

Regional Issues

Many issues are facing the MACC area that has 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 – 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 in 2020 will 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 – 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. Improvements to capacity and/or flow should be made as needed. Consideration of this corridor as a relief route to US-31 will continue.

Ottawa Beach Road/Douglas Avenue: Holland State Park – Lakewood Blvd.

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 and pedestrian safety improvements should be considered as necessary.

Washington Avenue (Zeeland): Main Street – 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 is expected to improve safety, traffic flows, and local aesthetics.

96th Avenue/State Street: Ottogon Street – 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-196BL – 48th Avenue

Continued development of eastern Ottawa County will require close monitoring of this corridor.

Port Sheldon Street: 144th Avenue – 96th Avenue

If the current section of M-231 is extended further south in the future, the Port Sheldon Street corridor shall be closely monitored for traffic volumes.

River Avenue: Michigan/State – 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, 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 – S. River Avenue

As with the River Avenue corridor above, anticipated growth in the northern portion of the MACC, as well as the possible addition of a public gathering space along the waterfront at the former power-plant property, 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.

I-196BL/US-31BR: I-196 – I-196

Reconstruction of this segment in the vicinity of the I-196 interchange was completed in 2006. A significant portion of the US-31 BR was turned over to local agencies and reconstruction of the portion of US-31 BR from 27th Street to 9th Street was completed as part of that process.

M-40: 136th Avenue – US-31

Capacity 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.

Blue Star Hwy.: I-196 – West Michigan Regional Airport

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

I-196 Through Entire MACC Area

Close coordination with MDOT officials to ensure the preservation and efficient operation of this segment of Interstate is necessary.

East/West Corridors

- ▽ **New Holland: Lakeshore Avenue – 48th Avenue**
- ▽ **Quincy Street: Lakeshore Avenue – 64th Avenue**
- ▽ **Riley Street: Lakeshore Avenue – Chicago Drive**
- ▽ **James Street: Lakeshore Avenue – 104th Avenue**
- ▽ **Lakewood Boulevard: Lakeshore Avenue – 112th Avenue**
- ▽ **Byron Road: I 196 – 48th 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 Avenue: 136th Avenue – Lakeshore Drive**
- ▽ **136th Avenue: Butternut Ave – Port Sheldon Road**

These two 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.



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 monitor the impact of electric vehicles on the regional roadway network and identify potential fees based on miles driven.

Transportation Impacts of Various Growth Scenarios

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 completed a Draft Environmental Impact Statement (DEIS) as part of the US-31 Location Design Study and selected F/J1 as the preferred alternative. F/J1 has two components in the MACC area: a six-lane boulevard on the existing alignment from 32nd Street – New Holland Street and a new four-lane limited-access freeway from I-196 – Fillmore Street.

The Final Environmental Impact Statement (FEIS) was completed in 2010. The preferred alternative of the FEIS was a scaled-down version of F/J1 with one component in the MACC area: improvements to existing US-31 from Lakewood Boulevard to Quincy Street. Improvements include adding through lanes, turning lanes and intersection modifications, primarily within existing ROW.

The MACC will continue to assist MDOT with this project and advocate the views and positions of its members regarding on-alignment and off-alignment improvements, both short-term and long-term, to this important corridor. The MACC views preservation of the proposed new highway corridor as an important component in the development of this project

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 Southwest Michigan. The MACC has supported the study of a Coast-to-Coast passenger rail line which 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.

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.

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.

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 land in the MACC that is vacant. 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 our transportation system has responded to and aided tourism in several ways. Tulip Time, which is our area's largest event, brought in an estimated 133,182 unique visitors in 2018 and total spending by visitors was estimated to be around \$47.6 million. To manage such large volumes, MAX Transit operates a Park & Ride shuttle that arrives at stops every 15-20 minutes from 10:00 a.m. to 6:00 p.m. every day during Tulip Time. In 2018 and 2019, Amtrak ran special Saturday trains along the Pere Marquette line between Chicago and Holland. In 2018 more than 1,000 customers rode the special Tulip Time trains. Over the past few years during the summer months, Holland has been visited by cruise liners that were large enough to transport around 200 people. Having a dredged port for freight industry has made it possible for these larger cruise liners to dock in Holland. In the spring and summer, many tourists take advantage of our area's extensive pathway system and rent bicycles from many local bike shops. In the winter months, Holland's five-mile sidewalk snowmelt system allows pedestrians to walk and shop downtown without worrying about ice. The snowmelt 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.

Growth Management

The FAST-Act 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.

Stormwater

The MACC is home to the Macatawa Watershed Project, which works 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. There are many LID strategies and techniques that MACC communities can implement to reduce negative environmental impacts caused by development. Site design standards will also benefit the Macatawa Watershed by reducing impervious surfaces, reserving natural land for conservation, and integrating 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 evapotranspire 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 could include permeable pavements, green alleys and streets, and other LID techniques along roadway corridors. In 2019, the City of Holland installed four roadside rain gardens that incorporate native vegetation on a residential street during a reconstruction project. The city in partnership with the MACC is working to develop a program to implement more rain gardens in connection with road projects. The MACC also intends to promote this program with other MACC member communities.

MACC staff provides stormwater management assistance to a variety of entities that own and operate portions of the stormwater drainage system throughout the Macatawa Watershed [Note: the Michigan Department of Environment, Great Lakes, and Energy (EGLE) issues 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]. A Macatawa Watershed Stormwater Guidebook, modeled after the *Rogue River Watershed: A Stormwater Guidebook*, was developed 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 for the MS4 permittees to help them comply with the PPGH requirements. One critical component of the handbook is best management practices that are to be followed 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 Macatawa Watershed Project has a volunteer road-stream crossing inventory program that started in 2016 and was born out of a grant from the Michigan Clean Water

Corps. The program seeks to inventory all of the road-stream crossing locations throughout the watershed in Allegan and Ottawa counties 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. From 2016 to 2019, trained leaders and volunteers completed inventories of 159 crossings, about 25% of the total.



Figure 20: Inventory of a culvert during one of the MACC's volunteer road-stream crossing events

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, 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 the MACC's public rights-of-way should be considered. The following data looks at safety trends from 2009-2018, further state and local safety data can be found in the 2019 System Performance Report located in the appendix of this plan.

The FY 2020 Michigan Highway Safety Plan, with data from the Michigan Office of Highway Safety Planning (OHSP) and the University of Michigan Transportation Research Institute (UMTRI), provides an analysis of the state's overall traffic safety problems from 2009 through 2018:

- ∇ Unrestrained passenger vehicle occupant fatalities were **21%** of fatalities in the past ten years.
- ∇ Alcohol and/or drug-involved fatalities were **39.5%** of total fatalities in the past ten years. Motorcyclist fatalities were **13.2%** of total fatalities in the past ten years.
- ∇ Pedestrian traffic fatalities were **15.4%** of the total fatalities in the past ten years.
- ∇ Bicyclist traffic fatalities were **2.7%** of the total fatalities in the past ten years.
- ∇ Drivers ages 20 and younger fatalities were **15.4%** of total fatalities in the past ten years.
- ∇ Nearly half of vehicle occupant fatalities in traffic crashes are unbuckled.
- ∇ Drug-involved fatal crashes have increased dramatically over the last ten years.
- ∇ Traffic fatalities involving vulnerable roadway users, bicyclists, motorcyclists, and pedestrians have increased over the last ten years.

These key issues are also present within the MACC planning area. From 2009 to 2018:

- Drinking-involved fatalities accounted for **22.1%** of total fatalities and drug-involved fatalities accounted for **13.5%** of total fatalities.
- Pedestrian traffic fatalities accounted for **11.5%** of fatalities in the past ten years.
- Bicyclist traffic fatalities accounted for **10.6%** of fatalities, **almost four times as many as the state average.**
- Motorcycle involved traffic fatalities accounted for **6.7%** of total fatalities.
- Drivers ages 20 and younger accounted for **20.2%** of total fatalities.

Between the years of 2009 and 2018, there was 38,137 vehicle crashes in the MACC Area (nearly 14% in Allegan County, and 86% in Ottawa County).

Table 5: Vehicle Crashes in the MACC Area, by County, from 2009-2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Allegan County	500	458	486	504	530	584	516	583	544	562	5,267
Ottawa County	2,730	2,735	3,006	3,007	3,307	3,519	3,465	3,919	3,578	3,604	32,870
MACC	3,230	3,193	3,492	3,511	3,837	4,103	3,981	4,502	4,122	4,166	38,137

Total Crashes in the MACC Area from 2009-2018

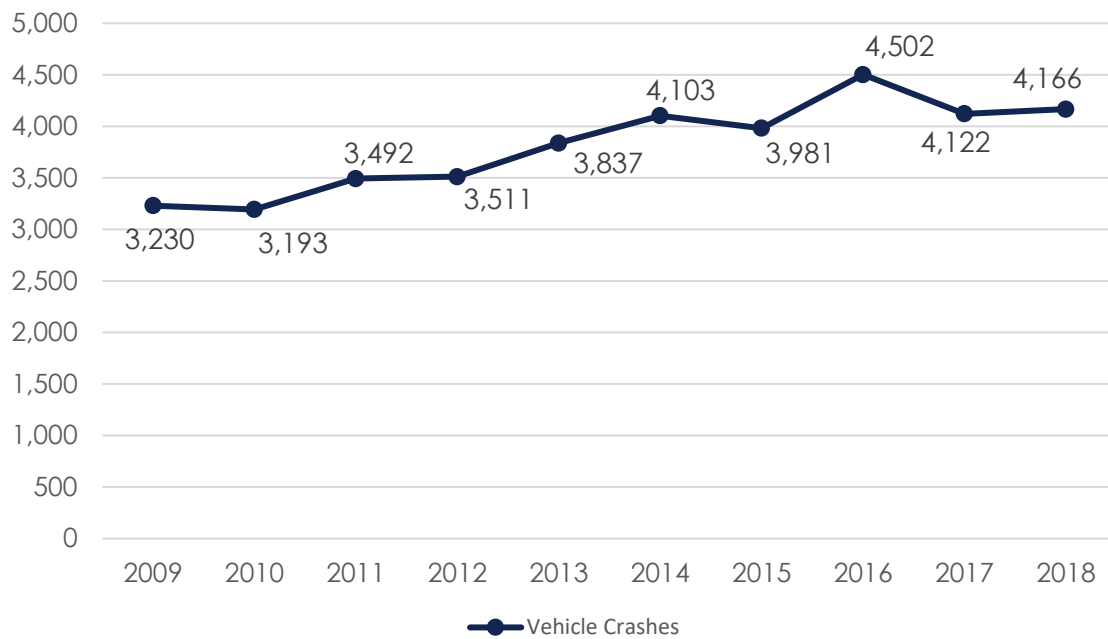


Figure 21: Crashes in the MACC area from 2009-2018

During this same time period (2009 – 2018), the highest number of collisions in the region occurred within Holland Charter Township and the City of Holland. Narrowing this further, 10 locations were identified which had the highest vehicle collisions:

Table 6: Vehicle Crashes in the MACC Area, by County

Intersection Location	Unit of Government	Total
River Ave & Douglas Ave	Holland Charter Twp	303
E 16th St & Waverly Rd	City of Holland	269
Riley St & S US 31	Holland Charter Twp	237

N US 31 & Riley St	Holland Charter Twp	230
West Shore Dr & Riley St	Holland Charter Twp	229
James St & N US 31	Holland Charter Twp	228
Greenly St & N US 31	Holland Charter Twp	223
River Ave & Lakewood Blvd	Holland Charter Twp	222
Lakewood Blvd & 120th Ave	Holland Charter Twp	220
Greenly St & S US 31	Holland Charter Twp	217
		2,378

 **Security and Emergency Preparedness**

One of the goals of the MACC 2045 Long Range Transportation Plan (LRTP) is to develop a transportation system that is safe and secure for all of its users. The FAST-Act 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.

Current Security Plans

The Federal Highway Administration developed a chart that outlines steps for security planning which can be integrated into the project planning and development process. By involving law enforcement, fire, emergency medical services, and emergency management agency representatives early on during the transportation planning process, they can offer recommendations to improve how a project is designed and constructed. Key questions can be asked as a project is planned which can help mitigate potential threats and hazards and seek a final design that incorporates security measures.



Integrating Security into the Project Planning and Development Process:

To fully understand how to integrate Security Considerations into the Transportation Planning Process, the following chart tracks a potential project from project conception through construction and operation. The Security Steps column (Boxes A through H) provides a set of steps and measures that should be utilized to help integrate security planning and considerations into the planning process. The Transportation Planning Steps column (Boxes 1 through 10) describes the traditional steps in planning and developing a project. Each planning steps box contains a list of those security steps that should be considered during that phase. The third column provides a set of planning techniques and tips to consider throughout the process. The two stars in the Transportation Planning Steps highlight the Preliminary Design and Final Design steps that should serve as major review points for ensuring the incorporation of security reviews and evaluations into the planning process.

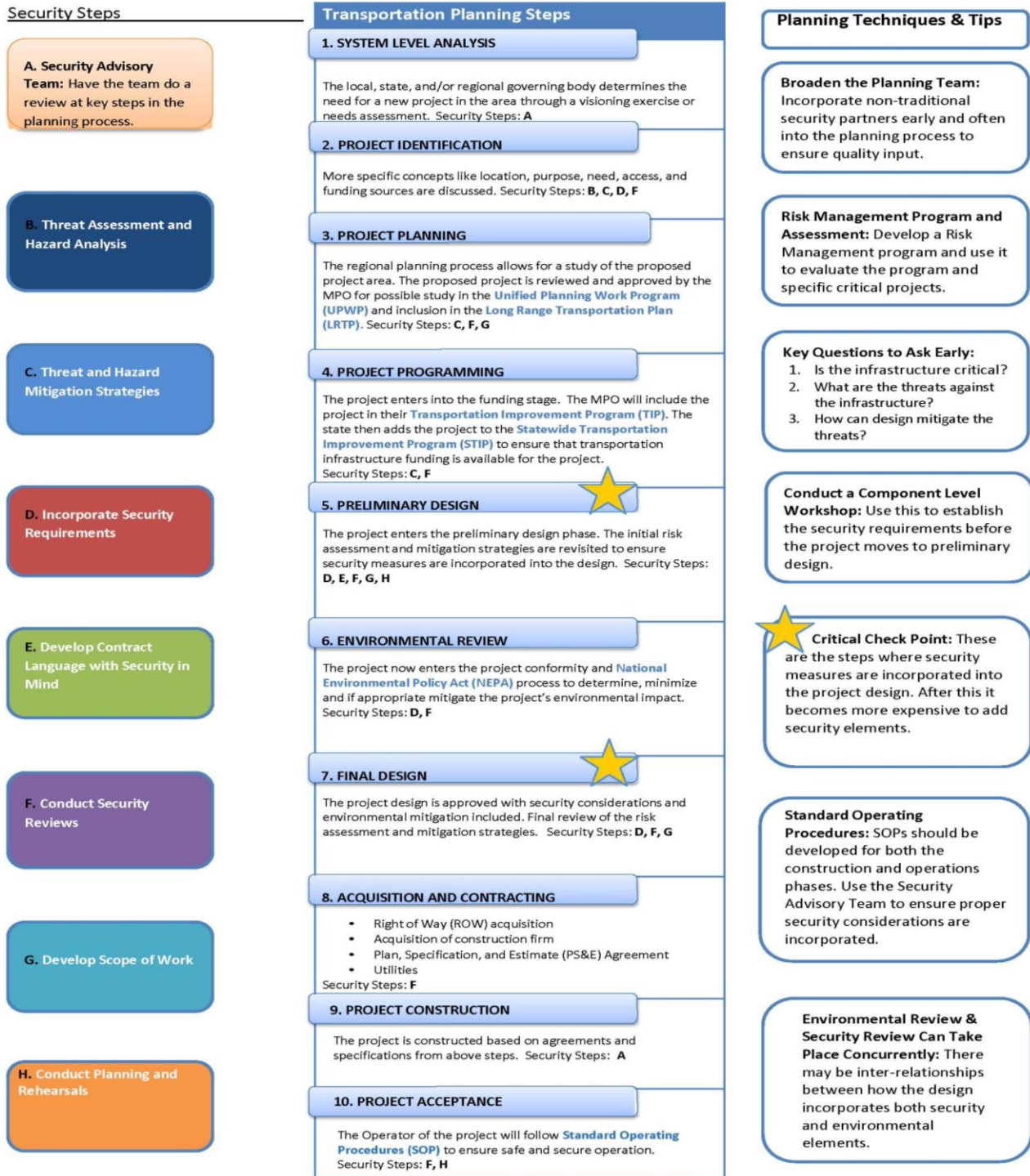


Figure 22: Table showing how to integrate security into the planning process

Emergency Planning

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 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 upon 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 Local Emergency Planning Committees 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 of municipalities, industry, 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 includes the goal of raising 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

Additionally, the Allegan County LEPC recommends the following sectors also be represented on the LEPC:

- ▽ Allegan County Tribal Nations

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 several years have 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 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 upon 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, 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 (1) preventive measures, (2) detective measures, and (3) 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 2045 Long Range Transportation Plan may also serve as a resource to identify planned construction projects which 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.