



# CHAPTER FIVE

**Existing Transportation System**

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# INVENTORY OF EXISTING TRANSPORTATION SYSTEM

Chapter 5 offers details about the existing transportation system in the MACC Area. The MACC area transportation system encompasses all modes of transportation with:



**Over 335 Miles of Federal-Aid Roads**



**A General Aviation Airport**



**A Commercial Harbor**



**A Public Transportation System**



**An Extensive Non-Motorized Network**



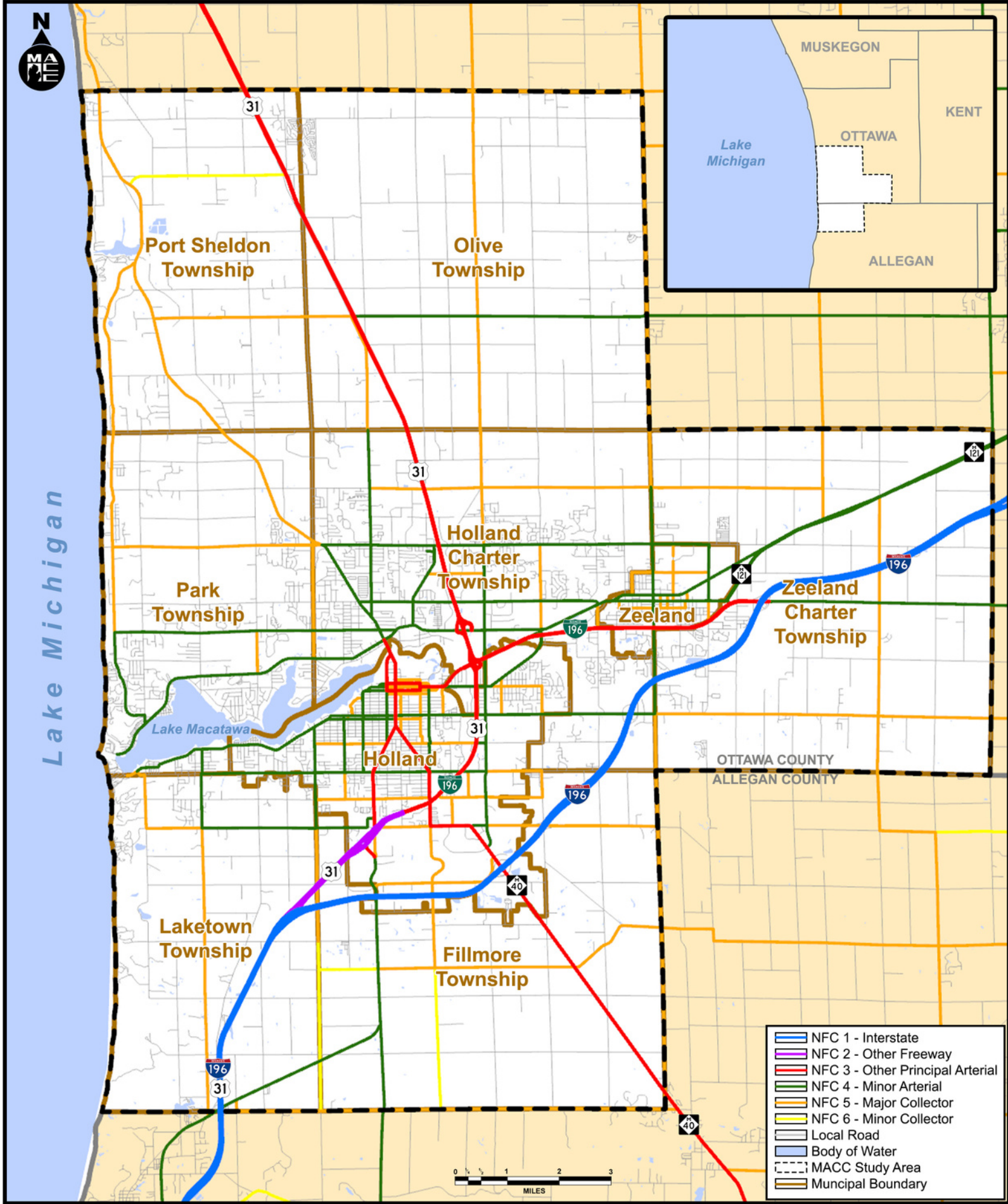
**Two Class A Rail Lines**

## EXISTING MAJOR ROADWAYS

The Macatawa Area Coordinating Council primarily works with roads that are on the National Functional Classification (NFC) system, a federal grouping system for public roads, and are classified as the following:

- Rural and Urban Interstate Highways
- Rural and Urban Other Freeways
- Rural and Urban Other Principal Arterials
- Rural and Urban Minor Arterials
- Rural and Urban Major Collectors
- Rural and Urban Minor Collectors

Roads that are classified as local or not classified do not typically receive funding from the MACC. The existing major roadways in the MACC planning area are shown on the following page.



# National Functional Classification (NFC)

Figure 5.1

# PAVEMENT CONDITIONS

Road pavement ratings are another source of information used to determine the condition of the roadway, prioritize projects, and evaluate when a road is resurfaced or reconstructed. Pavement Surface Evaluation and Rating (PASER) is a visual survey of the condition of the surface of the road. It rates the condition of various types of pavement distress on a scale of 1-10. This system is used by most Michigan road agencies.

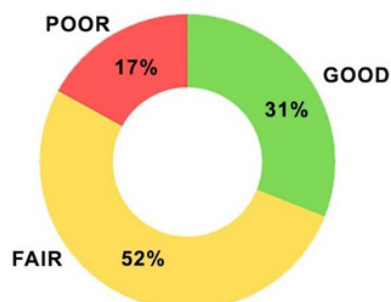
The MACC, in partnership with MDOT, the cities of Holland and Zeeland, and the Allegan and Ottawa County Road Commissions, annually rate our area’s federal aid-eligible roads. We are responsible to report the condition of 50% of our roads every year. The MACC goes above and beyond and rates our entire system each year. Submitted ratings help identify and prioritize future road projects.

The MACC takes the ratings of 1-10 and divides them up into three categories. Roads with a rating of 8-10 are considered to be in good condition, 5-7 in fair condition, and 1-4 in poor condition. Both Allegan and Ottawa counties were rated in 2023.

Statewide, in 2022, 25% of roads are in good condition, 42% of roads are in fair condition, and 33% of roads are in poor condition. Additional PASER information such as ratings by township or city and data from previous years can be found on the MACC website. The most recent ratings for the MACC portion of each county are displayed below along with Figure 5.4

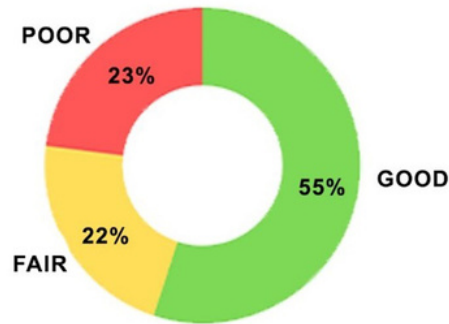
## OTTAWA COUNTY PASER RATINGS (2023)

RATING	1	2	3	4	5	6	7	8	9	10
MILES	0.03	0.6	9.27	31.45	32.66	53.65	41.82	49.92	13.99	13.56



## ALLEGAN COUNTY PASER RATINGS (2023)

RATING	1	2	3	4	5	6	7	8	9	10
MILES	0	0.03	7.11	15.50	10.03	4.23	8.25	13.74	36.71	5.08

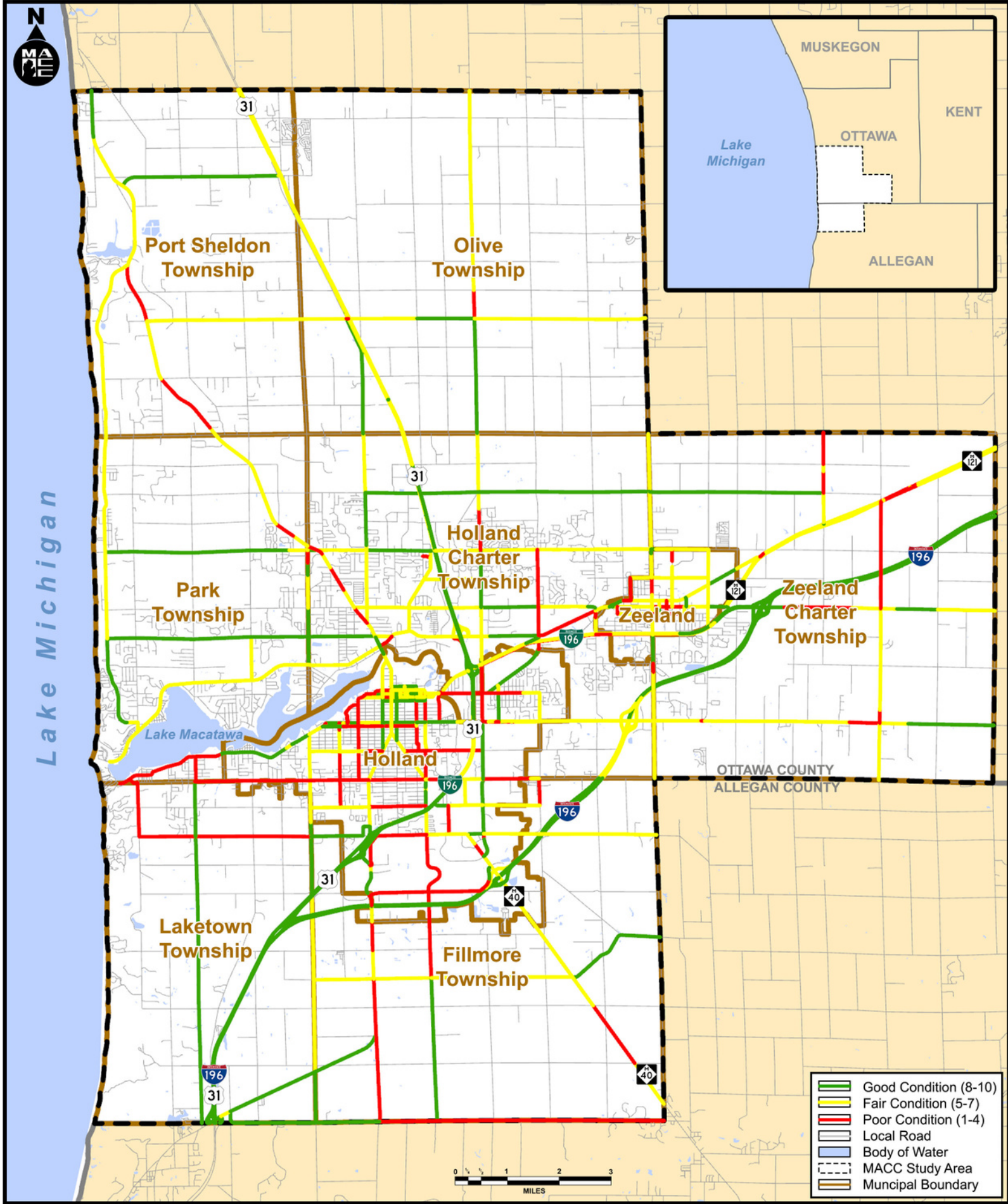


# BRIDGE CONDITIONS

As with the PASER ratings for road pavements, a similar scale is used to determine the condition of the bridge system, prioritize projects, and evaluate when a bridge is to be improved or reconstructed. Bridge conditions are based on bi-annual inspections of state, county, city, and village-owned bridges. Ratings for MACC area bridges were reviewed using the Michigan Transportation Asset Management Council's interactive dashboard. In the MACC area, there are 94 bridges listed on the TAMC website. As of 2022, in the MACC area, 27% of bridges are in good condition, 61% of bridges are in fair condition, 11% of bridges are in poor condition, and 2% of bridges are in severe condition. Statewide, 34% of bridges are in good condition, 54% of bridges are in fair condition, 8% of bridges are in poor condition, and 4% of bridges are in severe condition.

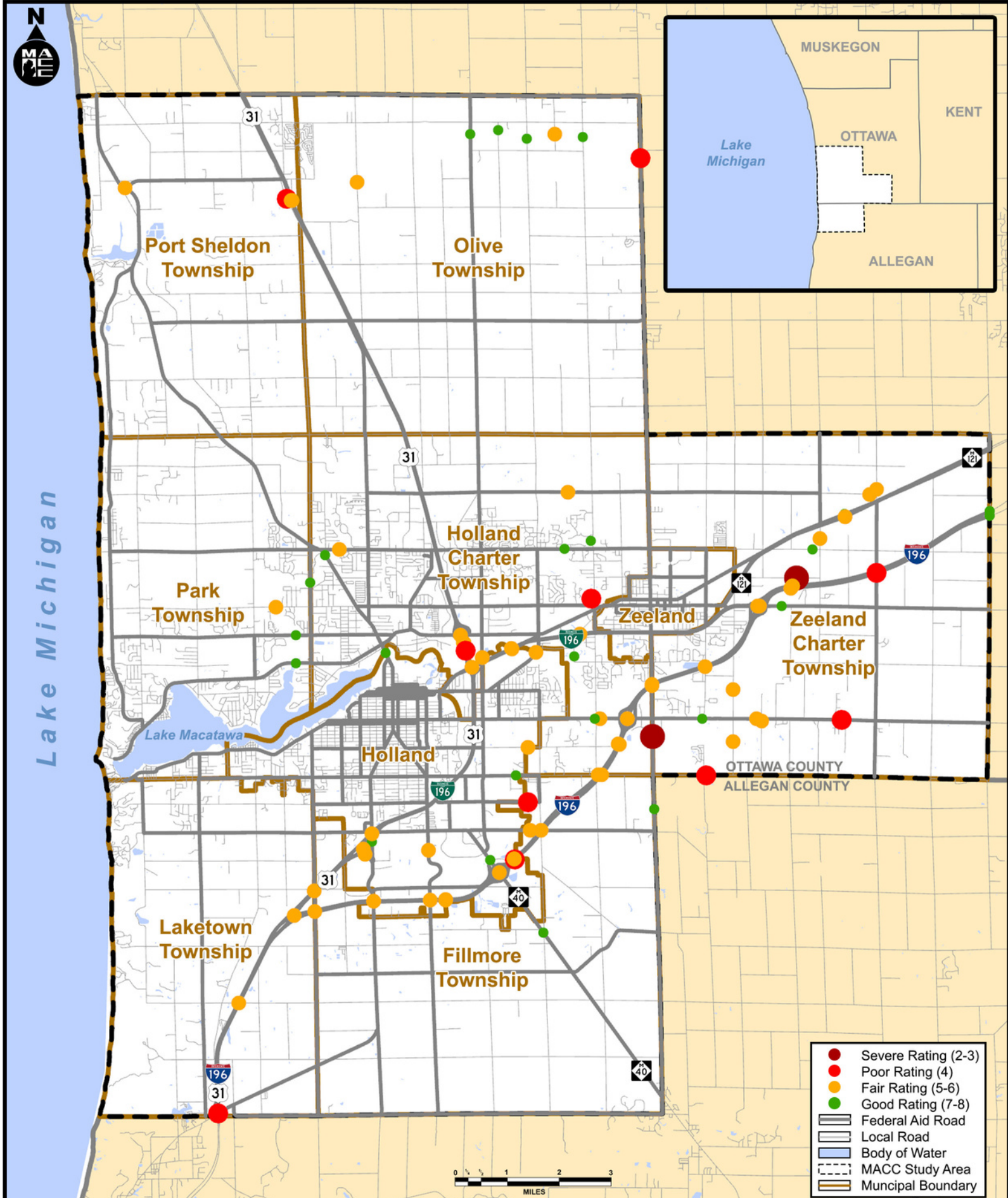


Image courtesy of MDOT Photo and Video Services



# PASER Ratings (July 2023)

Figure 5.4

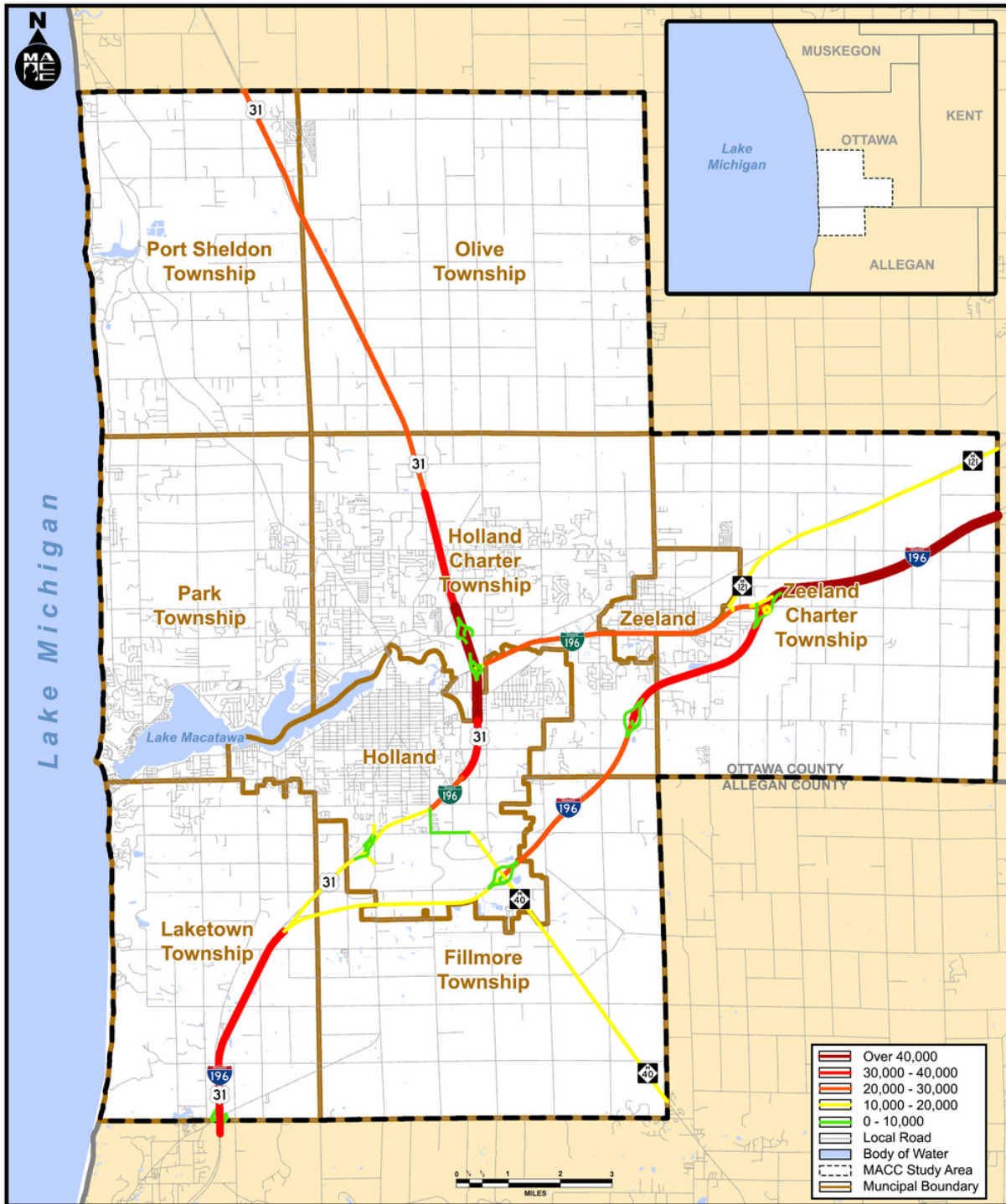


# TAMC Bridge Ratings (2022)

Figure 5.5

# TRAVEL CORRIDORS

Current conditions of the highway network are defined by first identifying travel corridors and the average annual daily traffic volumes. Annual Average Daily Traffic (AADT) is the estimated mean daily traffic volume. For continuous sites, it was calculated by summing the Annual Average Days of the Week and dividing by seven. The map below identifies the commercial and vehicular AADT on MDOT-owned expressways and roads in the MACC area using MDOT's 2022 traffic volumes data.



**Michigan State Trunkline AADT**

*Figure 5.6*

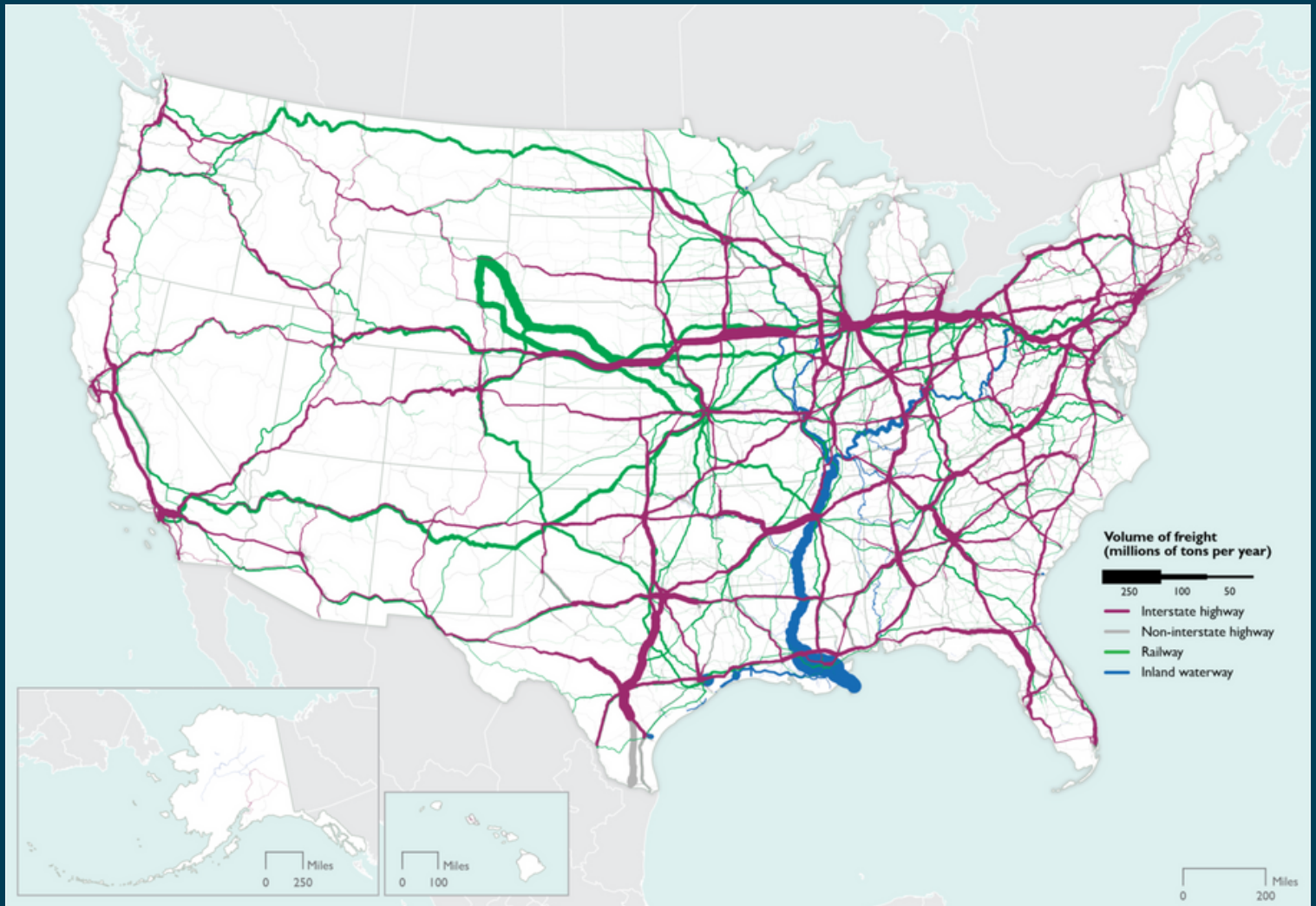


# NATIONAL FREIGHT MOVEMENT

National surface transportation legislation, Moving Ahead for Progress in the 21st Century Act (MAP-21), requires the designation of a national freight network, reporting of freight transportation conditions and performance measures, as well as a national strategic plan for freight movement. The requirements established under MAP-21 have continued under the Infrastructure Investment and Jobs Act (IIJA) signed into law in November of 2021. Below are maps of the United States national highway freight network as well as annual freight volumes (tonnage of freight moved by various modes of transportation: highway, rail, and through waterways). These maps were created by the U.S. Department of Transportation.

At the national level, the Freight Analysis Framework (FAF) identifies domestic and international freight. This FAF data focuses on the primary freight network and critical rural freight corridors. The following maps demonstrate how freight is moved by truck on highway segments throughout the United States. While the FAF data does not include pavement condition, routing information, or local freight routes, the data does illustrate how major freight flows to, from, and within Michigan.

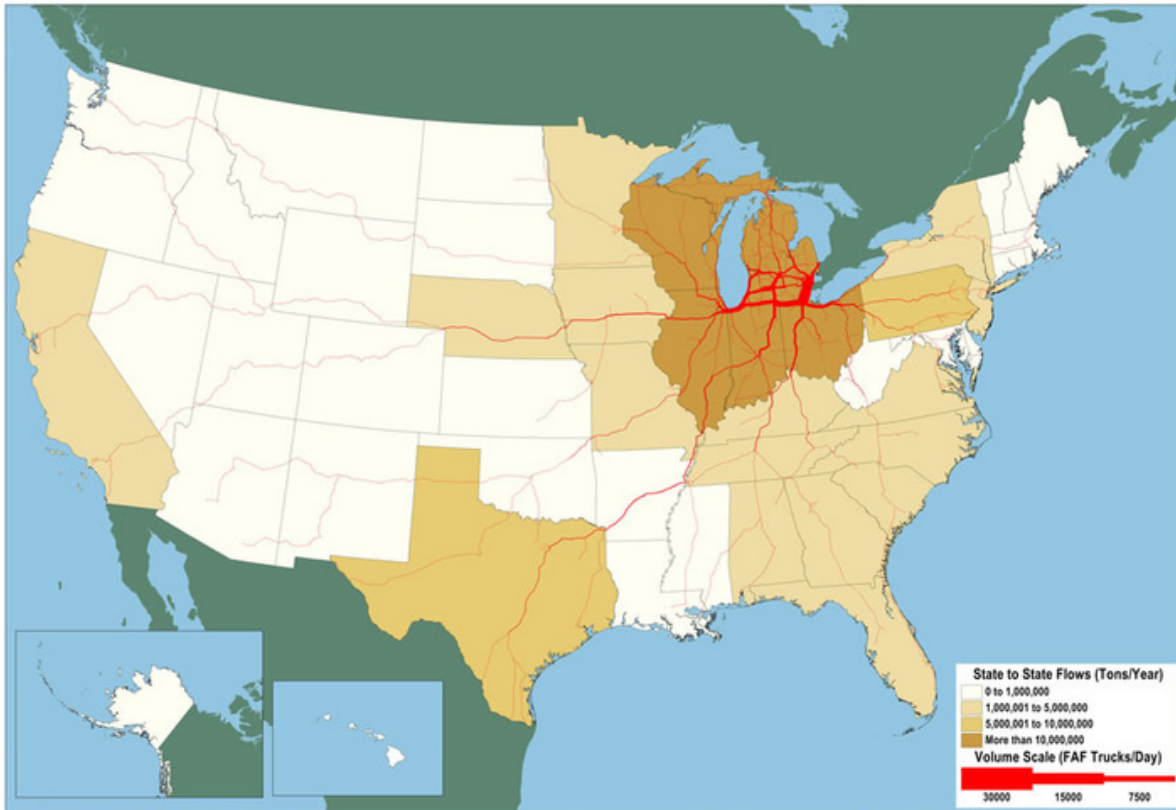




## MICHIGAN FREIGHT MOVEMENT

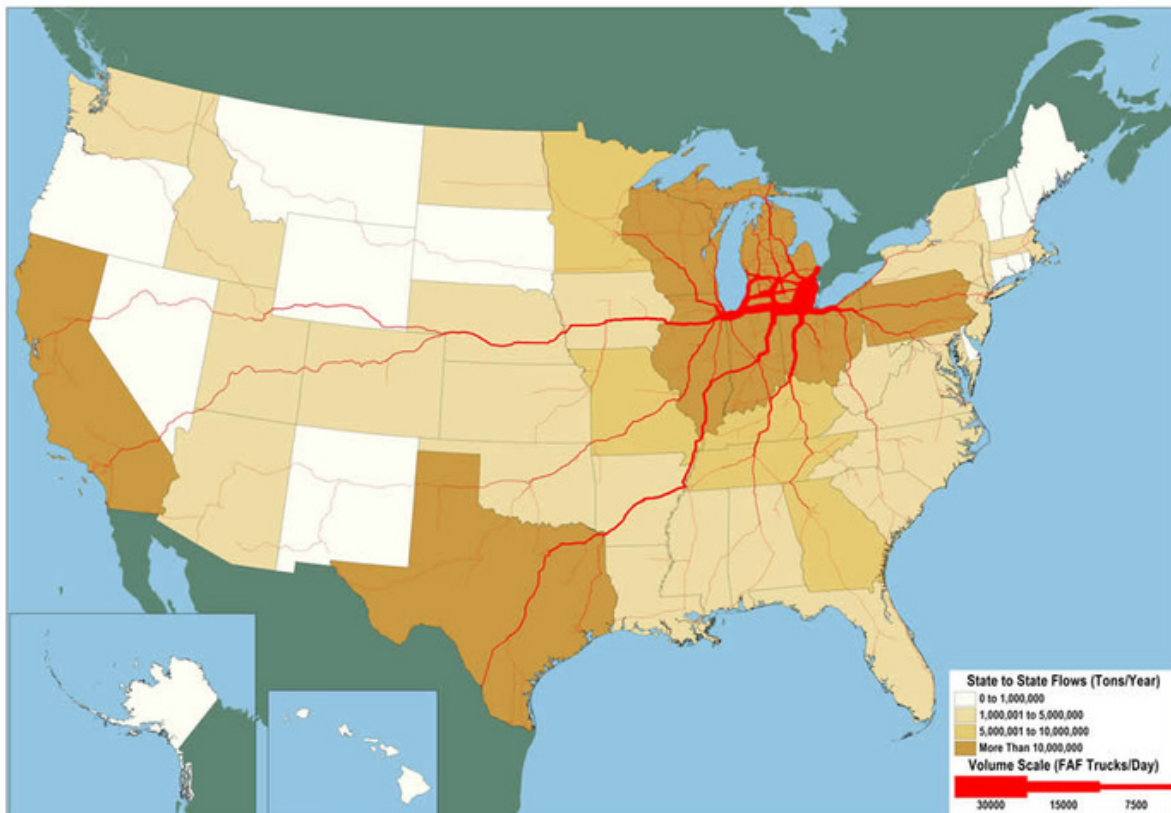
In Michigan, freight is moved primarily by trucking and rail. The Michigan Department of Transportation’s current Michigan Mobility 2045 plan published in 2021 offers statistics on each transportation mode used to transport freight. The document noted that trucking accounted for 74 percent of tonnage moved, while rail handled 21 percent, air handled 4 percent, and water carried less than 1 percent. Data gathered from the Freight Analysis Framework indicates that the value of all freight movements throughout Michigan in 2022 was worth nearly \$1.4 trillion, with trucks handling 73 percent of the goods moved by value, multiple modes and mail handling 14 percent, rail handling 8 percent, pipelines handling 3 percent, airborne handling 1 percent, and waterborne modes handling less than 1 percent.

### Major Flows by Truck To, From, and Within Michigan: 2012



Note: Major flows include domestic and international freight moving by truck on highway segments with more than twenty five FAF trucks per day and between places typically more than fifty miles apart.  
Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, version 4.3, 2017.

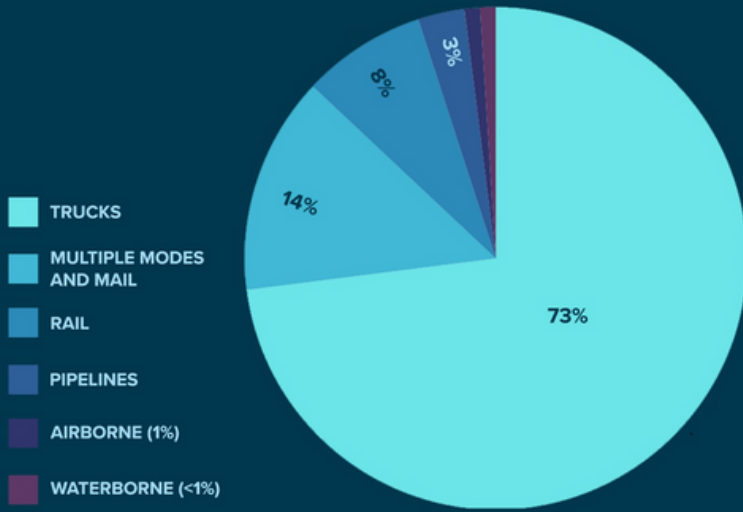
### Major Flows by Truck To, From, and Within Michigan: 2045



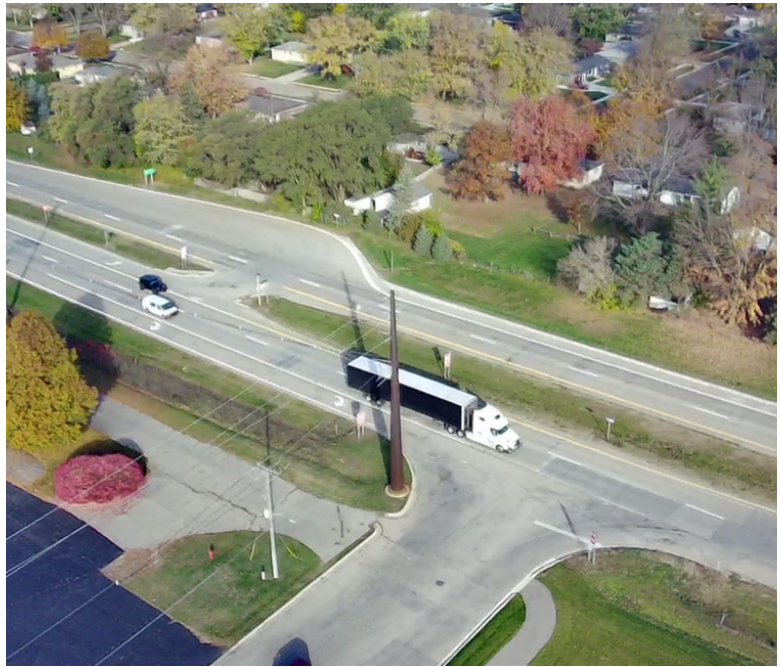
Note: Major flows include domestic and international freight moving by truck on highway segments with more than twenty five FAF trucks per day and between places typically more than fifty miles apart.  
Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, version 4.3, 2017.

## VALUE OF ALL FREIGHT MOVEMENTS (2022)

STATE OF MICHIGAN - TOTAL \$1.4 TRILLION

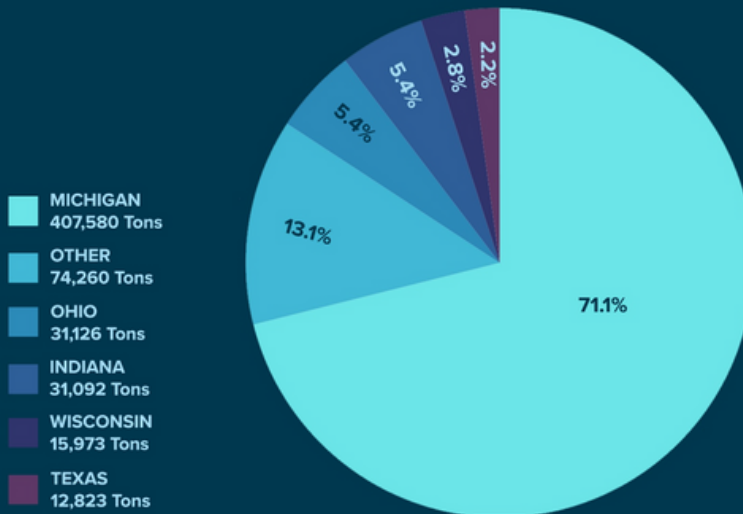


Source: Michigan Mobility 2045 Plan ([www.michigan.gov/mdot/programs/planning/slrp](http://www.michigan.gov/mdot/programs/planning/slrp))



## TOP 5 TRADING PARTNERS BY ORIGIN STATE

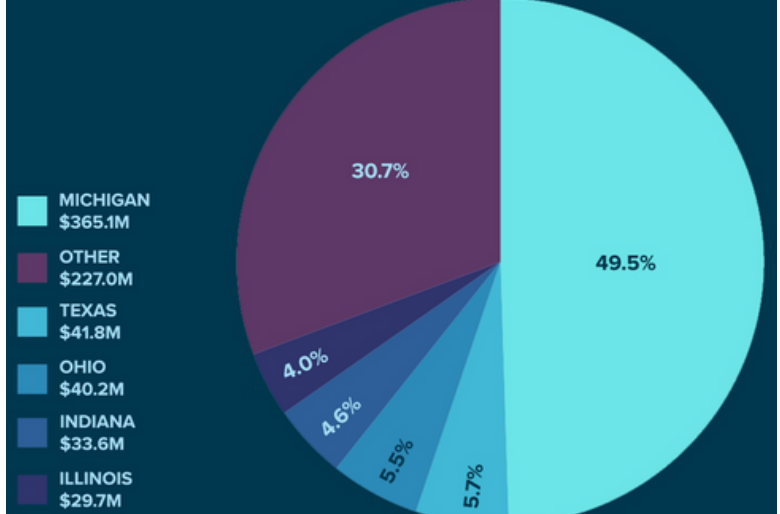
(OUTBOUND, INBOUND, AND WITHIN MICHIGAN BY TONNAGE (2023))  
2023 TOTAL: 572,854 TONS



Source: Freight Analysis Framework Summary Statistics ([www.faf.ornl.gov](http://www.faf.ornl.gov))

## TOP 5 TRADING PARTNERS BY ORIGIN STATE

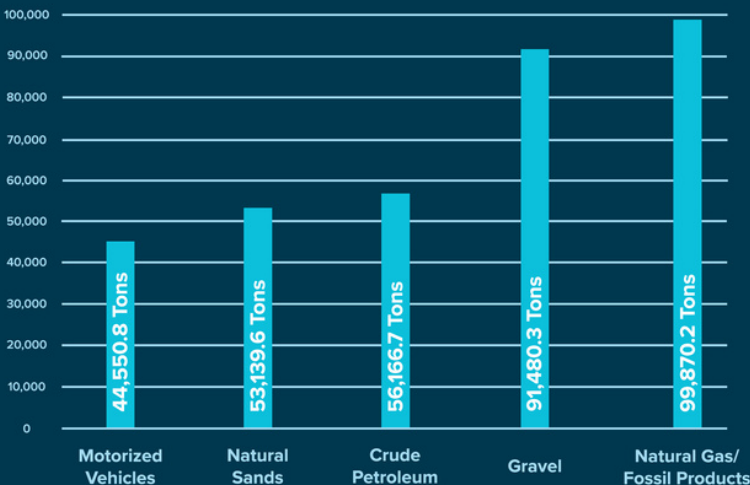
(OUTBOUND, INBOUND, AND WITHIN MICHIGAN BY VALUE (2023))  
2023 TOTAL: \$737.4M



Source: Freight Analysis Framework Summary Statistics ([www.faf.ornl.gov](http://www.faf.ornl.gov))

## TOP 5 COMMODITIES MOVED BY FREIGHT

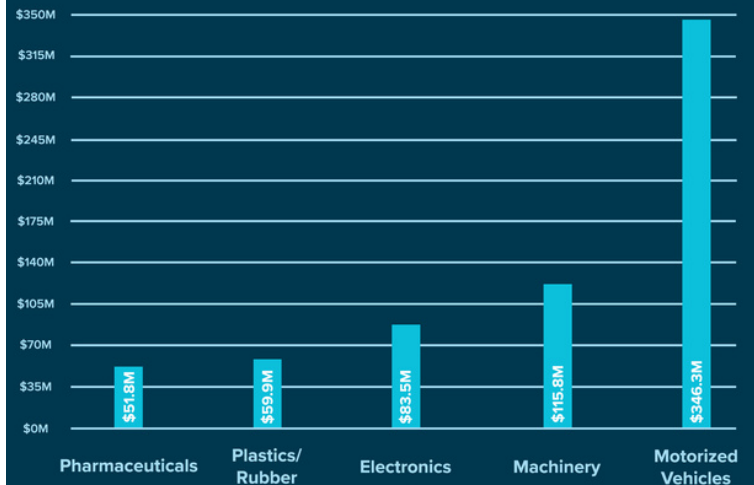
(OUTBOUND, INBOUND, AND WITHIN MICHIGAN BY TONNAGE (2023))  
2023 TOTAL: 828,328.7 TONS



Source: Freight Analysis Framework Summary Statistics ([www.faf.ornl.gov](http://www.faf.ornl.gov))

## TOP 5 COMMODITIES MOVED BY FREIGHT

(OUTBOUND, INBOUND, AND WITHIN MICHIGAN BY VALUE (2023))  
2023 TOTAL: \$1.185 BILLION



Source: Freight Analysis Framework Summary Statistics ([www.faf.ornl.gov](http://www.faf.ornl.gov))

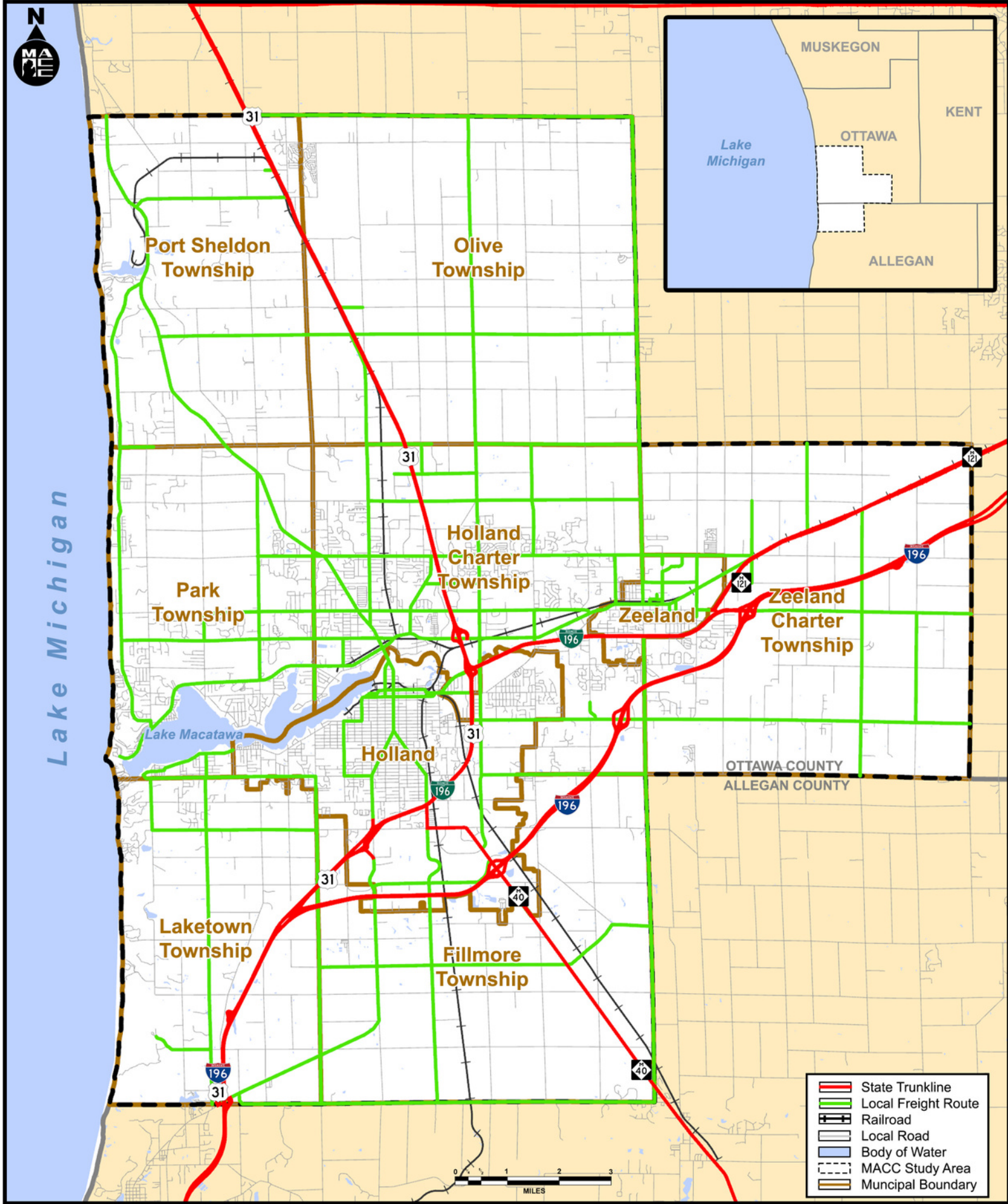
## LOCAL FREIGHT MOVEMENT

Within the cities of Holland and Zeeland, truck freight routes have been designated to provide access to local manufacturing facilities and distribute goods to larger employers and institutions. The efficient movement of freight is important for the local economy and directly impacts the manufacturing industry, retail businesses, and larger employers such as Gentex, MillerKnoll, Perrigo, Haworth, Magna, Yanfeng, LG Chem, and JR Automation.

Both local and national truck freight routes are displayed on the map on the following page. Additionally, the MACC area is home to Holland Harbor, a deep draft commercial harbor located on the east shore of Lake Macatawa containing over 6.5 miles of maintained channel. Based on the September 2022 *Holland Harbor, MI Fact Sheet* produced by the U.S. Army Corps of Engineers, in 2020, 376,000 tons of material were shipped and received. \$43.4 million in business revenue is generated annually. Commodities received at the harbor include limestone, scrap metals, sand, stone, and gravel.

The MACC area is served by six railroads, which connect the area to major national markets and ports. CSX owns and operates a Class I mainline railroad which connects the greater Holland and Zeeland area to Grand Rapids, Lansing, and Detroit to the east, and Benton Harbor and Chicago to the southwest. There is also a CSX branch line that starts just to the northeast of Windmill Island and continues north, paralleling US-31 through Grand Haven and Muskegon, eventually terminating in Fremont at the Gerber Products Company. There is a spur that branches off this line that starts near Taylor Street and US-31 and goes west to service Consumers Energy's J.H. Campbell coal-fired generating plant. This spur primarily handles the shipment of coal. There are three rail spurs that connect to the CSX mainline railroad in the area. The first spur starts near the Padnos Transportation Center and moves west to service Padnos' recycling operations and KraftHeinz's sauces, pickles, and condiments operation, where it terminates. The second spur, the Hamilton Northwestern Railroad, starts near the Holland Energy Park and terminates in Hamilton at Hamilton Feed. This line primarily carries animal feed. The third spur starts near the intersection of Douglas Avenue and Lakewood Boulevard and continues west to its termination near the intersection of Douglas Avenue and Aniline Avenue. Previously the spur has served the Michigan Natural Storage warehouse.





# MACC Area Freight Routes

Figure 5.11

# PUBLIC TRANSPORTATION

There are several transit operators in the MACC area. Many of these operators have only a few vehicles and transport a select group of persons. Such operators include local cab companies, nursing/retirement homes, senior citizen centers, and social service agencies. These providers generally provide trips to scheduled events, school, or employment.

## PUBLIC TRANSIT

The Macatawa Area Express (MAX) provides public transit in the MACC area. MAX serves the cities of Holland and Zeeland, as well as Holland Charter Township, Zeeland Charter Township, and Park Township. Beginning as the City of Holland’s "Dial-A-Ride" program in the 1970s, MAX began offering three fixed routes in 2000. The City of Holland and Holland Charter Township formed a transit authority in 2006. The voters in those local jurisdictions approved a millage, proposed by the transit authority, to support the MAX in November 2006. On July 1, 2007, the transit authority assumed ownership and control of MAX and daily operations (providing drivers, dispatching, and telephone operators) are managed in-house by MAX staff (as of 2010). As Table 2 indicates, MAX now provides both a demand response (curb to curb) and fixed-route service (currently operating with eight regular routes). It must be noted, that due to the lingering effects of the COVID-19 pandemic, MAX is currently operating on a reduced and restricted basis. They are providing essential trips only during peak hours until they are fully staffed.

Service Type	MAX Information
<b>Demand Response (Reserve-A-Max)</b>	Only ADA cardholders, people 65 years or older, and those whose origins and/or destinations that are farther than ½ mile from a bus stop are eligible to reserve rides. Reservations must be made by 4:00 p.m. the day prior to travel.
<b>Fixed Route (Catch-A-Max)</b>	Eight regular routes serve the Holland City core area, southern Holland Charter Township, and the City of Zeeland. Fixed route buses depart from the Padnos Transportation Center at the top of the hour every hour.
<b>Service Area</b>	47.5 square miles serving the cities of Holland and Zeeland, as well as Holland Charter Township. As of 2019, Reserve-A-Max also serves Park Township.

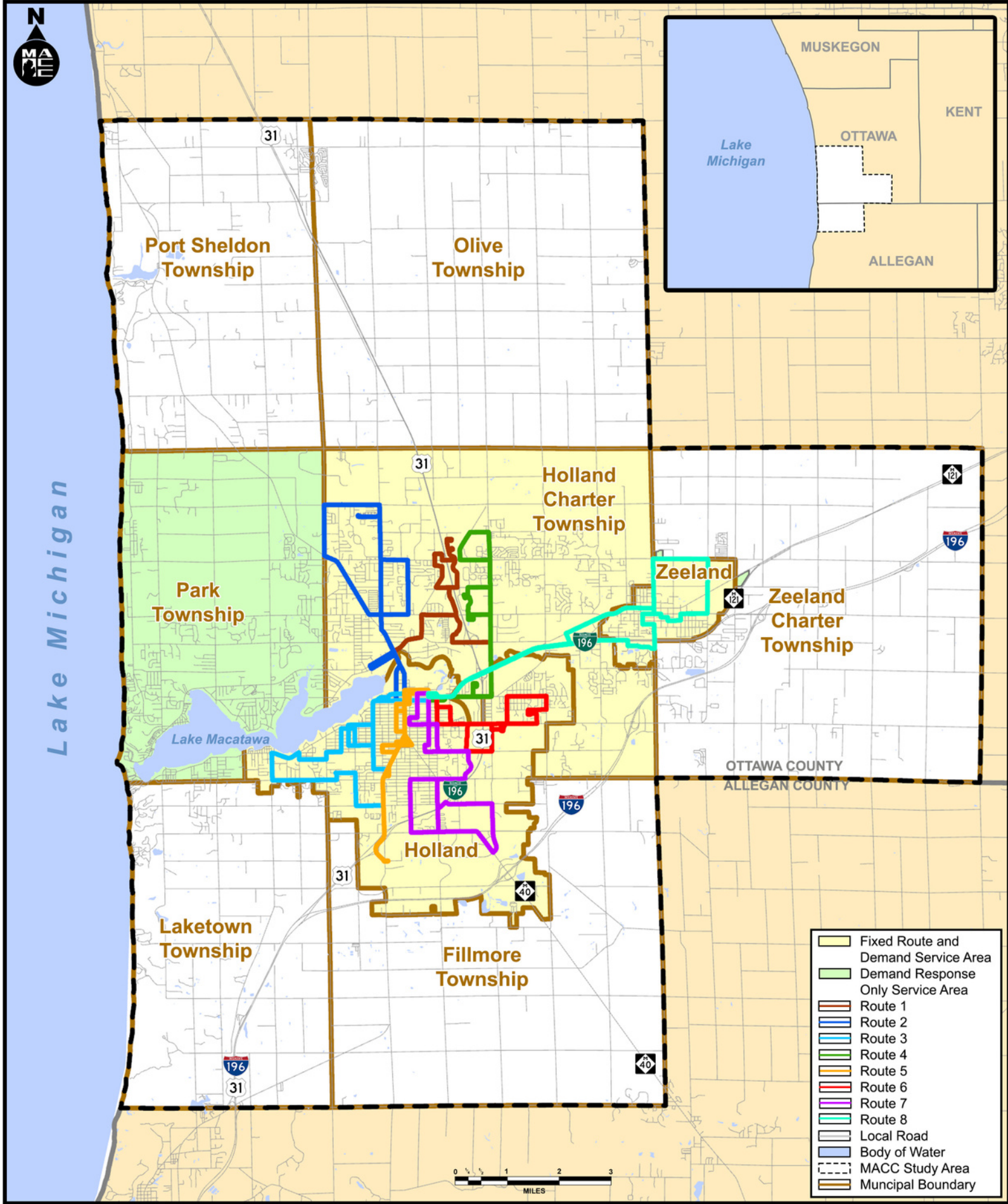
Service Type	MAX Information	
Ridership (2022)	228,226 Trips	
Hours of Operation	<p style="text-align: center;"><b><u>Demand Response</u></b></p> <p style="text-align: center;">Monday – Friday: 6:00 a.m. – midnight (7:00 p.m. in Park Township)                      Saturday: 10:00 a.m. – midnight (7:00 p.m. in Park Township)</p> <p style="text-align: center;"><b><u>Fixed Route</u></b></p> <p style="text-align: center;">Monday – Friday: 6:00 a.m. – 7:00 p.m.</p>	
Fleet	34 Vehicles in the fleet (22 Cutaway Buses, 8 Gillig Buses, 3 Transit Vans, and 1 Trolley)	
Fares	<p style="text-align: center;"><b><u>Fixed Route Fares</u></b></p> <p>\$1.15 – Adults (Ages 18-64)                      \$0.50 – Youth (Ages 5-17)                      \$0.50 – ADA Cardholders                      \$0.50 – Seniors (Ages 65+)                      \$0.50 – Medicare Cardholders</p>	<p style="text-align: center;"><b><u>Demand Response Fares</u></b></p> <p>\$5.50 – Adults (Ages 18-64)                      \$5.50 – Medicare Cardholders                      \$2.30 – Youth (Ages 5-17)                      \$2.30 – ADA Cardholders                      \$2.30 – Seniors (Ages 65+)</p>

## INTERCITY BUS SERVICE

Indian Trails, working with Greyhound Express, provides passenger bus service to the MACC area stopping at the Louis Padnos Transportation Center. At the current time, three buses stop daily at the Center providing service to Grand Rapids, South Haven, Benton Harbor, and Kalamazoo, with morning, afternoon and evening departures. In addition to Indian Trails, the Interurban Transit Authority connects Saugatuck and Douglas with Holland and MAX Transit each Tuesday for “Two Way Tuesdays.” Allegan County Transportation also provides up to four daily paratransit buses with door-to-door service from the City of Allegan area to the City of Holland.







# MAX Transit System Map (2023)

Figure 5.12

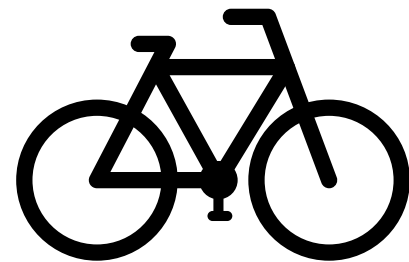
## PASSENGER RAIL SERVICE

The MACC area is served by AMTRAK’s Pere Marquette line that runs between Chicago and Grand Rapids with a stop in the City of Holland at the Louis Padnos Transportation Center. At the current time, one round-trip is made each day. The Holland Station, located at the Louis Padnos Transportation Center, is currently the third busiest along the corridor. The train connects Chicago and Grand Rapids, with stops in Saint Joseph, Bangor, and Holland. For additional information about the Pere Marquette rail stations, visit [Amtrak.com/Michigan](http://Amtrak.com/Michigan). This intermodal terminal serves Amtrak passengers riding the Pere Marquette rail line between Grand Rapids and Chicago, and also serves public transportation riders of the Macatawa Area Express Transportation Authority (MAX) system. The station also serves Indian Trails bus passengers.

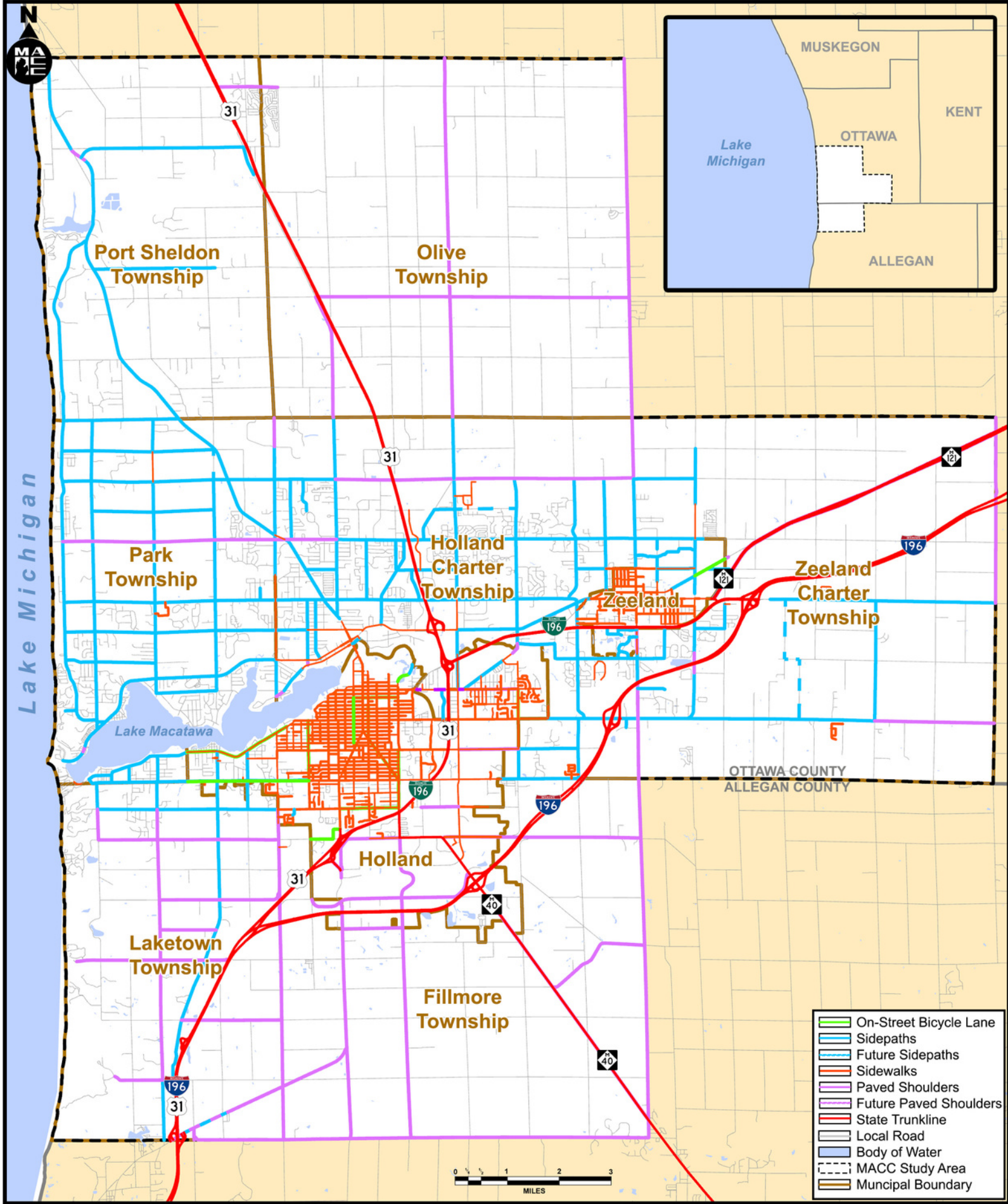


In the spring of 1995, AMTRAK announced that, due to budget cuts, service on the Pere Marquette would be cut to four days per week. In response to this situation, a number of local governments, public transit agencies, chambers of commerce, metropolitan planning organizations, the Michigan Department of Transportation (MDOT), Amtrak, interested citizens, and civic groups formed a West Michigan passenger train collaborative called Westrain. Daily train service was restored in the fall of 1995. With financial assistance from MDOT as well as Westrain members, the Westrain Collaborative promotes the Pere Marquette and seeks to enhance the service while addressing service deficiencies. The MACC is an active participant in Westrain.

## NON-MOTORIZED FACILITIES



What travel options exist for someone who would like to use bicycle and pedestrian facilities in the region? Located along the shores of Lake Michigan, the Holland/Zeeland area has an extensive network of bicycle lanes, paved shoulders, sidepaths, sidewalks, and shared-use paths. This non-motorized network is used by those who live and work within the region, as well as visitors. The network accommodates a variety of needs, including fitness and recreation, commuting to work or school, and long-distance travel.



# Non-Motorized Network (2023)

Figure 5.13

## NON-MOTORIZED NETWORK MILEAGE (JUNE 2023)

MUNICIPALITY	BICYCLE LANES	SIDEPATHS	PAVED SHOULDERS	SIDEWALKS	*GRAVEL ROADS	** NO FACILITIES
Fillmore Township	0	1.51	29.94	0.33	2.82	53.38
City of Holland	14.2	6.25	14.72	123.33	0	35.27
Holland Township	0	63.65	9.91	16.46	1.11	103.80
Laketown Township	0	11.84	25.57	0	0.73	37.79
Olive Township	0	0	18.23	0	47.03	56.46
Park Township	0	65.14	4.94	1.54	0	72.18
Port Sheldon Twp.	0	17.72	1.33	0	0.65	57.67
City of Zeeland	0.58	8.89	0.64	23.69	0.31	4.17
Zeeland Township	0	21.82	21.11	2.08	22.92	69.90
<b>TOTALS</b>	<b>14.78</b>	<b>196.82</b>	<b>126.39</b>	<b>167.43</b>	<b>75.57</b>	<b>490.62</b>

\*Mileage of Gravel Roads \*\*Mileage of Roads Without Any Non-Motorized Facilities

### BICYCLE LANES

The MACC area has almost 15 miles of dedicated bike lanes that are either signed or striped. The most recent bicycle lanes added to the system are on both sides of Pine Avenue between 10th Street and 22nd Street. 96 percent of bicycle lane mileage is located within the City of Holland. A bicycle lane is defined by the American Association of State Highway and Transportation Officials (AASHTO) as “a portion of a roadway which has been designated by pavement markings and, if used, signs, for the preferential or exclusive use of bicyclists.”

### PAVED SHOULDERS

The MACC area has 126 miles of paved shoulders that are four feet or wider. Paved shoulders are defined by AASHTO as “the portion of the roadway contiguous with the traveled way, for accommodation of stopped vehicles, emergency use and lateral support of sub-base, base and surface courses, often used by cyclists where paved.”

### SIDEWALKS

The MACC area has 167 miles of sidewalks. Most of the sidewalk mileage is in the cities of Holland and Zeeland. AASHTO defines a sidewalk as “that portion of a street or highway right-of-way, beyond the curb or edge of roadway pavement, which is intended for use by pedestrians.”

## SHARED USE PATHS

The MACC area has 197 miles of shared use paths (sidepaths). AASHTO defines shared use paths as “a bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent right-of-way. Shared use paths may also be used by pedestrians, skaters, wheelchair users, joggers and other non-motorized users.”

## AIR SERVICES

There are two airports in the MACC area. A general description and some basic operating characteristics for each of them are noted below.

### WEST MICHIGAN REGIONAL AIRPORT

West Michigan Regional Airport (formerly Tulip City Airport) is a general aviation airport owned and managed by the West Michigan Airport Authority. Formed in 2008, the WMAA is made up of representatives from three local municipalities: the City of Holland, Park Township, and the City of Zeeland. Residents of these municipalities voted to approve the support of the airport and the creation of an authority. The airport has a paved runway of 6,002 feet in length and supports nearly 40,000 takeoffs and landings annually. There are an average of 96 aircraft operations per day. Of those 96 operations:

- 47% were transient general aviation
- 47% were local general aviation
- 6% were air taxi
- 1% were military

The Airport supports \$165 Million of economic impact and the Airport Authority is actively pursuing new business development on field. The Authority plans to create a new Aviation Business Development Park in 2024 with the construction of a new taxi lane. The Airport Authority is actively supporting the attraction of advanced air mobility solutions throughout the region and is working to provide multi- and intermodal transportation solutions to and from the airport.

The Airport Authority is partnering with the Ottawa Area Intermediate School District, the Careerline Tech Center, and other local schools to provide work-based and STEM-focused learning opportunities on-field, in addition to supporting the expansion of aviation-related curriculum regionally.

## OTTAWA EXECUTIVE AIRPORT

The Ottawa Executive Airport is a private general aviation airport in eastern Zeeland Township. The airport was opened in 1990, and services private, small-engine aircraft, and has a paved runway of approximately 3,800 feet. In addition, Avion Aero is based at the airport and provides flight training. In 2023 there was an average of 80 aircraft operations per day. Of those 80 operations:

- 60% were local general aviation
- 40% were transient general aviation

