



CHAPTER SIX

Regional Issues

REGIONAL ISSUES

Many issues facing the MACC area have a direct or indirect impact on the transportation system. This section looks at the main travel corridors, safety statistics, local trends that will likely affect transportation in the future, and even how transportation matters for regional emergency preparedness.

CORRIDORS OF CONCERN

Listed below are various roadway corridors that are of special concern and need to be carefully monitored, as they are heavily traveled roads. It is the intention to identify concerns and suggest appropriate actions for consideration. The following list is not prioritized.



16TH STREET / ADAMS STREET RIVER AVENUE TO 80TH AVENUE

Improvements to this roadway east of US-31 to Country Club Road have been made in the past five years to increase pedestrian safety by enhancing mid-block crossings which help to connect business centers with high-density residential areas. Construction took place in 2020 to improve pavement quality and lay the groundwork for a future snowmelt system between River Avenue and Central Avenue. This segment is a non-motorized priority corridor linking the Zeeland and Holland areas that have received significant federal aid for non-motorized facilities.

WAVERLY ROAD / 120TH AVENUE M-40 TO FILLMORE STREET

This major north-south connector has received capacity enhancements in the past to several sections along the corridor. Special attention should be given to peak morning and evening congestion at some of the four-way stops north of Riley Street. If population centers continue to expand as predicted, peak-hour congestion will likely increase in severity. This will only be exacerbated by the completion of the LG Battery Plant; it's expected to add 1,200 jobs. Improvements to capacity and/or flow should be made as needed. Consideration of this corridor as a relief route to US-31 will continue.

BLUE STAR HIGHWAY I-196 TO WEST MICHIGAN REGIONAL AIRPORT

Close monitoring of this corridor will be necessary including traffic volumes on 58th Street south of Blue Star Highway.

OTTAWA BEACH ROAD / DOUGLAS AVENUE HOLLAND STATE PARK TO LAKEWOOD BOULEVARD

The continued development of Park Township and the access this corridor provides to Holland State Park, as well as other recreational opportunities, contribute to the regional significance of this corridor. Capacity, speed, and pedestrian safety improvements should be considered as necessary. Currently, there are several proposals for upgrading the corridor, but none of them have been widely accepted or implemented.

WASHINGTON AVENUE (ZEELAND) MAIN STREET TO CHICAGO DRIVE

The proposed redevelopment of land uses adjacent to this corridor and the potential for increased traffic volumes necessitate close monitoring of this corridor. In 2019, a roundabout was added where Washington Avenue and Main Avenue meet. This addition improves safety, traffic flows, and local aesthetics.

96TH AVENUE / STATE STREET OTTOGAN STREET TO FILLMORE STREET

The ongoing development along this corridor and increasing traffic volumes heighten the need for monitoring of this north/south facility through the eastern portion of the MACC area.

M-121 (CHICAGO DRIVE) I-196 BL TO 48TH AVENUE

Continued development of eastern Ottawa County will require close monitoring of this corridor. During the two years of I-196 reconstruction, this corridor served as a detour and has surprisingly handled the increased traffic volume quite effectively. Signal modernizations and future land-use developments may drive the needs for additional operational enhancements.

I-196 THROUGH THE ENTIRE MACC AREA

Close coordination with MDOT officials to ensure the preservation and efficient operation of this segment of interstate is necessary. Future improvements may include the addition of Intelligent Transportation System (ITS) devices, such as roadway surface condition monitoring, Dynamic Message Signs (DMS), and other technology to support mobility needs on this freeway.

RIVER AVENUE **MICHIGAN/STATE STREET TO 136TH AVENUE**

This corridor provides one of four crossings of the Macatawa River in the MACC area. With the anticipated growth in the northern portion of the MACC area, demands on this corridor will continue to increase. As this is a major corridor for multiple modes of traffic (automobiles, cycling, walking, and transit service), safety improvements, in particular, should be closely examined and considered as necessary.

PINE AVENUE **9TH STREET TO SOUTH RIVER AVENUE**

As with the River Avenue corridor above, anticipated growth in the northern portion of the MACC area could result in increased vehicular and pedestrian volumes in this corridor. Traffic flow patterns and volumes should be closely monitored and improvements to facilities should be considered as necessary. There have been discussions in regards to making Pine Avenue into a 2-way street to keep commercial trucks from using 9th Street to reach Chicago Drive.

I-196 BUSINESS LOOP (BL) **I-196 TO US-31**

This is an extremely busy corridor, as it is essentially the “gateway” to the Holland/Zeeland area. It has an Average Annual Daily Traffic (AADT) of roughly 25,000. Speed and pedestrian safety are also major concerns. The MACC, MDOT, local communities, and other partners are currently looking at options to enhance existing crosswalks and create pedestrian bridges to improve north-south connections between residential areas on the south side of the Business Loop to resources and services on the north side, in the city of Zeeland.

M-40 **136TH AVENUE TO US-31**

Capacity and operational improvements north and south of the interchange with I-196 and the segment north of 48th Street have been made as well as a realignment of 64th Street to intersect with Cabill Drive. Other improvements, such as designated turning movement areas, have been made along M-40 in response to the construction of the Tulip City Truck Stop. There also has been an improvement project partnership between MDOT and the Hamilton School District. Access management should continue to be considered as additional developments occur on M-40.

EAST - WEST CORRIDORS

- New Holland Street: Lakeshore Avenue to 48th Avenue
- Quincy Street: Lakeshore Avenue to 64th Avenue
- Riley Street: Lakeshore Avenue to Chicago Drive
- James Street: Lakeshore Avenue to 104th Avenue
- Lakewood Boulevard: Lakeshore Avenue to 112th Avenue
- Byron Road: I-196 to 48th Avenue
- Port Sheldon Street: Butternut Drive to 96th Avenue

These six corridors are vital east/west routes serving the growing population in the northern and eastern MACC area. Capacity improvements are being planned for various segments of some of these corridors and continued monitoring is necessary.

NORTH - SOUTH CORRIDORS

- Butternut Dr: 136th Ave. to Lakeshore Dr.
- 136th Ave: Butternut Dr. to Port Sheldon Street
- 120th Ave.
- US-31 (North of Quincy Street)
- M-40 (Hamilton to US-31)
- 96th Ave.

These corridors are vital north/south routes serving the growing population in the northern MACC area. Significant improvements have been made to the southern segments of these corridors and continued monitoring is necessary. Future north-south transportation needs, including alternatives like a limited access connection from M-45 to I-196, may need to be considered and evaluated to ensure that the greater Holland area is connected with the newer developments in the Grand Haven area and in central Ottawa County to the north. In addition, as the southern Holland area continues to grow with new industries and businesses, it is important to ensure access management and operational improvement strategies continue to be strategically incorporated and updated to allow for safe and efficient mobility.



TRENDS AFFECTING REGIONAL TRANSPORTATION

INCREASED FUNDING FOR TRANSPORTATION

As the financial analysis chapter indicates, significant financial resources are necessary to maintain the existing system and make improvements as necessary. The MACC will review and endorse if deemed necessary, efforts that seek to increase funding for transportation (whether through an increase in the gas tax or through other efforts to generate future state/local revenues). Consideration will also be given to monitoring the impact of electric vehicles on the regional roadway network and identifying potential fees based on miles driven.

TRANSPORTATION IMPACTS OF VARIOUS GROWTH SEGMENTS

Managing growth in the MACC area is an issue receiving considerable attention. The results of growth, and the configuration of that growth, have various impacts on the transportation system. As part of ongoing growth management, the MACC can study the impacts of various configurations of growth on the area's transportation system. This is achievable using the MACC's geographic information system (GIS) and computer traffic model, as well as utilizing a software planning analysis tool.



M-231 / US-31

The Michigan Department of Transportation (MDOT), in partnership with Ottawa County, local agencies, the Macatawa Area Coordinating Council (MACC), and the West Michigan Metropolitan Transportation Planning Program (WestPlan / Muskegon MPO), completed a Draft Environmental Impact Statement (EIS) in 1998 to assess regional north-south alternatives for US-31 in Ottawa County. As required in the National Environmental Policy Act (NEPA) process, the Draft EIS included an analysis of several conceptual new routes and improvements to the existing transportation system within Ottawa County, including county-owned and state-owned (trunkline) roadways.

MDOT, with participation from the above-mentioned partners and the MACC, completed the Final EIS in 2010. The initial draft Final EIS identified an option to construct a new freeway connection between I-196 and I-96 as the Preferred Alternative. The Final EIS assessed the impacts of the proposed Preferred Alternative (F/J-1 from the Draft EIS alternatives) and evaluated statewide funding available for this project. This analysis and local priorities resulted in a scaled-down version of alternative F/J-1. The scaled-down version of alternative F/J-1, as included in the approved Final EIS, included the following:

- Constructing a new route between M-45 (Lake Michigan Drive) and I-96, designated as M-231. Further review of US-31 mobility options in Grand Haven resulted in M-231 being completed and opened to traffic in October 2015
- A new crossing over the Grand River to facilitate emergency response and travel in Ottawa County
- Acquisition and protection of property adjacent to the new M-231 corridor to be preserved as limited-access right-of-way for potential future improvements
- Reconstruction and widening of US-31 from approximately Lakewood Boulevard to the north of Quincy Street in the MACC area

More recent improvements include a traffic signal that has been installed at the M-231 and Lincoln Street intersection to facilitate safe operational movements. A non-motorized facility (multi-use lane) was constructed with the project, and Spoonville trail segments connecting to M-231 have been completed locally by Ottawa County and the townships affected. The US-31 improvements in the MACC area were completed and open to traffic in the mid-to-late fall of 2016.

Additional north-south transportation needs between Holland and Grand Haven, and in western and central Ottawa County, are currently unfunded and would require a new study, and proposed improvements would be required to go through a new NEPA process, once funding is identified.

INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

The MACC seeks to be an active participant in the revisions to MDOT’s Regional ITS Architecture and Deployment Plan. It is recognized that ITS can provide important benefits to the transportation system and that the MACC will consider ITS solutions to potential problems.

PASSENGER / FREIGHT RAIL ISSUES

This plan recommends the continued promotion of passenger rail (Amtrak) service in the MACC area through participation in the Westrain Collaborative. It also recognizes the vital need to analyze passenger rail service options for West and Southwest Michigan. The MACC has supported the study of a “Coast-to-Coast” passenger rail line that would provide passenger rail access from Holland to the Detroit area and in 2019, signed a resolution to support a feasibility and engineering study to evaluate a possible southern connection of the Pere Marquette line in New Buffalo. However, there have been no updates due to the COVID-19 pandemic. Additional services may include a connection to Muskegon.

TRANSIT EXPANSION

Due to future growth predictions, the MACC, in conjunction with MAX Transit needs to continue monitoring development patterns in the MACC area and periodically assess the feasibility of providing public transit services in areas currently not served. One suggestion is the West Michigan Express. This bus rapid transit project aims to create a commuter route between Grand Rapids and Holland. Additionally, MAX Transit was granted funding to complete a route study for its service area as well as researching services to neighboring communities (not currently served). The study will include working with a consultant, Transpo Group, on the following:

- Analyzing options for improving current routes and stops
- Identifying gaps in the service area
- Launching micro-transit operations
- Gathering input from the public and community organizations
- Creating an electrification plan to reduce vehicle emissions
- Coordinating workforce development to equip transit staff with the skills and training needed for future growth.



TRANSPORTATION DEMAND MANAGEMENT (TDM)

TDM strategies such as car/vanpools, carpool lots, encouraging non-motorized transportation, flexible work schedules, compressed workweeks, and telecommuting are all designed to help reduce the number of vehicle trips. The MACC endorses and encourages the implementation of these various TDM strategies. It is recommended that the MACC continue working toward the implementation of these strategies with local employers, the Holland and Zeeland Chambers of Commerce, and other interested organizations.

MAX will also partner with the MACC to gather demographic information (EJ populations, households without an automobile, elderly populations, future growth and employment areas, etc.) which can then be plotted and utilized through Geographic Information System (GIS).

This data will provide Transpo Group and MAX staff with the necessary information to make decisions to restore and strengthen existing services and to provide for future growth and development to create a robust regional transportation network throughout West Michigan. The study will take approximately one year to complete.



TRANSIT SENSITIVE LAND USE DESIGN

Planning for land development which is sensitive to the operational and economic requirements of public transit must be done at the system-wide level as well as the district and site-specific level. There are certain land uses and access criteria that enhance and promote the use of transit. These criteria include the density of land use, concentrated locations, mix of uses, and location of streets. There is still a substantial amount of vacant land in the MACC area. This plan urges local units of government to consider these criteria noted above as development proposals are reviewed.

TOURISM

Tourism in the Holland/Zeeland area continues to increase and at times it can be noticeable on our transportation network. Tulip Time, which is our area’s largest event, brought in an estimated 248,000 unique visitors in 2023. The addition of 248,000 individuals does create stress on our roadways, and we are currently exploring potential solutions to alleviate the traffic. Our ideas include the possibility of closing a portion of 8th Street during Tulip Time or implementing a "people-mover" transportation alternative. Starting in 2014, downtown Holland also began seeing cruise ships. In 2016, the cruise ship began docking in Muskegon and they have since continued receiving ships. However, Holland is still included in shore excursions and passengers are brought to Holland via motorcoach. We are forecasting the cruise industry will return to Holland if/when the Waterfront Holland initiative is completed. In the spring and summer, many tourists take advantage of our area’s extensive pathway system (over 150 miles) and rent bicycles from many local bike shops. Tourism doesn’t stop in the winter. The snowmelt system is currently five miles of heated streets and sidewalks from snow and ice. The system was featured on the Weather Channel in 2016 and Runner’s World in 2019. As tourism increases, the MACC area will need to evaluate more ways to manage added traffic volumes and continually improve the user experience. From April 1, 2022, to March 31, 2023, downtown Holland saw almost 800,000 unique visitors.



GROWTH MANAGEMENT

The Infrastructure Investment and Jobs Act (IIJA) emphasizes that this plan be congruent with planned growth. Concerning future growth in the region, MACC staff will review the issue of managed growth and assess potential impacts on the projects and other issues identified in the LRTP to the extent that is legally authorized.

STORMWATER

The MACC housed the Macatawa Watershed Project until 2021 when, through a cooperative agreement, it moved to the Outdoor Discovery Center (ODC) Network and merged with Project Clarity, the initiative to restore the Macatawa Watershed. Project Clarity is continuing the legacy started by the Macatawa Watershed Project to work with community partners to protect and improve water quality in Lake Macatawa and her tributaries. One of the primary contributors to water pollution is urban stormwater runoff, much of which comes from our extensive road networks. The Macatawa Watershed Management Plan recommends many best practices to mitigate the negative impacts of urban stormwater runoff, including low-impact development and green stormwater infrastructure practices. MACC's Non-Motorized Plan also recommends these practices to help mitigate the negative environmental impacts of transportation infrastructure.

Low impact development (LID) is a design and management approach that uses a set of practices to reduce runoff by managing stormwater as close to its source as possible. MACC communities can implement various types of LID strategies to reduce negative environmental impacts caused by development. All MACC communities have adopted site development rules that benefit the Macatawa Watershed by reducing impervious surfaces, reserving natural land for conservation, and encouraging on-site stormwater treatment.

Green stormwater infrastructure (GSI) is a form of LID that incorporates both the natural environment and engineered systems to store, infiltrate, or evapotranspiration stormwater and reduce flows to the storm sewer system or surface waters. GSI also improves water quality, conserves ecosystem values and functions, and provides a wide array of benefits to people and wildlife. Transportation applications of GSI include permeable pavements, green alleys and streets, and other LID techniques along roadway corridors. From 2019-2021, the City of Holland installed ten right-of-way rain gardens that infiltrate runoff from city streets and also installed several GSI practices at City Hall and Kollen Park in 2022. The ODC Network is working with the City of Holland and other MACC member communities to implement more GSI in the watershed.

To facilitate increased adoption of GSI practices in the Macatawa Watershed, the MACC completed a GSI suitability-mapping project in 2019. The final maps indicate which parcels of land are most suitable for GSI based on several factors, including soil characteristics, slope, and building footprints. Suitability maps are available for all cities and townships in Ottawa and Allegan County.

The ODC Network, via a cooperative agreement with the MACC, provides stormwater management assistance to several MACC communities that own and operate the stormwater system in the Macatawa Watershed.

STORMWATER CONTINUED

[Note: the Michigan Department of Environment, Great Lakes, and Energy (EGLE) issue a Municipal Separate Storm Sewer System (MS4) Storm Water General permit to regulated entities including the City of Holland, City of Zeeland, Allegan County Road Commission, Ottawa County Road Commission, Allegan County, and Ottawa County]. The MACC developed a Macatawa Watershed Stormwater Guidebook, modeled after the Rogue River Watershed: A Stormwater Guidebook, in 2015 to encourage and guide townships in evaluating codes and ordinances to identify ways to improve stormwater management and encourage the use of green infrastructure.

As part of the MS4 permit program, permittees are required to maintain good housekeeping and pollution prevention (PPGH) practices at all owned facilities and during operation and maintenance activities. The MACC developed handbooks that the ODC now maintains, for the MS4 permittees to help them comply with the PPGH requirements. One critical component of the handbook is the best management practices that permittees must follow when performing routine operation and maintenance activities. These activities include road, parking lot, and sidewalk maintenance; bridge maintenance; unpaved road maintenance; and others. The primary best management practices include working during dry weather, preventing erosion, mixing or loading materials away from storm drains, preventing materials from entering storm drains, and thoroughly cleaning up the site when the job is finished.

The MACC started a volunteer road-stream crossing inventory program in 2016 supported by a grant from the Michigan Clean Water Corps. The goal is to take an inventory of all of the road-stream crossing locations throughout the watershed to quantify sediment pollutant loads, identify barriers to fish passage, and prioritize remediation or replacement of problematic crossings. The program has the potential to identify problematic crossing locations early and therefore possibly prevent structure failure during large storm events. As of August 2023, staff and volunteers have been able to inventory 257 crossings, or about 41% of the total in the watershed.

AUTONOMOUS VEHICLES

The MACC recognizes that the gradual adoption of autonomous vehicles in the future has the potential to impact our region's transportation system in a major way. The MACC encourages road agencies to consider updating/replacing outdated signalization equipment when making other roadway improvements so that the systems will be compatible with autonomous technology. The MACC will continue to evaluate the trends of this technology so that our region can be prepared for this potential shift in transportation.

SAFETY

The MACC's state and federal partners continue to stress the need for safety-conscious planning and increased integration of safety into the transportation planning process. More work in this area is needed to better understand data collected by local partners, data gaps that may exist, and how to amend the project selection process to focus more on safety benefits/concerns and be more supportive of local education programs focused on safety. Looking at the issue of motorized and non-motorized uses of public rights-of-way should be considered. The following data looks at safety trends from 2012-2022.

FY 2023 - 2026 MICHIGAN HIGHWAY SAFETY PLAN

The Michigan Highway Safety Plan is an exceptional document that aims to achieve road safety through the Safe System Approach. Its mission is to reduce human errors and injury impact, driving Michigan towards zero deaths on the road. The vision is to eliminate fatal and serious crashes by 2050. The plan's goals are ambitious: zero fatalities (from 1,131 in 2021) and zero serious injuries (from 5,979 in 2021) by 2050. With eleven emphasis areas grouped into four categories, the plan provides a comprehensive framework for achieving these objectives.



HIGH-RISK BEHAVIORS



OCCUPANT PROTECTION

5-year rolling averages from 2017 to 2021 indicate unrestrained occupant fatalities increased by 8% and serious injuries increased by 13%. 341 people in crashes were ejected from the vehicle while not wearing a seat belt. Seat belts were not worn in 44% of statewide fatalities with known restraint usage information.

DISTRACTED DRIVING

5-year rolling averages from 2017 to 2021 indicate distracted driving fatalities and serious injuries have increased by 49% and 72% respectively. 1 in 3 distracted driving crashes occurred at an intersection. Over 1 in 4 distracted driving crashes are related to electronic usage. In 2023, several bills were signed into law that make it illegal to drive while holding or using a cell phone or other identified mobile electronic devices.

IMPAIRED DRIVING

5-year rolling averages from 2017 to 2021 indicate impaired driving fatalities increased by 17% and serious injuries increased by 18%. Alcohol-involved crashes account for 1 in 3 fatalities. Drug-involved crashes account for 1 in 4 fatalities.

AT-RISK USERS



COMMERCIAL MOTOR VEHICLE SAFETY (CMV)

5-year rolling averages from 2017 to 2021 indicate CMV fatalities decreased by 1% and serious injuries increased by 14%. 9 in 10 CMV-related fatalities are occupants of other vehicles. The number of commercial driver's licenses decreased by 17% from 2017 to 2021.

DRIVERS AGED 20 & YOUNGER

5-year rolling averages from 2017 to 2021 indicate young driver fatalities and serious injuries have decreased by 5% and 4% respectively. Drivers age 20 and younger comprise 7% of all licensed drivers in Michigan but are involved in 13% of all fatal crashes and 19% of all serious injury crashes. Traffic crashes are the leading cause of death for people aged 15-20.

MOTORCYCLE SAFETY

5-year rolling averages from 2017 to 2021 indicate motorcycle fatalities and serious injuries have increased by 8% and 23% respectively. serious injuries increased by 26% in one year when Michigan removed the helmet law. Nearly 1 in 4 motorcyclists don't wear a helmet.

PEDESTRIAN & BICYCLE SAFETY

5-year rolling averages from 2017 to 2021 indicate pedestrian and bicycle fatalities increased by 1% and serious injuries increased by 2%. 1 in 10 pedestrian-involved crashes results in a fatality and another 8 in 10 results in injuries. 8 in 10 bicyclist-involved crashes result in injury.

SENIOR MOBILITY & SAFETY

5-year rolling averages from 2017 to 2021 indicate fatalities and serious injuries involving older drivers have increased by 7% and 10% respectively. The number of older licensed drivers has increased by 35% in the last 10 years. Older drivers (aged 65 & over) comprise 1 in 4 licensed drivers in Michigan and represent 1 in 10 drivers in all crashes.

ENGINEERING INFRASTRUCTURE



TRAFFIC SAFETY ENGINEERING

5-year rolling averages from 2017 to 2021 indicate intersection-related fatalities increased by 17% while serious injuries increased by 11%. 5-year rolling averages from 2017 to 2021 indicate lane departure fatalities remained unchanged while serious injuries increased by 3%.

SYSTEM ADMINISTRATION



TRAFFIC INCIDENT MANAGEMENT

Traffic crashes account for nearly 25% of all traffic delays. one minute of crash-related freeway lane closure results in 4 minutes of delay after the event. Nationally, over 75 emergency responders are struck and killed each year at crash scenes.

TRAFFIC RECORDS & INFORMATION SYSTEMS

95% of all crash records are entered in the TCRS database within 30 days of the crash. 96% of reports are entered with no errors in critical data elements. As of January 2020, Michigan is receiving nearly 100% of crash data electronically.

VEHICLE CRASHES IN THE MACC AREA BY COUNTY (2012 - 2021)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	TOTALS
* ALLEGAN COUNTY	504	530	584	516	583	544	562	381	326	448	4,978
** OTTAWA COUNTY	3,007	3,307	3,519	3,465	3,919	3,578	3,604	3,311	2,402	2,841	32,953
*** MACC AREA	3,511	3,837	4,103	3,981	4,502	4,122	4,166	3,692	2,728	3,289	37,931

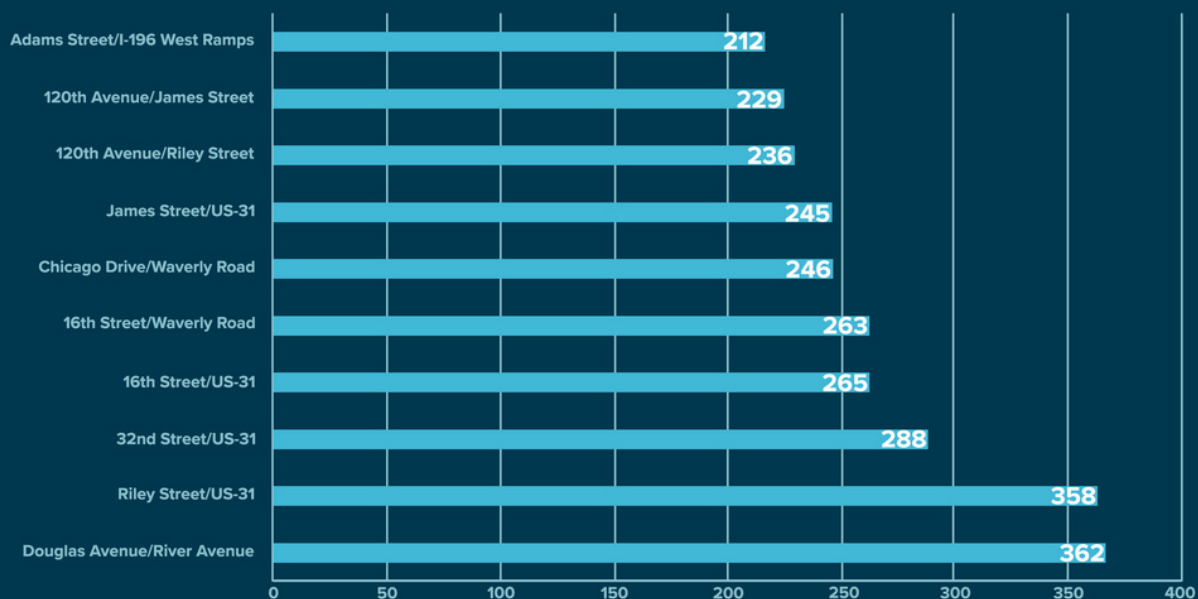
* City of Holland, Laketown Township, and Fillmore Township Portion

** City of Holland, Holland Township, Olive Township, Park Township, Port Sheldon Township, City of Zeeland, and Zeeland Township Portion

*** Entire MACC Region (Cities of Holland and Zeeland, and the Townships of Holland, Fillmore, Laketown, Olive, Park, Port Sheldon, and Zeeland)

Source: Roadsoft Crash Data, Exported June 2023

10 HIGHEST CRASH INTERSECTIONS (2012 - 2021) MACC REGION



Source: Roadsoft Crash Data, Exported June 2023

SECURITY AND EMERGENCY PREPAREDNESS

One of the goals of the MACC 2050 Long Range Transportation Plan (LRTP) is to develop a transportation system that is safe and secure for all of its users. The IIJA requires that the transportation planning process must consider and implement projects, strategies, and services that address increased security of the transportation system for motorized and non-motorized users.

Preparing for natural disasters and man-made events with potential impacts on the transportation system begins at the local level. Minor traffic incidents, load spills, vehicle fires, minor train/bus accidents, and collisions that may involve injuries (but no fatalities) are examples of events that are addressed by first responders and local officials. At the regional level, additional coordination is needed to manage the more complex events listed below:

- Train derailment
- Major bus/rail transit accidents
- Major truck accidents
- Multi-vehicle crashes
- Hazmat spills
- Injuries and fatalities

EMERGENCY MANAGEMENT INCLUDES FOUR PRIMARY PHASES:

Mitigation – activities to prevent or reduce the effects of an emergency or disaster

Preparedness – developing written response plans and identifying responsibilities for emergency actions, staff training, and installing warning systems/equipment

Response – actions taken to warn others of an event, evacuate the public, or provide temporary shelter, medical treatment, search and rescue, or law enforcement

Recovery – efforts focused on restoring infrastructure, economic activity, and rebuilding community facilities

The National Emergency Planning and Community Right-To-Know Act was approved by the United States Congress in 1986. The act was also known as Title III of the Superfund Amendments and Reauthorization Act (SARA) and established a Michigan Emergency Planning and Community Right-to-Know Commission as well as individual Local Emergency Planning Committees (LEPC). Emergency planning is one of the four activities required by SARA. The other three activities are emergency release notification; hazardous chemical inventory reporting; and toxic chemical release inventory. The LEPCs work with industry and agricultural businesses to develop community plans for off-site response plans and to prevent chemical accidents. Countywide response plans are updated annually and include emergency response plans for municipalities, industry, and school districts, as well as strategies for natural disasters such as severe weather, snowstorms, tornadoes, and flooding. County response plans address routes for first responders, material transport, as well as individuals in need of evacuation. Training and exercises are offered by the emergency management departments in Ottawa and Allegan counties.

The LEPC in Ottawa County is led by the Emergency Management Department of the Sheriff's Office, which offers assistance to approximately 180 sites requiring emergency response plans. Each response plan includes a route for first responders which is dependent on weather and wind direction. In Ottawa County, exercises addressing chemical spills are held regularly.

Similarly, in Allegan County a planning specialist participates in the Allegan County LEPC, reports to the Emergency Management Coordinator, and updates facility emergency response plans for approximately 141 sites containing hazardous and extremely hazardous materials and 35 additional farm sites within Allegan County. Transportation corridors have been identified as possible evacuation routes for each of these facilities. The 2015 – 2017 LEPC Strategic Plan aims to raise public awareness concerning hazardous chemicals, prepare and maintain chemical emergency response plans, and conduct a progressive emergency exercise program.



As required by SARA Title III, the following groups are to be represented as LEPC Members:

- Elected State and Local Officials
- Law Enforcement
- Local Emergency Management Official
- Fire-Fighting
- First Aid and Health
- Local Environmental Group(s)
- Hospitals
- Transportation Personnel
- Broadcast and Print Media
- Community Groups
- Owners/Operators of Facilities
- Organized Labor
- Education
- Agriculture

The Federal Emergency Management Agency (FEMA) has developed a variety of emergency preparedness tools through the Ready Campaign. A digital engagement toolkit was released for National Preparedness Month, in September 2014, and while nearly a decade has passed since its release, the resource still offers valuable guidelines to prepare for specific needs before a disaster, build an emergency kit, and practice for an emergency with first responders (police, fire, EMS, nurses, and public utilities). Another tool to assess dangers and develop recommendations for evacuation procedures is to use of computer technology for disaster simulation. Various vendors offer software packages to automate the disaster recovery planning process. This software simulates a potentially hazardous situation and identifies options based on environmental conditions, traffic patterns, transportation mode, time of day, human behavior, possible scene layout, and evacuation routes. Regional planners must also consider special needs populations such as children, the elderly, people with disabilities, and households without a car. The Disability Network/Lakeshore also offers materials on emergency preparedness planning and public resources that can help with accessible transportation and evacuation planning.

Security and emergency preparedness at the regional level calls for coordination throughout the planning process to address the needs of first responders and identify roles and responsibilities concerning: preventive measures, detective measures, and corrective measures. A recommended resource that will be helpful for regional planning and coordination is *Considering Security and Emergency Management in the Planning of Transportation Projects: A Guide for Planners of New Transportation Projects (FHWA-HEP-12-040)*.

The MACC 2050 Long Range Transportation Plan may also serve as a resource to identify planned construction projects that would impact the re-routing of traffic during an emergency. MACC staff may work with the Michigan Department of Transportation and local road agencies to provide lists of road construction projects or closures. At the time of an event or emergency, knowledge about local and primary roads can help route first responders onto appropriate detours.