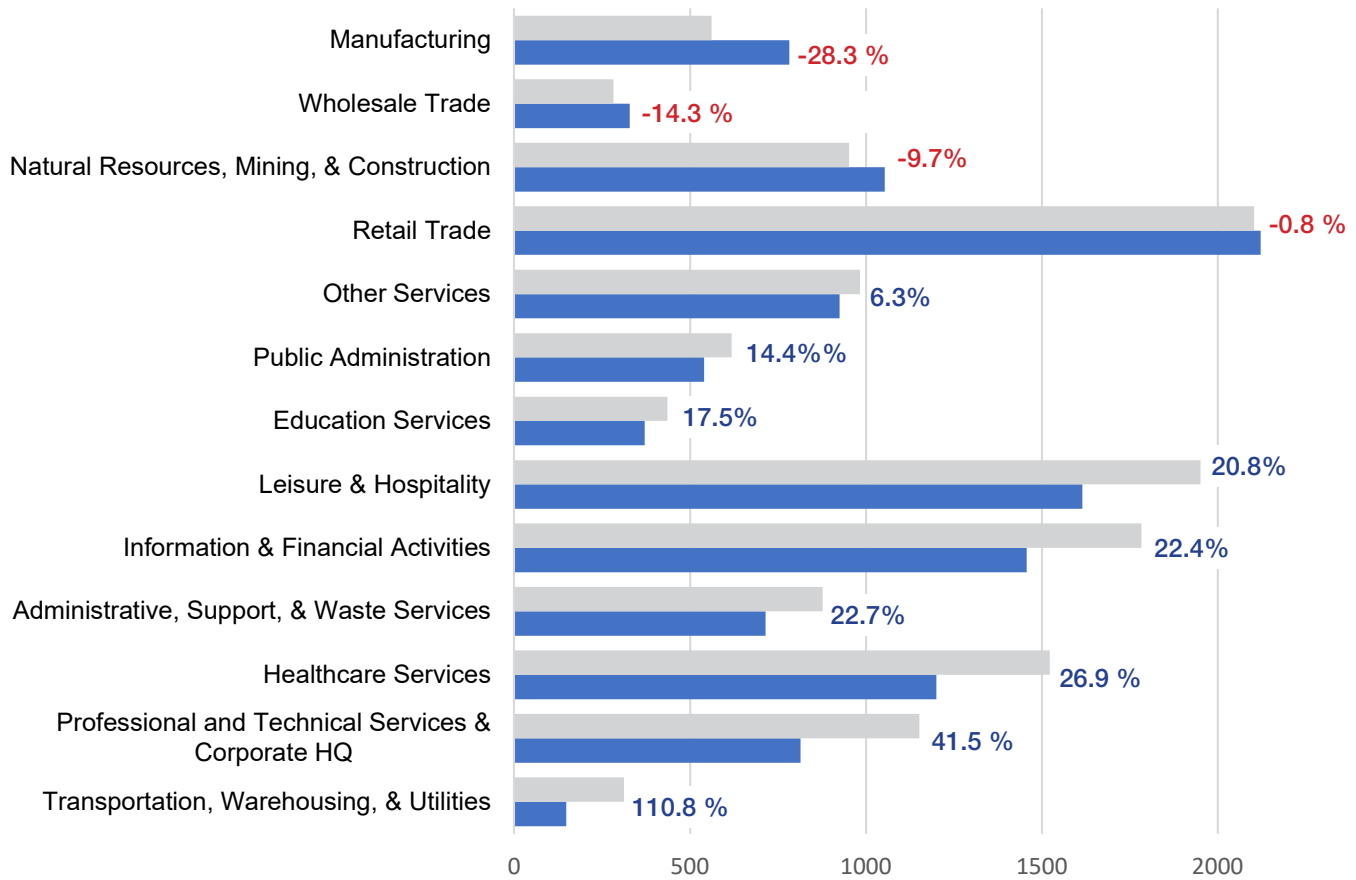
TABLE 1.5. TOP FIVE INDUSTRIES

Industry Sectors	% Contribution to Township workforce (2020)	Pct Change 2015-2045
Retail	17%	-0.8%
Leisure and Hospitality	13%	20.8%
Information & Financial Activities	13%	22.4%
Healthcare	10%	26.9%
Construction	9%	-9.7%

TABLE 1.6. DISTRIBUTION OF WORKFORCE BY INDUSTRY SECTOR (PAST, CURRENT AND FUTURE)

Industry Sector	2015	2020	2030	2040	2045	Change 2015-2045	Pct Change 2015-2045
Transportation, Warehousing, & Utilities	148	179	207	283	312	164	110.8%
Professional and Technical Services & Corporate HQ	814	808	932	1096	1152	338	41.5%
Healthcare Services	1,200	1261	1282	1455	1523	323	26.9%
Administrative, Support, & Waste Services	715	746	809	869	877	162	22.7%
Information & Financial Activities	1,457	1531	1608	1754	1783	326	22.4%
Leisure & Hospitality	1,615	1642	1772	1888	1951	336	20.8%
Education Services	371	393	406	424	436	65	17.5%
Public Administration	540	562	589	614	618	78	14.4%
Other Services	925	967	996	1000	983	58	6.3%
Retail Trade	2122	2032	1928	2177	2104	-18	-0.8%
Natural Resources, Mining, & Construction	1054	1086	993	963	952	-102	-9.7%
Wholesale Trade	329	276	264	280	282	-47	-14.3%
Manufacturing	782	719	621	584	561	-221	-28.3%
Total Employment Numbers	12072	12202	12407	13387	13534	1,462	12.10%

FIG.1.10. FORECAST: INDUSTRY SECTOR DISTRIBUTION IN 2045



Source: SEMCOG 2045 Regional Development Forecast

■ 2045 ■ 2015 % Change 2015-45

Workforce

The total number of jobs in the Township makes up 14% of the total jobs in the County. The Township’s unemployment rate is higher than the County and the surrounding communities. However, the labor force participation rate at 66% is consistent with others and higher than the national average of 62.8%. A higher labor force participation rate and a lower unemployment rate indicate a successful local job market. These rates are impacted by demographic and economic trends. For example, adults aged 25-64, people who are typically in the workforce make up to 53% of the total Township population which explains the 66% labor participation rate. The percent share of this age group is projected to reduce to 50% in 2045.

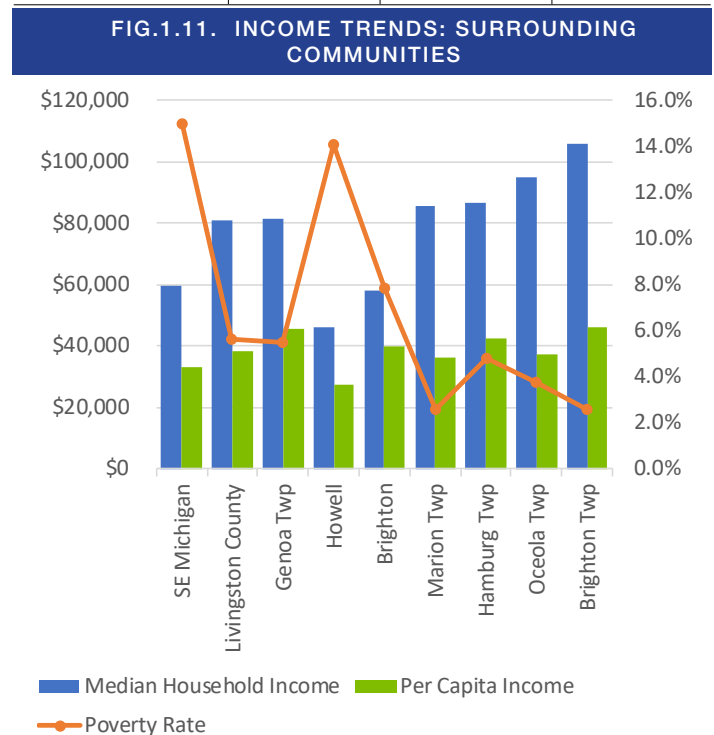
	Total Jobs	Percent Unemployed	Labor Force Participation Rate
SE Michigan	2,774,223	6.9%	63%
Livingston County	85,073	4.2%	66%
Genoa Twp.	12,072	5.2%	66%
Brighton Twp.	10,791	3.3%	66%
Brighton	10,772	2.2%	60%
Howell	10,365	4.4%	60%
Hamburg Twp.	5,527	3.8%	67%
Oceola Twp.	2,202	3.1%	68%
Marion Twp.	2,017	3.3%	68%

Source: SEMCOG Community Profiles

Income

Median household income and per capita income are typical metrics to determine the standard of living in a community. Genoa has a median household income of \$81,364, which is almost equal to the county median. The Township has an average household size of 2.58 which explains the per capita income at 45,356, 44 percent lower than the household income. The Township has a lower poverty rate than the surrounding cities, but comparable to surrounding suburban Townships.

	Median Household Income	Poverty Rate	Per Capita Income
SE Michigan	\$59,494	\$33,125	15.0%
Livingston County	\$80,897	\$38,399	5.6%
Genoa Twp	\$81,364	\$45,356	5.5%
Howell	\$45,760	\$21,139	14.1%
Brighton	\$58,041	\$39,694	7.8%
Marion Twp	\$85,746	\$35,943	2.5%
Hamburg Twp	\$86,712	\$42,606	4.8%
Oceola Twp	\$95,071	\$37,329	3.7%
Brighton Twp	\$105,741	\$46,136	2.6%



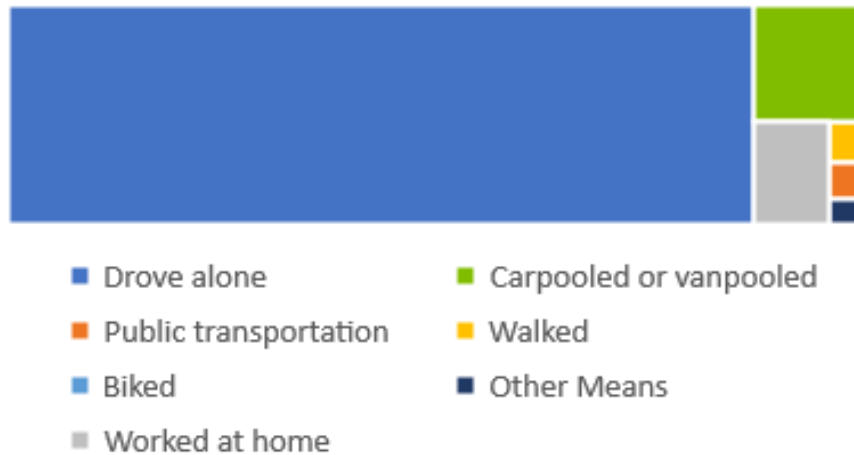
Source: SEMCOG Community Profiles

Transportation

Mode of Travel

In Genoa, the majority mode of travel to work is by car (approximately 87%) which is similar to national trends. This is followed by carpooling at 7%. The remaining modes of transportation are insignificant close to 1 percent each.

FIG.1.12. MODE OF TRAVEL: GENOA

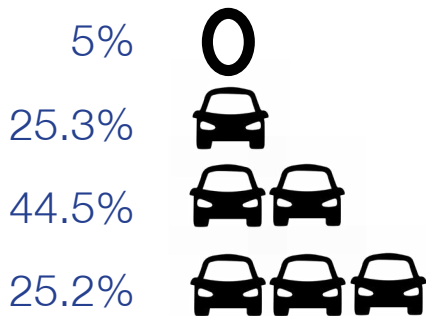


Source: SEMCOG Commuting Patterns

Car Ownership

In Genoa, there are a total of 8,174 households. A majority of households (70%) have two cars available. A small percent(3%) do not own any motor vehicle.

FIG. 1.13. CAR OWNERSHIP: GENOA

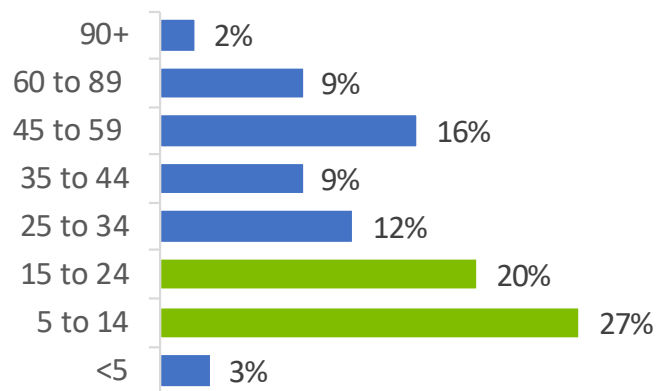


Percent distribution of number of vehicles owned in Genoa

Travel Times

In 2018, the mean travel time for Genoa residents is about 28.1 minutes, which is 165% less than the county mean (27) and United states (26.1). Research has indicated that the amount of time spent commuting impacts quality of life. Genoa residents generally have short commute times with 47% of the residents having commutes shorter than 24 minutes. About 25% of the residents travel longer than 45 minutes.

FIG.1.14. TRAVEL TIMES: GENOA



Source: SEMCOG Commuting Patterns

FIG.1.15. INFLOW-OUTFLOW COMMUTE PATTERNS: GENOA

Genoa Township experiences an decrease in its population during the daytime, as the number of workers that leave the Township for work is more than the number that come to the Township for work. Overall, the Township daytime population is about 12% greater than its permanent population. Brighton City and Ann Arbor are the most common places of employment for Genoa residents outside the city.



Community Facilities

Community Facilities

Community Center (Township Hall)

The Township owns approximately 72 acres containing Township Hall, featuring large open space areas, trails, parks, athletic fields, pavilions, sled hill, playground equipment, and wetlands. The surrounding land also provides the opportunity for other uses such as public open space, conservation and recreation. In addition, two sites located near Latson Road and Grand River Avenue were dedicated as open space. The Township is also seeking locations for future community parks, as detailed in the Parks and Recreation Plan.

Fire + Police

Genoa Township is serviced by the Brighton Area Fire Authority, which services a district that includes a population of 46,000 residents within Genoa Township, Brighton Township and the City of Brighton. There are five stations within the 74 square mile service district, two of which are located in Genoa Township. Station 34 is located on Dorr Road at I-96, directly adjacent to Township hall and Station 35 is located on Chilson Road on the west side of the Township. Genoa Township does not have its own police force and is instead covered by the Livingston County Sheriff's Department and the Michigan State Police.



Source: Giffels Webster, 2020

Utility Service Area

The availability of utilities has made a significant impact on development patterns. Most older developments use individual septic systems. A high density of septic systems in areas with unsuitable soils, high groundwater or near bodies of water can have significant impact on the quality of the Township's water resources. The septic tank leakage from older systems has most likely affected the quality of the Township's wells, lakes, wetlands, and groundwater and limits development potential.

In response to these problems, Genoa Township developed several public sanitary sewer systems for certain areas. The provision of sanitary sewer has helped to overcome some of the problems associated with septic tank systems. See Maps 1.5 and 1.6 for water and sewer coverage areas.

Northwest portion of Township

Genoa and Oceola Townships jointly developed a sanitary sewer system, known as the Genoa-Oceola sanitary sewer system, that serves much of the Township along Grand River Avenue from the area around Lake Chemung to the City of Howell, north of I-96. The treatment plant is located on Chilson Road, just north of the railroad.

The plant was designed to accommodate future development of vacant land within the presently defined service district. The system is designed to accommodate the Land Uses indicated in the Master Plan. Only sanitary wastewater is accepted at the wastewater treatment plant. No industrial process flows are permitted.

The Township also has a public water supply system along the Grand River Avenue. The system serves areas north of I-96 between Lake Edgewood and the western Township border. The water system was developed as part of MHOG Water Authority, a four Township system that includes Marion, Howell, Oceola and Genoa Township. There is a 500,000-gallon water tower located by Cleary University in Genoa Township.

Oak Pointe/Tri-Lakes

Sanitary sewer service was provided in the central portion of the Township around the Tri-Lakes area as a part of the Oak Pointe PUD. The treatment plant was constructed by the developer and dedicated to the Township. This system was combined with the Genoa-Oceola system with the Oak Pointe treatment plant being taken off-line and wastewater routed to the treatment plant on Chilson Road. The system serves the ultimate build-out of Oak Pointe, Northshore and the existing residential areas surrounding the Tri-Lakes. This system provided a benefit by not only serving the future development within the Oak Pointe PUD, but by also providing sanitary sewer service to the older lakefront subdivisions in the area.

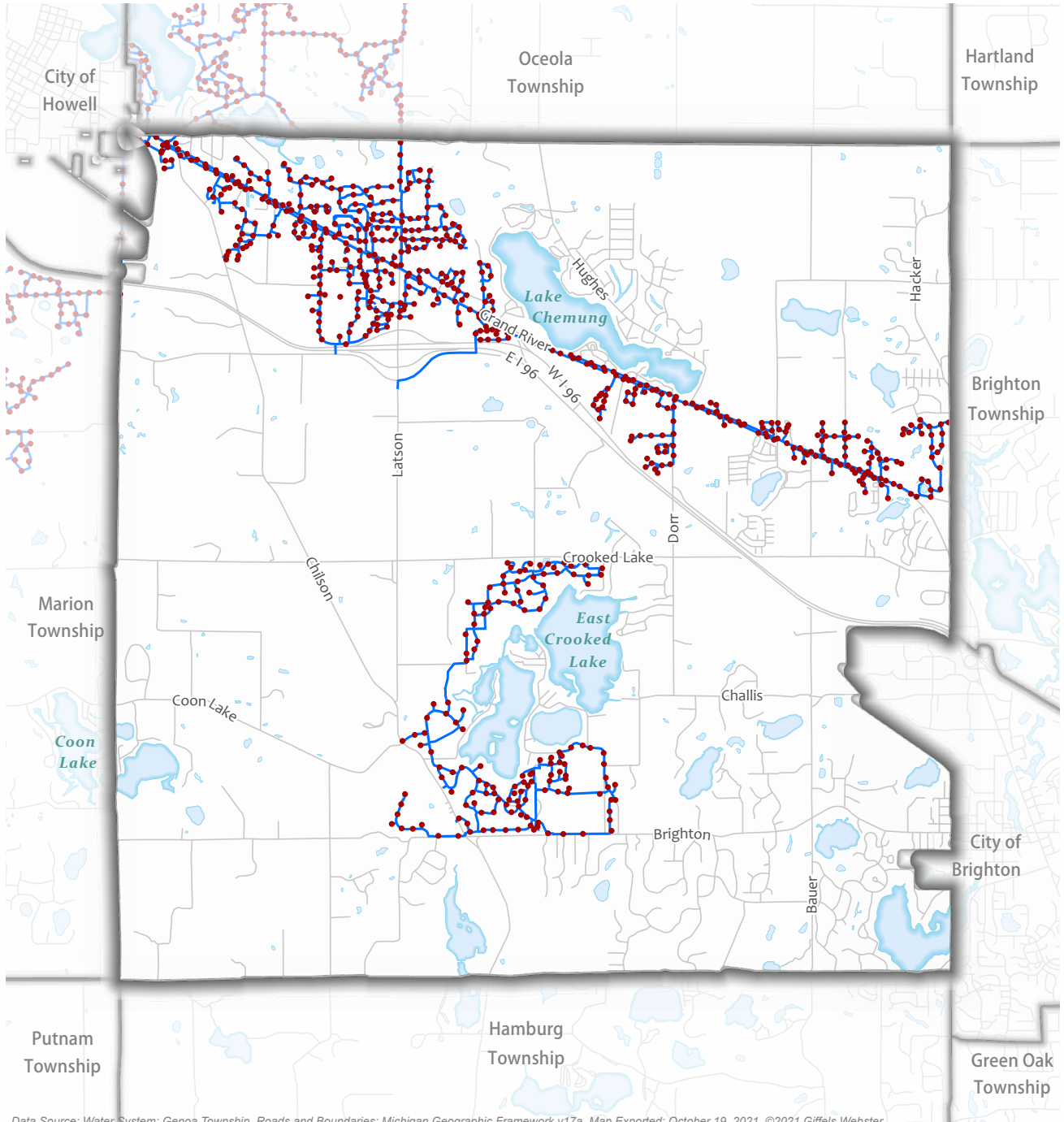
This has had a significant benefit for the water quality within the Tri-Lakes. As part of the Oak Pointe PUD, a public water system was also developed. The system serves the Oak Pointe development and has been extended around to the north end of Crooked Lake to serve the Northshore PUD. The system has an Iron removal facility and a 150,000 gallon elevated storage tank in the Oak Pointe Golf Course. The Oak Pointe/Tri-Lakes systems are at capacity and only infill/redevelopment are able to be accommodated

Brighton

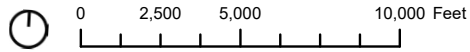
The Pine Creek PUD, adjacent to the City of Brighton, has public water and sanitary sewer service through a P.A. 425 agreement with the City. Water has also been extended to serve existing homes that had contamination problems with individual wells. There are currently no plans to extend Brighton water and sanitary sewer service to other areas of the Township. There is also a public water supply system at the eastern edge of the Township. This system was originally developed to serve the Lake Edgewood condominium development and the Brighton Village Mobile home park. This system has been extended southward along Grand River Avenue to the City of Brighton. This extension serves commercial development along Grand River Avenue near the Brighton I-96 interchange. There is a 500,000-gallon water tower on Conference Center Drive, adjacent to I-96. This water system is owned and operated by the City of Brighton.

Lake Edgewood

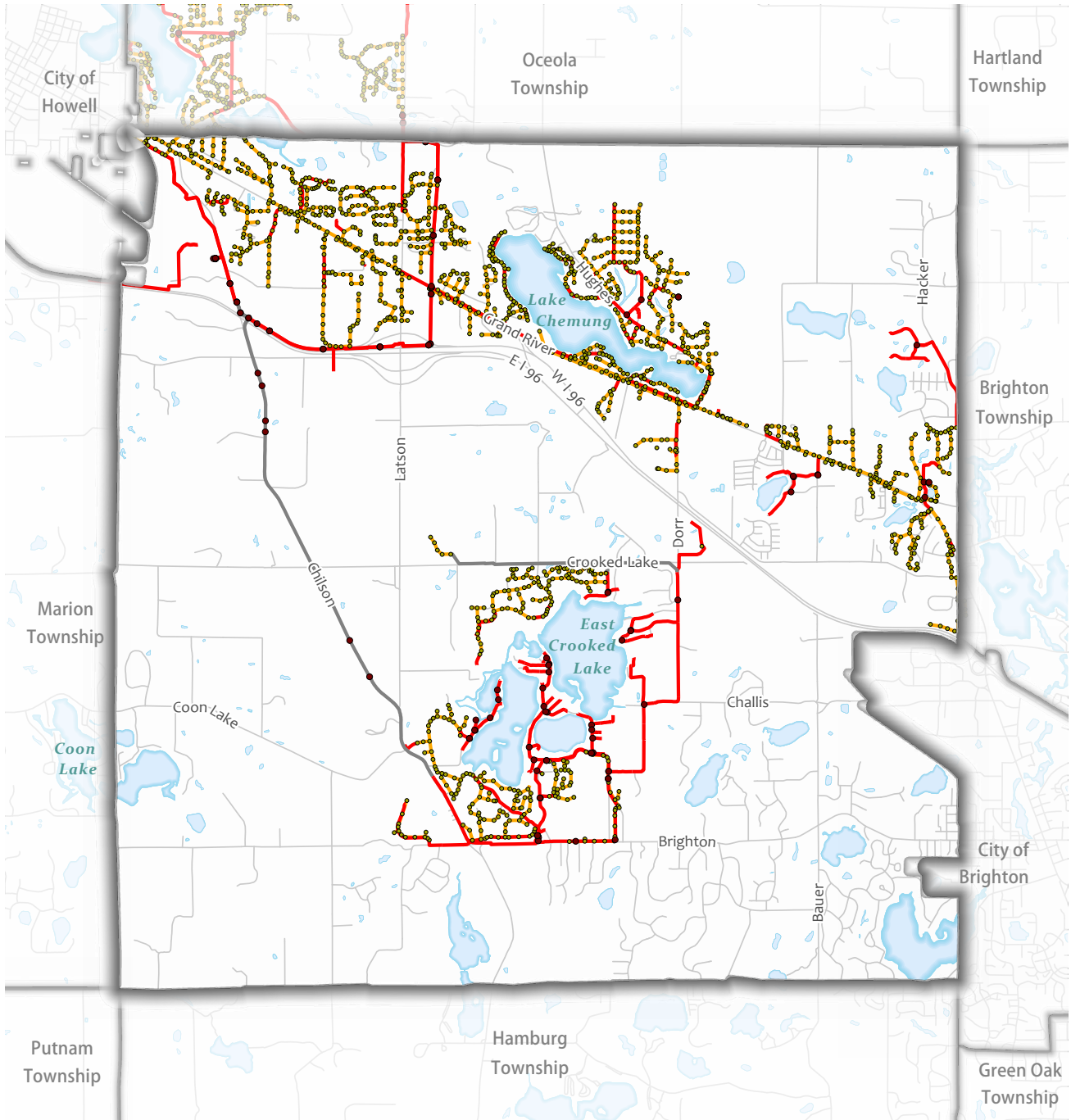
Sanitary sewers are provided in the eastern section of the Township, through a system known as the Lake Edgewood sanitary sewer system. The system serves the greater area along the eastern portion of the Grand River Avenue corridor, west to Sylvan Glen. The Sylvan Glen manufactured housing park is served by a private on-site package treatment plant, which ultimately will be connected to the Lake Edgewood system.



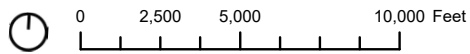
Data Source: Water System: Genoa Township. Roads and Boundaries: Michigan Geographic Framework v17a. Map Exported: October 19, 2021. ©2021 Giffels Webster.



- Hydrant
- Water Main



Data Source: Sanitary and Water System: Genoa Township. Roads and Boundaries: Michigan Geographic Framework v17a. Map Exported: October 20, 2021. ©2021 Giffels Webster



- Sanitary Valves
- Manholes
- Gravity Main
- Force Main
- Transmission Main- Not Operational



Sanitary System

GENOA TOWNSHIP

Transportation

Roadway Functional Classification

Function, efficiency and safety of roadway movement in Genoa Township can be furthered through the establishment of a classification of roads and planning and designing these facilities for their specific purpose. A functional system or hierarchy of roads provides for movement of traffic as well as access to specific sites. This hierarchy will range from major arterials such as Grand River Avenue, which primarily serves for cross-town movement, to local subdivision streets which serve to access individual homes. See Map 1.7.

This system defines the roles of each street, in terms of operational requirements; which is in turn translated into planning, management and physical design features.

- **Expressway:** I-96 serves as the principal route between the residential population of Genoa Township and major activity centers throughout the region.
- **Major Arterial:** The Grand River Avenue Corridor is the major roadway through Genoa Township. This roadway serves a vital function towards connecting the Township with the adjacent cities of Brighton and Howell. Because of the amount of traffic on Grand River Avenue, commercial uses have developed along this corridor.
- **Minor Arterial:** There are a number of roadways which move traffic throughout the Township and provide connections with other adjacent communities including Brighton Rd., Chilson Rd., and Latson Rd. These roadways also provide access from other areas of Genoa Township to Grand River Avenue. These roadways serve for longer trips within the Genoa Township and adjacent communities. Like Grand River Avenue, the primary function of these roads is to move traffic. Access to these roads must be managed in order to maintain safe and effective movement.

- **Collector:** The collectors serve to assemble traffic from local subdivision streets of residential neighborhoods and deliver it to the arterial. Collectors will also serve to provide access to abutting properties. Many individual subdivisions will contain one or more collector streets which funnel traffic from the local streets and connects with adjacent neighborhoods.
- **Local Road:** Local streets serve primarily to provide access to property and homes. These roadways are generally short and discontinuous, and generally only provide connection to one or two collector streets.

Constraints

Several natural and fiscal constraints impact the development and efficiency of Genoa Township's public roadway network. In a featureless environment, where no financial hindrances to development are present, the roadway system will most likely resemble a grid system, much like that which has developed in many Midwestern communities. Genoa, however, is not a featureless environment, nor does it benefit from infinite resources.

As such, the following considerations must be examined to plan, prioritize and program the Township's transportation system:

- I-96 limited access freeway;
- Water bodies;
- Wetlands;
- Topography;
- Rights-of-way;
- Financing availability; and
- Cost effectiveness of proposed improvements

Roadway Capacity and Volume

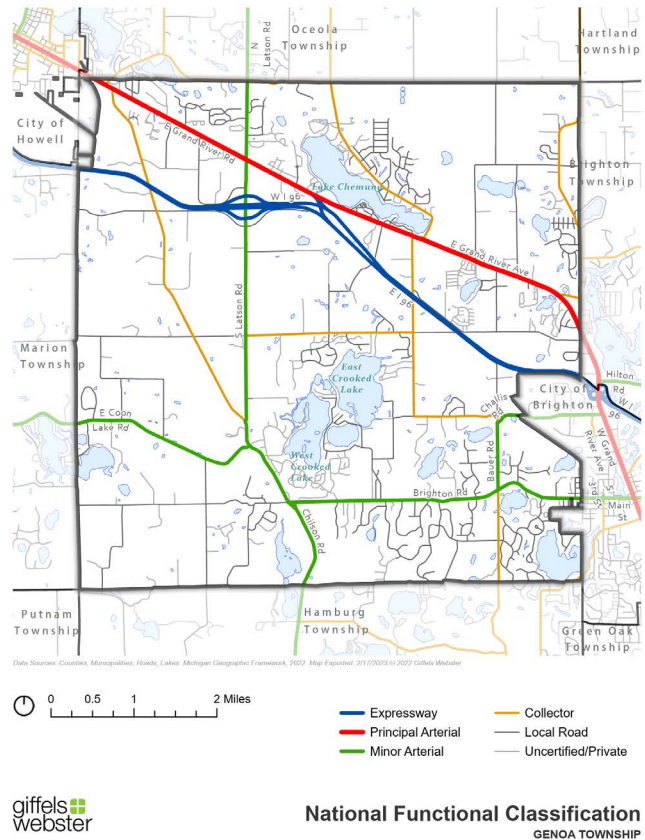
Livingston County’s 2001 Transportation and Land Use Plan included a brief discussion on road volume and efficiency. It was noted that the efficiency by which an area’s circulation system operates is typically measured by the degree to which motorists are delayed in their travel. Future traffic operations are analyzed by comparing projected traffic volumes to the capacity of the road network.

Capacity refers to the number of vehicles that can travel through an intersection or segment of roadway during a specified time period. Generally, roadway operations and capacity are analyzed during peak hours of traffic. A graduated scale of “A” through “F” is used by transportation engineers to describe the general flow of traffic (also known as Level of Service, or LOS) for a specific roadway segment. Typically, an LOS of “C” or better is considered acceptable. An LOS of “E” or “F” represents a roadway with long, inconvenient delays.

Roadway capacity is dependent on several factors: pavement condition and material, roadway width and number of lanes, topography, roadway design setting, the location and frequency of curb cuts, speed limits and other traffic controls, sight distance limitations, and intersection designs.

Genoa Township may wish to meet with the Livingston County Road Commission to better understand how their data concerning traffic volume counts (or vehicle “trips”) for county primary and local roads, translates into observed levels of service. This will help both the Township and road agency better plan for future development, as well as help residents understand how travel on their local roadways may change in the future.

MAP 1.5. NATIONAL FUNCTIONAL CLASSIFICATION



Natural Features

Natural Features

Genoa Township is fortunate to have abundant natural resources, including lakes, open spaces, woodlands, and wetlands. These natural resources make up a local ecosystem that includes wildlife habitat and important components that contribute to clean water and air. The presence of these natural features add to the quality of life for Genoa Township residents, who benefit from not only their aesthetic beauty, but also from opportunities for active and passive recreation. With ongoing residential, commercial, and industrial development occurring in the Township over the past 20-plus years, there is a need to be proactive in the preservation of these natural features.

Livingston County inventoried high-quality natural areas throughout the county in 2004 and a recent update to that initial report in 2022 identified and ranked remaining high-quality natural areas. The county's Planning Department uses the prioritized land areas as they review township zoning amendments and rezoning cases, playing a role in how natural resources are preserved and protected in Genoa Township. Maps of these areas in the county and the Township from the "Livingston County's High-Quality Natural Areas Assessment" document are provided in the Appendix.

Soils, topography, woodlands, rivers, lakes, creeks, wetlands, and floodplains have a direct relationship with the Land Use in Genoa Township. Each type of Land Use is influenced by the Township's natural features. In the Master Planning process, the optimum arrangement of Land Uses should maintain the Township's natural resources and physical features for future generations, while balancing the needs of the community for housing and businesses.

The following is an overview of some of the major natural features that are prevalent throughout the Township. As development occurs, the following features should be considered in addition to other site-specific conditions that may be pertinent to each individual location.

Geology

Since the last ice age (about 12,000 years ago), the soils in Genoa Township have formed as a result of a number of soil forming factors. These include water drainage, wind, slopes, climate, biological activity and human activity. The soils and geology in the Township are characteristic of glacially formed landscapes consisting mainly of moraines (hills of glacially deposited sands and gravel) and till plains (mixed soil materials deposited by glacier advance and retreats). These soil types can include a range of rock sizes from gravel to fine sand and may also include fine clay and silts. The underlying bedrock is a grey shale known as the Coldwater Formation.

Topography

As noted in the previous Master Plan, there are areas of significant topography in the southern and eastern portions of the Township that may present constraints to development. Development in areas with steep slopes may result in a significant change in the natural functions of the hillside, whether by mechanical cuts and fills or the removal of natural vegetation. If drainage flows are altered, erosion can occur, causing further instability and sedimentation in waterways.

To protect against erosion, there should be proactive site planning prior to development that continues through construction. Care should be taken to ensure that grading is minimized and vegetation, and top soil are protected.

Soils

Genoa Township was historically a resort and farming community. Over the years, much of the farmland has been converted to residential, commercial and industrial uses. There is still active farmland in the northeast corner of the Township and in the western portion of the Township. The prime farmland is in the northern portion of the Township.

Construction costs and risks to the environment can be minimized by developing areas with suitable soils. Poor soils present problems such as poor foundation stability and septic limitations.

Drainage

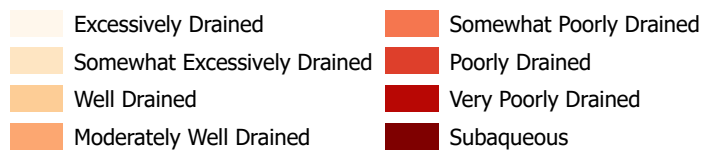
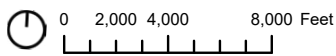
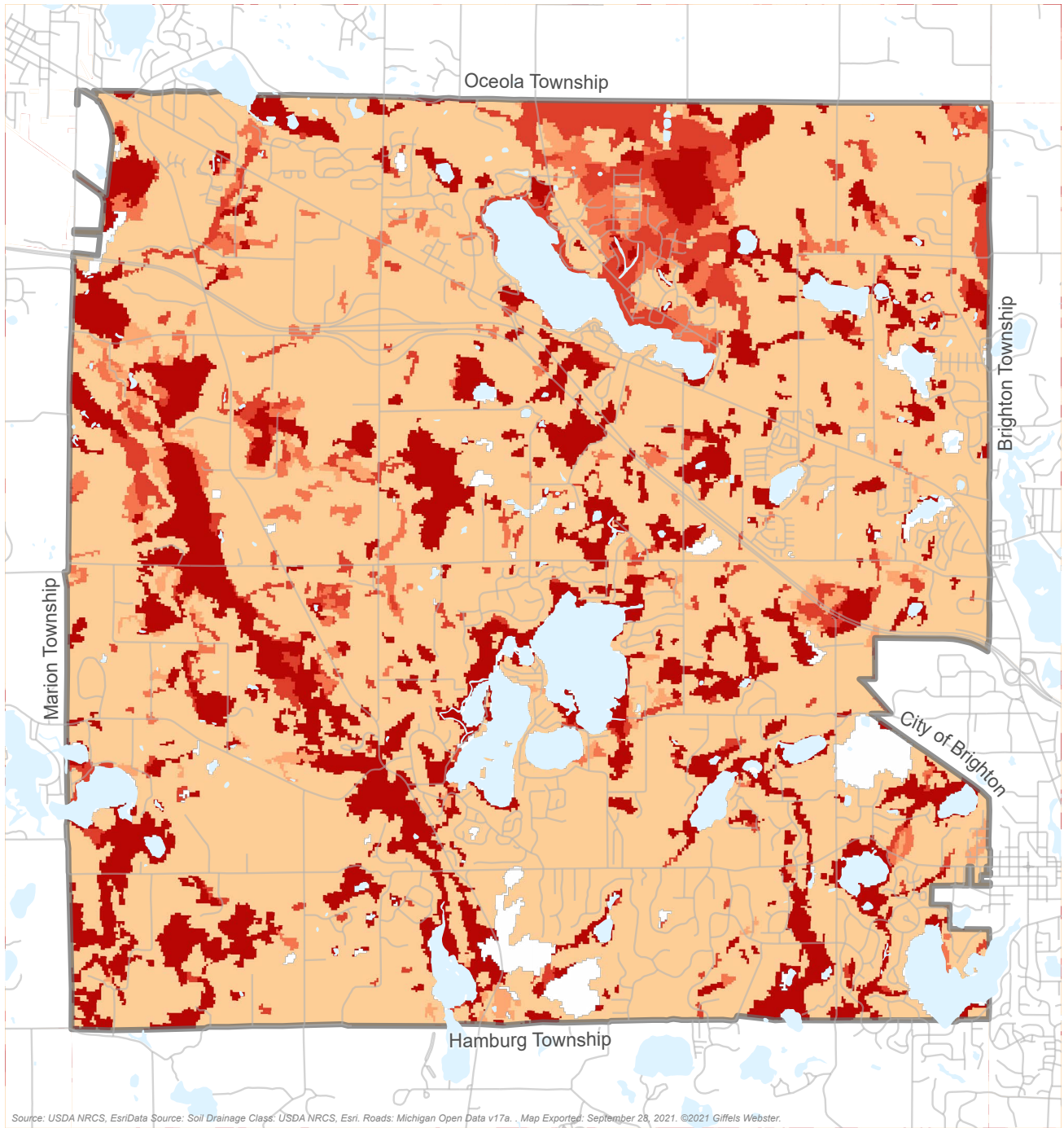
Development on poorly drained soils increases development costs, maintenance costs, and will lead to sanitary problems. Development costs are increased due to additional foundation, road and septic preparation. Maintenance costs and problems will be associated with septic field failures, flooded basements and impact to roads from frost action. Map 1.9 illustrates draining for soils, which range from “excessively drained,” where water is removed very rapidly, to “sub-aqueous,” which are soils under a body of water (there are only a few of these areas). Soils in the Township are generally considered “moderately well drained,” where soils are only wet for a short time. Along water courses, some less well-drained soils exist.

Foundation Stability

Soil areas that do not provide stable foundations may experience shifting building foundations, cracked walls and cracked pavement and roadways. These problems often result in increased development and maintenance costs or, in extreme cases, structural failure.

Septic Suitability

Because there are many areas of Genoa Township that rely on individual septic systems, the location of septic systems on proper soils is extremely important. Inspection and approval for use of a septic system is under Livingston County's jurisdiction and ultimately their responsibility to maintain high standards of review to prevent system complications or failures. Septic field failures are often the result of poor soil permeability, high water table or excessive slope. Soils such as compacted clays and silts will not allow wastewater to percolate, a high water table prohibits adequate filtering and excessive slope does not provide adequate percolation.



SOIL DRAINAGE CLASS

GENOA TOWNSHIP



Tree Canopy

Wooded areas can be found throughout the Township. Wooded areas also serve significant environmental functions that need to be acknowledged. These functions include watershed protection, air quality protection, noise abatement, and weather protection.

Watershed Protection.

A wooded area can be of great value to a watershed area. The canopy of trees aid in breaking the force of precipitation, thereby decreasing erosion, which is further inhibited by the fibrous root system of the understory plants. Woodlands can also reduce the volume of stormwater runoff, which helps reduce flooding. In addition, precipitation is retained and recharged into groundwater reserves by the woodland.

Air Quality Protection.

Woodlands improve air quality and afford protection from wind and dust. Leaves and branches moderate the strength of winds and, when moistened with dew or rainwater, reduce suspended particles in the air, which are later washed off with rainwater. Plants also serve to moderate the effect of chemical pollutants in the air by absorbing some ozone, carbon dioxide, and sulfur dioxide.

Noise Abatement.

A dense stand of trees can significantly cut noise from adjacent factories or highways by six to eight decibels per 100 feet of forest. Moreover, the moderating effects of forests on temperature and wind can significantly cut the sound-carrying capacity of the atmosphere.

Weather Protection.

The resilience of woodlands creates a micro-climate around the tree stand itself. Woodland qualities, which moderate and buffer temperature, precipitation, runoff, wind, and noise, are features of this micro-climate effect. The benefits of this micro-climate effect to surrounding urban and suburban areas can be significant.

An urban area devoid of vegetation is the exact opposite of the forest micro-climate. It increases the range of temperature fluctuations much like the climatic extremes of a desert. The sun's energy striking streets and buildings is changed into

heat, further increasing the temperature on a hot day; at night, the buildings lose heat and offer no protective cover from night chill or winter winds. Thus, if woodlands are interspersed among built-up areas, the effects of their micro-climates can be felt in adjacent urban areas, moderating fluctuations in temperatures by keeping the surrounding air cooler in the summer and daytime and warmer in the winter and evening.

Wildlife habitat.

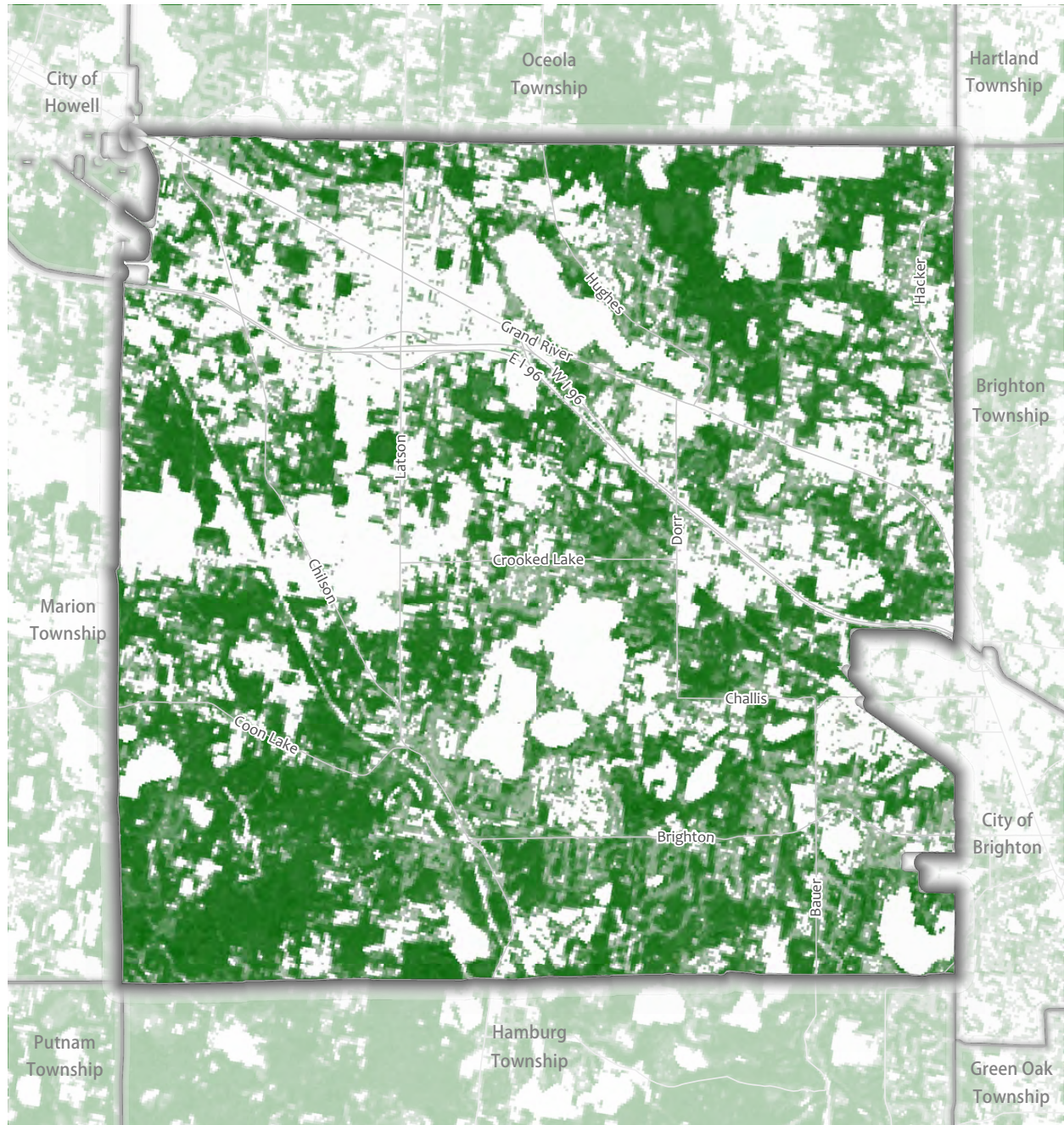
Woodlands provide essential shelter and food for deer, raccoon, rabbits, pheasants and other birds and animals. The opportunity to observe wildlife in a natural setting has educational benefits for Township residents.

Township's natural character.

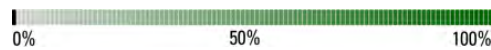
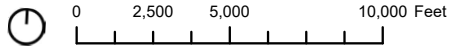
There is a significant amount of mature vegetation along many of the road corridors that pass through the Township. Woodlands located near the roadway contribute to a natural/rural atmosphere in a number of ways. The impact of vegetation on the motorist will be greater because of the close proximity to the roadway. A greater mass of vegetation will be within the forward view of the motorist. Other features such as buildings will have a less dominant impact on the streetscape because they fall behind the vegetative foreground. Taller trees will provide a sense of enclosure, providing a defined space bounded by vegetation. There is also a significant amount of vegetation along most lakes and streams throughout the area.

The Township currently protects woodlands through provisions in the Zoning Ordinance that restrict clearing of woodlands on a site prior to site plan approval. During site plan review, woodlands are required to be inventoried and the design is required to demonstrate preservation of natural features. As a condition of site plan approval, trees are required to be protected during construction with root-zone fencing. The Township also has landscaping regulations that require the planting of greenbelts and street trees for any new development. Landscape materials used should be native to Michigan and a variety of species should be used for street trees to minimize the impact of disease.





Data Source: Tree Density National Land Cover Data. Roads: Michigan Open Data v17a. Map Exported: October 07, 2021. ©2021 Giffels Webster.



Total Tree Canopy Density: 37.1%



TREE CANOPY

GENOA TOWNSHIP

Wetlands

Wetlands serve a variety of important functions which not only benefit the natural environment but also the community. Some of the primary values which wetlands contribute are as follows:

- Mitigate flooding by detaining surface runoff.
- Control soil erosion and sedimentation loading in rivers and lakes.
- Provide links with groundwater.
- Improve water quality which is degraded by such things as:
 - o Nutrients and chemicals from fertilizers and pesticides used in agriculture and landscaping/lawn care;
 - o Polluted urban run off from roads, parking lots, industrial and other commercial activities;
 - o Treated effluent from waste water treatment facilities;
 - o Erosion and sedimentation resulting from agricultural and construction activities.
- Function as highly productive ecosystems in terms of wildlife habitat and vegetation. Serve a variety of aesthetic and recreational functions.

The largest interconnected series of wetlands are located along the Chilson Creek corridor in the western portion of the Township. There are also numerous kettle depressions scattered throughout the Township. (See Map 4)

Types of Wetlands

There are four types of wetlands predominate within the boundaries of Genoa Township:

1. (Emergent wetlands with rooted cattails, bulrushes and sedge grasses;
2. Scrub/shrub wetlands,
3. Bogs; and
4. Forested wetlands with an over-story of trees and an under-story of shrubs.

As water levels rise and fall from year to year, some ecological succession may be occurring as the wetlands shift from emergent marsh to forested wetlands.

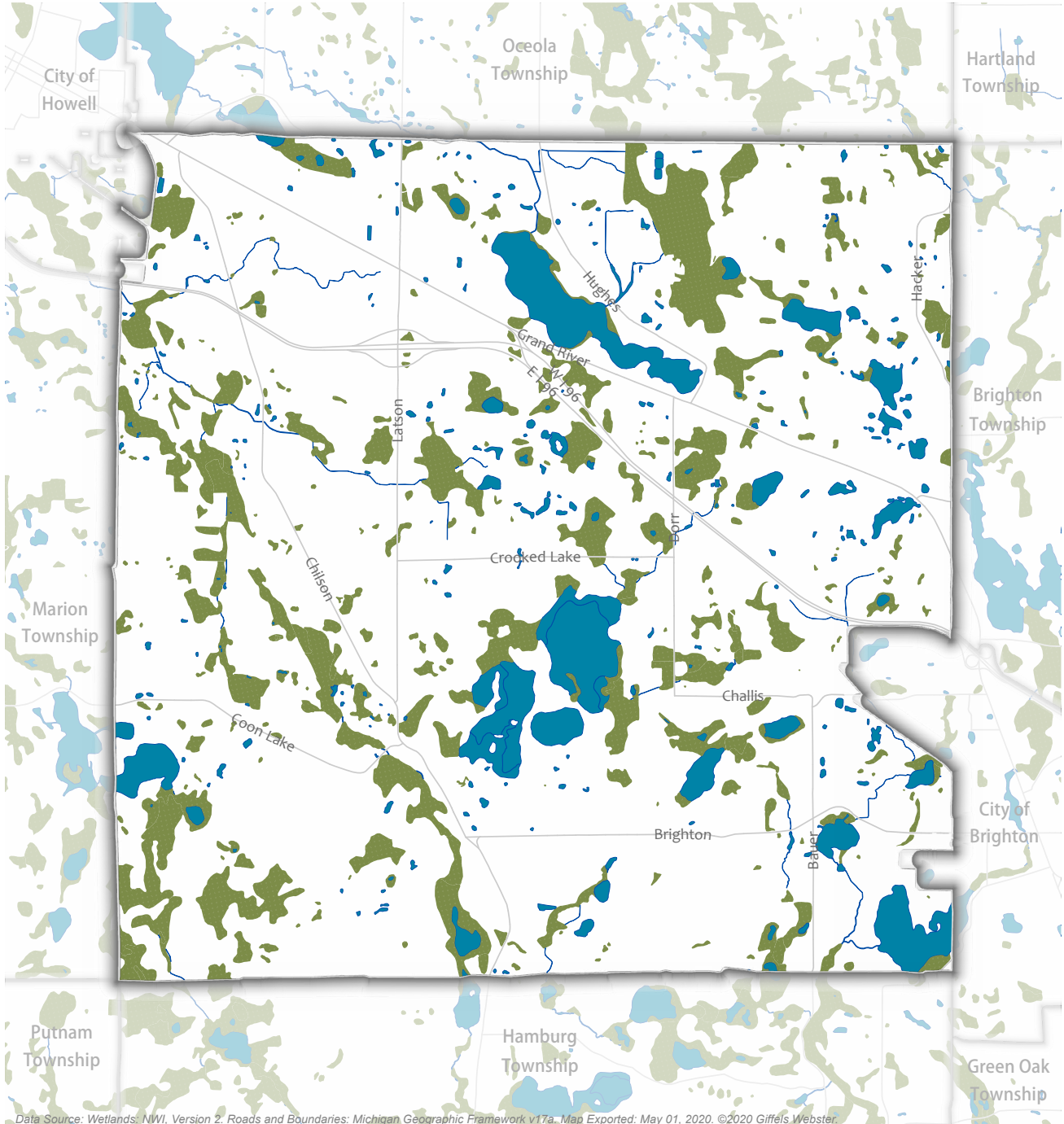
Development

Future development in areas surrounding these wetlands could significantly impact wetland resources. Therefore, developers and Township officials should evaluate alternative designs to minimize any potential for impact. This is best done by initially considering wetland resources as constraints to development. The relative weight of these constraints must also account for other environmental and socio-economic constraints. Minimization of impacts to these resources should take into account the cost of avoidance and the property rights of the individual. If impact is unavoidable, then mitigation should include an analysis of retaining or enhancing the wetland values to be lost.

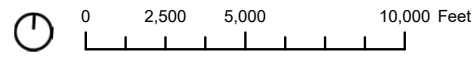
Wetland areas are valuable as natural buffers between residential and commercial Land Uses. They contribute significantly to the aesthetic character of the community. By incorporating wetlands as part of the future development, they will continue to maintain open and green space as well as contribute to retaining the rural setting.

Wetland Regulation

Any wetlands greater than five acres in size or contiguous with a waterway are regulated by the Michigan Department of Environment, Great Lakes and Energy (EGLE) through the Goemaere-Anderson Wetland Protection Act, Public Act 203, as amended. Any activity which requires these regulated wetlands be filled or drained requires a permit from EGLE. Permits will generally not be granted unless the issuance is in the public interest and necessary to realize the benefits derived from the activity. If a wetland fill permit is granted, mitigation should be required such as creating new wetlands within the same drainage way or enhancement of existing wetlands. In addition to this, Genoa Township Zoning Ordinance contains wetland standards that are stricter than the state in order to save wetlands over 2 acres plus a natural/undisturbed buffers adjacent to any regulated wetland.



Data Source: Wetlands: NWI, Version 2. Roads and Boundaries: Michigan Geographic Framework v17a. Map Exported: May 01, 2020. ©2020 Giffels Webster.



- Wetlands
- Surface Water



Wetlands

GENOA TOWNSHIP



Lakes, Rivers and Streams

Lakes are among the Township’s most valuable natural resources of the community. The largest and most significant lakes in the Township are Lake Chemung, East Crooked Lake and West Crooked Lake. The numerous lakes provide recreational opportunities such as boating, fishing and swimming. The quality of these water features enhances the value of adjacent property for residential opportunities. Areas surrounding many of the larger lakes in the Township have been developed for smaller lot resort and residential uses. These areas were initially developed with resort cottages on small lots with individual septic drain fields. Over time these areas have been converted to year-round homes.

Areas surrounding the lakes have soil conditions that are not well suited for drain fields due to poor soil texture and a high water table. The combination of the natural soil characteristics and increased residential use of the lake areas may lead to significant problems with septic tank systems. The septic tank leakage began affecting the quality of wells and the lakes. In response to these problems, Genoa Township has provided sanitary sewer to serve the most intensely developed areas around Lake Chemung and the Tri-Lakes.

Chilson Creek is the major stream in the Township that flows from the north down to the Huron River in Hamburg Township in the south. Ore Creek in the southeastern corner of the Township, near the city of Brighton also drains to the Huron River in the south. Associated with the creeks are corridors of adjacent wetlands. The creeks and wetlands are important for surface drainage, groundwater recharge and wildlife habitat. Alteration of the creeks and wetlands can contribute to flooding, poor water quality, insufficient water supply and loss of valuable wildlife habitat.

County Drains and Districts

The Township is part of eight drainage Special Assessment Districts (SAD), a majority of those are private. The County Drains for Marion & Genoa, and Genoa & Oceola are the largest drains. Refer to next page for location of these drains. For more information, please refer to <https://www.livgov.com/drain/Pages/county-drains.aspx>.

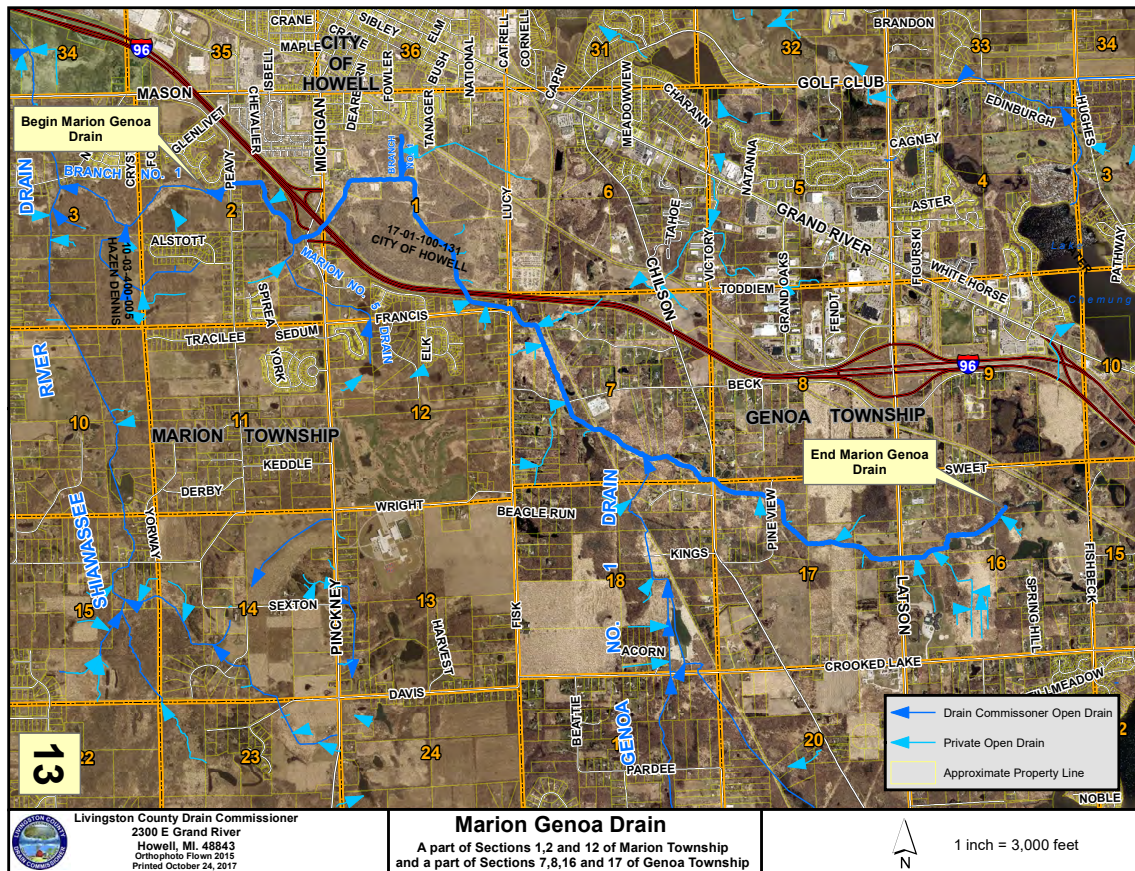
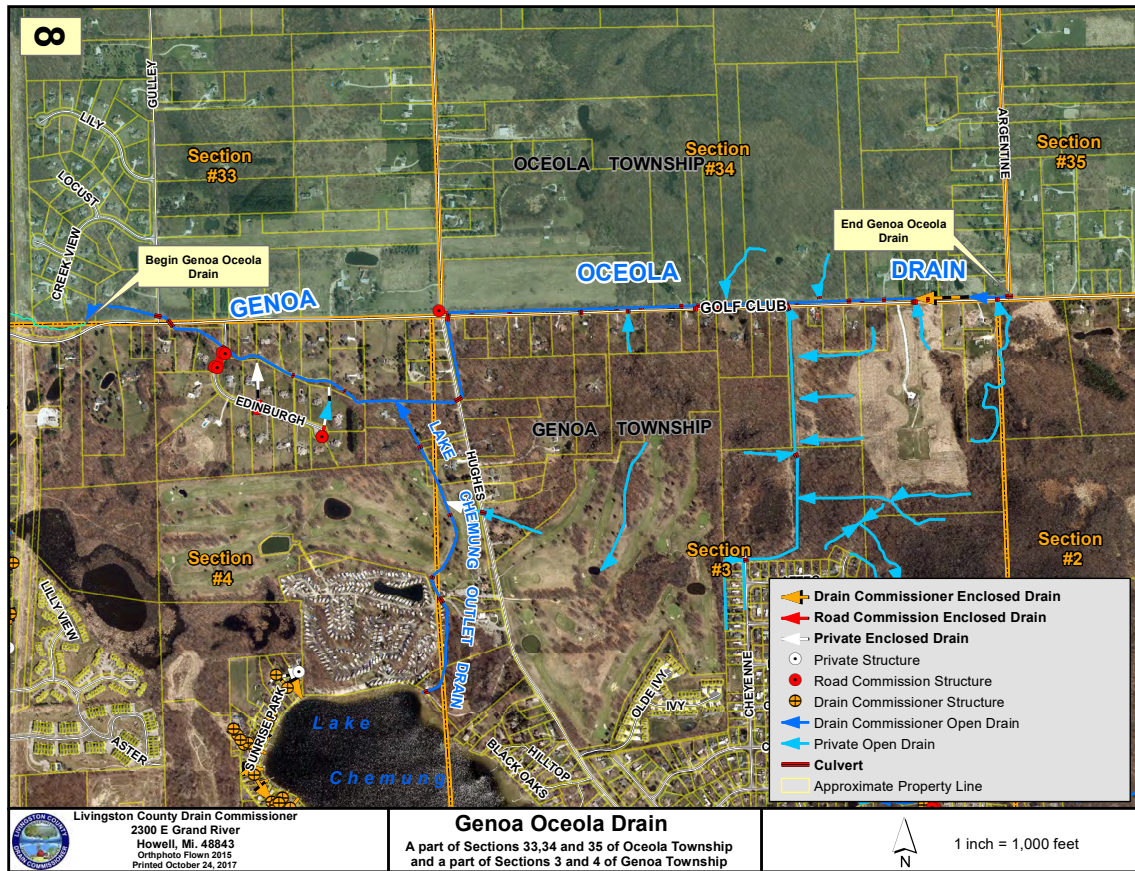
Marion Genoa Drain

The Genoa Township is of the Marion Genoa drain drainage district which includes a part of Marion and Genoa Townships and the City of Howell. The county open drain is primarily located in the northwest corner of the Township.

According to Livingston County website, each drainage district is supported by a drain special assessment that covers the cost of maintaining the county-owned portion of the drainage system. A drainage district is a legally established area of land that benefits from a common outlet, which are determined by historical records and the natural topography of the land and rarely correspond to political boundaries, such as Townships.

Genoa Oceola Drain

This drain runs along the Oceola and Genoa Township boundary. It is approximately 9,943 linear feet, of which approximately, 6,208 linear feet is located in the Oceola Township.



Watersheds

The protection of regional watersheds is critical for maintaining wildlife habitat, mitigating stormwater and protecting groundwater. Genoa Township is comprised of land in both the Shiawassee and Huron River watersheds. This means that anywhere in Genoa Township, all of the water under or on a particular piece of the land drains to either the Shiawassee or Huron River. Generally, the northwest half of the Township belongs to the Shiawassee River Watershed, while the southeast half drains to the Huron River.

Shiawassee River Watershed

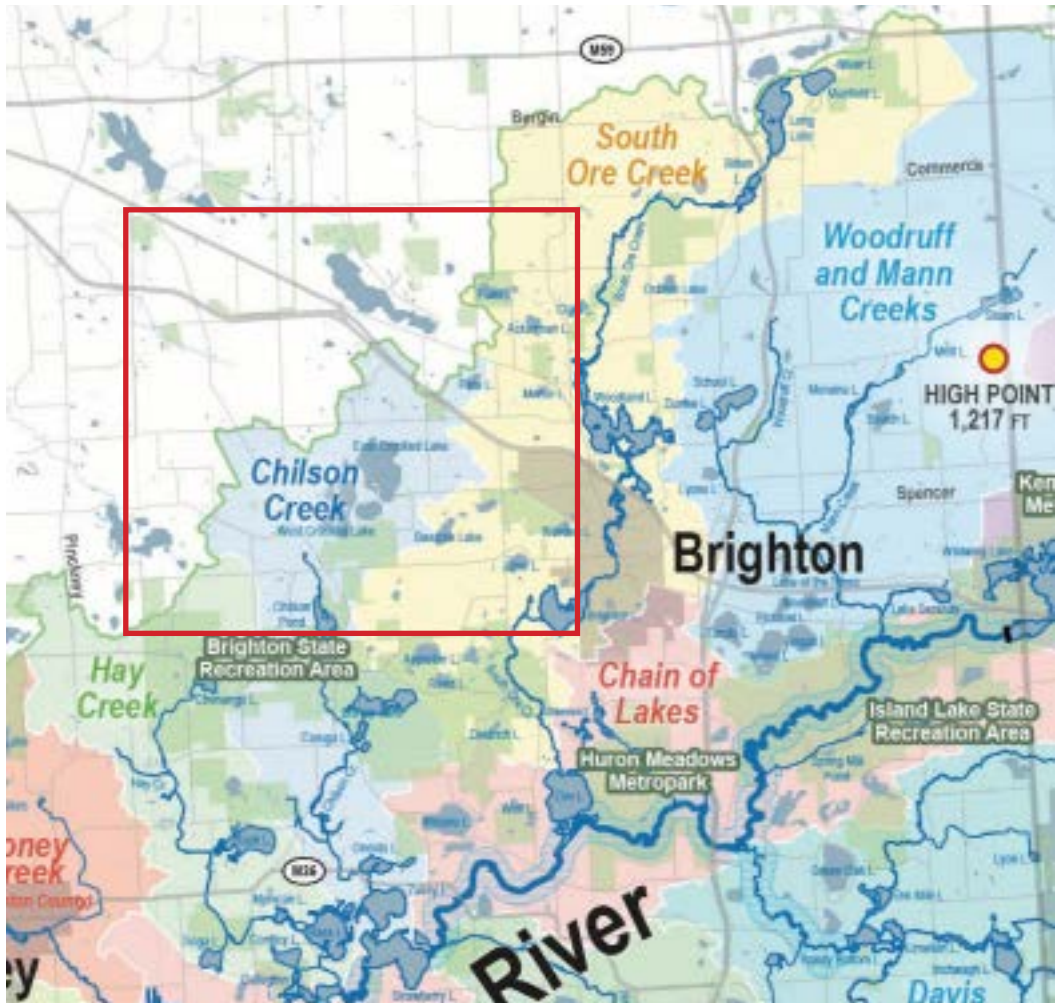
According to the Shiawassee Conservation District, the Shiawassee River Watershed covers 742,400 acres of agriculture, urban, forest and natural areas. The Shiawassee Conservation District developed a Mid-Shiawassee River Watershed Plan in 2002, and updated it in 2012. This Watershed boasts many special resources including one of the best preserved warm-water river systems in the southern Great Lakes. The watershed supports 59 species of fish and 12 species of freshwater mussel. Three categories of wildlife support hunting and/or recreation in the watershed: Openland (quail, pheasant, rabbit, white-tailed deer); Woodland (squirrels, ruffed grouse, woodcocks, white-tailed deer); and Wetland (muskrat, beaver, ducks, geese, minks). There are six county parks within Shiawassee County and a 100-acre YMCA outdoor education center along the river. There are 11,000 acres of wetlands in the watershed, with an average size of 4.5 acres. There are approximately 12,000 septic systems in the watershed, in Shiawassee County.

Huron River Watershed

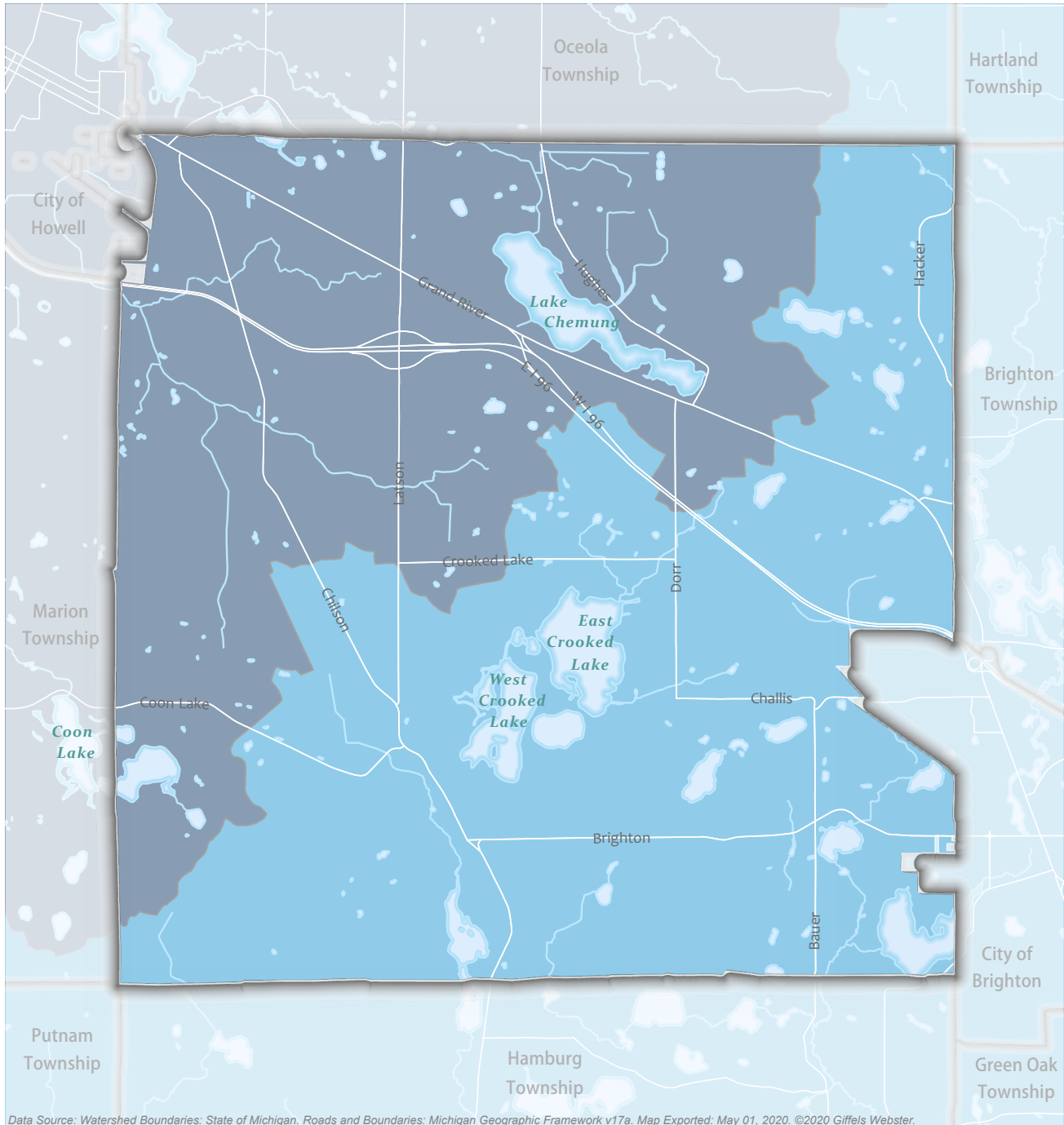
According to Huron River Watershed Council (hwrc) website, the Huron River Watershed spans a land area of more than 900 square miles and drains water to the Huron River through hundreds of tributary creeks and streams. The river itself flows more than 125 miles from its headwaters at Big Lake, near Pontiac, to its mouth at Lake Erie. About 1200 miles of creeks and streams flow into the Huron's main branch. The river's drainage area includes seven Michigan counties (Oakland, Livingston, Ingham, Jackson, Washtenaw, Wayne, Monroe), 63 municipal governments, and six hundred and fifty thousand residents. The spectrum of Land Use and water environments ranges across remote natural preserves, cultivated farmland, urban and industrial centers, suburban sprawl, and an equal diversity of lakes, ponds, wetlands, creeks, and streams.

- Chilson Creekshed.** Chilson Creek flows through land enriched by glaciers with deep deposits of sand and gravel and is part of the lake belt that stretches through Livingston and Oakland Counties. It is one of the smaller major drainages in the Huron River, draining only 17 square miles. Chilson Creek eventually empties into Zukey Lake, which opens into Strawberry Lake, part of the Chain of Lakes of the Huron River. The entire creekshed lies in Hamburg and Genoa Townships, Livingston County.
- Hay Creekshed.** Hay Creek flows through land enriched by glaciers with deep deposits of sand and gravel. What was once oak-hickory forests and oak barrens on higher ground and inland wet prairie in low lying areas and along the creek was first converted to farm fields and today is mostly single family homes spread out throughout the landscape and clustered around the lakes, M-36, and Swarthout Road. The Hay creekshed is one of the smaller major drainages in the Huron River, draining only 12 square miles, 8 of which is considered the main branch. The majority of the creekshed is in Hamburg Township, Livingston County, with only the tips of a couple tributaries in Putnam and Genoa Townships. The Huron River Watershed Council asks local communities to help with data collection and monitoring in this creekshed.
- South Ore Creekshed.** South Ore Creek's main stem and its tributaries total 36 miles of waterways. The main branch starts at the outflow of Maxfield and Long Lakes. From there, flows south through the City of Brighton, through Brighton State Lake Recreation Area, and then drains into the main branch of the Huron River. Initial European settlement centered on the transformation of the open barrens for agricultural production and the forested areas for timber. Over the past few decades agriculture has been quickly diminishing as land has transferred to suburban uses. The Huron River Watershed Council notes that dams on the lower half of South Ore Creek are a likely cause of many of the creek's problems (which include altering the stream's hydrology and degrading fish and insect habitat) and recommends that the local governments in charge of these dams need to look carefully at these structures and determine if their presence is worth the environmental cost and if dam management could be conducted to mimic more natural stream flows.

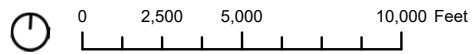
MAP 1.10. CREEKSHEDS IN GENOA TOWNSHIP, HURON RIVER WATERSHED



Source: Huron River Watershed Council



Data Source: Watershed Boundaries: State of Michigan. Roads and Boundaries: Michigan Geographic Framework v17a. Map Exported: May 01, 2020. ©2020 Giffels Webster.



- HURON
- SHIAWASSEE



Watershed Basins

GENOA TOWNSHIP



Ground Water

Important factors in the evaluation of groundwater are the quantity and quality of the water. Quantity or yield standards for a typical residential or commercial use range from 7 gallons per minute to 20 gallons per minute. Water is generally available in sufficient quantity and will not likely be a factor in limiting growth. Water quality is a more important factor than water availability. Water hardness, iron content, salinity and septic field contamination are hazards encountered in Genoa Township.

Groundwater Contamination

Potential sources of groundwater contamination can result from all of the various Land Uses within Genoa Township. The level of threat of groundwater contamination will vary based on 1) the susceptibility of groundwater to contamination due to geologic features, 2) contamination loading rates based upon Land Use and hazardous materials management and 3) the amount and type of hazardous materials utilized within the Township.

Major sources of groundwater contamination are as follows:

- Buried wastes in landfills discharge liquids referred to as leachate which can enter groundwater.
- Agricultural fertilizers and pesticides often infiltrate the soil surface and enter groundwater.
- Urban storm water run-off from buildings, streets and parking lots contains contaminants that infiltrate the soil and enter waterways.
- Septic drain fields release sewage effluent into the soil through seepage beds.
- Spills and leakage of hazardous materials such as underground storage tanks and spills of hazardous materials will infiltrate the soil surface and enter groundwater if not properly contained. State and county requirements will need to be adhered to for any facility within the Township that involves the use, storage or disposal of hazardous materials. Facilities for storing hazardous materials should have secondary containment and a pollution incident prevention plan.

Potential Environmentally Impacts Sites

According to Livingston County Health Department records, there are a few contaminated sites within the Township which pose environmental problems. Michigan Public Act 307 provides for identification, risk assessment, evaluation and cleanup of sites of environmental contamination in the State. Sites are identified through information from concerned citizens, environmental groups, industry, local health departments, EGLE staff and others. From this process a priority list was and will continually be, updated. This list is used in part to develop funding recommendations to undertake response activities utilizing state funds when the parties responsible for the contamination are unwilling or unable.

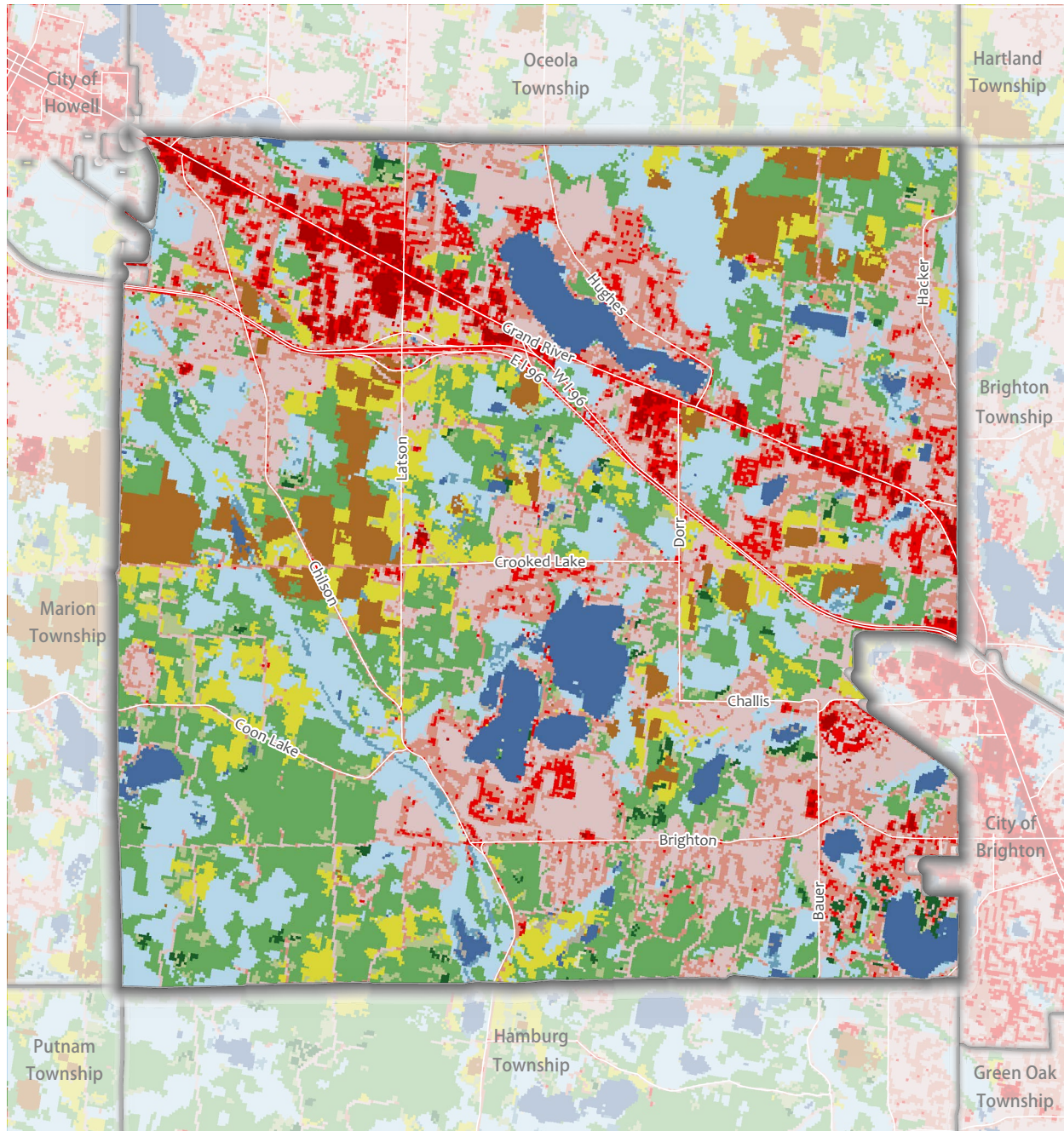
Six Act 307 Sites have been identified in Genoa Township. These are located in industrial and commercial areas, with the majority in the northwest corner of the Township near the city of Howell. These locations are planned to remain in industrial, commercial or public Land Uses.

A closed landfill is purported to be located on the south side of Brighton Road, east of Chilson Road.

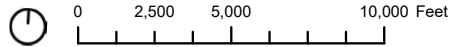
Impervious Surfaces

Impervious surfaces include roads, buildings and other hard-packed surfaces that prevent rain and snow from being absorbed into the ground. This can have an effect on local streams, both in water quality and stream flow as well as flooding. As more stormwater runoff occurs, it is collected by drainage systems that combine curbs, storm sewers, and ditches to carry stormwater runoff directly to streams. The more developed a watershed area is, there is an increased likelihood of more frequent and more severe flooding as well as higher contamination of this water.

The Impervious Surfaces map illustrates areas of the Township that are built or otherwise developed, either with buildings, roads or other structures. The intensity with which land is developed coincides with the built environment - more intense commercial uses along the Grand River corridor, with less developed areas off the main roads.



Data Source: Land Cover: USGS. Roads: Michigan Open Data v17a. Map Exported: October 07, 2021. ©2021 Giffels Webster.



Estimated Percentage of Impervious Surfaces based on Land Cover

- Open Water
- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Barren Land
- Deciduous Forest
- Grassland/Herbaceous
- Cultivated Crops
- Woody Wetlands



LAND COVER AND IMPERVIOUS SURFACES

GENOA TOWNSHIP

Existing Land Use

Existing Land Use

Genoa Township is predominantly comprised of single-family residential Land Uses (See Map 1.13). Non-residential development is concentrated largely in the north portion of the Township, along the Grand River corridor, where it is roughly anchored by the cities of Howell and Brighton. While some Land Use categories have changed in size over the past 8-10 years, most of this change has been to single family residential. Descriptions of the existing Land Uses are provided below and changes from the 2012 Master Plan are noted:

Agricultural & Rural Residential

This Land Use category includes both lands actively used for agricultural purposes as well as large lot residential areas. This category totals 9,461 acres, or almost 41% of the Township.

Single-Family Residential

This category includes single-family residential on lots less than three acres. This type of residential development is dispersed throughout the area. This category includes about 3,774 acres, or 16% of the Township.

Multiple-Family Residential

This category includes attached townhomes, apartment buildings, and manufactured housing parks. There are approximately 450 acres of multiple family residential or about two percent of the Township.

Commercial

Commercial uses in the Township are located primarily along the Grand River Avenue frontage. Grand River Avenue is the most heavily traveled roadway in Genoa Township. As a result, small regional shopping centers, individual business establishments and small offices have developed along this segment. Commercial/office use comprises about 940 acres of land, or four percent of the Township.

Industrial

Existing industrial uses are located north of I-96 on the south side of Grand River Avenue between Chilson and Latson. There are a number of small to medium sized industrial uses dispersed along the Grand River Avenue corridor. The largest industrial area is the partially developed 200 acre Grand Oaks Industrial Park just west of Latson Road between I-96 and Grand River Avenue. In total, about 233 developed acres of industrial land, or about one percent, exist in the Township, .

Public/Quasi-Public

Areas designated as Public/Quasi-Public include public uses such as Township Hall, governmental buildings, churches and schools. These are dispersed throughout the Township with a high concentration of government facilities in the northwest corner towards the City of Howell. There is a total of about 438 acres of public land, or two percent in the Township.

Parks

This classification includes areas such as golf courses, miniature golf centers, recreational vehicle campgrounds, parks, ski areas, MDNR lake access sites, playgrounds, trails, athletic fields, and the Brighton Recreation Area which together total 2,550 acres, or 11% of the Township.

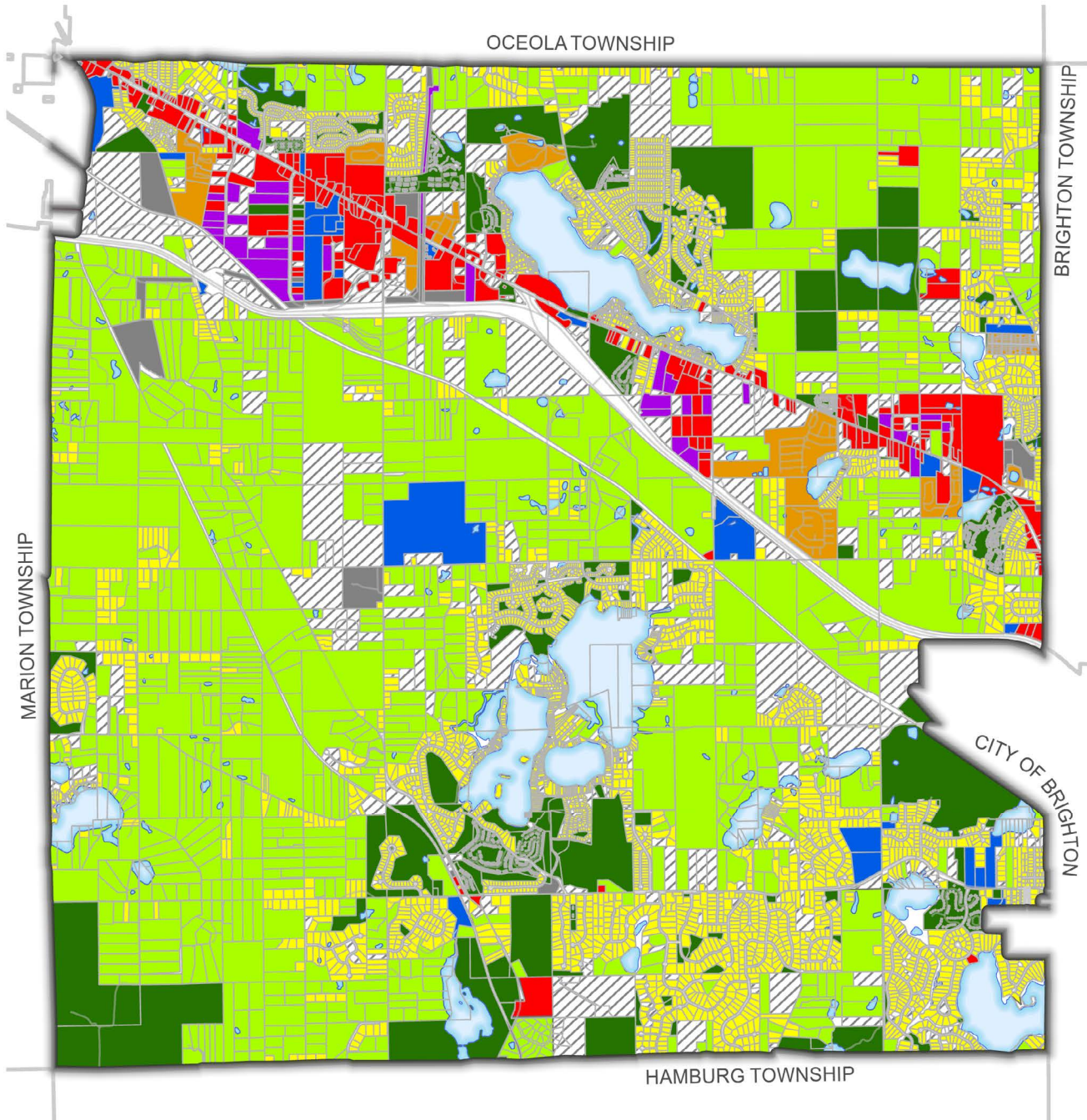
Vacant land

Vacant land comprises about 2,386 acres or ten percent of the Township.

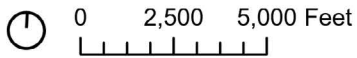
Transportation, Communication and Utilities

These uses comprise about 239 acres or one percent of the Township.

Note. A small amount of the Township is considered “not parceled” and is considered “miscellaneous.”



Data Source: Existing Land Use: Oakland County. Roads: Michigan Open Data v17a. ADDA Boundary: City of Sylvan Lake. Map Exported: June 14, 2022. ©2020 Giffels Webster.













- | | |
|-----------------------------------|-----------------------|
| Agriculture and Rural Residential | Parks |
| Multi-Family Residential | Single-Family Housing |
| Commercial | Transp/Comm/Utilities |
| Industrial | Vacant |
| Public | Water |



EXISTING LAND USE
GENOA TOWNSHIP

TABLE 1.9. PERCENT DISTRIBUTION OF EXISTING LAND USE CATEGORIES

ELU category in GIS	Acres 2020	Percent of Land Use 2020
 Agricultural / Rural Residence	9,461	40.7
 Multi Family Residential (Condo, multi and mobile)	445	1.9
 Commercial (hospitality, medical, mixed, office, retail)	939	4.0
 Industrial	233	1.0
 Public (inst, Parking)	438	1.9
 Parks (recreation and golf)	2,550	11.0
 Single Family Housing	3,774	16.2
 Transportation/Communication/Utilities	239	1.0
 Vacant	2,387	10.3
 Water	1,499	6.4
Not parceled	1,307	5.6
Total	23,272	100.0