

## Plan Evaluation

### Evaluation of Goals

It is important to evaluate whether the implementation of the 2045 LRTP will bring the MACC area closer to the goals and objectives stated in Chapter 3. Listed below are the LRTP's goals and a discussion of how well the LRTP fulfills each of them.

**COMPREHENSIVE PLANNING** - Transportation planning and the system it designs shall be comprehensive and coordinated with other planning efforts.

Discussion: The LRTP was developed in conjunction with all MACC local units of government, local road agencies, the Michigan Department of Transportation, private sector partners, and the general public. Local government master plans and the planning emphasis areas contained in the most recent transportation legislation, FAST-Act were also considered. Future updates to the plan should continue to strive to incorporate more private sector participation as well as special interest groups related to transportation.

**ECONOMIC AND FINANCIAL CONSIDERATIONS** - Planning efforts must recognize funding availability when designing the system, ensure the best allocation of those resources, and promote the development of a system that is an economic asset to the region.

Discussion: The LRTP contains projects that are adjacent to commercial areas and/or will facilitate traffic circulation and access to major employment centers. It also recognizes the importance of maintaining the existing system that maximizes long term benefits and is a cost-effective strategy.

**EFFICIENCY** - The transportation system shall be configured and utilized in the most efficient manner possible.

Discussion: It is estimated that by 2045, Vehicle Miles Travelled (VMT) will increase with population growth in the MACC area. I&E - improve and expand projects are regionally coordinated to minimize gaps or unnecessary duplication thus increasing efficiency.

**MOBILITY** - The transportation system will ensure basic mobility to all persons and goods and allow them to arrive at their destination in a timely manner.

Discussion: The implementation of the proposed projects increases continuous service and needed capacity. The **MACC Non-Motorized Plan**, as well as the potential future transit expansions and pledge to periodically review transit expansion issues, lay a foundation for improvements to the transportation system for those who cannot, or choose not, to use private automobiles. The MACC will continue to identify measures that will help assess the performance of the transportation system and its impact on mobility.

**LAND USE AND ENVIRONMENTAL IMPACTS** - The transportation system shall maximize positive impacts and minimize disruption of existing and anticipated land uses in the MACC area, as well as maintain and improve the quality of the environment.

Discussion: Projects contained in the LRTP as well as projects that increase capacity, can have impacts on the land use adjacent to them. As noted above, local government's master plans were consulted to ensure that there were no conflicts. In terms of environmental impacts, the projects were reviewed through a formal consultation process. This consultation process ensures that agencies involved in natural resources and land management can comment on the impacts of the proposed improve/expand projects.

**ACCESSIBILITY** - The transportation system will be available to all persons.

Discussion: As noted under the mobility goal, this plan calls for the regular update of a non-motorized plan for the entire MACC area as well as the identification of potential future transit service areas. Both of these initiatives lay the framework for increasing the accessibility of the transportation system to persons who cannot, or choose not, to use private automobiles. While both of these initiatives direct the MACC area in the right direction, more can be done to increase the accessibility of the transportation system to all persons and efforts will continue to identify logical methods to increase accessibility.

**SAFETY & SECURITY** - The transportation system shall be safe and secure for all its users.

Discussion: The LRTP survey results showed the need for the MACC to be involved with safety efforts. Safety forums hosted by the MACC should occur periodically. In addition, efforts should be made to continue to research various Intelligent Transportation Systems (ITS) technologies that enhance safety. As recommended in the **MACC Non-Motorized Plan**, an inventory of major rail and freeway crossings should be used to identify safety concerns of the transportation system from the perspective of people who walk and bike.

## Evaluation of Federal Planning Factors

In addition to the MACC's LRTP goals, the most recent transportation legislation, the FAST-Act contains ten planning factors that are to be considered as part of the MACC's overall transportation planning efforts as well as the development of the LRTP and Transportation Improvement Program. These factors are considered below.



**Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.**

Discussion: The projects contained in this plan preserve and enhance access (by all modes) to major employment centers. It also improves access for workers to many sites of the MACC.



**Increase the safety of the transportation system for motorized and non-motorized users.**

Discussion: Safety improvements related to ITS and driver education are encouraged in this plan. The specific safety needs of non-motorized users will be further addressed by the MACC's non-motorized plan.



**Increase the security of the transportation system for motorized and non-motorized users.**

Discussion: The MACC will identify and advance ITS strategies that increase the security of the transportation system. The security needs of non-motorized users will be addressed by the MACC Non-Motorized Plan element described in this plan.



**Increase the accessibility and mobility options available for people and freight.**

Discussion: Mobility options for non-motorized, transit and roadway users are increased under this plan and work to preserve and enhance access. While accessibility is improved, it is recognized that additional activities should be considered to further increase the accessibility to persons that have historically been underserved such as those with economic barriers or disabilities.



**Protect and enhance the environment, promote energy conservation, improve the quality of life and promote consistency between transportation and State and local planned growth and economic development patterns.**

Discussion: This LRTP seeks to minimize any negative impacts on the environment as a result of its programs/projects. The implementation of the programs/projects contained in this plan will reduce gaps in the system allowing for more direct transportation routes. This plan promotes expanding non-motorized infrastructure which can help to improve local and regional air quality. Consistency is achieved by evaluating local master plans and developing the LRTP in conjunction with MDOT and MACC members. As noted in chapter 6, the MACC promotes the use of green stormwater infrastructure and native plants which helps to maintain water quality and natural habitat.



**Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.**

Discussion: The projects/programs of this plan reduce gaps and seek to enhance connectivity and integration. The inventory of the existing transportation system, in Chapter 5, addresses non-motorized improvements, transit linkages, and regional freight movement. Proposed projects to enhance connectivity and address deficiencies are covered in Chapter 10.



### **Promote efficient system management and operation.**

Discussion: The projects/programs contained in this plan were developed in cooperation with the MACC members, state and local transportation providers, and the general public. Such input helps ensure that the current system is efficiently managed and operated and the programs/projects proposed in this plan support the continuation of a system that is efficiently managed and operated.



### **Emphasize the preservation of the existing transportation system.**

Discussion: The LRTP considered the preservation of the existing transportation system through the financial analysis section that identified funds for maintenance activities. Also, the project list contains preservation projects. There is an interest in the application of ITS in small urban areas that could enhance the use of the existing system. Annual evaluation of pavement quality throughout the MACC area will help to prioritize future resurfacing and rehabilitation projects.



### **Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation**

Discussion: The projects in this plan, especially those that focus on the reconstruction of roadways and bridges will help to create a more resilient transportation system. As noted in chapter six, the MACC has programs that focus specifically on stormwater mitigation and education. Programs like the volunteer road-stream crossing inventory can identify culvert and bridge issues early, which helps to create a more resilient transportation system. Other practices such as permeable pavement and roadside rain gardens continue to gain popularity in the MACC planning region and mitigate stormwater pollution.



### **Enhance travel and tourism**

Discussion: The projects/programs contained in this plan will help to enhance travel and tourism by increasing transportation mode options, system connectivity, and reducing congestion along main travel corridors. Enhanced pavement quality associated with resurfacing projects can also create a greater user experience and limit wear-and-tear on vehicles.

## Evaluation of Environmental justice

The projects in the LRTP must meet the principles of Executive Order 12898 relating to environmental justice (EJ). Specifically, the LRTP must identify and address disproportionately high and adverse human health or environmental effects of its programs and policies on minority and low-income populations.

Information provided by USDOT Order on Environmental Justice (Order 5610.2) found at the Environmental Justice page on FHWA's website was instrumental in the selection of the groups to analyze. According to this directive, the groups to be considered when conducting an Environmental Justice analysis must include:

- Black
- Hispanic
- Asian
- American Indian
- Native Hawaiian
- Low-Income

Due to the demographic characteristics of the region, the aging population was added to the analysis.

The methodology undertaken to analyze that the principles are being met entailed mapping areas of low-income, minority, and aging population concentrations, overlaying the LRTP's projects and visually analyzing the potential impacts. Utilizing the 2010 Census data and American Community Survey (ACS) 5-year estimates (2012-2016), maps of the above noted groups were created. These are included in the appendix.

Note that the projects overlaid onto the EJ map only include items that have an associated geographic location and therefore do not include projects that deal with region-wide operational funding, special programs, safety improvements, or vehicle purchases. Due to their nature of being region-wide, these projects are considered to be within the EJ area.

### **Step 1 – Delineation of Minority Areas**

Minority areas were delineated using the 2010 Census data at the block group level. The minority area consists of block groups whose minority population exceeds the Macatawa Area Coordinating Council planning area minority population of 25%. Recognizing that this would not indicate the absolute number of persons in an area, a dot density map of individuals was overlaid on the minority area map.

### **Step 2 – Delineation of Low-Income Areas**

Low-income as defined by the Census Bureau is, "...a person whose household income ... is at or below the U.S. Department of Health Services poverty guidelines." Utilizing the American Community Survey (ACS) 5-year estimates (2012-2016) at the census tract level, low-income areas were delineated. The low-income area consists of census tracts whose low-income population exceeds the Macatawa Area Coordinating Council planning

area low-income population of 14%. Recognizing that this would not indicate the absolute number of persons in an area, a dot density map of individuals was overlaid on the low-income area map.

### **Step 3 – Delineation of Aging Population Areas**

Aging population areas were delineated using the 2010 Census data at the block group level. The aging population area consists of block groups whose aging population exceeds the Macatawa Area Coordinating Council planning area aging population of 14%. Recognizing that this would not indicate the absolute number of persons in an area, a dot density map of aging individuals was overlaid on to the aging population area map.

### **Step 4 – Analysis of Impacts on Minority Areas**

With the minority areas now delineated, an analysis of the impacts can be completed. Analysis of potential impacts centers on three major areas of concern:

1. Disproportionately high and adverse human health and environmental impacts to minority areas
2. Minimizing/blocking access of minority areas to the transportation system
3. Neglect of the transportation system in minority areas or otherwise reduce or delay the receipt of benefits to those areas

*Disproportionately high and adverse human health and environmental impacts to minority areas*

Of the 205 projects and programs contained in the LRTP, 121 are in the minority areas.<sup>1</sup> These projects included roadway reconstruction and resurfacing, intersection improvements, non-motorized, bridge rehabilitation and transit. Residential areas in the minority areas will have minimal, if any, impact in terms of noise, right-of-way takings, or pollution. Impacts, in the form of right-of-way acquisition, are minor. Environmental impacts on all projects will be mitigated according to federal and state laws. Therefore, it has been determined that there are no disproportionately high and adverse human health impacts.

*Minimizing/blocking access of minority areas to the transportation system*

Minimizing access can be characterized as the permanent closing of streets or interchanges in order to accomplish the projects contained in the LRTP. While temporary closures will be necessary as part of the construction process for many projects, no permanent closures are intended as a result of implementing the proposed projects.

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<sup>1</sup> A project was considered in a minority area if 50% or more of project length or service area was contained by the minority area boundaries. Projects on the boundary of a minority area were considered to be contained by the minority area boundaries.

Therefore, it has been determined that there is no blockage of access to the transportation system or loss of mobility as a result of implementing the LRTP projects.

*Neglect of the transportation system in minority areas*

The MACC area is approximately 211 square miles. The minority areas mapped are approximately 36 square miles or 17% of the entire area of the MACC. As noted earlier, there are 121 projects contained in the minority areas. These projects represent 59% of the proposed projects mapped.

**Table 25:** Minority Area Percentages

% of Total MACC Area (211 Square Miles)	% of Total Projects (121)
17%	59%

Access to public transit by residents in the minority areas was also analyzed. The public transit (Macatawa Area Express) service area covers the minority areas in their entirety and its fixed routes run almost entirely within the minority areas. None of the projects contained in the LRTP restrict access of residents to public transit services (fixed route or demand response). Thus, it has been determined that there is no neglect, reduction or delay in the receipt of transportation benefits by those residing in the minority area.

**Step 5 – Analysis of Impacts on Low-Income Areas**

The low-income areas were also delineated and an analysis of the impacts was completed. Again, the analysis of potential impacts centers on three major areas of concern:

1. Disproportionately high and adverse human health and environmental impacts on low-income areas
2. Minimizing/blocking access to low-income areas to the transportation system
3. Neglect of the transportation system in low-income areas or otherwise reduce or delay the receipt of benefits to those areas

*Disproportionately high and adverse human health and environmental impacts on low-income areas*

Of the 205 projects and programs contained in the LRTP, 119 are in the low-income areas.<sup>2</sup> These projects included all project categories: roadway reconstruction and resurfacing, intersection improvements, nonmotorized, bridge rehabilitation and transit. Residential areas in the low-income areas will have minimal, if any, impact in terms of noise, right-of-way takings, or pollution. Impacts, in the form of right-of-way acquisition,

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<sup>2</sup> A project was considered in the low-income area if 50% or more of project length or service area was contained by the low-income area boundaries. Projects on the low-income area boundary were considered to be contained by the low-income area boundaries.

are minor. Environmental impacts on all projects will be mitigated according to federal and state laws. Therefore, it has been determined that there are no disproportionately high and adverse human health impacts.

*Minimizing/blocking access to low-income areas to the transportation system*

Minimizing access can be characterized as the permanent closing of streets or interchanges in order to accomplish the projects contained in the LRTP. While temporary closures will be necessary as part of the construction process for many projects, no permanent closures are intended as a result of implementing the proposed projects. Therefore, it has been determined that there is no blockage of access to the transportation system or loss of mobility as a result of implementing the LRTP projects.

*Neglect of the transportation system in low-income areas*

The MACC area is approximately 211 square miles. The low-income areas mapped are approximately 21 square miles or 10% of the entire area of the MACC. As noted earlier, there are 119 projects contained in the low-income areas. These projects represent 58% of the proposed projects mapped.

**Table 26:** Low-Income Area Percentages

% of Total MACC Area (211 Square Miles)	% of Total Projects (119)
10%	58%

Access to public transit by residents in low-income areas was also analyzed. The public transit (Macatawa Area Express) service area covers all low-income areas in their entirety and its fixed routes run almost entirely within the low-income areas. None of the projects contained in the LRTP restrict access of residents to public transit services (fixed route or demand response). Thus, it has been determined that there is no neglect, reduction or delay in the receipt of transportation benefits by those residing in the minority area

**Step 6 – Analysis of Impacts on Aging Population Areas**

While not required, due to the demographic make-up of the region, aging populations were added to the analysis. The MACC area is approximately 211 square miles. The aging population areas mapped are approximately 46 square miles or 22% of the entire area of the MACC.

**Table 27:** Aging Population Area Percentages

% of Total MACC Area (211 Square Miles)	% of Total Projects (121)
22%	59%



## Conclusion

The analyses of the impacts on residents in minority areas and low-income areas as a result of implementing the projects contained in this LRTP led to the following findings:

- No disproportionately high and adverse human health impacts
- No blockage/minimization of access to the transportation system or loss of mobility
- No neglect, reduction or delay in the receipt of transportation benefits
- No restriction of access to public transit services
- More projects, on a per square mile basis, in the minority and low-income areas than the MACC area as a whole

These findings demonstrate that implementing the projects contained in this LRTP does not result in violations of Executive Order 12898 and the principles of environmental justice. Also, to supplement the analyses done here, the participation process for the LRTP makes a concerted effort to reach out to traditionally disadvantaged populations (including minority and low-income populations) to ascertain the potential effects/impacts of the proposed projects.

## Evaluation of Environmental Mitigation

The FAST-Act requires a “discussion of types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan. This discussion shall be developed in consultation with federal, state and tribal wildlife, land management, and regulatory agencies.” Essentially, the purpose of this process, at a region-wide level, is to identify possible impacts of proposed projects on environmentally sensitive resources, list useful guidelines for mitigating these impacts and providing this information to implementing agencies. A consultation process was undertaken with the types of agencies noted (detailed information regarding the consultation process can be found in Chapter 14).

**Mapping Resources/Project Overlay** – The MACC searched for maps depicting the following sensitive resources. Staff was able to obtain region-wide data on wetlands and prime and unique farmland. Maps overlaying the proposed 2045 LRTP projects onto the two environmental types were made and can be viewed in the appendix.

- Wetlands
- Prime and unique farmland
- Endangered species
- State-licensed health care facilities
- Properties enrolled under Part 361 of NREPA (formally PA 116 properties)
- Established intra-county or inter-county drains

This analysis was completed to draw attention to those projects that could potentially impact environmentally sensitive resources and provide general guidelines, at a regional level, for mitigating impacts. This information was intended to enhance the transportation planning and decision-making process. No further analysis of potential impacts was made as there were no specific resources identified through the consultation process during the 2045 Long Range Transportation Plan.

## Evaluation of Air Quality

The Clean Air Act of 1990 (as amended) and the National Ambient Air Quality Standards (NAAQSs) establish air quality thresholds for the nation. The US Environmental Protection Agency (USEPA) determines the attainment of these standards for each county in the state. For those areas that exceed the allowable limits set by the standards, the state must develop a plan that shows how the state intends to achieve the standards. This plan is called the State Implementation Plan (SIP). The SIP is developed through a joint effort between the Michigan Department of Environment, Great Lakes, and Energy, the Michigan Department of Transportation, the Environmental Protection Agency, Federal Highway Administration, Federal Transit Administration, and metropolitan planning organizations. Transportation conformity is the process that brings together transportation planning and air quality planning, see Figure 35.



**Figure 35:** Graphic showing how the transportation conformity process is influenced by the air quality and transportation planning processes

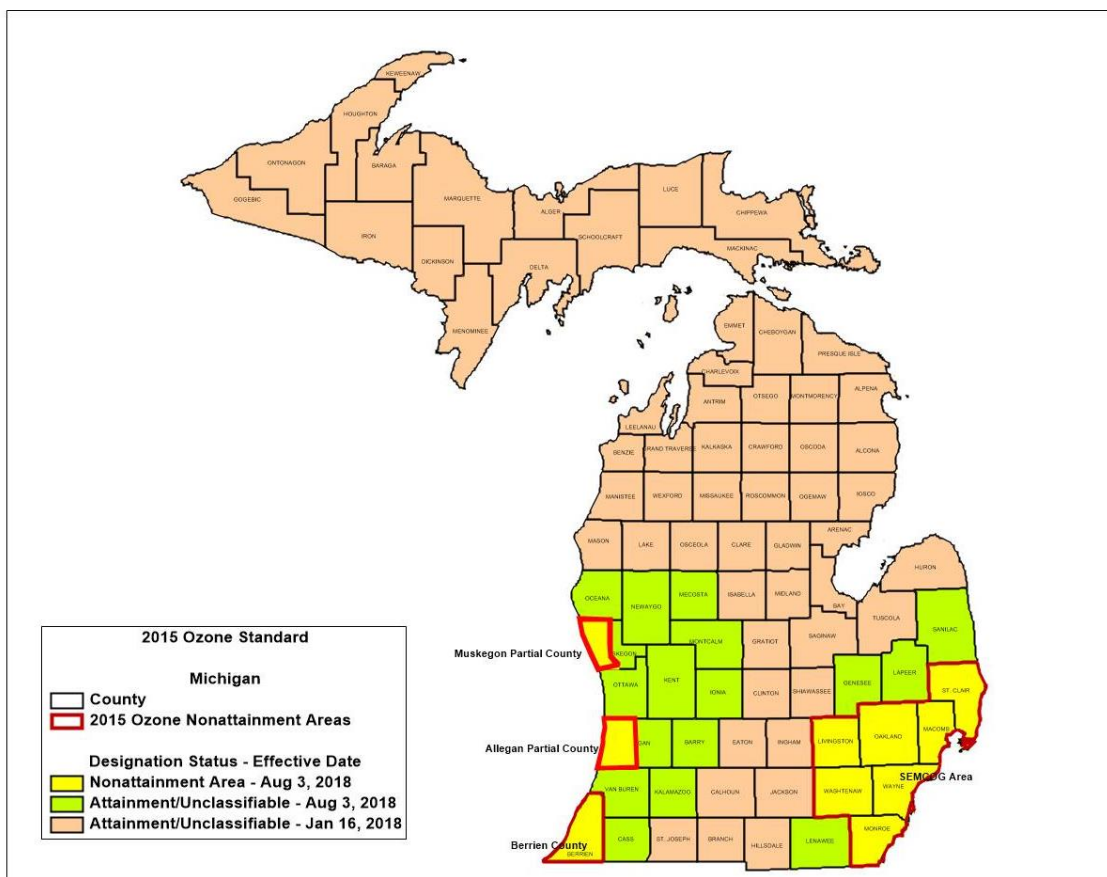
Transportation activities that are subject to conformity are LRTPs, TIPs, and projects that receive Federal Highway or Federal Transit Administration funding or approval. The conformity process ensures emissions from implementing the LRTP, TIP, and STIP projects are within acceptable levels specified within the SIP and meet the goals of the SIP.

Transportation conformity only applies to emissions from on-road sources for the following transportation related pollutants:

- Ozone
- Particulate matter (particulate sizes 2.5 and 10)

- Nitrogen dioxide
- Carbon monoxide

The MACC MPO is part of two conformity areas, Allegan County and the Grand Rapids conformity area consisting of Ottawa and Kent counties. Each conformity area has different requirements. Allegan County is a maintenance area for the 1997 ozone NAAQS (designated attainment/ maintenance in September 2010) and part of the county is a nonattainment area for the 2015 ozone NAAQS (designated August 3, 2018), see Figure 36. These two designations together require that LRTP projects conform to the SIP. The Air Quality Conformity Analysis document for Allegan County is included in the appendix. The conformity analysis demonstrates that the LRTP and associated documents conform to the SIP.



**Figure 36:** Designations for the 2015 Ozone NAAQS in Michigan - Prepared by the Statewide Transportation Planning Division, MDOT

The MACC is also partly in Ottawa County and Ottawa is part of the Grand Rapids conformity area, designated attainment/maintenance for the 1997 ozone NAAQS in May 2007. The Grand Rapids conformity area must also demonstrate that the MACC 2045 LRTP and associated documents conform to the SIP, the air quality conformity determination report is included in the appendix.