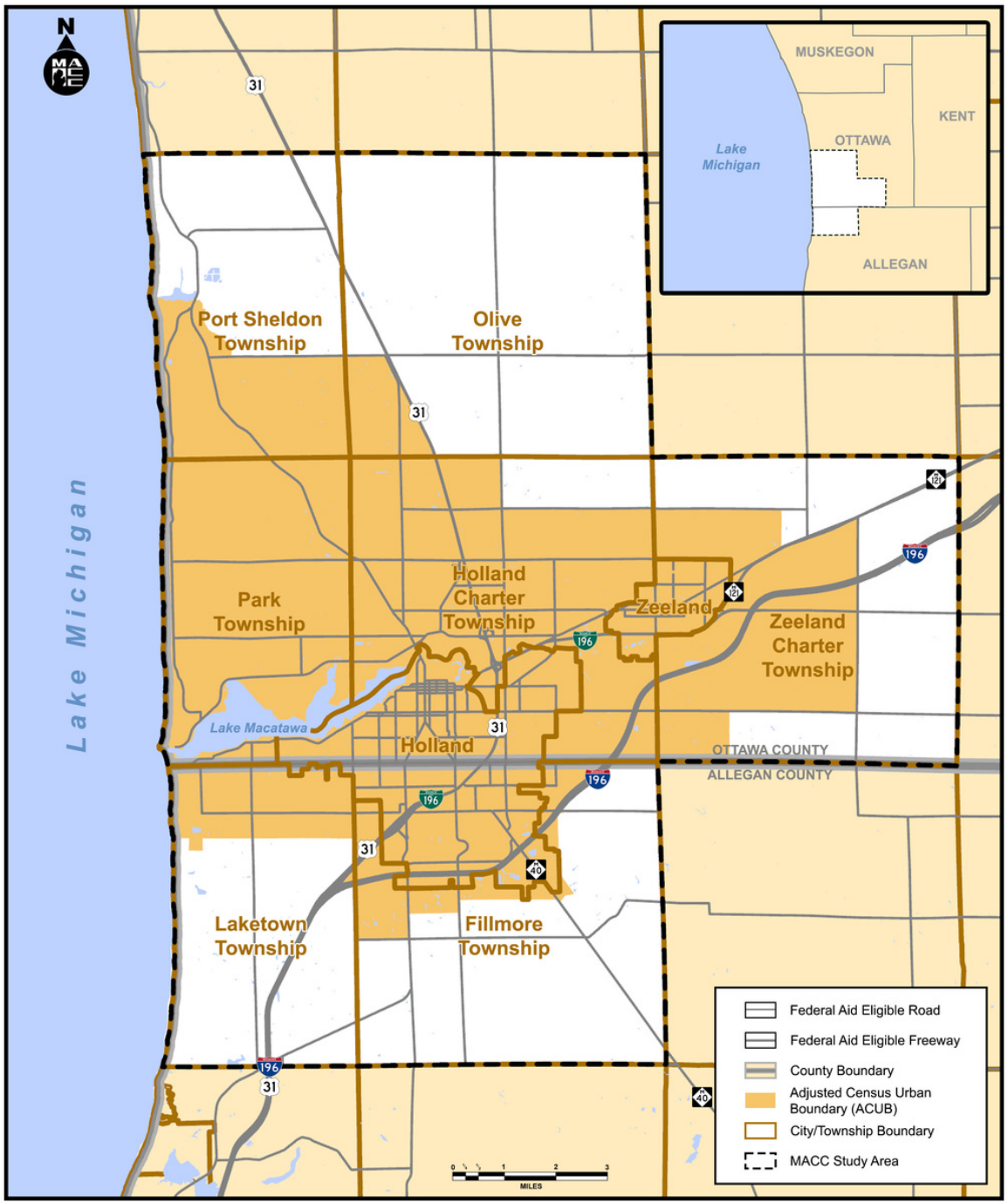
2023 SYSTEM PERFORMANCE REPORT

SAFETY | CONDITION | RELIABILITY | TRANSIT

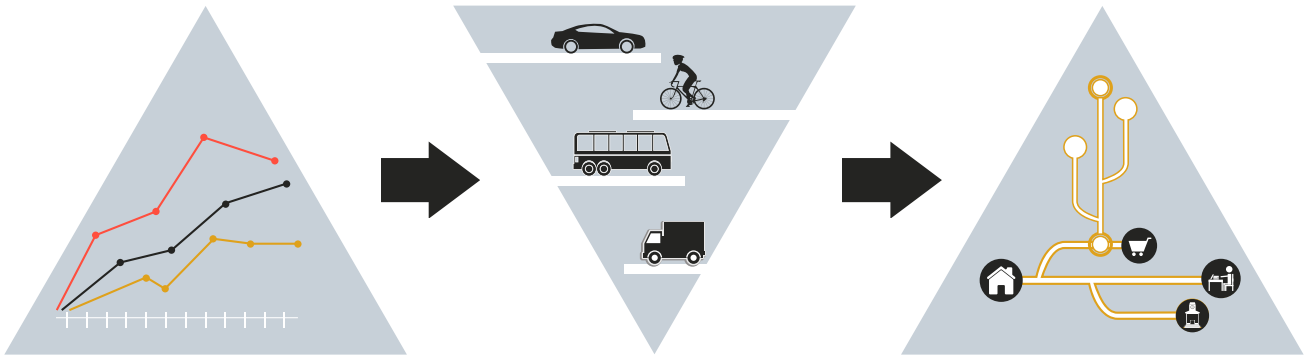
MACC
MPO REGION

The Macatawa Area Coordinating Council (MACC) is a Metropolitan Planning Organization (MPO) that has a planning area that is approximately 211 square miles and includes fifteen members; seven townships, two cities, Allegan and Ottawa County Board of Commissioners, Allegan and Ottawa County Road Commissions, the Macatawa Area Express Transit Authority, and Michigan Department of Transportation. It's estimated that around 130,000 people live within the nine local units of government.



PERFORMANCE MEASURES

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have set forth a Transportation Performance Management approach that can help organizations make smart investment decisions by basing funding on data and objective information. Performance measures at the local, regional, state, and federal levels are based on this type of approach.



Investment Decisions

Using goals, measures, and data to make better decisions about how to fund transportation.

Aimed at a Better Performing System

Setting targets, developing plans, reporting results, and measuring performance.

For Connected and Productive Communities

Focusing on the efficient delivery of goods and safe, reliable journeys to work, school, shopping, and community activities.

PERFORMANCE CATEGORIES

The Macatawa Area Coordinating Council (MACC) is required to incorporate a performance-based approach when building the Transportation Improvement Program (TIP) and the Long Range Transportation Plan (LRTP). The MACC has adopted four areas of performance targets that focus on safety, pavement and bridge condition, system reliability, and transit. It is the intention that any improvements made within the MACC area, that receive federal funding, will help support at least one of the targets set by the State of Michigan.

SAFETY

Looks at fatalities and serious injuries for motorists and non-motorized users.

BRIDGE & PAVEMENT

Examines pavement and bridge condition on interstate and non-interstate roads.

SYSTEM RELIABILITY

Looks at travel time reliability for users on interstate and non-interstate roads.

TRANSIT

Evaluates the condition of vehicles, equipment, and facilities.

SAFETY: ADOPTED TARGETS

The latest annual State targets for safety performance measures were released by the Michigan Department of Transportation on October 17, 2023, and were adopted by the MACC's Policy Board on November 27, 2023. Safety predictions are based on the current trends in the data and determined through models developed by the University of Michigan Transportation Institute. Regarding the numbers, annual fatalities had decreased from 1,031 in 2017 to 986 in 2019 (as reported by FARS) but increased in 2020 and 2021 to a high of 1,136 and declined again in 2022 to 1,123. This is reflected in the five-year average or target of 1,109.2 for CY 2024. For the same time, serious injuries rose to a high of 5,979 in CY 2021 leading to the five-year average of 5,785 for CY 2024. Final safety targets were developed after evaluating the correlation between traffic crashes, VMT, Gross Domestic Product (GDP) per capita, and other economic factors that impact travel. FHWA strongly suggests that targets should be based on trends and projections, and not be simply inspirational. There are currently 24 projects obligated in the MACC's FY23-26 TIP that are specifically geared toward the improvement of safety.

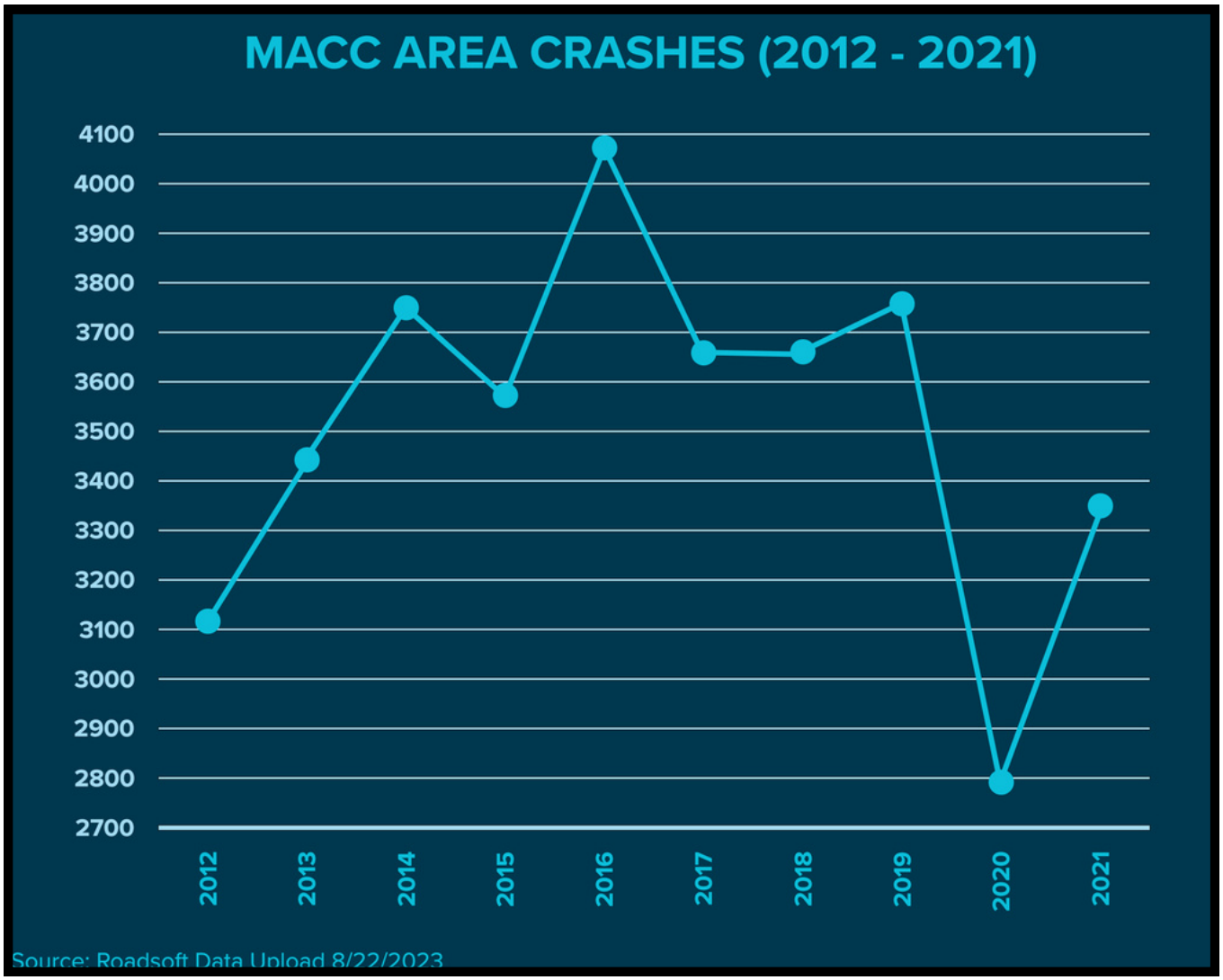
SAFETY PERFORMANCE MEASURES
(STATE OF MICHIGAN 2023)

Safety Performance Measure	Baseline Condition (2017-2021)	Calendar Year 2023 State Safety Target
Fatalities	1,041.8	1,105.6
Fatality Rate*	1.071	1.136
Serious Injuries	5,742.2	5,909.2
Serious Injury Rate*	5.878	6.058
Nonmotorized Fatalities & Serious Injuries	752.0	743.4

*Michigan State Safety Targets (Rate Per 100 Million Vehicle Miles Traveled

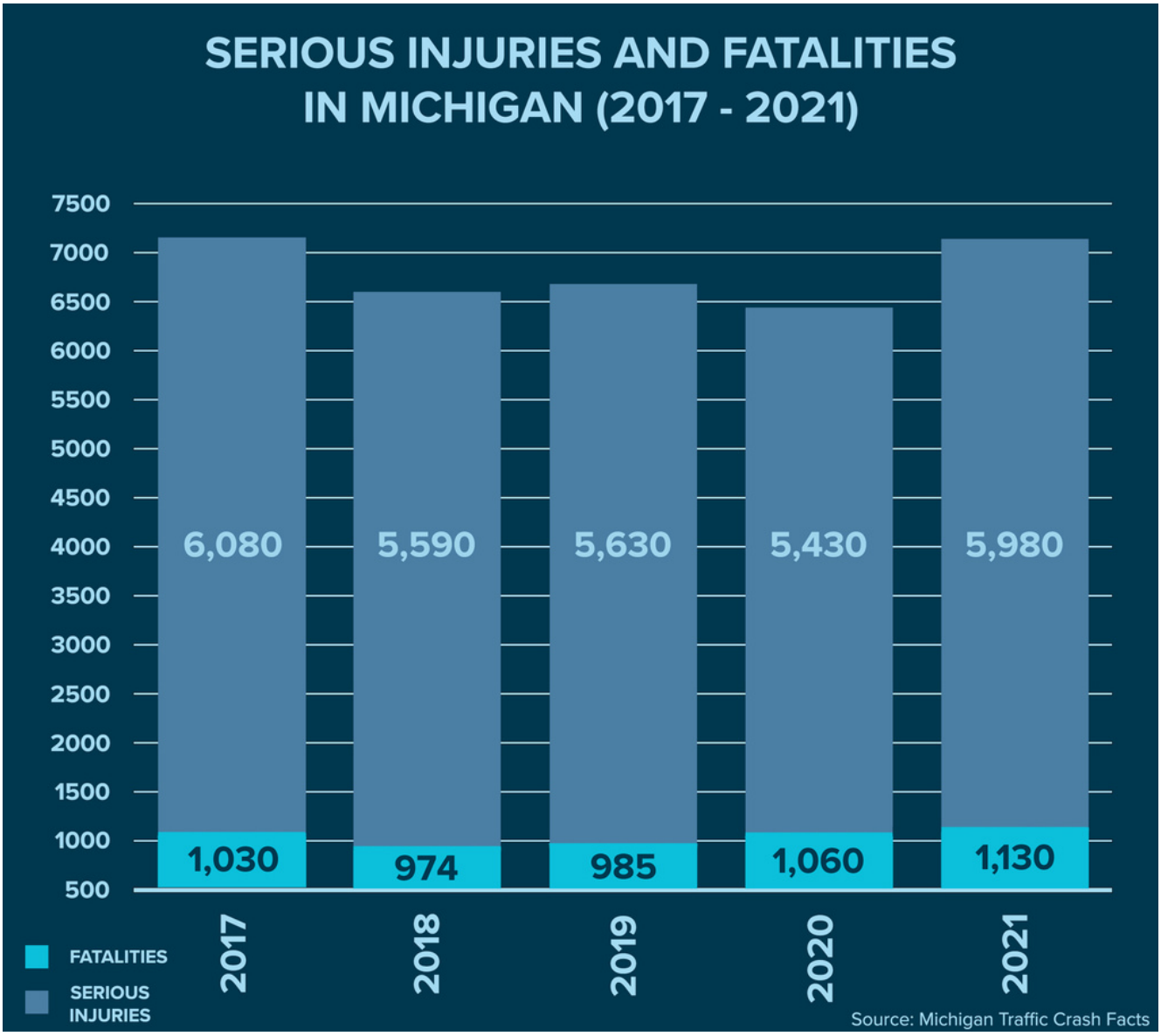
SAFETY:
LOCAL CRASH TRENDS

The MACC completed a trend analysis based on crash data for years 2012 to 2021. This process involved identifying total crashes within the MACC planning area. The number of fatalities and serious injuries was also analyzed. Information was obtained from Roadsoft.



SAFETY:
STATE-WIDE FATALITIES & SERIOUS INJURIES

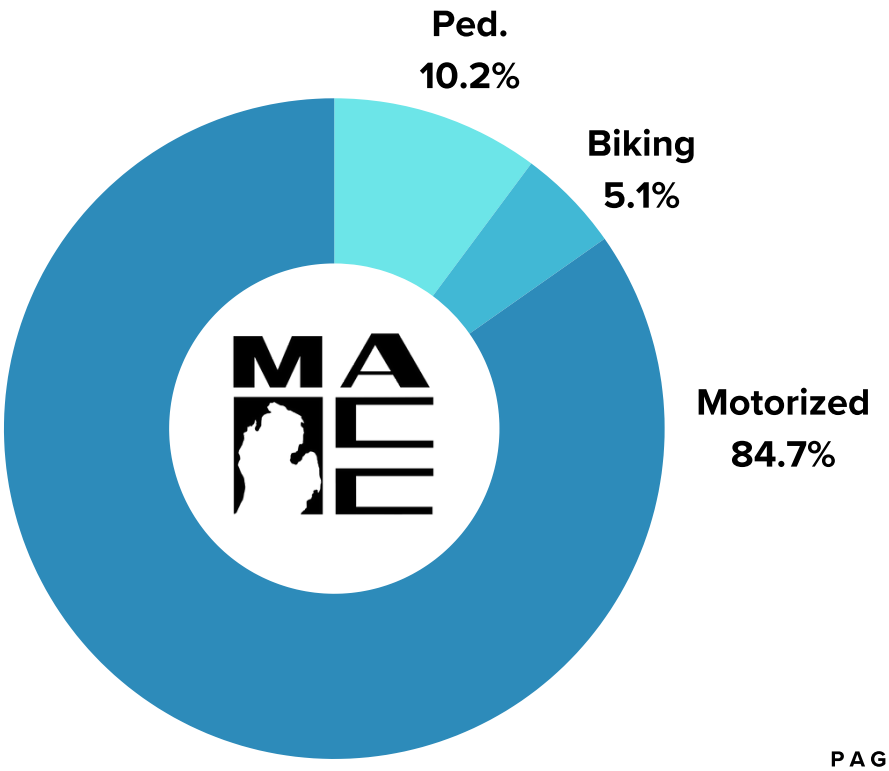
From 2017 to 2021, there were 28,710 serious injuries and 5,179 fatalities associated with crashes in the State of Michigan. Pedestrians accounted for 8.7% of combined serious injuries and fatalities and cyclists accounted for 2.6%. 2020 and current trends for 2021 show fatality numbers trending up.



SAFETY: LOCAL FATALITIES

From 2017 to 2021, there have been 59 fatalities on the transportation system in the MACC area. Out of the 59 fatalities, 9 of those killed were walking or riding a bicycle.

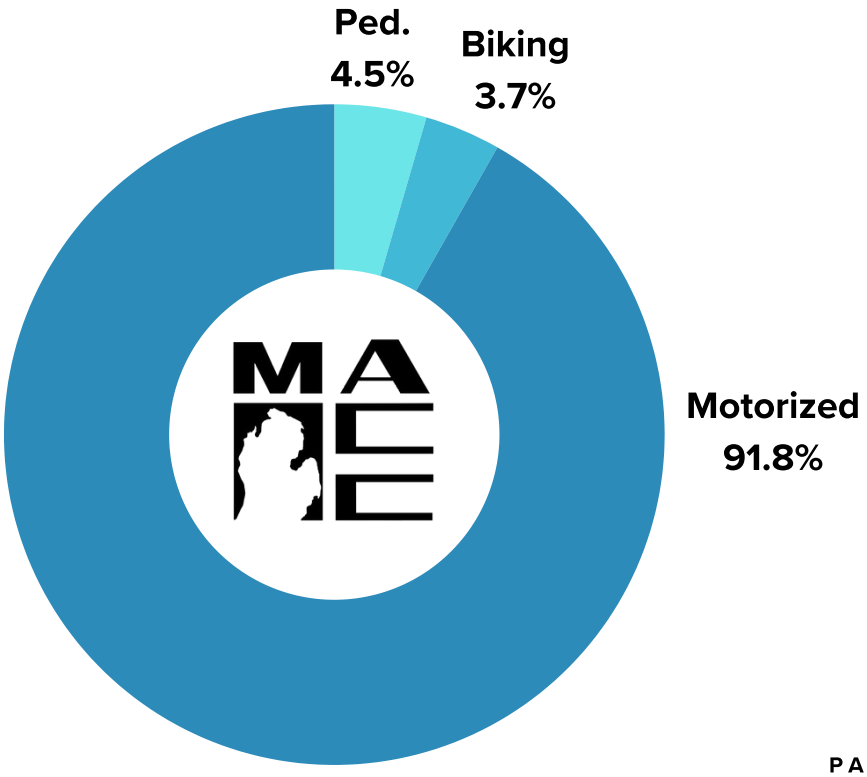
Year	Ped.	Biking	Motorized	Total
2017	1	1	9	11
2018	2	1	13	16
2019	1	0	7	8
2020	0	0	13	13
2021	2	1	8	11
Total	6	3	50	59



SAFETY: LOCAL INCAPACITATING INJURIES

From 2017 to 2021, out of the 17,262 crashes that occurred in the MACC area, 511 people ended up with incapacitating injuries. Out of 511 people, 42 of those seriously injured were people who were walking or riding a bicycle.

Year	Ped.	Biking	Motorized	Total
2017	6	4	122	132
2018	7	3	95	105
2019	3	4	109	116
2020	5	4	73	82
2021	2	4	70	76
Total	23	19	469	511



PAVEMENT AND BRIDGE CONDITIONS: ADOPTED TARGETS

MDOT has developed two-year and four-year targets for the National Highway System (NHS) separated by the Interstate and the non-Interstate. The performance measures focus on pavement conditions that are good or poor. Metrics include an International Roughness Index (IRI), cracking, rutting, and faulting.

MDOT has also developed a system to evaluate bridge conditions. The table below illustrates that bridge conditions throughout the state are expected to decline at a rate faster than improvements can be made. There are currently 27 projects programmed in the MACC's FY23-26 TIP that specifically target improving pavement and bridge conditions.

NATIONAL HIGHWAY SYSTEM PAVEMENT PERFORMANCE MEASURES

PAVEMENT PERFORMANCE MEASURE	BASELINE CONDITION (2017-2021)	BASELINE CONDITION (2022-2025)	2-YEAR PREDICTED PERFORMANCE (TARGET)	4-YEAR PREDICTED PERFORMANCE (TARGET)	CONDITION IN MACC (2021)
% OF INTERSTATE PAVEMENT IN GOOD CONDITION	57.8%	70.4%	59.2%	56.7%	91.7%
% OF INTERSTATE PAVEMENT IN POOR CONDITION	4.9%	1.8%	5.0%	5.0%	0.0%
% OF NON-INTERSTATE PAVEMENT IN GOOD CONDITION	49.2%	41.6%	33.1%	33.1%	42.7%
% OF NON-INTERSTATE PAVEMENT IN POOR CONDITION	18.9%	8.9%	10.0%	10.0%	6.8%

Source: Michigan Department of Transportation

NATIONAL HIGHWAY SYSTEM BRIDGE PERFORMANCE MEASURES

BRIDGE PERFORMANCE MEASURE	BASELINE CONDITION (2017-2021)	BASELINE CONDITION (2022-2025)	2-YEAR PREDICTED PERFORMANCE (TARGET)	4-YEAR PREDICTED PERFORMANCE (TARGET)	CONDITION IN MACC (2021)
% OF NATIONAL HIGHWAY SYSTEM DECK AREA IN GOOD CONDITION	32.7%	22.1%	15.2%	12.8%	15.0%
% OF NATIONAL HIGHWAY SYSTEM DECK AREA IN POOR CONDITION	9.8%	7.0%	6.8%	5.8%	1.0%

Source: Michigan Department of Transportation

PAVEMENT AND BRIDGE CONDITIONS: PASER

Since 2004, data on the Macatawa Area's federal-aid road system has been collected and inventoried. State of Michigan Act 51 (P.A. 499 2002, P.A. 199 2007) requires each local road agency to annually report the mileage and condition of the road and bridge system within their jurisdiction and report this data to the Transportation Asset Management Council (TAMC).

Pavement Surface Evaluation and Rating (PASER) uses a visual inspection to evaluate pavement surface conditions. It rates various types of pavement distress on a scale of 1-10 with 1 being the worst condition, and 10 being the best. PASER helps to predict the remaining service life of a road and the type of maintenance needed, therefore, helping to identify and prioritize future road projects in our community.

Data is gathered by three-person teams made up of one MDOT employee, one member of the local road agency, and one member from the regional planning agency. This team evaluates the pavement while driving and records the road surface type, number of lanes, and PASER rating of each road using a laptop and GPS receiver. Data is then stored and analyzed using a program called Roadsoft, developed by the Michigan Technological University's Center for Technology and Training.

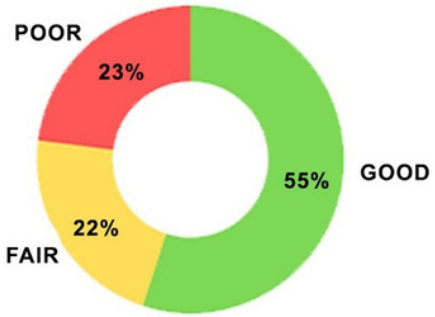
PAVEMENT AND BRIDGE CONDITIONS: MACC PAVEMENT QUALITY

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.

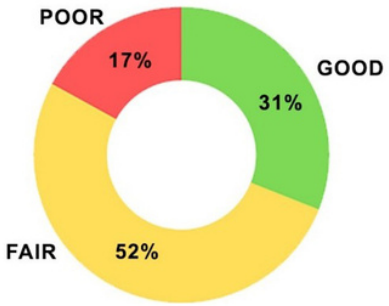
ALLEGAN COUNTY PASER RATINGS (2023)

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



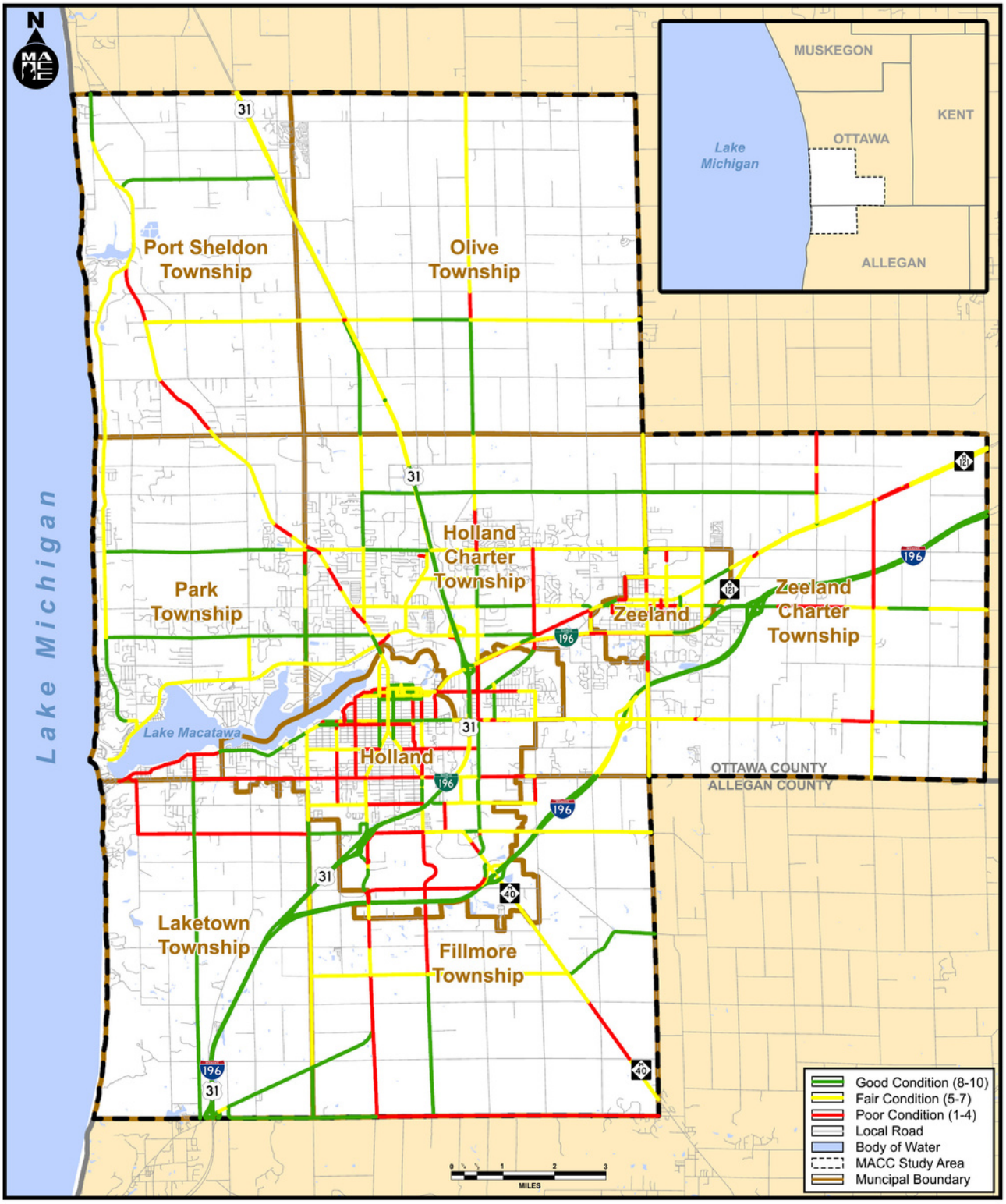
OTTAWA COUNTY PASER RATINGS (2023)

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



PAVEMENT AND BRIDGE CONDITIONS: MACC PAVEMENT QUALITY

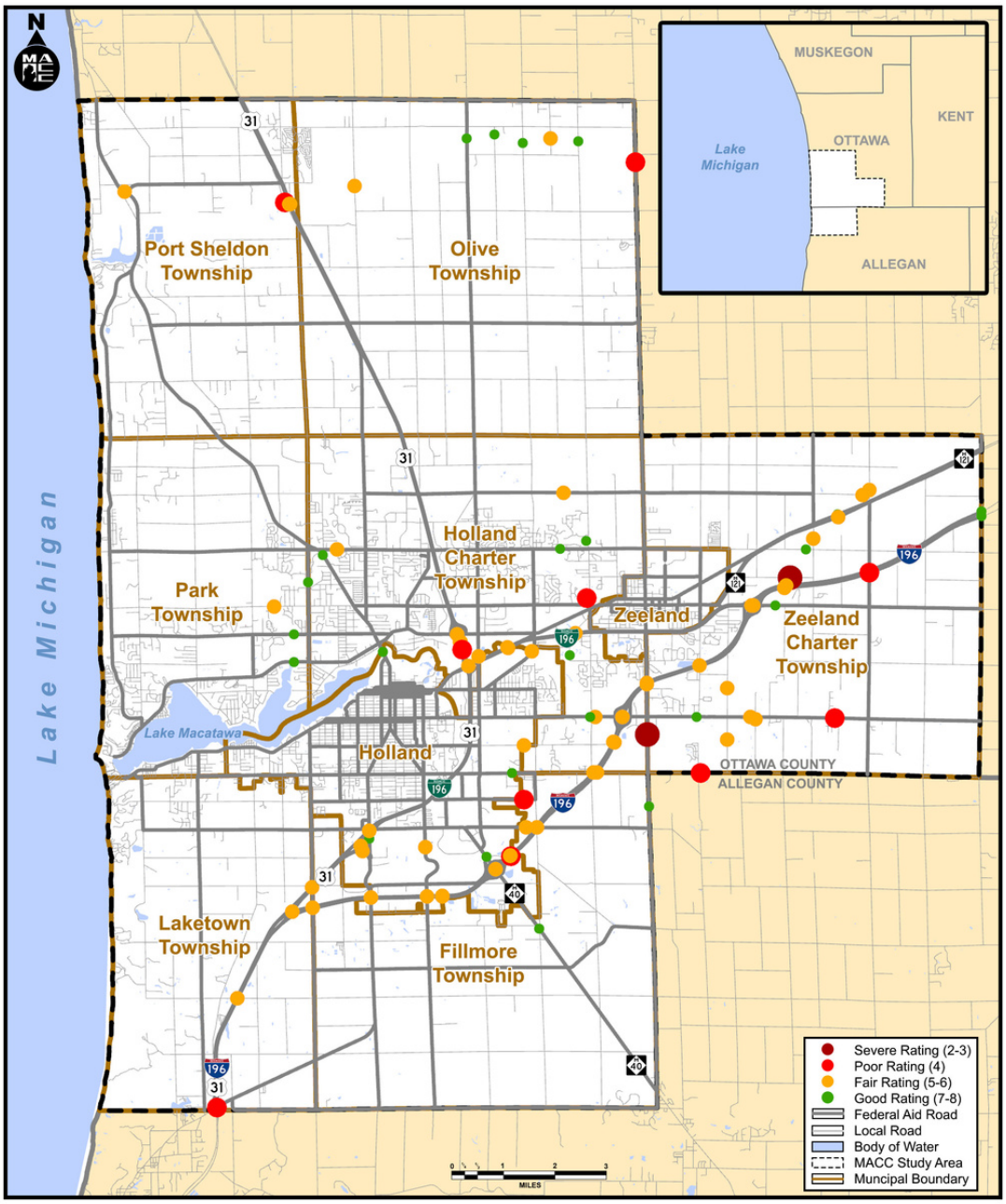
Below is map showing all the ratings in the MACC area.



PASER Ratings (July 2023)

PAVEMENT AND BRIDGE CONDITIONS: MACC BRIDGE QUALITY

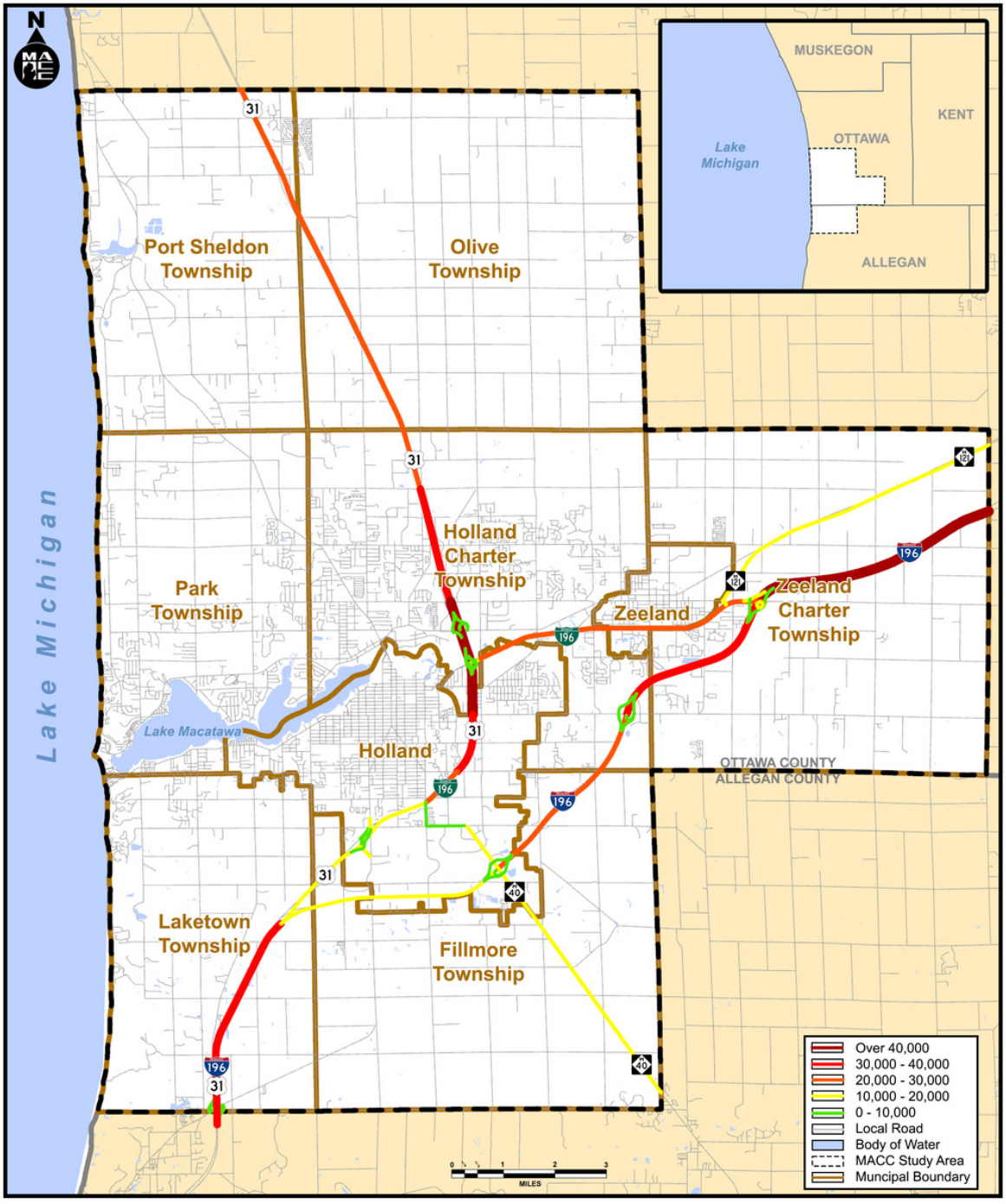
As with the PASER ratings for road pavements, a similar scale is used to determine the condition of the bridge, prioritize projects, and evaluate when a bridge is to be improved or reconstructed. Bridge conditions are based on bi-annual inspections of state, county, city, and village-owned bridges. Ratings 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.



TAMC Bridge Ratings (2022)

SYSTEM RELIABILITY: MACC 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

SYSTEM RELIABILITY: MACC TRAVEL CORRIDORS

MDOT has developed targets for travel time reliability on the NHS for Interstate and non-Interstate roads. Freight reliability is also included and is a separate measure. Data on travel time is evaluated to see how it varies over time and to demonstrate consistency. The definitions below help to explain the difference between congestion and travel time reliability:

Congestion – occurs when there are too many vehicles at the same place at the same time (demand exceeds supply). An increase in congestion usually results in a decrease in the "quality" of the driving experience. An increase in congestion relates to an increase in the "use of the system" and usually occurs during the "peak" periods of the day. Most travelers are accustomed to everyday congestion – they can plan for it.

Travel Time Reliability – relates to the consistency or dependability in travel time, and is measured from day to day, or across different times of the day. Unreliable travel times usually occur during the "peak" periods of the day, and most travelers are less tolerant of "unexpected" delays – as they can't plan for them. Michigan's highways have been around 85 percent reliable, meaning 85 percent of person-miles traveled are meeting the federally established thresholds. Due to longer travel times, the freight reliability measure is calculated using the 95th percentile travel time.

NATIONAL HIGHWAY SYSTEM TRAVEL TIME RELIABILITY

SYSTEM RELIABILITY	BASELINE CONDITION (2017-2021)	BASELINE CONDITION (2022-2025)	2-YEAR PREDICTED PERFORMANCE (TARGET)	4-YEAR PREDICTED PERFORMANCE (TARGET)	CONDITION IN MACC (2021)
% OF THE RELIABLE PERSON-MILES TRAVELED ON THE INTERSTATE BASED ON 80TH PERCENTILE OVER 4 TIME PERIODS	85.2%	97.1%	80.0%	80.0%	100.0%
% OF THE RELIABLE PERSON-MILES TRAVELED ON THE NON-INTERSTATE BASED ON 80TH PERCENTILE OVER 4 TIME PERIODS	84.0%	94.4%	75.0%	75.0%	91.1%
TRUCK TRAVEL TIME RELIABILITY (TTTR) INDEX ON THE INTERSTATE BASED ON THE 95TH PERCENTILE OVER 5 TIME PERIODS	1.38	1.31	1.60	1.60	1.35

Source: Michigan Department of Transportation

TRANSIT: MACC TRAVEL CORRIDORS

MAX, part of MACC, provides public transit in Holland and surrounding areas. Originating as "Dial-A-Ride" in the 1970s, it adopted fixed routes in 2000. In 2006, a transit authority formed, supported by a voter-approved millage. Since July 1, 2007, the authority manages MAX's daily operations. MAX offers demand response and fixed-route services with eight regular routes. Due to COVID-19, it operates on a reduced basis, providing essential trips during peak hours until fully staffed.

Service Type	MAX Information
Demand Response (Reserve-A-Max)	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.
Fixed Route (Catch-A-Max)	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.
Service Area	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	**Demand Response** 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) **Fixed Route** Monday – Friday: 6:00 a.m. – 7:00 p.m.
Fleet	34 Vehicles in the fleet (22 Cutaway Buses, 8 Gillig Buses, 3 Transit Vans, and 1 Trolley)
Fares	**Fixed Route Fares** $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 **Demand Response Fares** $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+)

TRANSIT: MACC TRAVEL CORRIDORS

Transit agencies are required to have a Transit Asset Management (TAM) plan and update the plan every four years. The agencies also need to track the asset conditions for rolling stock, equipment, and facilities. Since transit providers vary widely with the type and scale of assets, transit providers are instructed to individually create TAM plans.The following table shows MAX Transit's annual performance targets for fiscal year 2024.

Revenue Vehicles - MAX Transit expects its full-service revenue fleet to remain within the Useful Life Benchmark (ULB) threshold. Buses, cutaways, and vans are targeted for replacement after reaching FTA's Useful Life age but before the ULB (or maximum age) is met.

Equipment – MAX Transit is typically able to utilize some of its non-revenue/service automobiles (road supervisor, staff, and maintenance vehicles) slightly beyond the 8-year Useful Life Benchmark provided preventative maintenance costs remain reasonable.

Facilities – MAX Transit owns and operates two facilities, Padnos and Greenway. They are expected to remain well above a 3.0 score. Building systems are monitored monthly and scores are calculated following inspections of each facility's HVAC, substructure, electrical, fire protection, rooftop, and plumbing systems.

Asset Category	Performance Measures	FY2024 Target
ROLLING STOCK		
Bus	Age - % of Revenue Vehicles Within a Particular Asset Class That Have Met Or Exceeded Their Useful Life Benchmark (ULB)	10%
Cutaway Bus		5%
Rubber Tire Vintage Trolley		0%
Van		0%
EQUIPMENT		
Non-Revenue/Service Automobile	Age - % of Vehicles That Have Met or Exceeded Their ULB	0%
Non-Vehicle Equipment (>$50,000)		0%
FACILITIES		
Maintenance	Condition - % of Facilities With a Condition Rating Below 3.0 on the FTA Transit Economic Requirements Model (TERM) Scale	0%
Passenger Facilities		0%

Source: MAX Transit Authority

PUBLIC TRANSPORTATION AGENCY SAFETY PLAN

In January 2021, the MACC approved MAX's Public Transportation Agency Safety Plan (PTASP). The PTASP is a plan that standardizes how each transit authority focuses on safety concerns and identifies weaknesses while considering risks and risk management throughout the agency. The document was discussed during the February 24, 2020 meeting of the MACC Policy Committee. At that time, it was noted that the safety plan would include performance measures to be brought to the MACC for incorporation into the TIP. Requirements of the Public Transportation Agency Safety Plan are noted below:

Certification of Compliance

- Each transit agency must annually certify via FTA's Certifications and Assurances process that its safety plan meets the requirements of the final rule.
- States must certify safety plans on behalf of small public transportation providers that operate 100 or fewer vehicles in peak revenue service within their states unless providers opt to certify their own safety plans upon notification to the state.

Documentation and Recordkeeping

- A transit agency must maintain documents that set forth its safety plan, including those related to SMS implementation.
- These documents must be made available upon request by FTA and other agencies with safety jurisdiction, such as the National Transportation Safety Board (NTSB) and State Safety Oversight Agencies (SSOAs).
- A transit agency must maintain these documents for a minimum of three years after they are created.

Mode of Transit Service	Fatalities (Total)	Fatalities (Per 100K VRM)	Injuries (Total)	Injuries (Per 100K VRM)	Safety Events (Total)	Safety Events (Per 100K VRM)	System Reliability (Failures/ 100K VRM)
Fixed Route	0	0	3	0.00003	3	0.00003	90/ 0.0009
Demand Response	0	0	5	0.00005	2	0.00002	85/ 0.00085

Source: MAX Transit