Saginaw Metropolitan Long Range Transportation Plan

Moving Forward Towards 2045

Adopted March 24, 2022

The Saginaw Area Transportation Agency (SATA)
A Metropolitan Planning Organization (MPO)

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WHAT IS SATA?

The Saginaw Area Transportation Agency otherwise known as SATA is the Metropolitan Planning Organization (MPO) for the Saginaw Urbanized Area.

On October 1, 2020, the Metropolitan Planning Organization (MPO) for the City of Saginaw County was re-designated and a new name was established for the MPO which is now called the Saginaw Area Transportation Agency (SATA) formerly known as the Saginaw Metropolitan Area Transportation Study (SMATS). The units of government forming the inter-municipal committee all adopted resolutions to form the entity and a final stamp of approval from Gretchen Whitmer, Governor of State of Michigan effective the first day of October 2020.

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SATA is now formally recognized as an inter-municipal committee under Michigan Public Act 200 of 1957 and is the newly re-structured designated MPO responsible for transportation policy, planning, and investment decision-making in the Saginaw urbanized area. Our name and committee structure has changed however, our dedication to promote regional transportation planning discussion and decision-making that improves the prosperity and quality of life where we all benefit continues.

A metropolitan planning organization (MPO) is a federally mandated and federally funded transportation policy-making organization in the United States that is made up of representatives from local government and governmental transportation authorities. MPOs were introduced by the Federal-Aid Highway Act of 1962, which required the formation of an MPO for any urbanized area(UZA) with a population greater than 50,000. Federal funding for transportation projects and programs is channeled through this planning process.

Congress created MPOs in order to ensure that existing and future expenditures of governmental funds for transportation projects and programs are based on a continuing, cooperative, and comprehensive ("3-C") planning process. Statewide and metropolitan transportation planning processes are governed by federal law (23 U.S.C.§§ 134–135, &49 USC 1603,1605, and 1607). Transparency through public access to participation in the planning process and electronic publication of plans now is required by federal law.As of 2015, there are 408 MPOs in the United States.

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Why Are MPOs are essential?

- Transportation investment means allocating scarce federal and other transportation funding resources appropriately.
- Planning needs to reflect the region's shared vision for its future.
- Adequate transportation planning requires a comprehensive examination of the region's future and investment alternatives; and
- An MPO is needed to facilitate collaboration of governments, interested parties, and residents in the planning process.

In other words, the federal government wishes to see federal transportation funds spent in a manner that has a basis in metropolitan region-wide plans developed through intergovernmental collaboration, rational analysis, and consensus-based decision making.

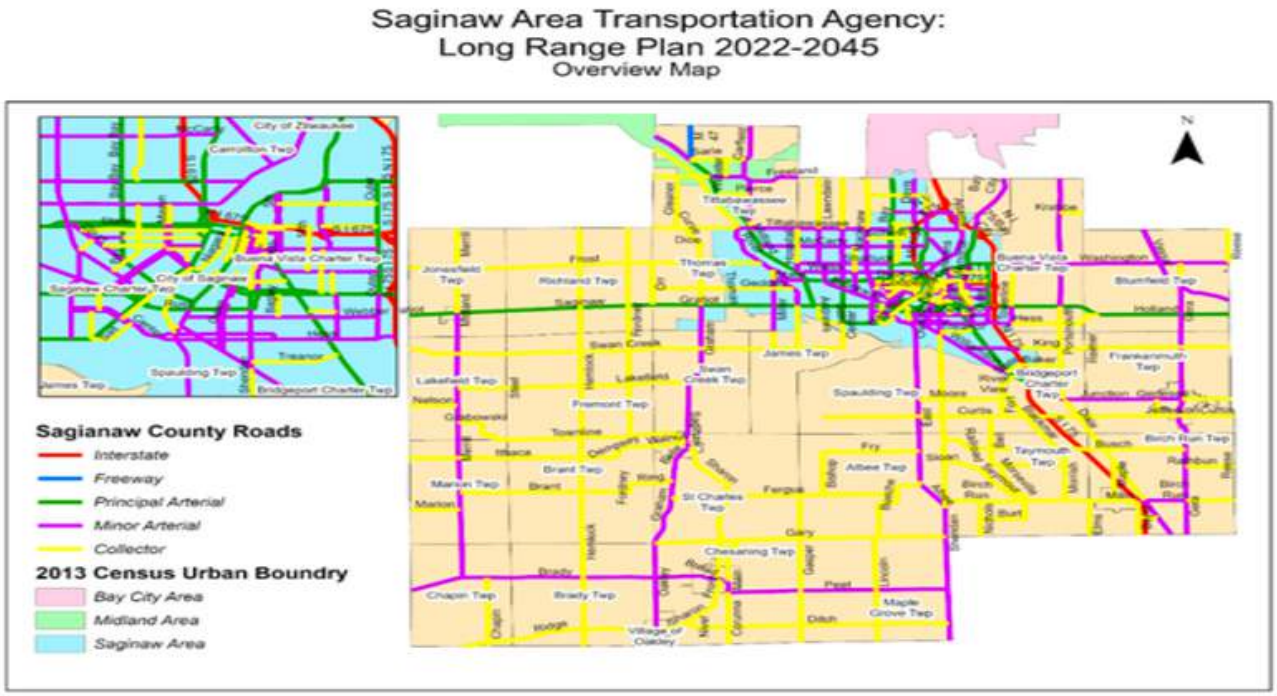

Figure 1: SATA Overview Map

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The long-range transportation planning process is an articulation of future needs and an identification of strategies to meet those needs. The process is beneficial because it provides the policy foundation for transportation infrastructure and service investment decisions. The Moving Towards 2045 Long Range Transportation Plan for the Saginaw urbanized area (LRTP 2045) seeks to advance long standing regional transportation needs, such as improving safety, preserving existing assets, and expanding access to alternative modes, while emphasizing the growing need to make transportation services more equitable and accessible for all.

The onset of the pandemic in 2020 showed how quickly future needs can change. The pandemic caused massive social and economic disruption, but reinforced the need for safe, efficient, and reliable transportation. The next several decades will ask stakeholders to address challenges such as persistent poverty, an aging population, rapidly changing technologies, climate change impacts, and limited resources to address the maintenance needs of aging transportation infrastructure. The regional transportation system is well positioned to meet these challenges.

The transportation system routinely surpasses the needs of the region, with relatively quick and consistent commutes, ready access to employment centers and recreational opportunities, and reliable commercial delivery times. However, these needs are not always met equitably. The system favors those with access to personal vehicles. Opportunities to improve accessibility and mobility remain for those who depend on transit, walking, bicycling, and other active modes. As LRTP 2045 strives to enhance the equity of the transportation system, increasing transportation choice and protecting vulnerable users and improve economic development by attracting business is paramount to creating a more sustainable future and a more inclusive system.

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The Saginaw, Midland and Bay region continues to act as an innovation hub as demonstrated by its concentration of colleges and universities; world-class health care facilities; optics and imaging industries; agriculture; and entrepreneurial culture characterized by a willingness to try new solutions. The policies described in LRTP 2045 seek to ensure that the transportation system will continue to be an asset to that center of innovation.

Every metropolitan area with a population of more than 50,000 persons must have a designated Metropolitan Planning Organization (MPO) for transportation to qualify for federal highway or transit assistance. The Saginaw Area Transportation Agency (SATA) is the MPO for the Saginaw Urbanized area. Federal regulation requires that all activities at the MPO are conducted using a continuing, cooperative, and comprehensive planning process working with local elected officials, transportation planning professionals, and the public, that results in plans and programs that consider all transportation modes and supports community development and social goals. It is important that the membership of the MPO include the involvement of policy makers, technical staff, and the citizens of Saginaw County to address various facets of the transportation planning process.

The United States Department of Transportation (USDOT) relies on the MPO to ensure that highway and transit projects that use federal funds are products of a credible planning process and meet local priorities. USDOT will not approve federal funding for urban highway and transit projects unless they are in the MPO's program. Thus, the MPO's role is to develop and maintain the necessary transportation plan for the area to assure that federal funds support these locally developed plans.

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MPO Three Main Work Products

All MPO's including SATA are responsible for three major work products. The Long-Range Transportation Plan or LRTP, the Unified Planning Work Program or UPWP, and the Transportation Improvement Program or TIP. The LRTP sets the strategic direction for all SATA's actions and programs and is updated at least every five years. The policies in the LRTP are further refined in the UPWP through individual concept-level projects and programs. The UPWP serves as SATA's annual operating plan and budget. Finally, the TIP is the capital program that funds the specific transportation improvements in the region that will receive federal funding over the next four years.

Further information about these major work products that are required for the SATA Metropolitan Planning Organization to maintain its eligibility for federal transportation funds is described below.

Unified Planning Work Program (UPWP)

The Saginaw Area Transportation Agency 's FY 2021 Unified Work Program (UWP) is the document that identifies major transportation planning and related activities that will be undertaken within Saginaw Urbanized area during the project year October 1, 2021, through September 30, 2022. These planning activities are supported by federal, state, and local funds.

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In FY 2022, SATA intends to use cash match provided by our partners; the City of Saginaw, Saginaw County Road Commission and Saginaw Transit Authority Regional Services to satisfy local matching funds required for the FHWA grant funds. Detailed information on these contributed services is provided in the financial section of this document. This Unified Planning Work Program is prepared annually to meet requirements of transportation planning funding programs, and it includes descriptions of all facets of the agency's staff's activities.

Transportation Improvement Program (TIP)

The Transportation Improvement Program (TIP) is an integral part of the planning process for the Saginaw Area Transportation Agency (SATA). According to the latest federal transportation bill, IIJA, a TIP must be developed for the Saginaw urbanized area by SATA in cooperation with the State and transit operators. The TIP must be updated and approved at least every four years by SATA and the Governor. It must include all projects to be funded under Title 23 and the Federal Transit Administration (FTA). There must be a reasonable opportunity for public comment prior to TIP approval. The TIP must be updated at least every four years, cover a period of not less than 4 years and must include a priority list of projects to be carried out in the first 4 years. The TIP shall be financially constrained and include a financial plan that demonstrates how the projects can be implemented while the existing transportation system is being adequately operated and maintained.

(Moving Towards 2045)
Long Range Transportation Plan (LRTP) Development

Although the Moving Towards 2045 LRTP is a stand-alone document with a final adoption date, the development of the LRTP is fluid and continuous. The 2045 LRTP document has a typical structure and development process. Presenting that structure and process helps explain the results and actions required to implement those results.

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When specifically speaking about transportation planning, the elements involved are very similar, though the specific terms and data are different. The Long-Range Transportation plan must address the 10 federally mandated planning factors, but it must also reflect the needs and priorities of the residents and stakeholders in the SATA area. This can be seen as part of the larger planning and implementation process for SATA.

After the development of visioning and the setting of goals and objectives that correlate with the Federal planning factors, we will explore the history of the area, the existing and projected data in a variety of forms, and the prioritized solutions that link back to the vision and goals of the plan.
To begin with, while planning has a result in mind, it is also a circular process, in that good planning evaluates its end products and alters or modifies the process or content accordingly. The steps, and circular nature common to most long-range planning, regardless of subject matter, can be seen in this graphic, which is used frequently to illustrate the process. In general, planning starts off with a "vision" or the big picture changes that everyone mostly agrees upon. This is a sort of dream, or best of all possible outcomes stage, and although reality will enter the picture soon enough, knowing what people really want is very important to the process.

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Project Selection Process

The project selection process includes the sending out of a "Call for Projects" to the implementing agencies. The projects are initially evaluated by the implementing agencies (road and transit operator) using the Ranking Method for Preservation and Capacity Projects. This method uses a numerical scoring process to objectively rank each project on its merit based on tangible performance measures. The Ranking Method for is used as a tool in decision making, but isn't the sole based for project selection.

The proposed transportation projects received are brought forward to the SATA Technical and Policy committees for review. The committee discusses the projects and the related impacts and improvements to the transportation system on area-wide basis. The committee prioritizes the projects based on how the project will enhance the entire system in the SATA region as well as a reviewing of the amount of available funds for transportation projects. Finally, the SATA Policy committee reviews the project list and authorizes the release of the draft LRTP for public review and stakeholder involvement activities in accordance with the Public Participation Plan. At the end of the review period, the SATA policy decision makers holds a public hearing, makes any necessary adjustments and adopts the Long-Range Transportation Plan.

Amendment Process

SATA shall consult with governmental units within the MPO, local economic development organizations, freight related businesses, non-motorized transportation groups and clubs, local transportation providers, and other interested parties in the development of the Transportation Improvement Program and the Metropolitan Transportation Plan. SATA shall also conduct outreach, public comment periods and public hearings as described in the Participation Plan.

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Both the initial Transportation Improvement Program (TIP) and Metropolitan Transportation Plan (MTP) (also known as the Long-Range Transportation Plan LRTP) shall be published for a minimum of 30 days to receive written public comment before adoption. For any amendments at least one public hearing will be held prior to the adoption of an amendment to the LRP, the TIP, and any other major SATA transportation planning document. Notice of a proposed amendment and the public hearing shall be given by at least one published notice. No specific comment period is required for an amendment, but a comment period for an amendment may be established by the SATA's Policy Body with the recommendation of the SATA Technical Committee.

Organizational Structure for Planning

The SATA's Policy Committee is the policy body for the SATA organization and consists of members who are representatives of the following entities who serve as non-voting ex officio members: MDOT, Saginaw County Road Commission, City of Saginaw, and the Saginaw Transit Authority Regional Services (STARS). The regular bi- monthly schedule meeting location varies. At these meetings current transportation issues are discussed and status reports on transportation studies and projects are presented.

After committee discussions are completed, policy actions are taken that include adoption oft he UWP, TIP and the Long-Range Transportation Plan, revision of these documents when needed, and adoption of resolutions related to current transportation issues. Any financial matters relating to SATA or sub-contractors must be approved by the SATA Policy Committee.

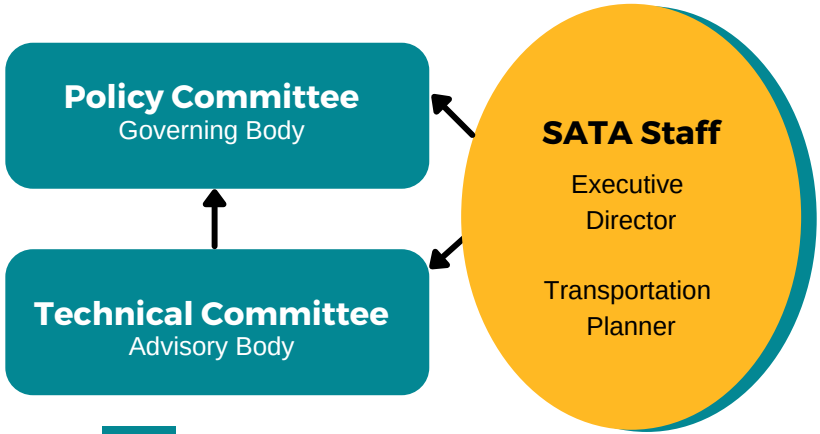

Figure 2: SATA Organizational Structure

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SATA's Policy Committee voting membership are Elected Officials (or their alternate) from each unit of local government in the Saginaw Urbanized Area, and representatives of MDOT, the County Road Commission, the East Central Michigan Planning and Development Regional Commission, the 7-B Rural Task Force, and STARS. Non-voting members include representatives of the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA). Non-voting membership is also open to rural municipalities, and all other public and private entities with an interest in the transportation planning process.

The SATA Technical Committee serves as the MPO's advisory body on all transportation-related matters and is composed of individuals with expertise in transportation planning. This committee provides advice and recommendations to the Policy Committee on all technical aspects of the transportation planning process. and meets on a regular bi-monthly schedule meeting location varies.

Voting Members & Parties

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The Saginaw Area Transportation Agency is located within the Great Lakes Bay Region (GLBR) of Michigan, encompassing the City of Saginaw, and is in close proximity to the cities of Bay City and Midland. The SATA planning area comprises approximately 816 squares miles.

In total, the Great Lakes Bay Region offers a strong variety of tourism assets. There is a wide range of existing experiences that tourists can access and enjoy throughout the year, including urban and walkable options, natural and recreational activities in urban and rural areas and destination developments like outlet malls, waterparks, and sports and entertainment facilities.

Historically, the region has been both a destination and a collection of pass-through attractions for those driving from the southern metropolitan areas to northern lower Michigan (including the Lake Michigan coast) and the Upper Peninsula. It has been difficult for the region's natural assets in Saginaw Bay and related rivers that flow into it to compete with the sandy beaches of Lake Michigan to the west.

However, as the region has de-industrialized as part of a larger shift in the national manufacturing economy, the natural landscape, including the rivers and lakes, has been the focus of more attention, investment, and revitalization. The region boasts new and underway nature trails for hiking and biking, rivers, and the Saginaw Bay for canoeing, kayaking and boating. Yet with active and committed leadership, more can be done to advance these assets to both restore quality and allow for recreational use.

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The urban centers of Bay City, Midland and Saginaw have also been reinvigorated in recent years. All have developed substantially in terms of restaurants, sports and entertainment outlets and overall attractiveness and walkability. SATA believes that active, walkable downtowns are not a fad and that current and future generations will be attracted to these environments, just as they will seek recreation in the natural environments. For these reasons, the recommendations focus primarily on urban developments that help attract and retain visitors, residents and companies – fully realizing that residents and companies also act as visitation generators. The assets that are developed to attract tourists also act as local assets to attract and retain residents, talented employees and the companies seeking this talent.

Saginaw

Long known for its productive agricultural lands, lively culture, solid manufacturing base and bountiful natural resources, Saginaw County offers a rich and diverse quality of life enhanced and defined by a population willing to roll up their sleeves and make things happen. Saginaw County provides friendly and affordable living for citizens to live, work, learn and play within its borders. Encompassing 810 square miles located within the heart of the Great Lakes Bay Region, Saginaw County is home to a vast system of waterways and woodlands as well as a wealth of nature preserves, trails and facilities that support a love for green spaces and active lifestyles. With a nod to its historical lumber and automotive heritage, Saginaw County uses a community-centered approach to foster education and healthcare expansion, a flourishing tourism industry and an active commitment to culture and the arts.

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Saginaw Urban History

The name Saginaw is derived from the language of the Chippewa Indians and it means land of the Sauks. the entire Saginaw Valley was inhabited by the Warlike Sauks. However, around the year 1520, the Chippewa's invaded the terriotry in great force and in the series of battles, the Sauks were virtually annihilated. The bloodiest of the battles was fought on what has since been known as Skull Island in the Saginaw River and on a bluff on the Flint River about a mile from the present village of Flushing. Treaty of Saginaw-General Lewis Cass, Representing the President of the United States, concluded the treaty of Saginaw witht he Chippewa Indians. In it the Indians ceded to the United States Government thousands of acres of land, included all the land encompassed by the boundaries of the County of Saginaw.

The site on which the council was held in what is known the corner of Throop and north Hamilton Streets, in the City of Saginaw. The spot is now marked by boulder and plaque erected in 1916 by the daughters of the American Revolution and the City Federation of Women's Clubs.

Geography

SATA is in a predominantly rural and generally flat area of lower Michigan. The area's low and level terrain, known as Lake-border plains, was formed as a result of glacier activities that occurred approximately 15,000 years ago. This glacial process contributed to the deposit of distinct soils which are native throughout eastern mid-Michigan. Another feature unique to the region is the Saginaw Bay watershed, Michigan's largest.

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This watershed encompasses over 8,500 square miles of land and drains approximately 15% of Michigan's land area into Lake Huron. Additional characteristics regarding the region include various woodlands, rivers, wetlands and other natural features. Within SATA's' boundaries there are five major waterways, the Flint, Case, Shiawassee, Tittabawassee, and Saginaw Rivers. The first four rivers converge near the City of Saginaw and turns into the Saginaw River that heads out to the Saginaw Bay. The rivers stretch inland across Michigan with coverage in all or parts of 22 counties.

Soils deposited in the SATA area are a combination of loamy and sandy soils which are suitable for most development. However, these soils are generally impervious which stimulates frequent flooding in zones of close proximity to bodies of water. As a result, the County of Saginaw experiences flooding and standing water in a number of areas due to poorly drained soils and low land slope. To mitigate this, the City of Saginaw and Saginaw County Road Commission implements best management practices to reduce the amount of impervious surfaces and preserve native vegetation which may assist in the soils ability to manage storm water.

Relevant amenities within SATA's area include Shiawassee National Wildlife Refuge which was established in 1953 and contains more than 9,800 acres of marsh, bottomland hardwood forest, and grasslands. In more urbanized areas, grasses, landscaping plants, waterfront vegetation, and some wooded areas can be found. Significant wooded features can be found at Imerman Memorial Park, Price Nature Center, and Ringwood forest. The parks are operated by the Saginaw Parks and Recreation department that provides a source of natural cover for local wildlife, as well as recreational opportunities for the general public.

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Demographics

As with many communities around the county who are experiencing population decline, Saginaw is all too familiar with these changes in certain areas of the County. Information regarding demographics is derived from current census data, because 2020 Census data isn't currently available current data is coming for future long- range plan updates. The changes that affect the population base are age distribution, racial and income makeup, and employment characteristics all profoundly influence the demand for, and use of, our transportation infrastructure.

Both as a basic planning-level tool, and as preparation for the TravelDemand modeling effort, an understanding of the demographics of the SATA area is essential. Further, monitoring changes in socio-economic data will be key to evaluating the effectiveness of the plan, and any changes to it, in the coming years. The work on Travel Demand Model has been completed and 2017 was chosen as a base data year as this is the most recent census data available for modeling purposes. The 2017 population, household, and employment data was then reviewed with local units of government from December 2019 to the to March 2020 for accuracy. This process thereby accounted for any recent developments that could influence local data trends and revised the location/number of employees for businesses within each jurisdiction.

This data was then reviewed and approved by SATA Technical and Policy Committees. These figures were then used as base year inputs to generate future year socio-economic data. Population, occupied households and employment, estimates for the year 2017 for all jurisdictions within SATA boundaries, except for the Freeland Area since it is being accounted for in Midland County portion of the Travel Demand Model.

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The SATA area is served by several forms of transportation. While it is true that the transportation planning process tends to focus on streets and highways, the other means of safely moving people and goods are equally important and must be addressed in the long-range planning effort. This chapter provides an overview of the existing transportation system and its multi-modal nature.

Roads and Highways

The National Functional Classification of roadways was developed by the Federal Highway Administration for all public roads. The higher classifications emphasize mobility while lower ones are for the purpose of property access. This taxonomy facilitates the grouping of roadways into categories based on the character of service they are intended to provide. Functional classifications of public roads play a critical role in transportation planning, allocation of funding, and management of the network. The dominant form of access to other communities for both passengers and freight is the state trunkline network, which includes two freeways and seven state highways within the Saginaw Area Transportation Agency boundary. The dominant artery through the area is Interstate 75 (I- 75) which links Saginaw to Detroit and the Mackinaw Bridge.

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Internal circulation is dominated by the road network. Freeways and state trunklines are supplemented by a grid of county and municipal arterials and collectors. The majority of the County's residents rely on the automobile for normal work, shopping, visiting, entertainment, and recreation. The road network in Saginaw County, except for interruption by the Shiawassee Flats, provides a high degree of accessibility. Within the SATA area, there are approximately 2,694 miles of public roads that are maintained through federal transportation funding as designated by the National Functional Classification Systems (NFC system described below). Roughly 326 miles are a part of the MDOT trunkline system and are classified under the NFC as Interstate, Other Freeway, and Arterials.

These routes include I-75, US-23, M-13, M-25, M-46, M- 47, M-57, and M-84. The major transportation engine of economic prosperity in Saginaw County is I-75. The remaining 722 miles of federal-aid eligible roads are categorized as Minor Arterials, Major Collectors, and Minor Collectors. These roads are generally owned by local road agencies such as the county road commission, cities, or villages. Roadways that are not funded with federal transportation money are considered “local”; there are about 1,646 miles of local roads within the SATA area. Local roads are also administered by local road agencies. Note that other local governments, such as townships, do not receive federal-aid funding for road projects. The Rural Task Force distributes Federal-Aid funding to rural areas in the state, including townships, small cities, and villages. The road commission has jurisdiction over these roads, and they collaborate with local governments on projects.

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National Functional Classifications
The following categories are listed in order of highest mobility function to the lowest mobility function:

Interstate:
Designed to maximize mobility for long distance travel. Interstates link major urban areas across the United States and are generally four-lane limited access roadways which support high speed travel.

Other Freeways:
Function similarly to interstate roads, however they do not cross state boundaries. These roads
have directional travel lanes with access limited to on and off ramp locations.

Other Principal Arterials:
Highways in rural and urban areas which provide access between an arterial and a major land use. They typically support a high degree of mobility to major centers of metropolitan areas.

Minor Arterials:
Support high-capacity travel generally within urban areas. The primary function of an arterial road is to deliver traffic from collector roads to principal arterials, freeways, or interstates.

Collectors (Major & Minor):
Mainly are low-to-moderate capacity roads which serve to move traffic from local streets to arterial roads. Generate access to residential, commercial, and industrial areas.

Local Roads:
Are the lowest level of mobility regarding the NFC. These roads provide access to property to and typically connect to collector roadways.

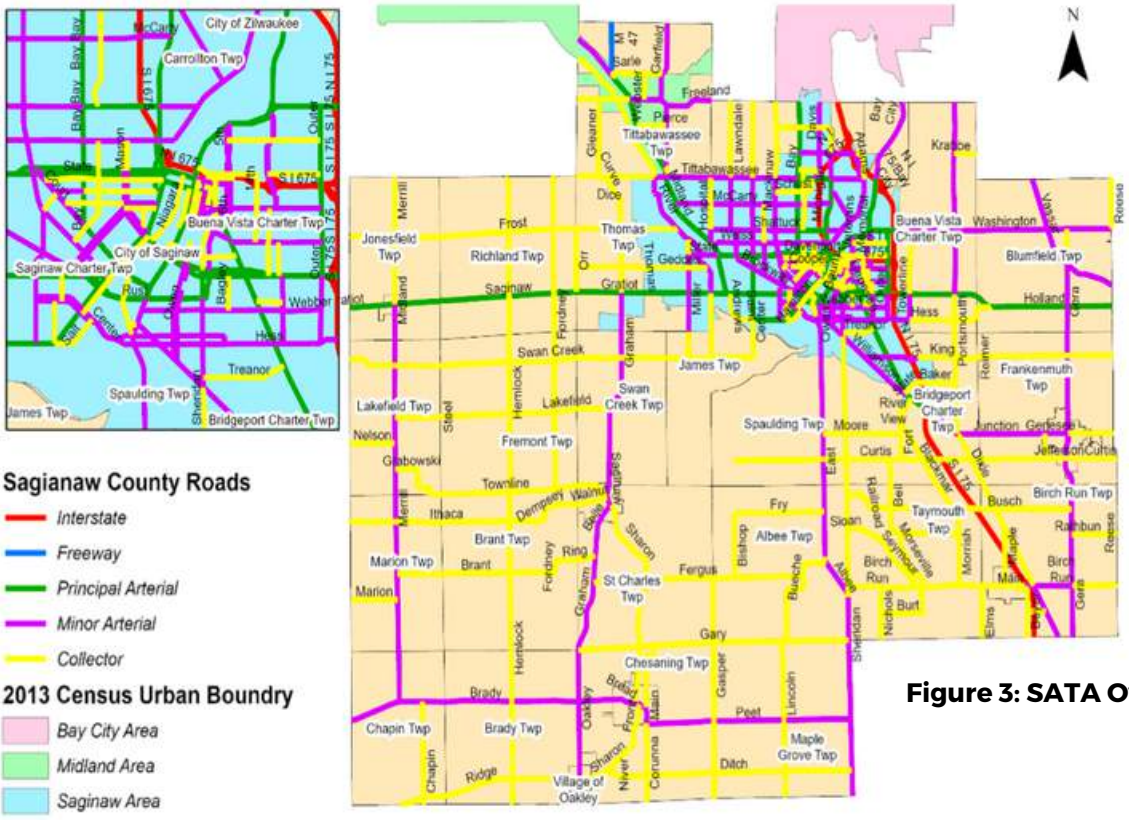

Figure 3: SATA Overall Map

The Michigan Department of Transportation has in past fiscal cycles reconstructed four (4) miles of Interstate 75 in Saginaw County that work in concert with the I-675 and M-13 Washington Avenue interchange improvements, and have significantly positioned the rebirth of the core urban district of the City of Saginaw.

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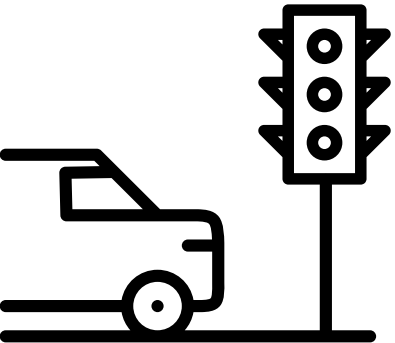
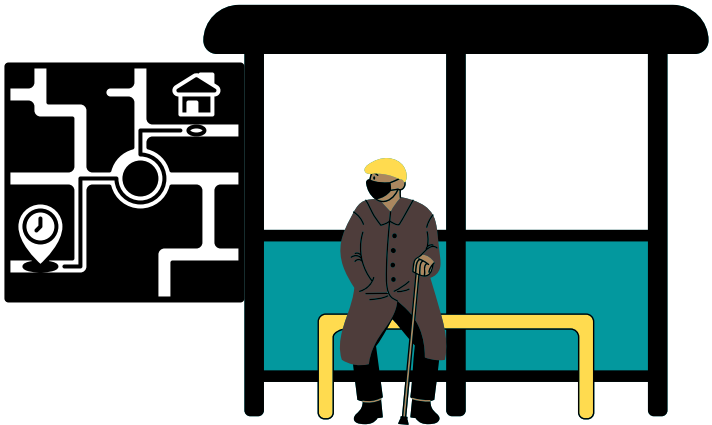
The growth in the county this past decade in the north and western portion of Saginaw County is reflected in an increase of road projects in Thomas, and Kochville Townships. In Kochville Township, the continued growth of Saginaw Valley State University and the on-campus population has driven projects like the Fashion Square Blvd extension and the opening of many new businesses on the Bay Road. Thomas Township is also a growth area and home to the area's Solar Industrial Park. This will continue to be an area of the county that will continue to grow business and residentially in future years. A vibrant area in recent years is Tittabawassee Township, home to Freeland and a close commute to Midland and the employment of Dow Chemical and related businesses. Tittabawassee Township has grown greatly in residential development, much of which is middle class and above structures.

Travel Patterns

Nearly 25% of Saginaw County's population crosses county lines for work, so county residents that are among this subset had nearly a thirty minutes minimum drive to work. Commuting plays a significant role in employment for the SATA area. 2010 County-to- County commute data illustrates substantial workflows into and out of counties in the SATA area to neighboring counties (gathering totals for the entire area is difficult due to SATA's area including portions of Bay and Midland Counties). Exhibit 4 shows these travel patterns. In most cases, there are more people commuting out of Saginaw County for work then commuting to Saginaw County for work.





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A vast majority of regional households have access to a vehicle, as well as portions of rural counties. (Note: commute flow data was collected prior to recent changes related to the pandemic.)
The arrows pointing to Saginaw indicate commuting to Saginaw County and the arrows pointing away show commuting from Saginaw County. The red circle displays commuting within that county for work (only counties within the SATA area are shown). With activity between Saginaw, Midland, and Bay counties, it is critical that the MPO staffs of those counties work in concert to communicate and coordinate. That activity has begun and has been ongoing for several years now. The major issue challenges and opportunities are among the following:

Major Issues and Challenges:

- The major challenge is preservation of the existing transportation system. Strategies to improve the safety of the system are another key issue.
- The large number of river crossings and bridges (228) in the county present special challenges for maintenance and replacement.
- Continued effective use of limited resources to maximize dollar investment impact on existing road systems to keep the existing network in vast majority “good condition".
- Address the discrepancy between the condition of Federal Aid roads and Non-Federal Aid roads as it is widening.
- Emphasis and activity placed with cross county transportation (I.E. Safety Programming, agencies and services that are transportation focused).
- Continue to build upon the Saginaw MPO relationship with the MPO's in both Midland and Bay counties, this would include but limited to regular meetings among agencies staff to stimulate common energies to the transportation landscape and our geographic areas.
- Participate with our partners at FHWA and MDOT and partner agencies to benefit transportation objectives statewide as well as within Saginaw County.

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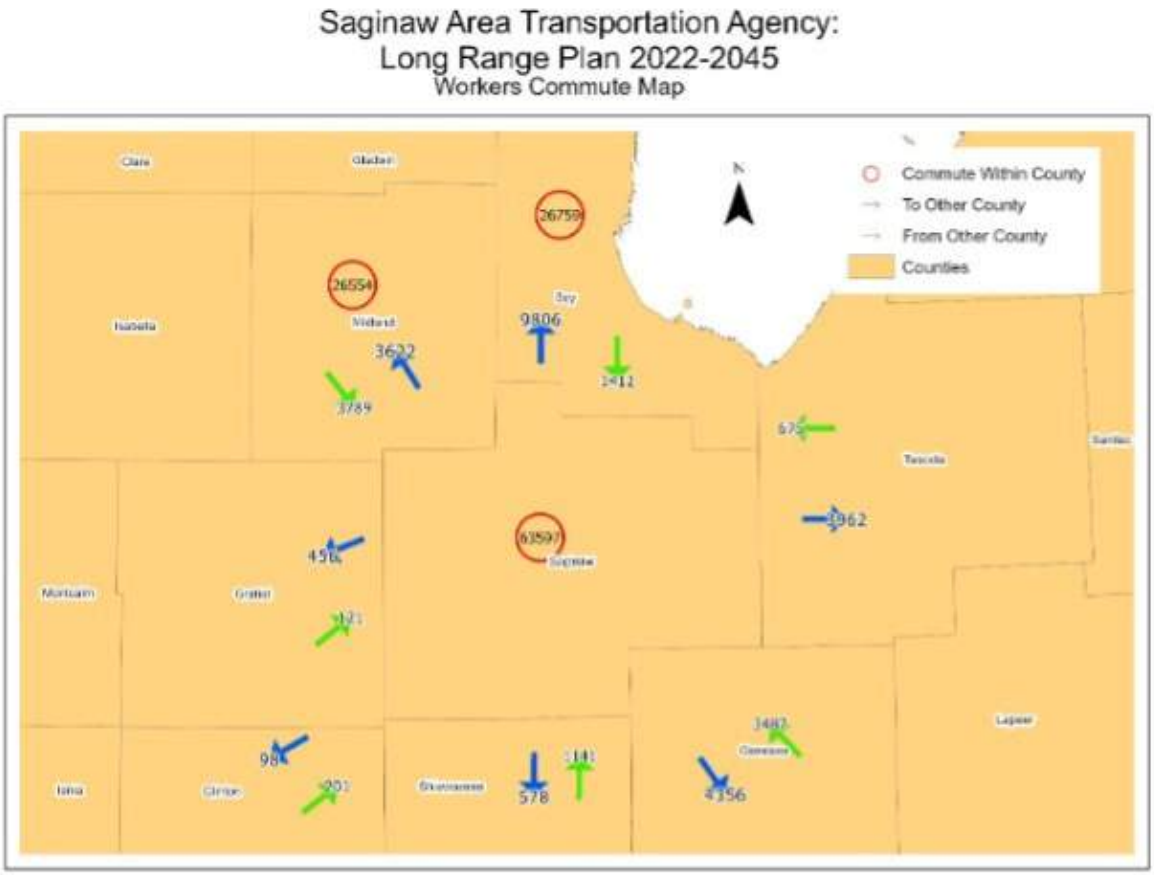

Figure 4: Map of Travel Patterns and Table

Works Commute Counties	Within	To	From
Saginaw	63597		
Midland	26554	3604	3687
Bay	26753	9792	3393
Tuscola		3938	614
Genesee		4244	3427
Gratiot		435	113
Shiawassee		522	1125
Clinton		88	197

Figure 5: Commuter Map

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Transit in the Region

A robust public transportation system is critical to providing access to employment and needed services for individuals unable to operate a private automobile and serves as viable alternative for those who choose not to use a private vehicle for all transportation decisions.

Public transit in Saginaw County began as a department of the City of Saginaw. Originally, it operated as a city bus service for residents of Saginaw. In the middle1990's the service went to an "authority" status.While STARS has at various periods of time in its history gained a financial relationship with several individual townships in Saginaw County, it remains today a mostly City of Saginaw focused service, because the City currently provides the only local matching funds for State and federal transit subsidies.

STARS' long-term goal is to expand its service delivery area and service options, as there are opportunities throughout Saginaw County for residents to benefit from public transportation service.The STARS mission is to provide Saginaw with safe, efficient, dependable, and affordable public transportation for all citizens seeking its services to work, doctors' appointments, shopping or school. Prior to COVID-19, the STARS system in the urbanized Saginaw area traveled 1.5 million miles per year, and 3,300 people rode the buses daily.It appears thatCity residents are reasonably pleased that the transit needs of the community are being met based on STARS' recent successes at the city polls.

STARS is an active participant in the SATA transportation planning process, and historically there has been a close working relationship between the staff of both organizations. That continues to be the case. In fact, SATA is an active member of the STARS Transit Advisory Committee (TAC), an advisory body that has a direct communication link to the STARS Board of Directors.

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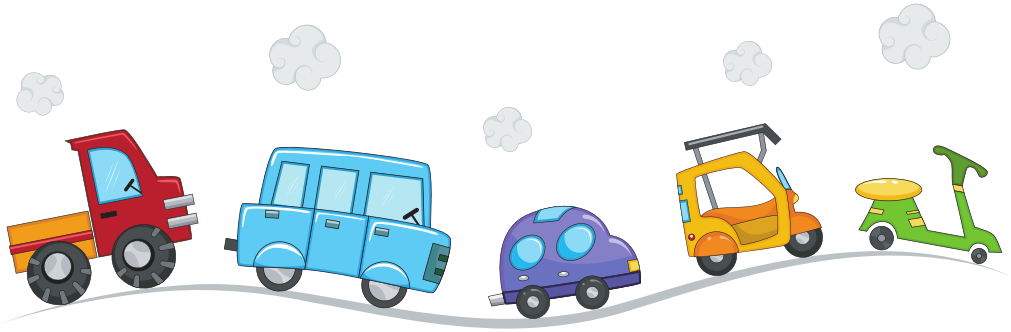
It is significant to note that the STARS TAC maintains the appropriate involvement of agencies and officials that have a stake in the transit service to the community on behalf of the clients, customers, and consumers that they are serving. The TAC membership also includes riders who can share firsthand experiences on issues of service delivery. This format creates a viable mechanism to provide STARS administration with valuable community input. STARS' organizational and operational climate stabilized in the latter part of 2016 with Saturday service restored, new leadership at the administrative and board levels, and a "partnering relationship" with MTA of Flint Michigan. Following disruptions due to COVID-19 in 2020 and 2021, STARS offers a reliable ten (10) route service five (5) days a week and an on-demand LIFT service. Restoration of staffing levels is underway, with the goal to restore weekday evening and Saturday services early in 2022. With a fresh focus and renewed energy and optimism, partners at FTA and MDOT have taken notice. Regionalization of transit service continues to be a priority for STARS and Saginaw County along with the entire Great Lakes Bay Region. SATA intends on taking the lead in this effort in the County and Great Lakes Bay Region. It will be important to find key stakeholders in the region that may offer support in this effort. One example is the effort from STARS and Blue Diamond Steel Casting to get workers from Saginaw to the plant in Pigeon, MI in Huron County. The routes run three times a day throughout the work week and provide affordable service to Blue Diamond employees. This is a public-private partnership that can be utilized by other businesses in and surrounding Saginaw County.



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Below are highlights of what STARS has been able to accomplish over past several years:

1. Create a ride to work pilot that turned into a 24/7 curb to curb dial-a-ride service (STARS Express - $5.75 fare) providing medical and job access for 150 riders every day. STARS Express closed during COVID-related closure of most STARS services. It has not resumed, as of this writing. However, STARS continued to offer demand-response service for essential medical and employment trips within its limited hours during the pandemic.
2. Formed a public private partnership with Michigan Steel Mills to provide worker transportation, the Pigeon Express, for 3 shifts at 1200 rides per week. This is funded completely with private funds.
3. Extended the closing time of weekday operations from 7:20 p.m. to 9:00 p.m. When services resumed on March 1, 2021, after the latest COVID shutdown, weekday hours ended at 7 :00 p.m. and Saturday service was not restored. Extension of weekday services to 9:00 p.m. and restoration of Saturday service are targeted for Spring 2022.
4. Purchased dozens of used and refurbished buses through unconventional and creative means to upgrade the state-of-good-repair status of STARS' fleet. Transit Asset Management Plans at STARS now schedule attainment and sustained compliance with FTA's recommended state-of-good-repair status within the mid-range planning cycle.
5. When transit was resumed after the COVID shutdowns, STARS chose to use funding made available under the Coronavirus Aid, Relief and Economic Security (CARES) Act to offer its fixed route and LIFT services free of charge to passengers. Trips arranged through other agencies are still provided at previously agreed fares and billed to the agency after the rides are provided. This avoids the need for drivers or passengers to handle money or fare media, thus reducing the risk of virus transmission. STARS is extending this benefit, for as long as funding can be stretched to cover the cost, as an economic boost for the community.

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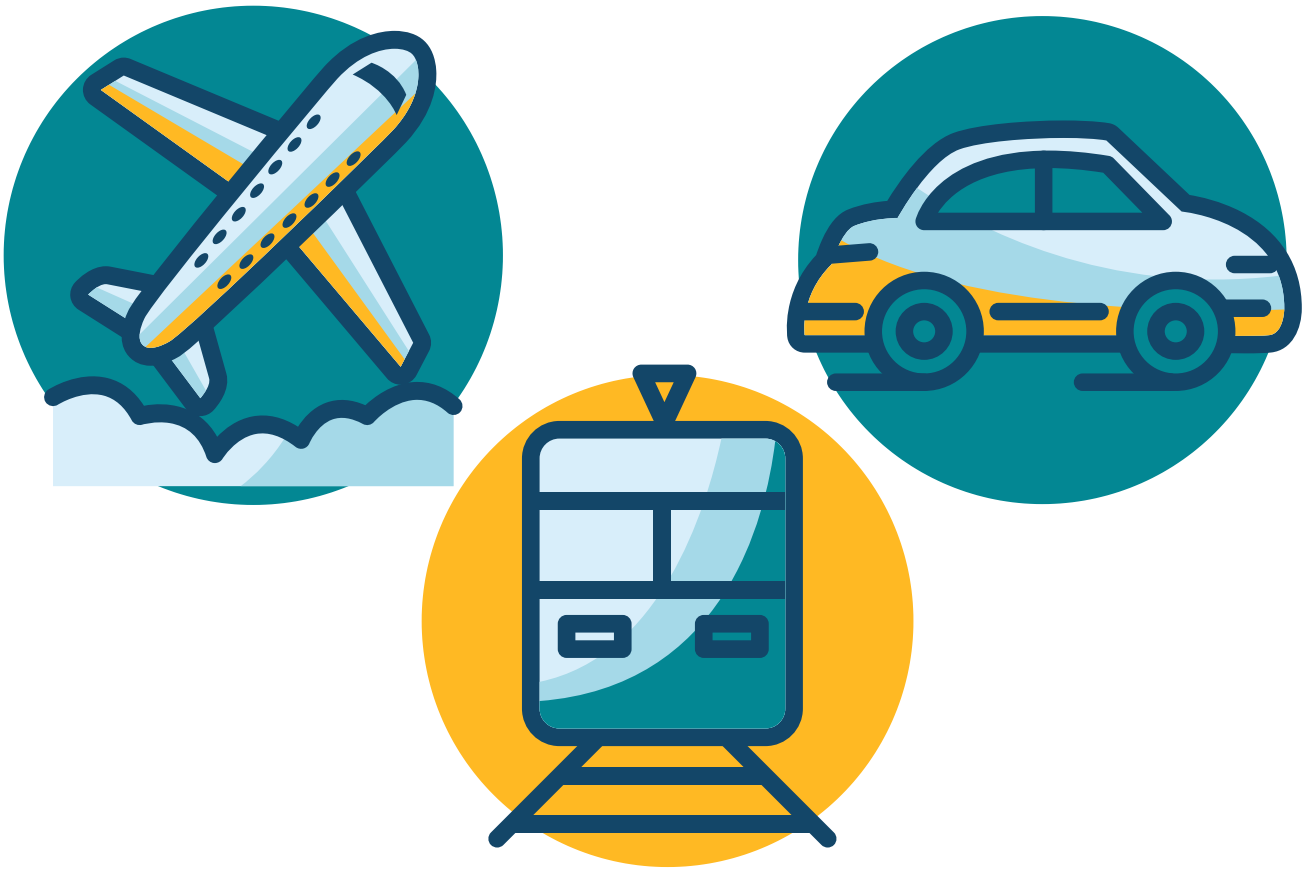
6. In June 2019 STARS launched Rides to Wellness, a county-wide, partner-sponsored service that can even offer trips into surrounding counties. This non- emergency medical transportation program offers a 30-minute response time and door to door service. This cutting-edge service is hoped to guide the future of the agency and has been expanding quickly, even during the COVID pandemic.

7. STARS employs 110 people between maintenance, transportation, Rides to Wellness and administrative departments, and is looking to hire 25 more.



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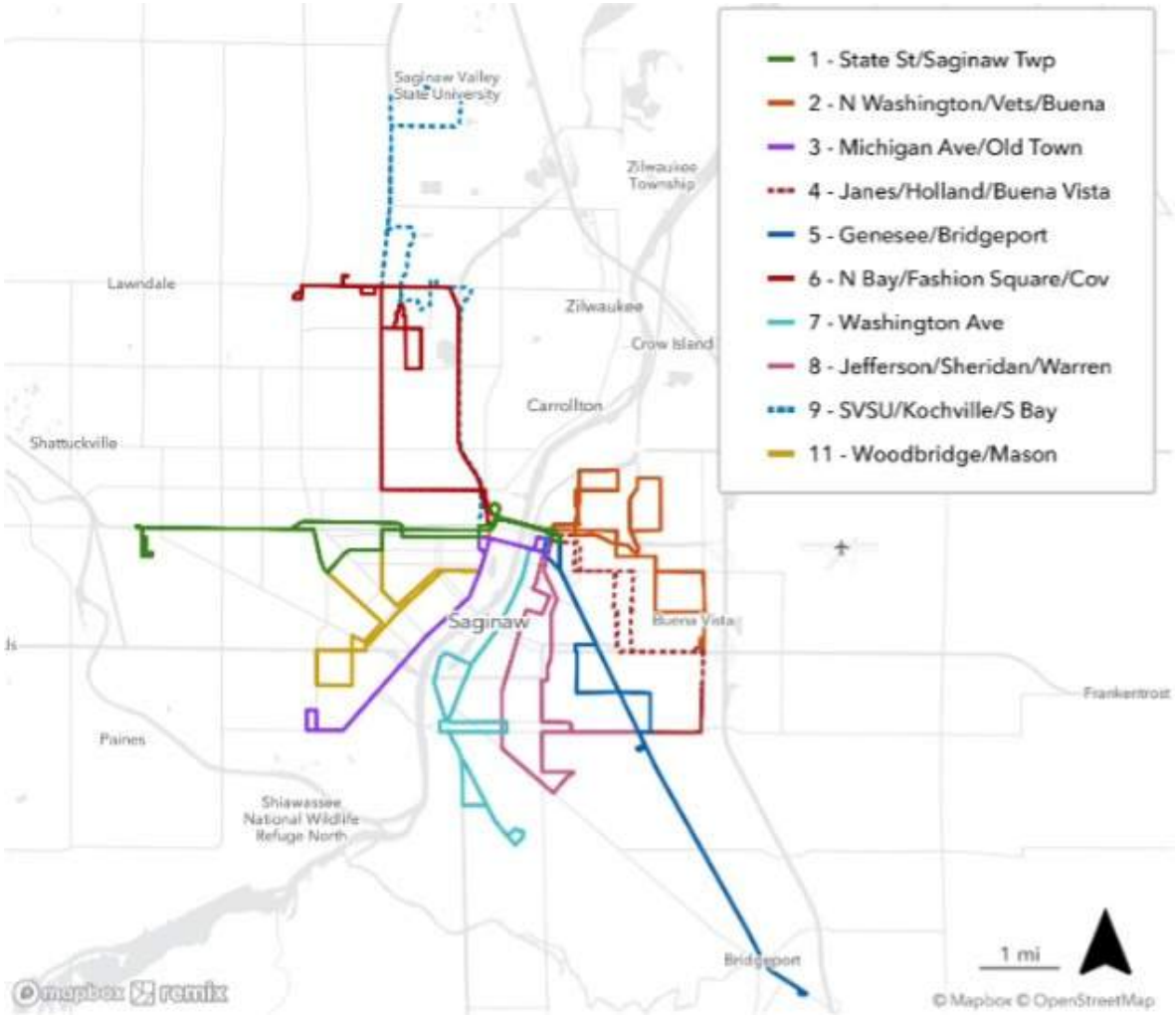

Figure 6: Transit Map

MBS International Airport

Air transportation in the SATA area is provided by MBS International Airport and Harry W. Browne Airport. Additional general aviation facilities are located outside the urbanized area at Frankenmuth and Chesaning.

MBS Airport

MBS International Airport is a commercial airport located in Freeland, central to the three jurisdictions which own it - the City of Midland, Bay County, and Saginaw County. It is governed by a nine-member commission made up of three representatives from each community. MBS mainly provides transportation to those living throughout the Great Lakes Bay Region. The airport supports 27 home-based aircraft which includes 13 single-engines, five multi-engines, and nine jet-engine aircraft. Approximately 50,000 flight operations are handled annually (take- offs and landings) with two runways of 8,002 ft. and 6,400 ft. length respectively. MBS Airport's recently constructed new terminal building is about 75,000 square feet. The two-story facility contains amenities such as various concession options, an efficient baggage claim, and convenient parking. In 2016 MBS approved a master plan targeting $100 million in airport projects over a 20-year span. Projects include new pavement construction and rehabilitation, rental car and maintenance facilities upgrades, as well as improvements to general/private aviation development.

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The Harry W. Browne Airport

The Harry W. Browne Airport is in Buena Vista Township and owned by Saginaw County. The airport is in close proximity to the extensive automobile manufacturing operations that are located in Buena Vista Township and surrounding areas. The airport currently has some level of parts supplier business activity but is more known as a local airport for airplane enthusiasts to fly in and out of, as well to house their personal planes. However, the airport has the potential to become a major contributor to the type of easy access that modern business requires to meet the deadline activities so necessary to be successful in a competitive environment. To enhance the airport's ability to serve the needs of business and industry, recent reconstruction of Towerline Road to all-season standards allows for the delivery of automotive parts to and from the airport. These improvements and other planned improvements will be an economic benefit to the region.

Specifically, the Airport Board, understanding the opportunity to enhance the air activity on the property, has formulated an Airport Capital Improvement document that would funnel nearly $6,000,000 into the facility in the coming years. Most of these dollars are Federal targeted to expand, enhance the totality of the facility from the administrative operations to runway and taxiway rehabilitation and lighting.

The Federal dollars involved in this plan would significantly upgrade the economic impact potential of the airport to the local manufacturers that are located strategically to airport services. The total Harry Browne Airport List is expanded upon in detail in the Michigan State Block Grant Program Form that lists Airport Capital Improvement Program or (LIP) FY2012-2017. With the rising success of the Nexteer Automotive facility on Holland Avenue(M-46) in Buena Vista Township, the neighboring airport would seem to have a bright, potentially expanding future as a key difference maker in attracting companies that have extensive business ties to Nexteer to relocate into Saginaw County, benefiting with an air field that is Saginaw County operated.

Major Issues and Challenges:

- Achieving increased air carrier activity at the MBS Airport and establishment of a major discount carrier.
- Increasing connectivity with other means of transportation - such as large trucks for freight movement.
- Funding to update facilities.
- Increasing accessibility to/from the road network. Promote the new terminal construction plans at MBS to increase the market share of air transportation.
- Continue development of new hangers, taxi-streets, aprons and auto parking facilities.
- Provide for adequate access and connectivity between air and other modes of transportation.

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Freight and Rail Transportation Michigan Freight Movement

Rapidly changing technology and increased consumer demand is transforming the way goods are delivered. The freight sector is typically among the first to embrace changes in technology. Before railroads were trusted to transport people, they transported freight. Companies with goods to move have already begun to experience with autonomous delivery vehicles, utilizing drones for front door delivery and self-driving trucks for long haul shipments on the interstate.

As the economy and demand for e-commerce grows, so does the volume and value of freight move with, to and out of the region. Two of the major freight-related projects in the state, the Detroit Intermodal Freight Terminal, and the Gordie Howe International Bridge, have made progress and should alleviate congested infrastructure.

The majority of Michigan's freight tons and value were transported by truck in 2018. As shown in the figure 7 below tons moved within the state represented the largest portion of these volumes 34.6 percent in 2018. As a result of higher-value commodities, inbound truck value represented the largest share of value of 30.8 percent in 2018.

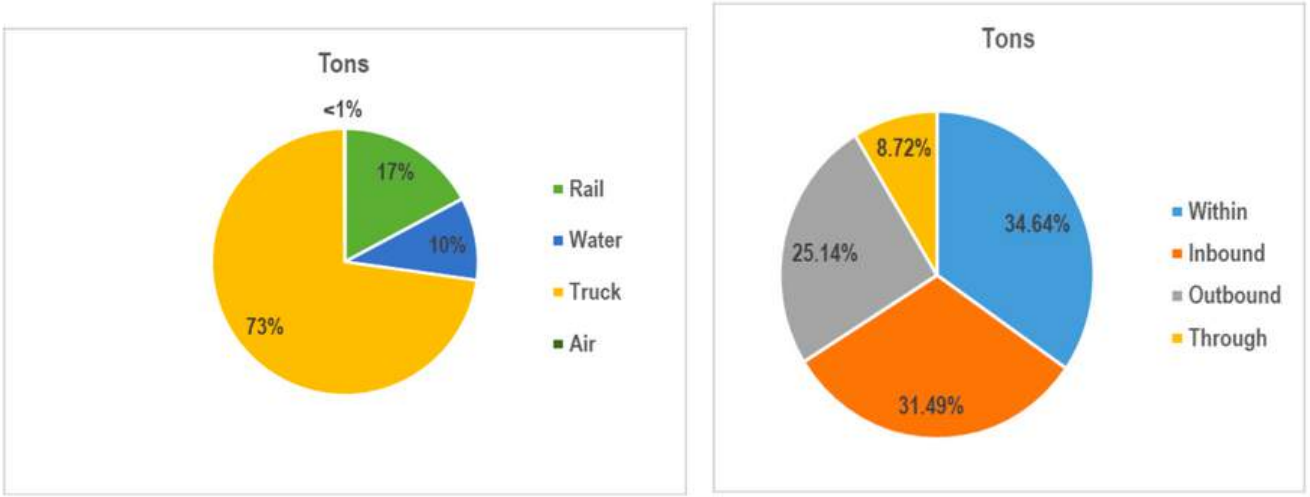

Figure 7: Commodities by Truck and Rail

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Rail Transportation

After trucking, rail represents the most significant mode for transporting Michigan's freight traffic. As above (rail tonnage) 88 million tons moved by rail. Saginaw County seems to be consistent with the statewide trends as it applies to railroad activities. The active rail lines are mainly used for the shipping of agricultural products. After that, chemicals, automobile parts, coal, and other products also are transported along the existing railroad lines. The common business plan for rail these days is for the major rail carriers to eliminate service and then sell the tracks to short line companies who then can operate at less cost. According to recent published stories in the local and statewide paper, this continues in the Saginaw Region. The rail lines represented in the SATA area include the Huron & Eastern Railway, Saginaw Bay Southern, and the Lake State Railway.

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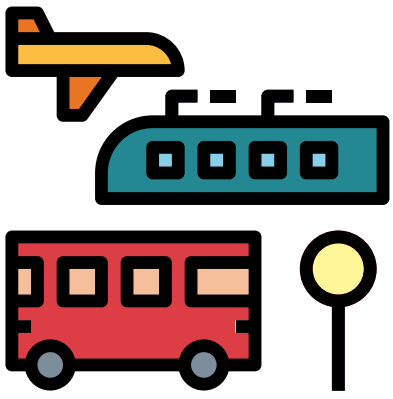
In terms of trends, the situation is that while rail miles have decreased in the past decade, the amount of activity is level or above. Twenty-one percent of Michigan's rail miles are state owned. The state owns 872 miles of right-of-way, of which the vast majority are already in use. Maintenance is partially at state expense. In the SATA area, the rail hauling of chemicals is of particular importance. Most of the material comes to and from a major manufacturer in the region i.e. Dow Chemical in the Midland area, so the activity regarding chemicals in this region is at a higher than normal level. This also translates to a higher-than-normal risk to the community in regards to the transport of hazardous materials. In the SATA area, it is important that the personnel and process include coordination with County Emergency Management. In this regard, SATA staff works closely with County Emergency Management and Homeland Security on a variety of issues.

The other major trend concerning rail lines is the conversion of abandoned lines to "rail trails" for recreational use as non-motorized pathways. The Saginaw Valley Rail Trail has been developed in this manner, and several other rail corridors are proposed for conversion to pathway use. MDOT has developed a detailed State Rail Plan. That plan, available at (Michigan State Rail Plan), should be considered a companion document to this MTP and a source of more detailed information on rail system issues and proposed improvements. The State Rail Plan lists several projects in the Saginaw area that will provide track upgrades and crossing improvements.



Major Issues and Challenges:

- Work with employers, groups, and political leaders to expand the role of rail in providing manufacturing its necessary supplies and materials.
- Use new technology like ITS to divert traffic and or minimize traffic delays caused by rail crossings.
- Improve safety at rail crossings.
- Work with MPO's in Bay and Midland Counties to facilitate dialogue with Dow Chemical and Nexteer regarding rail traffic patterns of utilization, future scheduling needs as well as corporate priorities in regard to this method of moving product/supplies.
- Relocate rights-of-ways that will allow a blend of safety improvements, consolidation of rail traffic on fewer lines and increased operating efficiencies.
- Continue upgrading of highway/ rail crossings.
- Remove unused or abandoned rail lines.
- Promote intermodal connection and access between rail and other modes of transportation.
- Continue development and expansion of the existing rail to trail system.
- Increase security/safety of rail cars carrying hazardous material through the SATA region.
- Indicate and perform studies on a proposed multi-model transportation hub

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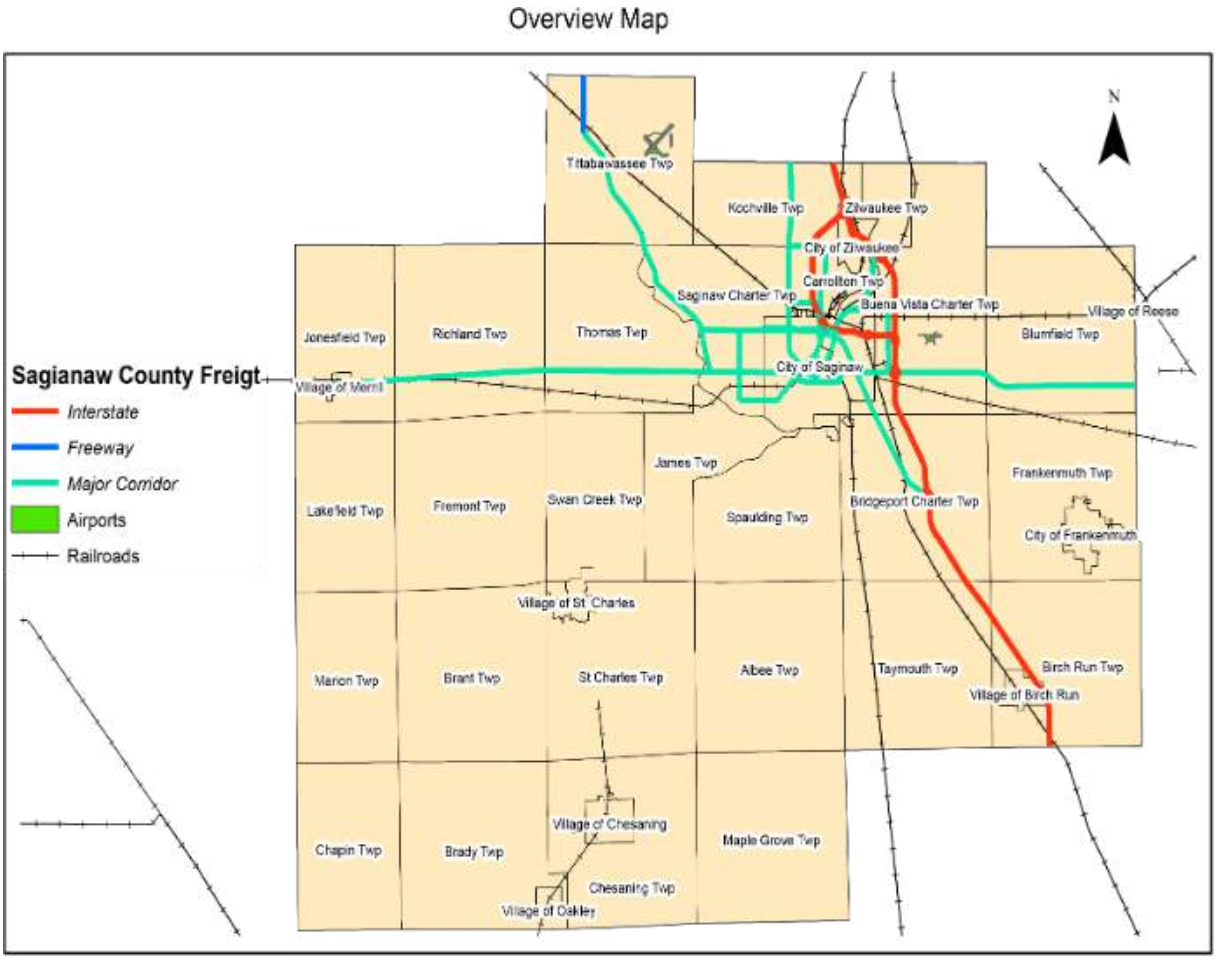

Figure 8: Airport, Freight and Rail Map

Water Transportation

The Saginaw River is one of Michigan's most important ports. It has been utilized for shipping since the early 1800's.The St. Lawrence Seaway opened in 1957, allowing access by ocean-going ships as well as Great Lakes vessels. Saginaw's commercial harbor is highly ranked in value of commodities, number of individual terminals, cargo diversity and total tonnage from Michigan ports. The major commodities be moved include limestone, sand, coal, salt, fertilizers, cement petroleum, and chemicals. These products serve the manufacturing, agricultural, and construction industries of the region and well beyond. There are approximately 20 marine terminals located on the river from Saginaw to the mouth.

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The Saginaw River is one of Michigan's most important commercial harbors. The port ranks about fifth in the value of commodities being shipped from Michigan ports. It ranks seventh in total tonnages and second in the number of terminals and diversity of cargoes. Approximately 20 marine terminals are located along the river from Saginaw to the mouth of the river. These terminals handled approximately three million tons of cargo in 2009 and 320 ships in 2006 and have dropped to 110 ships in 2014. Currently, port transportation trends are increasing, and future projections show that port usage will increase to 250 ships in the next 10 years.

Maintenance of the shipping channel has been an issue for many years. Heavy rains that hit the Great Lakes Bay Region in 2013 resulted in the Saginaw River being closed to commercial shipping for much of the summer due to sediment in the channel. As a result, the Army Corps of Engineers spent $1.2 million on emergency dredging, and in 2014 received $3 million more for dredging along the Saginaw River. In addition, 2016 continues the Feds commitment to Saginaw, with up to$2.8 million for the Saginaw shipping lane with the administration's budget for the Saginaw River. The Saginaw River shipping activity is the gateway to our communities' success in both auto manufacturing and agriculture. In addition to commercial shipping, the river system is used extensively for recreational boating and fishing. In the SATA area, recent efforts have focused on the construction of additional boat launching facilities.

Major Issues and Challenges:

- Maintain the Saginaw River shipping channel.
- Encourage partnerships between shippers, government, and other entities to promote the river shipping industry and increase its efficiency
- Continued dialogue and collaboration with the Federal officials regarding the river and its importance to Mid-Michigan's economic engine.
- Promote the retention and upgrading of port facilities.
- Promote intermodal connectivity and access between the port and other forms of transportation, specifically rail and trucking.
- Assist in finding ways to keep up the maintenance on the river channel to keep shipping on the river.
- Identify ways to increase usage of SATA ports and waterways from the Saginaw River study.

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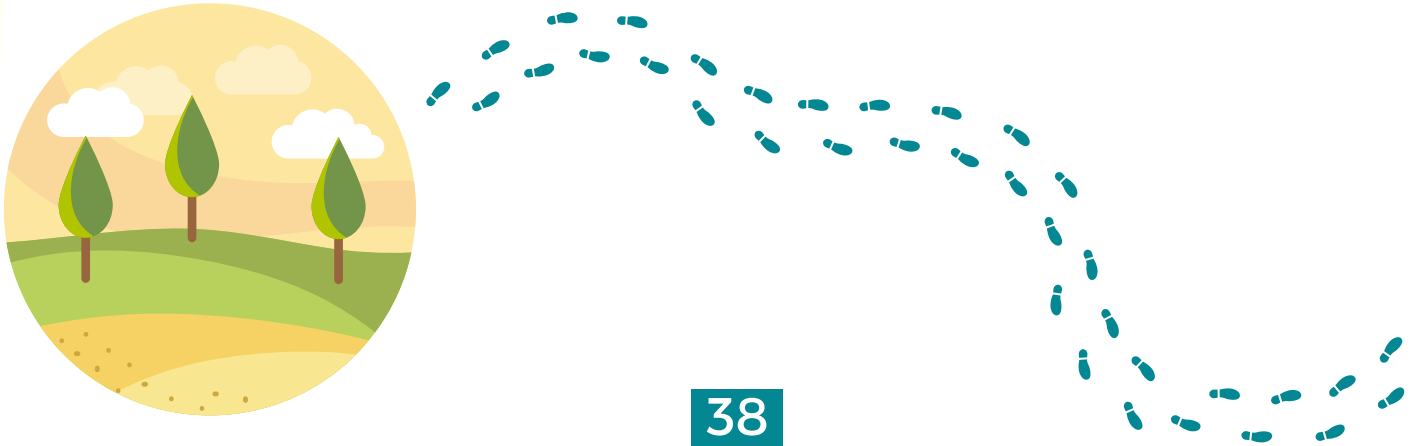
Walking in the Region

Whether accessing their destination form home, the bus stop, the bike rack, or parked car, all travelers are pedestrians at some point during their journey. While sidewalks are common in the region's cities, mature suburbs, and villages, expressways, interchanges, and multi lane roadways with limited crossing opportunities present significant barriers to pedestrian mobility throughout the region. Existing sidewalks and curb ramps in poor condition as well as narrow to non-existent buffers between the sidewalk and the roadway are additional factors that negatively affect the walking experience and discourage walking as a form of mobility.

The Use of Non-motorized Transportation (NMT)

Includes all forms of travel that do not rely on an engine or motor for movement. This includes walking and bicycling and variants such as small-wheeled transport (skates, skateboards, push scooters and hand carts) and wheelchair travel. Non-motorized transportation, with facilities designed primarily for pedestrians and bicyclists is a critical element of an integrated transportation system. A connected regional system of non-motorized facilities will help to increase mobility choices, relieve traffic congestion, reduce air pollution and fuel consumption, promote physical activity and heathy lifestyles, and improve quality of life.

Non-motorized facilities provide an alternative form of transportation to the automobile. Pedestrian and bicycle facilities that are connected provide critical transportation options for young people, seniors, those who are mobility challenged, or those cannot or choose not to own an automobile.



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The Infrastructure Investment and Jobs Act (IIJA) planning and funding guidelines require development of bicycle and other non-motorized transportation facilities. Accommodating Bicycle and Pedestrian Travel: Recommended Approach is a policy statement adopted by the United States Department of Transportation. USDOT requires that public agencies, professional associations, advocacy groups, and others adopt this approach as a way of committing themselves to integrating bicycling and walking into the transportation mainstream.

The Design Guidance incorporates three key principles:

- A policy statement that bicycling and walking facilities will be incorporated into all transportation projects unless exceptional circumstances exist;
- An approach to achieving this policy that has already worked in State and local agencies.
- A series of action items that a public agency, professional association, or advocacy group can take to achieve the overriding goal of improving conditions for bicycling and walking.

The development of recreational pathways has a long history in Saginaw County. The river walk in the City of Saginaw and the Saginaw Valley Rail Trial (SVRT) are among the first non- motorized pathway facilities to be developed in the county. These accomplishments happened in Saginaw County because of local initiatives.

With the past several national transportation bills, the guidelines contained language that required development of bicycle and other non-motorized transportation facilities. Further, it required that a policy statement include language that bicycling, and walking facilities will be incorporated into all transportation projects unless exceptional circumstances exist.

Existing Non-Motorized Facilities

In 2020, SATA local agencies were asked to identify future non-motorized project opportunities with their jurisdictions. The resulting list of projects is shown in exhibit 9(non-motorized trial project map). Efforts continue moving forward on the master vision to have the trails connect through the entire region. In fact, M-DOT commissioned the East Central Michigan Council of Governments to develop a non-motorized report document in the 14 county regions that Saginaw County is included. This work was meant to be a future road map of current and future vision requiring intergovernmental cooperation regarding trail projects in the short- and long- term future that would result in maximizing trail dollars to projects that connect and extend. Multi-modal transportation options, particularly in urban areas, extend beyond transit and light rail to include walking and bicycling.

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Trails -In SATA, there are more than 30 miles of non-motorized trails in eight (8) separate areas, that are listed below.

Thomas Township Trail- The Thomas Township Trail provides a paved, north-south route of just over 2 miles through this Michigan community. It begins at a connection with the popular Saginaw Valley Rail Trail, which heads southwest to St. Charles and east towards Saginaw.

Zilwaukee Pathway-The Zilwaukee Pathway offers a paved route through the eastern Michigan city of Zilwaukee. It begins on the western shore of the Saginaw River at Zilwaukee Riverfront Park, where you'll find parking, restrooms, picnic pavilions, a playground, and a boat launch. From there, the trail heads north and west through residential neighborhoods to its end at Venoy Road.

Bay and Zilwaukee Rail Trail- On October 15, 2016, a ribbon-cutting ceremony officially opened the 6.2-mile BayZil (Bay City to Zilwaukee) Rail Trail. This is one of Michigan's newest and most beautiful trails, running parallel to the Saginaw River on an abandoned railbed and crossing two bridges through vast marshes teeming with water foul. The Hotchkiss Road Trailhead offers the only public access to the trail, which dead-ends just north of Kochville Road. A southern trailhead is in the planning phase.

Saginaw Valley Rail Trail - The Saginaw Valley Rail Trail offers a year-round rural retreat from the urban confines of Saginaw. Rolling through a continuous woodsy border past farms, fields, and game areas for 11 miles, the paved trail connects the manufacturing center of Saginaw with the former coal-mining town of St. Charles.

Saginaw Valley State University Trail - Saginaw Valley State University trail has 6 miles of interlocking trails on the campus. The overall plan is to construct a 4 mile long trail linking Delta College to Saginaw Valley State University.

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Tittabawassee Township Trail - The Michigan Department of Transportation (MDOT) invested $1 million and Tittabawassee Township matched to construct 2.2 miles of non-motorized path between Tittabawassee and Freeland roads in Freeland. Overall this trail will link with other trails in the Great Lakes Bay Region Trail network, such as the proposed trail stated below.

Harger Line Rail-Trail -The Harger Line Railway was built in the late 1800s to connect Saginaw with Michigan's "Thumb" area. In 2006, the section of railway from 1-75 to Richville was purchased by the Michigan DOT for recreational use. In 2008, the railway was converted into a paved non-motorized, multi-use trail by the Michigan DNR. Approximately 10 miles long, the Harger Line Rail-Trail travels through some of Michigan's most fertile farm country.

Great Lakes Bay Region Trail - The Great Lakes Bay Regional Trail is currently in construction to create a trail that connects Saginaw, Midland, and Bay Counties. In the fall of 2016, a section of the trail was completed linking the city of Zilwaukee in Saginaw County to the southeast part of Bay City. The overall trail linking the cities will include over 100 miles of trails.

Sidewalks - In Saginaw City and Surrounding Townships, more than 90% of the roads have sidewalks on at least one side of the road. In the other townships, more than 90% of the roads lack sidewalks, including those in subdivisions. Of the townships in SATA, only Saginaw Township and Hampton Township have any ordinance requiring construction of sidewalks in new subdivisions and along strategic road corridors when an adjacent property undergoes major improvements or a new building is constructed. None of the townships in SATA have an ordinance pertaining to bicycle facilities and/ or bicycle riders on the roadway.

On Road Bicycle Facilities - A limited, unconnected network of on-road bicycle facilities exists within SATA. Some of the trails use on-road facilities which include paved shoulders and "Share the Road" signing on low volume residential streets. There are several other roadways in the townships that provide a minimum 4-foot paved shoulder. In 2011, Michigan Department of Transportation approved a 310-mile-long bike route (US Bicycle Route 20) that connects Marine City and Ludington. The US Bicycle Route 20 goes through the SATA area following Iron-belle trail route from Frankenmuth to Zilwaukee. Bike Lanes with extended shoulders along M-84 and Midland Street have been constructed in certain segments of the road. Continued construction of on road facilities (paved shoulders, bike lanes, sharrows (shared bike lane), and wide outside lanes) when road construction is being completed is vital in providing complete streets for both motorist and non-motorist alike. Beyond these examples, the on-road facilities consist of the existing network of low volume residential streets. EMCOG is currently conducting an update to their regional non-motorized plan, which will include major bike routes throughout Saginaw County. An update and current progress on the plan can be found on their website.

The Saginaw River shoreline is one of Saginaw County's best kept secrets. Our riverbanks and shoreline host fringe wetlands and a diverse array of wildlife, migrating birds and historic battleground areas. There is a designated water trail along the Saginaw River and the water trail connects to additional trails along Saginaw Bay and including river trails on the AuGres, Rifle, and Kawkawlin river. Campground areas along the shore are available for longer excursions or as a base for day use. The Saginaw Bay Blue Way Trail was created in 2014. Future use of this trail could see increased traffic along the river, bringing people to local business.

Future Non-Motorized Projects – Planning efforts are ongoing to connect this non-motorized trail system to other trails in the region, such as a proposed connection between Delta Community College and Saginaw Valley State University along the M-84 Corridor. There are also proposed connections to trail systems developing in both Bay and Midland Counties. The following trail planning efforts portray the level of effort being expended in the SATA study area, as well as the greater Saginaw County area regarding non-motorized transportation efforts. The following projects are listed in order of priority from first to last. The SATA staff prioritized the projects based on promoting livability within the SATA area such as promoting healthier living, non-motorized safety, and access to amenities and jobs. SATA also looked at feasibility and cost, such as, if the project is partially completed or currently has funding in place.

- Tittabawassee and Kochville Trail which will provide a major section in connecting the rest of the Great Lakes Bay Regional Trial (GLBRT) through Saginaw County. The GLBRT is currently in construction in certain sections and will hopefully complete all sections by 2025. Future development of the trail will link Bay City to Midland and Midland to Saginaw.
- The Iron-Belle Trail is a set of hiking and biking routes being developed by the Michigan Department of Natural Resources (MDNR), with MDOT as a partner. The Iron Belle Trail is the longest designated state trail in the nation and includes a route for hiking and a route for biking between Belle Isle Park in Detroit and Ironwood in the Upper Peninsula. The 1,273-mile hiking route incorporates a large portion of the existing North Country National Scenic Trail. It traverses the west side of the Lower Peninsula and borders Lake Superior in the Upper Peninsula. The east part that runs through Saginaw County will traverse through the City of Frankenmuth, Bridgeport Township, City of Saginaw, City of Zilwaukee and Pinconning.

Most of the trail will follow the existing segment of the Riverwalk/Rail trail. An interactive map can be found on the MDNR website by following the link: http://www.midnr.com/Publications/pdfs/ArcGISOnline/ironBelleWebApp/index.html

- Trolley Line Trail- The proposed route for the extension of the Trolley Line Trail into Saginaw County will continue from Willard Road, running parallel to the Saginaw Bay Southern Railway railroad tracks in property owned by Consumers Energy, up to Beyer Road, and then north on Beyer Road to the Premium Outlets. The proposed link will not only expand upon an existing facility in Clio but will also serve as the linchpin of a future non-motorized system that could eventually connect Montrose, Clio, Birch Run, Frankenmuth, Bridgeport and Saginaw and serve as a non-motorized hub that connects Detroit to Traverse City.
- Conduct and prioritize a non-motorized corridor study on connecting current paths, trails, and on-road paths. Additionally, an overall assessment of current conditions of the non-motorized system will be needed with assessment management plan to continue to manage the system.

Non-Motorized Plan - SATA plans to create a Non-Motorized Transportation Plan. This plan will identify recommended routes for trails and on-road bicycle facilities and is intended to be a guide for the communities within and surrounding the SATA area on ways to provide for non- motorized transportation within their boundaries and to make bicycling a viable transportation alternative. The plan is intended to illustrate the importance of connectivity of non-motorized transportation. One essential for creating a network of non-motorized transportation facilities is connectivity. To create the network, the routes that will provide non-motorized facilities must be defined prior to developing the system. They should connect non-motorized users between their homes and destinations throughout the area.

To make these routes possible, they must incorporate more than just the low volume residential/local roads and the separated trail system. The arterial and collector roads are needed to provide non-motorized transportation system connectors to the user's destination(s). Once a network of non-motorized facilities is established, it also needs to be maintained as any roadway.

Proper maintenance on the network including on-road bicycle facilities and separated non-motorized facilities (shared use paths, sidewalks, etc.) is essential to providing a connected network of non-motorized transportation facilities. The creation of a connected network of non-motorized routes could be a vital component in the Fast Act performance measure and EMCOG study on enhancing travel and tourism. MDOT continues to see case studies throughout Michigan on the benefits of bicycling in the community and the economy in a city. The SATA area with the existing and future development of regional trails could become a destination for bicycling, running, and kayaking events and a stop for long distance riders. Bicycle tourists seek scenic trails, support, and service facilities (bike maintenance area and good maps) and nearby attractions which are provided or can be provided in the SATA area.

Highlights of past, current and short-term-future initiatives include:

- The Zilwaukee to Bay City link. This critical piece links the Saginaw Area to the Bay City Area as it runs in between the Crow Island State Game Area and the Saginaw River.
- The link from Midland to Saginaw is progressing. This link directly connects to the Pere Marquette Rail Trail at the bridge in the city of Midland.
- Tittabawassee Township completed a section of the rail trail from the town area to the Sports Zone Fitness Center.
- The Great Lakes Bay Regional Trail Group is working toward a trailhead at Kochville and Milbourne roads and furthering the trail west along Kochville Road.

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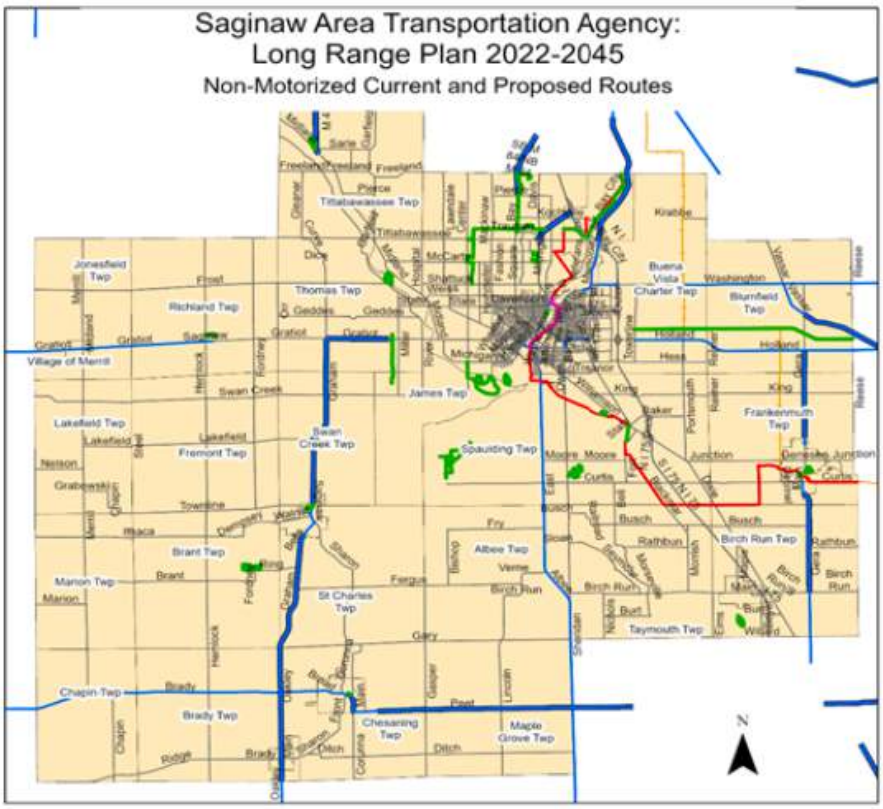
- The Iron Belle Trail from Belle Isle Park in Detroit to Ironwood in the Upper Peninsula passes through Saginaw County.
- The DNR funding related to this project landed in three areas to move this project forward in Saginaw County. The City of Frankenmuth and Bridgeport Township had received funding for trail sign identification, and Saginaw County also received funding for planning, design and engineering.

The following map displays both existing and proposed non- motorized trails in Saginaw County. This map is based on the information that is currently available to the Saginaw Area GIS Authority regarding both existing pathways and additional projects that are in various stages of discussion and planning.

Non-Motorized Current and Proposed Routes for the City of Saginaw Future efforts will continue to focus on the long-term development of an interconnected network of non-motorized routes both within the county and the surrounding region. These projects move forward as funding permits, involving Michigan Department of Transportation grants, the DNR, and local township monies.



Map: Non-Motorized Map

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SATA will continue to promote non-motorized planning activities with ongoing efforts to connect other trails in the region. SATA works in conjunction with the efforts and staff of MDOT, local townships, and groups of local interested/ concerned citizens.

- Obtain funding and community support to develop region wide connectivity. Funding commitments need to address upkeep and maintenance obligations and responsibilities.

Intelligent Transportation Systems (ITS)
The SATA planning process recognizes that ITS technologies must become an integral component of transportation plans and programs. SATA will work toward the successful implementation of the objectives of the National ITS Plan.

The objective of The National Intelligent Transportation Systems Plan is to advance the safety, efficiency and security of the surface transportation system, provide increased access to transportation services, and reduce fuel consumption and environmental impact.

The ITS Vision is to ensure that:
Future transportation systems will be managed and operated to ensure that they provide seamless, end to-end intermodal travel for passengers regardless of age, disability, or location, as well as efficient, seamless, end-to-end intermodal freight movement. Future transportation systems will be safe, customer oriented, performance driven, and institutionally innovative, enabled by information from a fully integrated spectrum of computing, communications, and sensor technologies. Public policy and private sector decision-makers will seize the opportunity to make ITS a vital driver in achieving the vision of the transportation system for the 21st century. The National ITS Architecture has eight groups of ITS service areas.

That includes:

- Traffic Management (ATMS) – includes transportation operations centers, detection systems, Closed Circuit Television (CCTV) cameras, dynamic message signs (DMS), Portable Changeable Message Signs (PCMS), and other related technologies.
- Emergency Management (EM) – includes emergency operations/management centers, improved information sharing among traffic and emergency services, automated vehicle location (AVL) on emergency vehicles, traffic signal preemption for emergency vehicles, and wide-area alerts.
- Commercial Vehicle Operations (CVO) – includes coordination with Commercial Vehicle Information Systems and Networks (CVISN) efforts, Hazardous Material (HAZMAT) management, weigh-in motion (WIM) technology, and security technology, including driver authentication.
- Traveler Information (ATIS) – includes broadcast traveler information such as web sites, traveler information kiosks, and highway advisory radio (HAR).
- Archived Data Management (AD) – includes electronic data management and archiving systems.
- Vehicle Safety (AVSS) – includes connected vehicle technology such as collision avoidance and vehicle automation, specifically speed and steering.
- Maintenance and Construction Management (MCM) – includes work zone management, roadway maintenance and construction information, winter maintenance, and Road Weather Information Systems (RWIS).
- Public Transportation Management (APTS) – includes transit and paratransit AVL, dispatch systems, transit travel information systems, electronic fare collection, and transit security.

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Interim Guidance issued by the USDOT:

The final rule and FTA policy on Intelligent Transportation Systems (ITS) Architecture and Standards were issued on January 8, 2001, to implement section 5206(e) of the Transportation Equity Act for the 21st Century (TEA-21). This final rule/policy requires that ITS projects funded by the Highway Trust Fund and the Mass Transit Account conform to the National ITS Architecture, as well as to USDOT adopted ITS Standards.

The final rule/policy means that regions currently implementing ITS projects must have a regional ITS architecture in place in four years. Regions not currently implementing ITS projects must develop a regional ITS architecture within four years from the date their first ITS project advances to final designs. ITS projects funded by the Highway Trust Fund and the Mass Transit Account must conform to a regional ITS architecture. Major ITS projects should move forward based on a project level architecture that clearly reflects consistency with the National ITS architecture.

The Michigan Department of Transportation has completed a regional ITS architecture and deployment plans for the Bay Region in January of 2008. The document is available at: https://www.michigan.gov/documents/mdot/Bay_Region_ITS_Architecture_271327_7.pdf with amendments in 2015.

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E-Scooters - one of the newest ways to travel!

Means of transportation and the way in which they are accessed can change rapidly. New technology and modes of transportation are constantly being developed and deployed to assist people in both choosing and connecting to transportation options. The 2045 Long Range Transportation Plan strives to be aware of recent developments and trends with the intention to carefully shape their influence on the regional built environment through the planning process. Electric scooters, called Bird e-Scooters, landed in Saginaw in April 2021 providing an alternative and fun means of transportation. The electric scooters seem to be everywhere people gather downtown and Old Town Saginaw.

The City of Saginaw partnered with Bird Co., and as a result eco-friendly scooters are available in what is known as Bird's nests clusters. The stand-up electric scooters sharing system within the city are parked at various locations. The initial proposal of 100 scooters quickly increased to 150 because of its popularity. Riders can locate the closet Bird scooter on a map through a mobile application, unlock it, complete the safety tutorial and ride directly to their desired destination at a minimal cost of $1 to start then a per-minute fee is billed.

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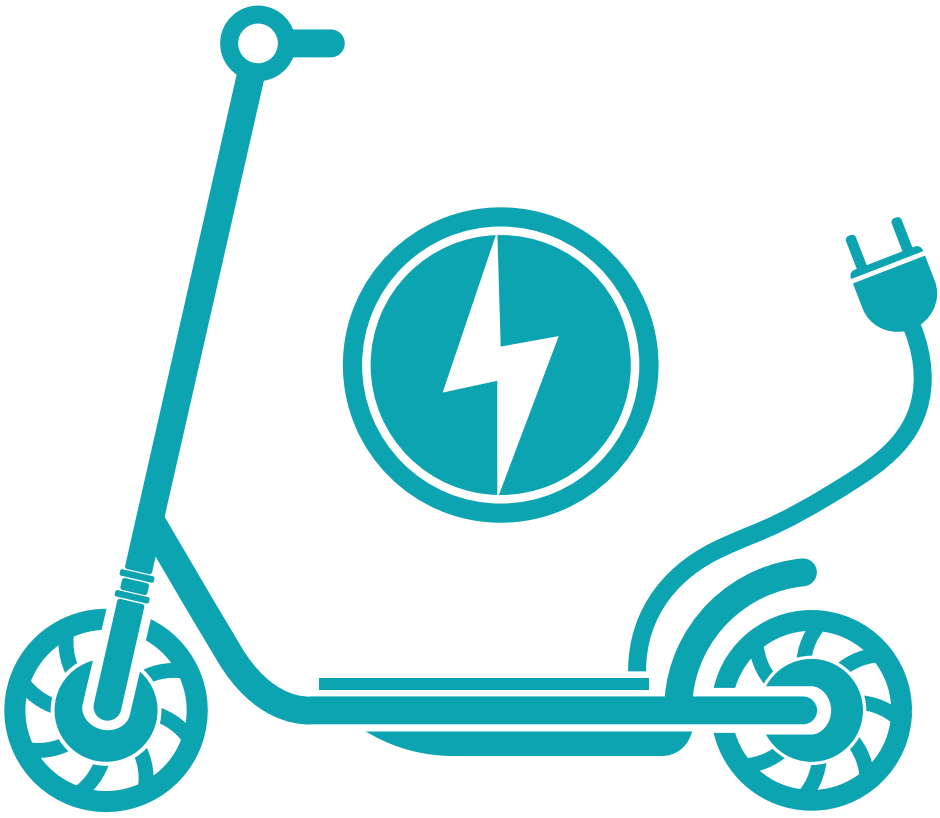
What are the benefits of e-scooters:

Electric scooters are one of the hottest new trends in personal transport. The scooters are eco- friendly as they use a battery pack and an electric motor which is far more environmentally friendly than fuel. Since the landing of the 150 e-scooters available for riders, there have been approximately 5,249 rides and a total number 13,330 miles traveled. It is no question that the public is enjoying this fun and popular way to get around Saginaw.

Below is a list some of benefits of e-scooters:

- Improve Your Health
- Great Fun and Entertainment
- Eco friendly
- Affordable



Chapter 4: Planning Factors & Goals

The Metropolitan Planning Organization Saginaw Urbanized Area

Federal Factors Goals/Objectives in Long Range Planning

This chapter presents the goals and objectives that have been established for the SATA transportation planning process. Since transportation has such a significant impact on the communities that SATA serves, the Metropolitan Transportation Plan must reflect the values and desires of these communities and their residents. The goals and objectives provide guidance to the overall planning process, and they also provide a means of evaluating progress in implementing the plan.

Planning factors provide SATA the ability to improve the livability of our residents and access areas needing improvement. Livability is the ability of transportation to provide a higher quality of life for citizens by providing access to a better road system, enhancing the local economy, providing a safe system to navigate, and providing multiple modes of travel. SATA will try and incorporate a result driven approach to implementing livability factors into the planning process. Projects will be considered for improving quality of life, improving economic vitality, promoting energy conservation, safety, and protecting the environment.

Federal Planning Factors

An important first step in any planning effort is the development of goals and objectives to support and to provide direction for the planning work to come. Goals and objectives reflect the values and desires of the individuals setting them. Goals and objectives are also valuable in measuring the effectiveness and success of the plans that are developed. Some of the objectives may compete or conflict with one another.

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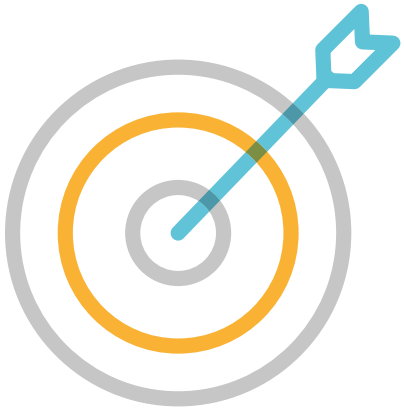
This is to be expected, as the goals and objectives are broad in nature and designed to deal with many issues. It is the responsibility of the policy decision-makers to weigh the trade-offs between the goals and objectives when evaluating the plans and programs developed to address the needs of the community. It must be recognized that SATA by itself cannot implement projects or improvements to directly satisfy the stated goals and objectives; however, SATA provides a forum for coordinated decisions to be made cooperatively in the best interests of the Saginaw Urbanized area.

The following goals and objectives have been formulated by an integration of previous SATA goals and objectives along with the Federal FAST Act ten ten planning factors that must be considered as part of the planning process for SATA. The following factors have been explicitly considered, analyzed as appropriate, and reflected in the SATA long range planning process. The plans and projects stated above are an integral part of SATA reaching these goals.

Recent federal transportation authorization legislation requires transportation plans which involve all levels of government and all surface transportation modes. The regulations implementing the Acts state that “the metropolitan planning process shall be continuous, cooperative and comprehensive, and provide for consideration and implementation of projects, strategies, and services that will address the transportation planning factors identified below:



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Federal Planning Factors

SATA Goal One/FAST Act Factor One
Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.

SATA intends to continue support of economic vitality by selecting projects that support the objectives stated below and to continue to work with local economic development organizations plans and objectives. One such plan is the EMCOG Comprehensive economic development strategy (CEDS) report that highlights transportation strengths and weakness within Saginaw County. One of the region's biggest advantages is the significant amount of underutilized capacity across all modes (roads, rail, water, air), such as leveraging the Saginaw River shipping channel.

Completion of Dixie Highway between Junction and Airport Road

Below is example of a project that was included in the previous LRP and was completed in 2021. The Dixie Highway project is in Bridgeport Township, Michigan which is SE of the City of Saginaw. This is an industrialized area of Saginaw County as well as a route heavily utilized for festivals and trips to Frankenmuth, Michigan and an alternative to I-75. The proposed project consisted of reconstruction and expansion of Dixie Highway between Junction Road and Airport Road. The overall scope of work for this project includes the replacement of the existing four- lane composite pavement roadway, which currently has inadequate lane widths, and no turn lanes. The current plan includes more work on "Dixie Highway" Junction to Curtis Road which will include lane reduction from four lanes to three. The completion of the previous estimated $4 million dollar Dixie Highway project and continued work on the project assist in achieving SATA goal one.

Another project on the Illustrative list that could meet some of the objectives is the Fordney Street reconstructions. Part of Fordney Street runs along Saginaw River and connects to Ojibway Island. If a nonmotorized aspect is attached to this project it could enhance tourism to Ojibway Island, YMCA of Saginaw, Franke N. Anderson Water and Skate Park. It could attract new business to build or move to the south side of the river. The Southern part of the project could provide better access to the above amenities to residents in the surrounding neighborhoods.

Objectives:

- Promote general economic development
- Improve or enhance tourism
- Improve or enhance the movement of freight and services
- Improve or enhance the movement of workers
- Provide new access to jobs and opportunities
- Improve the value of residential or nonresidential property

SATA Goal Two/FAST Act Factor Two

Increase the safety of the transportation system for motorized and non-motorized users. System safety for both motorized and non-motorized users is a State of Michigan focus as the performance measures begin to influence future programming as well as being mandated by Federal highway (FHWA). SATA has adopted and embraced MDOT's safety standards.

On the motorized side of safety standards, Saginaw County has several major intersections that historically have presented challenges for safety traffic engineers and law enforcement officials. For the purposes of this discussion, three such intersections are Bay and Tittabawassee roads, in Tittabawassee Township, Gratiot and Miller roads in Thomas Township, andC ourt Street and Michigan Avenue in the City of Saginaw.

Bay and Tittabawassee Roads

Local police agencies have worked in collaboration to patrol these corridors to enforce speed and driver related behaviors. The objective of this joint effort is to reduce and eliminate hazardous locations, increase enhance or add to the system of bike lanes and sidewalks, and minimize rail, auto, non-motorized conflicts. SATA will as a component of its safety emphasis monitor activities and results by continuing work with local law enforcement.

Gratiot and Miller Roads

High traffic volume at peak hours resulted in a recent TIP road widening project at the intersections of Miller Road near Gratiot for our local Saginaw County Road Commission to address issues with traffic flow, vehicular accidents, fatalities, and serious injuries.

Court St. and Michigan Ave.

Court and Michigan, located in front of the Saginaw County Courthouse, is a future safety project. This “cross at your own risk” designated pedestrian crosswalk is of interest to both the City and County officials for a variety of issues not the least of importance pedestrian safety. When using the crosswalk pedestrians are at risk of being injured or killed by speeding vehicles trying to beat the light on Court/Michigan or struck by a moving vehicle leaving the public metered parking lot adjacent to the Saginaw County Courthouse. Pedestrians of all ages are at risk of injury or death from traffic crashes, but the elderly or disabled are at a higher risk due their inability or impaired ability to properly judge distances and speeds to quickly cross the street to safety. This designated crosswalk has a history of pedestrian injuries, and the possibility of future injuries exists.

Chapter 4: Planning Factors & Goals

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Objectives

- Reduce vehicular accidents and eliminate hazardous locations
- Minimize rail/auto/transit/non-motorized conflicts
- Assist the monitoring or patrolling of the system
- Increase access to accident incidences and/or disabled vehicles Enhance or add to the system of bike lanes and sidewalks 51
- Enhance or add to the system of bike lanes and sidewalks
- Contribute to a reduction in traffic volume
- Improve the handling and movement of hazardous material

SATA Goal Three/FAST Act Factor Three

Increasing the security of the transportation network has been a focus since 2001. The SATA wild card in this category has always been the Dow Chemical train that passes through the region heading towards the Dow Midland plant. As a result, the potential for an accident exists in our region. The last incident was in Freeland in July 1989. A thirty-two car Chessie System Railroads (CSX) train leaving from Port Huron heading towards Midland derailed in Freeland.

The 32-car train was rounding a curve when its first 14 cars derailed in Tittabawassee Township one mile north of Freeland. The tankers filled with toxic chemicals burned out of control for more than three days, keeping thousands of residents in a 25 square mile radius out of their homes. Dozens of people were treated at Midland and Saginaw hospitals for inhalation of toxic fumes and skin irritation; fortunately, at that time no threatening injuries were reported. Preventing disasters like the one that occurred in Freeland is an important SATA goal and objective. SATA has and will continue to work with rail professionals and other officials in multiple counties to improve safety and other issues related to this rail transport in our county.

Chapter 4: Planning Factors & Goals

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Objectives:

- Reduce, eliminate, or mitigate hazardous locations
- Assist the monitoring or patrolling of the system
- Increase access to accident incidences and/or disabled vehicles
- Enhance the public safety of pedestrians
- Improve the handling and movement of hazardous material

SATA Goal Four/FAST Act Factor Four

Increase the accessibility and mobility of both people and freight. Accessibility for people, particularly the elderly, requires providing a more robust transit transportation system. The transit system here in Saginaw County has a long history of being limited by its City of Saginaw only funding source. The lack of adequate funding puts the elderly riders at a disadvantage because of the limited bus routes in Saginaw. The advantage of increasing transit funding would allow for the expansion of local bus routes. The elderly would have access to safe and plentiful transit transportation which can potentially increase road safety. Taking cars off the road and replacing with public transportation can help to reduce the total number of traffic accidents which is a benefit for everyone.

For SATA to improve freight impact in our area it will require connections and collaborations that includes MBS Airport staff as well as economic development professionals. SATA participation would be of importance from a systematic standpoint. The objectives to increasing accessibility for people and freight are: improving intermodal connectivity for people, integration/connectivity within people-serving modes, and intermodal connectivity for freight. While these objectives are potentially possible, there's not much history to draw from.

Chapter 4: Planning Factors & Goals

The Metropolitan Planning Organization Saginaw Urbanized Area

Objectives:

- Provide enhanced or new capacity or mobility to the transportation system to move people
- Provide enhanced or new accessibility to the transportation system to move people
- Provide enhanced or new capacity or mobility to the transportation system to move freight
- Provide enhanced or new accessibility to the transportation system to move freight
- Enhance the range of freight service options available to local business
- Provide appropriate access to and from major land uses
- Minimize barriers to disadvantaged and mobility-limited people

SATA Goal Five/FAST Act Factor Five

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

Protecting and enhancing the environment have long been issues in Saginaw County because of the local river population. SATA has historically had a solid relationship and communication with the local Department of Great Lakes and Environment (EGLE) staff. That is the go-to agency regarding many of these topics. SATA has and will continue to be a participating member in local and regional conversations of non-motorized, traffic calming and brownfield site activity.

Chapter 4: Planning Factors & Goals

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Objectives:

- Reduce vehicle emissions
- Reduce vehicle noise
- Decrease fuel consumption
- Add to the convenience of efficiency of the system
- Protect wetlands or other natural habitats
- Decrease air or water pollution
- Promote non-motorized travel
- Promote traffic calming measures
- Support cultural and/or historic property retention or development
- Support community cohesion and design
- Promote environmental equity
- Enhance development of brownfields
- Conserve prime agricultural resources and open spaces
- Promote planning that is consistent with local township and city land use plans

SATA Goal Six/Fast Act Factor Six

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

SATA has had representation on the working group committee in the past and looks to reconnect those relationships in the future in cooperation with its partners, the Saginaw Chamber of Commerce, and the Michigan Department of Transportation, conducted the I-69/I-75 Intermodal Transportation Study to determine how the region of Saginaw, Lapeer, Genesee, St. Clair and Shiawassee counties can capitalize on its location at a significant crossroads of the national and international freight network. By doing so, it is expected that economic conditions and the quality of life in the region will improve.

This is involved at the local level regarding transit discussions with STARS. These regional discussions would be of extreme value to maximize SATA's impact with improving intermodal connectivity for freight and integration with freight serving modes.

Objectives:

- Improve intermodal connectivity for people
- Improve the integration/connectivity within people-service modes
- Improve intermodal connectivity for freight
- Improve the integration/connectivity within freight-serving modes
- Enhance the information/telecommunication networks that integrate freight and people-serving modes

SATA Goal Seven/FAST Act Factor Seven

Promote efficient system management and operation
The best opportunity for SATA among the six listed objectives of this goal is to contribute to better vehicle and commercial traffic counts. This suggests increased contact and participation with agency counting programs and increased active contact with the commercial (i.e. freight activity levels with SATA boundaries). The timing of increased emphasis in these areas couldn't be better with the Highway Performance Monitoring System (HPMS) which is a national level highway information system that includes data on the extent, condition, and performance of the nation's highways on all public roads.

Chapter 4: Planning Factors & Goals

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Objectives:

- Use Intelligent Transportation System (ITS) Technology
- Reduce transportation system cost
- Contribute to better vehicle and commercial traffic count data
- Enhance administrative productivity/efficiency
- Enhance electronic processing of vehicle information
- Provide technologies to alert traffic to road condition/alternate routing

SATA Goal Eight/FAST Act Factor Eight

Emphasize the preservation of the existing transportation system.
There are five listed areas in this category. For the past decade at least, SATA emphasis on rehabilitation and system maintenance have been driven by economic and population issues that have left the network with capacity issues that do not exist for the most part. What we do have is a network that is aging with not enough resources to "keep us even".

Objectives:

- Contribute to better system maintenance
- Emphasize system rehabilitation rather than expansion Incorporate new technologies
- Maximize existing capacity
- Optimize the use of existing infrastructure to enhance service

SATA Goal Nine/FAST Act Factor Nine

Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation.
Two objectives in this goal require notation and the attention of SATA at this juncture. Of course, common sense requires that SATA works in cooperation with the road agencies and county drain commission to insure attention is given to improve safety issues such as drainage, grade replacement, improving rail crossings, as well as re-striping and alternate routing issues.

SATA also recognizes that its technologies must be a component of transportation plans and programs. SATA is committed to implementation of the objectives of the national ITS plan.

Objectives:

- Improve infrastructure to mitigate stormwater impacts
- Emphasize system rehabilitation rather than expansion
- Incorporate new technologies
- Maximize and implement green infrastructure to manage stormwater runoff
- Optimize use of infiltration-based approaches to reduce runoff, such as porous pavements, bio-swales, basin and trenches

SATA Goal Ten/FAST Act Factor Ten
Enhance travel and tourism.

SATA understands the value of and is looking forward to enhancing its travel and tourism program with partners in Frankenmuth. Frankenmuth is in Saginaw County and is a top destination for tourists all over the world.

Chapter 4: Planning Factors & Goals

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Objectives:

- Contribute to better infrastructure to facilitate increased foot traffic and safety for non- motorized transportation options throughout the SATA area
- Emphasize system and connectivity to the SATA areas social and natural attractions
- Connect current trail systems
- Maximize the existing tourism features currently in place
- Optimize use of existing tourism features currently in place
- Optimize use of existing infrastructure to enhance service

Saginaw Area Transportation Agency (SATA)
Michigan's Newest Inter-municipality Metropolitan Planning Organization (MPO)

On October 1, 2020, the Metropolitan Planning Organization (MPO) for Saginaw County was re-designated and a new name was established for the MPO which is now called the Saginaw Area Transportation Agency (SATA) formally known as the Saginaw Metropolitan Area Transportation Study (SMATS). The units of government forming the Inter-municipality Committee all adopted resolutions to form the entity and a final stamp of approval from Gretchen Whitmer, Governor of State of Michigan effective the first day of October 2020. SATA is now formally recognized as an Inter-municipality Committee under the Michigan Public Act 200 of 1957 and is the newly re-structured designated (MPO) responsible for transportation policy, planning, and investment decision-making in the Saginaw urbanized area.
The MPO carries out three major work activities to meet specific federal requirements.

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These are:

The development and maintenance of the Long Range Transportation Plan (LRTP) through a "continuing, comprehensive, and cooperative (3C)" planning process.

The biennial development of a three-year program for highway and transit improvements. This program is known as the Transportation Improvement Program or TIP.

The annual adoption of a comprehensive one-year planning program: the Unified Planning Work Program or UPWP that describes and coordinates the individual transportation planning activities of all agencies in the area.

SATA is governed by a Policy Committee that includes elected or appointed officials from the SATA area and representatives from the Federal and Michigan Department(s) of Transportation. The Policy Committee takes actions to approve documents and federally funded projects and adopt policy resolutions related to current transportation issues.

A Technical Committee is comprised of various transportation, planning, and engineering professionals who review the activities of SATA and serves as an advisory group that make recommendations to the Policy Committee.

Chapter 5: Performance Measures & Plan Evaluation

The Metropolitan Planning Organization Saginaw Urbanized Area

Any plan, to be taken seriously, must include both a process for evaluating progress towards the goals and objectives identified and a system of measuring that progress. Monitoring progress towards achieving goals and objectives is helped by developing performance measures during the planning process.

A key feature of the Fixing America's Surface Transportation (FAST) Act is the establishment of a performance and outcome-based program, originally introduced through the Moving Ahead for Progress in the 21st Century (MAP-21) Act and continued in the Infrastructure Investment and Jobs Act (IIJA). The objective of a performance-based program is for states and MPOs to invest resources in projects that collectively will make progress toward the achievement of national goals. 23 CFR 490 outlines the seven areas in which performance goals are required: Safety, Infrastructure Condition, Congestion Reduction, System Reliability, Freight Movement, Environmental Sustainability, and Reduced Project Delivery Delay.

Within one year of the U.S. Department of Transportation final rules on performance measures, States are required to set performance targets in support of these measures. Within 180 days of the state setting targets, MPOs are then required to choose to support the statewide targets, or optionally set their own targets. To ensure consistency, each MPO must, to the maximum extent practicable, coordinate with the relevant State and public transportation providers when setting performance targets.

National goals, more accountability, and improved transparency are all part of MAP-21 and continued in the FAST Act as well as the new IIJA. These modifications enhance decision-making by allowing for more accurate planning and programming. Under MAP-21, the US DOT is responsible for establishing performance measures and state DOTs and MPOs are responsible for developing performance targets in cooperation with other stakeholders.

Chapter 5: Performance Measures & Plan Evaluation

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MPOs must include these performance measures and targets into their Transportation Improvement Programs (TIPs) and Long-Range Transportation Plans, and state investments must make progress toward these performance targets. SATA is actively collaborating with MDOT and other Metropolitan Planning Organizations about setting these targets

The National Goals areas for Performance Management are found in the chart below with a short description of each area:

National Goal Area for Performance Management

Safety	Infrastructure Condition	Congestion Reduction
Freight Movement & Economic Vitality	Economic Sustainability	Reduced Project Delivery Delays
	System Reliability	

- Safety - To achieve a significant reduction in traffic fatalities and serious injuries on all public roads
- Infrastructure Condition - To maintain the highway infrastructure asset system in a state of good repair
- Congestion Reduction - To achieve a significant reduction in congestion on the National Highway System
- System Reliability - To improve the efficiency of the surface transportation system
- Freight Movement - To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development
- Environmental Sustainability - To enhance the performance of the transportation system while protecting and enhancing the natural environment
- Reduced project delivery delay - To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies/work practices.

The Infrastructure Investment and Jobs Act (IIJA), the current federal surface transportation legislation, emphasizes performance goals previously established in MAP-21. By focusing on national goals, increasing accountability, and improving transparency, IIJA improves decision-making through better-informed transportation planning.

Chapter 5: Performance Measures & Plan Evaluation

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Figure 9 below indicates the status of the various frameworks for performance measures for national transportation planning activities.

Performance Areas	NPRM	FINAL RULE	EFFECITVE DATE	FEDERAL AGENCY
Safety Performance Measures	March 11, 2014	March 16, 2016	April 14, 2016	FHWA
Highway Safety Improvement Program	March 28, 2014	March 16, 2016	April 14, 2016	FHWA
Statewide and Metro Planning: Non-Metro Planning	June 2, 2014	May 27, 2016	June 27, 2016	FHWA and FTA
Transit Asset Management	September 30, 2015	July 26, 2016	October 1, 2016	FTA
Public Transportation Safety Program	August 16, 2015	August 11, 2016	September 12, 2016	FTA
Highway Asset Management Plan	February 20, 2015	October 24, 2016	October 2, 2017 Part 667 effective November 23, 2016	FHWA
Pavement and Bridge Condition Measures	January 5, 2015	January 18, 2017	May 20, 2017	FHWA
System Performance Measures	April 22, 2016	January 18, 2017	May 20, 2017	FHWA

Figure 9: Final Rule

The above table provides guidance for States, MPO's and Local agencies to invest resources in projects to achieve individual targets that will collectively make progress towards these national goals. The FHWA enacts performance measures and targets that guide the selection of transportation projects and programs based on the previous goals.

Chapter 5: Performance Measures & Plan Evaluation

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State Performance Measures and Targets

The Michigan Department of Transportation established a Transportation System Condition Team in April 2010 that has continued to review and evaluate measures to assess the condition of Michigan's transportation system. MDOT maintains a performance-based planning process at the state level and helps coordinate the selection of measures by linking planning and programming to performance targets. Driven by Excellence: A Report on Transportation Performance Measurement at MDOT, includes performance measures for for primary areas listed below in the Michigan Long Range Transportation Plan:

Since national performance requirements were finalized in 2016-2017, MDOT has been acting within the Federal framework of these seven areas, developing methodologies and targets, annually evaluating those targets and setting new or adjusted targets for each of the seven performance areas.

MPO Performance Measures and Targets

Under the regulations, MPOs may either develop their own targets or support the state developed targets. SATA has determined that supporting state targets in all seven areas was the best course of action given the limitations on available data and staff resources. Performance- based planning is relevant to the Goals and Objectives identified in Chapter 4, and guides development of both this Long-Range Plan, and future TIP documents as well.

The overall method and resultant SATA-supported targets are presented in the Appendix to this Plan, as part of the Transportation System Performance Report. As that report is updated, it will be presented on the SATA website as opposed to issuing a new update to this entire Long- Range Plan.

Chapter 6: Urban Travel Demand Modeling Process & Results

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The travel demand model used for the SATA 2045 Long Range Transportation Plan is a regional model, referred to as the Great Lakes Bay Region (GLBR) Model that includes Saginaw, Bay and Midland Counties. Because of the interaction between these three areas, travel patterns can be better modeled as a regional model instead of modeling each area separately. This effort required coordination between SATA, Bay City Area Transportation Study (BCATS), and Midland Area Transportation Study (MATS).

The urban area travel demand modeling process for the SATA portion of the GLBR Model was a cooperative effort between SATA, being the Metropolitan Planning Organization (MPO), and the Michigan Department of Transportation, Statewide and Urban Travel Analysis Section (MDOT). MDOT provided the lead role in the process and assumed responsibility for modeling activities with both entities reaching consensus on selective process decisions. The local transportation planning agency is the MPO, comprised of representatives of local governmental units and is the umbrella organization responsible for carrying out transportation planning in cooperation with MDOT and the Federal Highway Administration. This is typically accomplished by full coordination of the local agencies with the MPO.

The modeling effort results in an important decision-making tool for the MPO Long Range Transportation Plan development as well as any transportation related studies. The modeling process is a systems-level effort. Although individual links of a highway network can be analyzed, the results are intended for determination of system-wide impacts. At the systems level, impacts are assessed on a broader scale than the project level.

Chapter 6: Urban Travel Demand Modeling Process & Results

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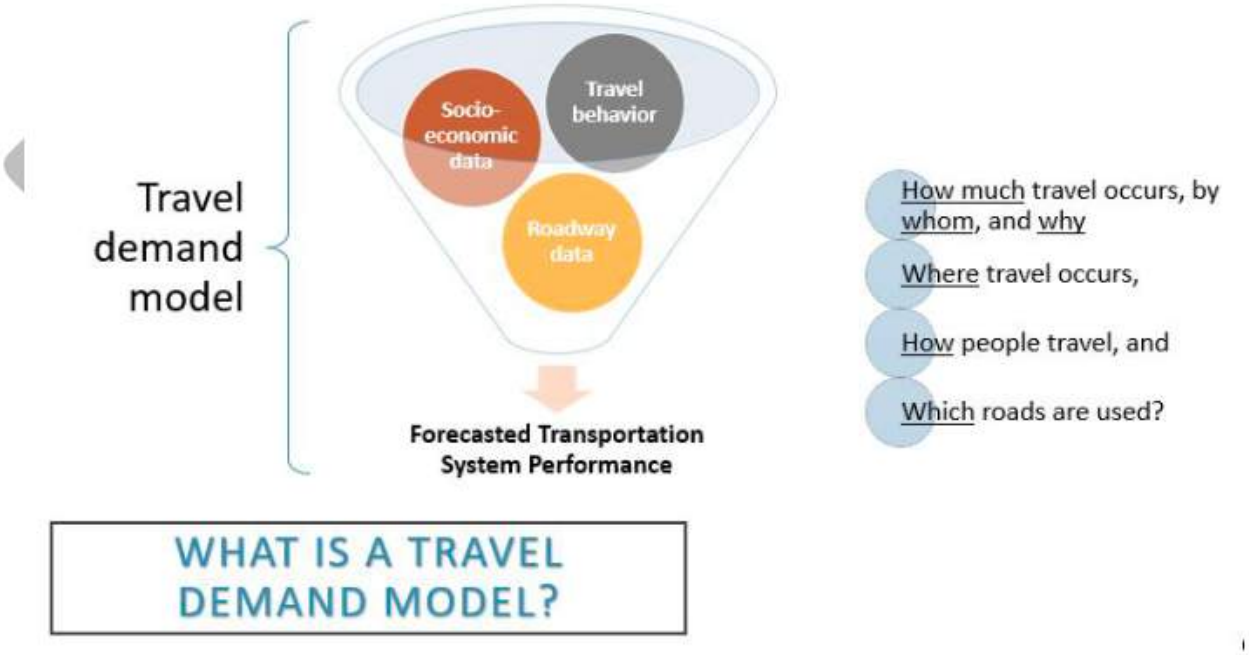

Travel demand forecasting models (TDMs) are a major analysis tool for the development of long-range transportation plans. These mathematical models are designed to calculate the number of trips, connect their origins and destinations, forecast the mode of travel, and identify the roadways or transit routes most likely to be used in completing a trip. Models are used to determine where future transportation problems are likely to occur, as indicated by modeled roadway congestion. Once identified, the model can test the ability of roadway and transit system improvements to address those problems. The model is a computer estimation of current and future traffic conditions and is built and run through TransCAD software.

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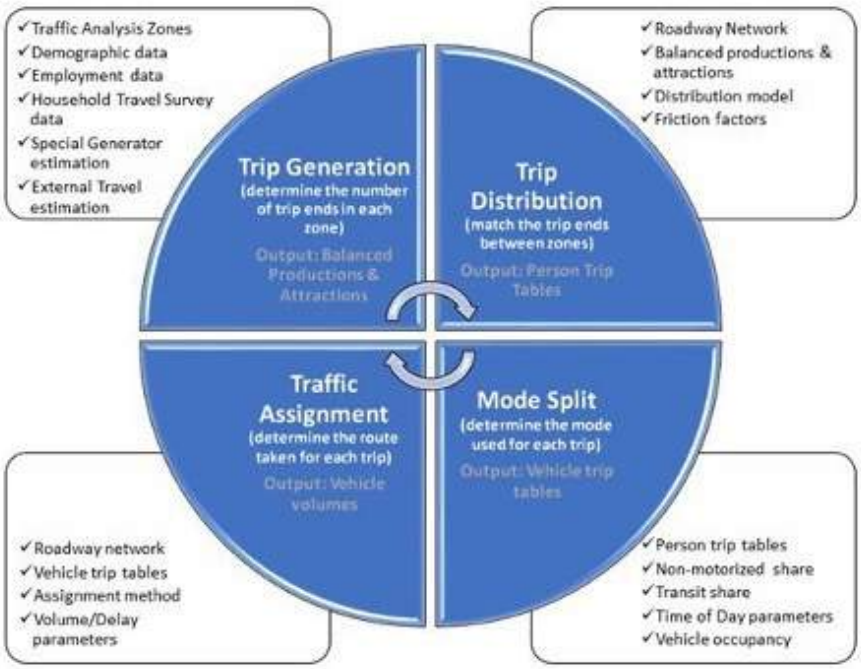
How the Model Works:

1. The model generates a synthetic population of households based on the aggregate characteristics of the population encoded in the traffic analysis zones (TAZ).
2. The level of vehicle ownership is applied to the household.
3. The number of trips of various purposes (work, school, other, etc.) are predicted for each household.
4. The dominant mode of travel (private automobile, bus, walking/biking) i s modeled for the household's trip of each purpose.

5. Probable destinations of each trip type are chosen.
6. Finally, the trips are assigned to the roadway network and routes are chosen such that travelers minimize their travel time and costs.

Components of the Model



Traffic Analysis Zone (TAZ)

The Traffic Analysis Zone (TAZ) is the primary geographical unit of analysis of the travel demand model and it represents the origins and destinations of the travel activity within the model area. TAZ's are determined based upon several criteria including similarity of land use, compatibility with jurisdictional boundaries, presence of physical boundaries, and compatibility with the road system. Streets and natural features such as rivers are generally utilized as zone boundary edges. TAZ's vary in size depending on population, employment, and road network density. Each TAZ includes population and employment data (aggregated from census blocks) which is fed into the Travel Demand Model.

Road Network

Using the TransCAD software, a traffic network is built to represent the existing road system. The Model network is based on the Michigan Geographic Framework and includes most roads within the study area classified as a minor collector or higher by the national functional classification system. Other roads are added to provide continuity and/or allow interchange between these facilities.

Transportation system information or network attributes required for each link include facility type, area type, lane width, number of through lanes, parking availability, national functional classification and traffic counts (based on availability). The network attributes were provided by MDOT staff and reviewed by the MPO. Link capacities and free flow speeds are determined based on network attributes such as national functional classification, facility type, and area type. These features of the road network are used in the traffic assignment process and in determining traffic conditions.

Chapter 6: Urban Travel Demand Modeling Process & Results

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Socio-Economic (SE) Data & Population Synthesis

Travel demand models are driven, in part, by the relationship of land use activities and characteristics of the transportation network. Inputs to the modeling process include the number of households, population-in households, vehicles, and employment located in each TAZ. These characteristics are generally referred to as socioeconomic data (SE-Data). The collection and verification of the SE-Data was a collaborative effort between the MPO, MPO committee members, and MDOT.

For the base year of the model, household, population, and employment data from the 2010 U.S. Census, the American Community Survey, and the Nielson employment databases were presented to the MPO and Technical Advisory and Policy Committees. Committee members were asked to provide detailed information about new development and where employers or population had been reduced. For the future years of the model, multiple sources were utilized including the Regional Economic Models Incorporated (REMI) TranSight Model, the MDOT Statewide Travel Demand Model, and input from the MPO & local agencies.

The travel demand model generates a synthetic population of households based on the demographic information associated with the traffic analysis zones. For each zone, individual households are created. Each household has a total number of persons, workers, and students.

Each household also has an income variable that indicates whether the household belongs to the lower, middle-, or upper-income category. The number of vehicles available to each household is modeled separately, after the population synthesis, based on these variables and other variables describing the zone in which the household is located.

Chapter 6: Urban Travel Demand Modeling Process & Results

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Trip Generation

The trip generation process calculates the number of person-trips produced from or attracted to a zone, based on the socio-economic characteristics of that zone. The relationship between person-trip making and land activity are expressed in equations for use in the modeling process. The formulas were derived from MI Travel Counts Michigan travel survey data and other research throughout the United States. Productions were generated with a cross-classification look-up process based on household demographics. Attractions were generated with a regression approach based on employment and household demographics.

To develop a trip table, productions and attractions must be balanced. Walk/bike trips are calculated using a factor for each trip purpose derived from the MI Travel Counts travel survey data. The walk/bike trips are removed from the production/attraction table before trip distribution is performed. The travel demand model also has a simple truck model that estimates commercial and heavy truck traffic based on production and attraction relationships developed from the Quick Response Freight Manual. The QRFM uses the employment data from the TAZ layer in calculating the percentage of trucks.

Trips that begin or end beyond the study area boundary are called "External trips." These trips are made up of two components: external to internal (EI) or internal to external (IE) trips and through-trips (EE). EI trips are those trips which start outside the study area and end in the study area. IE trips start inside the study area and end outside the study area. EE trips are those trips that pass through the study area without stopping; this matrix is referred to as the through-trip table.

Trip Distribution

Trip distribution involves the use of mathematical formula which determines how many of the trips produced in a TAZ will be attracted to each of the other TAZs. It connects the ends of trips produced in one zone to the ends of trips attracted to other TAZs. The equations are based on travel time between TAZs and the relative level of activity in each zone. Trip purpose is an important factor in development of these relationships. The trip relationship formula developed in this process is based on principals and algorithms commonly referred to as the Gravity Model.

The process which connects productions to attractions is called trip distribution. The most widely used and documented technique is the "gravity model" which was originally derived from Newton's Law of Gravity. Newton's Law states that the attractive force between any two bodies is directly related to the masses of the bodies and inversely related to the distance between them. Analogously, in the trip distribution model, the number of trips between two areas is directly related to the level of activity in an area (represented by its trip generation) and inversely related to the distance between the areas (represented as a function of travel time).

Research has determined that the pure gravity model equation does not adequately predict the distribution of trips between zones. The value of time for each purpose is modified by an exponentially determined "travel time factor" or "F factor" also known as a "Friction Factor." "F factors" represent the average area-wide effect that various levels of travel time have on travel between zones. The "F factors" used were developed using an exponential function described in the Travel Estimation Techniques for Urban Planning, NCHRP 716 and calibrated to observed trip lengths by trip purpose derived from the MI Travel Counts travel survey data. The F factor matrix is generated in TransCAD during the gravity model process.

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The primary inputs to the gravity model are the normalized productions (P's) and attractions (A's) by trip purpose developed in the trip generation phase. The second data input is a measure of the temporal separation between TAZs. This measure is an estimate of travel time over the transportation network from TAZ to TAZ, referred to as "skims." In order to more closely approximate actual times between TAZs and to account for the travel time for intra-zonal trips, the skims were updated to include terminal and intra-zonal times. Terminal times account for the non-driving portion of each end of the trip and were generated from a look-up table based on area type. They represent that portion of the total travel time used for parking and walking to the actual destination. Intra-zonal travel time is the time of trips that begin and end within the same zone. Intra-zonal travel times were calculated utilizing a nearest neighbor routine.

The Gravity Model utilizes the by trip purpose P's & A's, the by trip purpose "F factors", and the travel times, including terminal and intra-zonal. The output is a TAZ-to-TAZ matrix of trips for each trip purpose.

Mode Choice

The number of person trips and their trip starting and ending point have been determined in the trip generation and trip distribution steps. The mode choice step determines how each person trip will travel. The travel demand model uses a simplified mode choice to predict mode choice. The process uses a qualitative measure of transit network service at the zonal level to estimate transit mode shares. The transit trips are accounted for but not assigned to a specific route.

The split between single occupancy vehicles (SOV) and shared ride trips (SR2 & SR3+) is based on the average auto occupancy for the applicable trip purpose. The output to this step is a vehicle trip matrix by trip purpose. The external trips and the truck trips, which are originally developed as vehicle trips which eliminates the need of the mode choice step for these trip purposes, are added to the vehicle trip matrix.

Assignment

Traffic assignment is the final step in the traditional four step TDM process. In this step, trips are assigned to a "route" (or path) on the roadway network between each trip origin and destination. The basic premise of trip assignment is that trip makers will choose the "best" path between each origin and destination. The determination of the "best" path is based upon selecting the route with the least "impedance". Impedance, in this application, is based upon travel time – calculated as a function of link distance and speed (and later as a function of link volume and capacity). Essentially, trip makers on the roadway network will choose the route, between each trip origin and destination, which minimizes travel time.

The "User Equilibrium" algorithm (a commonly used algorithm) is employed in the traffic assignment component. User equilibrium is based on the principle that while selecting the "best" route, trip makers will use "all" possible paths between an origin and destination that have equal travel time – so that altering paths will not save travel time. This algorithm attempts to optimize the travel time between all possible paths, reflecting the effects of system congestion. Thus, the product of the traffic assignment component is a series of vehicle-trip (volume) tables, by mode, for each link in the model roadway network. These "assigned" link volumes are then compared to "observed" traffic data as part of the model calibration, validation and reasonability checking phase of the overall modeling process.

Chapter 6: Urban Travel Demand Modeling Process & Results

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The GBLR model has 4 time periods that were developed to match the peak periods observed in traffic counts. The following period were used: AM Peak (7am - 9am), Mid-Day (9am - 3pm), PM Peak (3pm - 6pm), Nighttime (6pm - 7am).

Applications of the Validated Travel Demand Model

Generally, three distinct alternative scenarios are developed for a LRTP:

1. Simulated Base Year (2017) volumes assigned to the Base Year (2017) Roadway Network; this scenario includes the assignment of 2017 model volumes, generated using 2017 SE data, onto the roadway network representing 2017 conditions. This is referred to as the "validated", existing network scenario, or "base-year" alternative, and is a prerequisite for the other two scenarios.
2. Simulated Forecast Year (e.g. 2045) volumes assigned to a Modified Base Year Roadway Network; this scenario includes the assignment of 2045 volumes, generated using 2045 SE data, onto an amended roadway network representing 2017 conditions, and including any improvements completed since 2017 and future (near term) improvements for which funds have been "committed". This alternative characterizes future capacity and congestion problems if no further improvements to the transportation system are made. This "congestion analysis" on the "existing plus committed" (E+C) network is also called the "do nothing", or "no-build" alternative, and includes only the E+C roadway system.
3. Simulated Forecast Year (e.g. 2045) volumes on a proposed Forecast Year(e.g. 2045) Roadway Network; this scenario includes the assignment of 2045 volumes, generated using 2045 SE data, onto the roadway network as it is proposed to exist in the forecast year of 2045. This scenario is the long range transportation plan "build" alternative. It includes the E+C roadway network, plus proposed capacity improvement and expansion projects.

Chapter 6: Urban Travel Demand Modeling Process & Results

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System Analysis

Once the base and future trips have been estimated, a number of transportation system analyses can be conducted:

- Roadway network alternatives to relieve congestion can be tested as part of the LRTP. Future traffic can be assigned to an amended, existing roadway network (i.e. “No Build” Network) to represent the future impacts to the transportation system if no improvements were made. From this, improvements and/or expansions can be planned that could help alleviate demonstrated capacity issues.
- The impact of planned roadway improvements or expansions can be assessed.
- Individual links can be analyzed to determine which TAZs are contributing to the travel on that link (i.e. the link's service area). This can be shown as a percentage breakdown of total link volume.
- The impacts of land use changes on the roadway network can be evaluated(e.g. what would be the impact of a new major retail establishment).
- Road closure/detour evaluation studies can be conducted to determine the effects of closing a roadway and detouring traffic during construction activities. This type of study is very useful for construction management.

Congestion Analysis

With the completion of the travel demand model, areas of potential congestion in the roadway network were identified based on the volume to capacity ratios of the links. This means that the higher the V/C ratio, the higher the chances are that the roadway could experience congestion.

Chapter 6: Urban Travel Demand Modeling Process & Results

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The regional travel demand model identifies areas where traffic congestion is expected and highlights roadway segments that are congested or are close to capacity (in the years 2017 and 2045). It is important to understand that the modeling process is most effective for system level analysis. Although detailed volumes for individual intersection and "links" of a highway are an output of the model, additional analysis and modification of the model output may be required for project level analysis. The accuracy of the model is heavily dependent on the accuracy of the socio-economic data and network data provided by the local participating agencies, and the skill of the users in interpreting the reasonableness of the results.

2017 Base Year - Congestion
The maps below highlight the simulated 2017 base year conditions of the travel demand model.

GLBR Model Base 2017 Network - Saginaw Downtown Area
Volume-to-Capacity - PM Time Period (3:00pm-6:00pm)

Figure 10: Volume to Capacity

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2045 Metropolitan Transportation Plan (MTP) Capacity Projects

Project #	Project Description	Fiscal Year
1	Davenport between Michigan Avenue and the Johnson Street Bridge/Niagara Street as a three-lane cross section versus a five-lane cross section or the current four lane cross section.	by 2026
2	I-75 between Hess and the South junction of I-675 add through lane in each direction. (Current 3 lanes each direction)	by 2026
3	Dixie Highway from Junction to Curtis Road, Road Diet. (Current 4 lanes down to 3 lanes).	by 2026
4	Tittabawassee Road from Mackinaw Road to Lawndale add continuous center left turn lane.	by 2026
5	Center Street Bridge as a two-lane bridge with the northern most lanes converted to two-way traffic. The southern two lanes would be converted to a pedestrian/bike pathway.	by 2026
6	Dixie Highway from Curtis to Birch Run Road, Road Diet. (Current 4 lanes down to 3 lanes).	by 2026

Figure 11: MTP Capacity Projects

The map below highlights the 2045 horizon conditions of the travel demand model, including the capacity projects listed above.

Figure 12: Volume to Capacity

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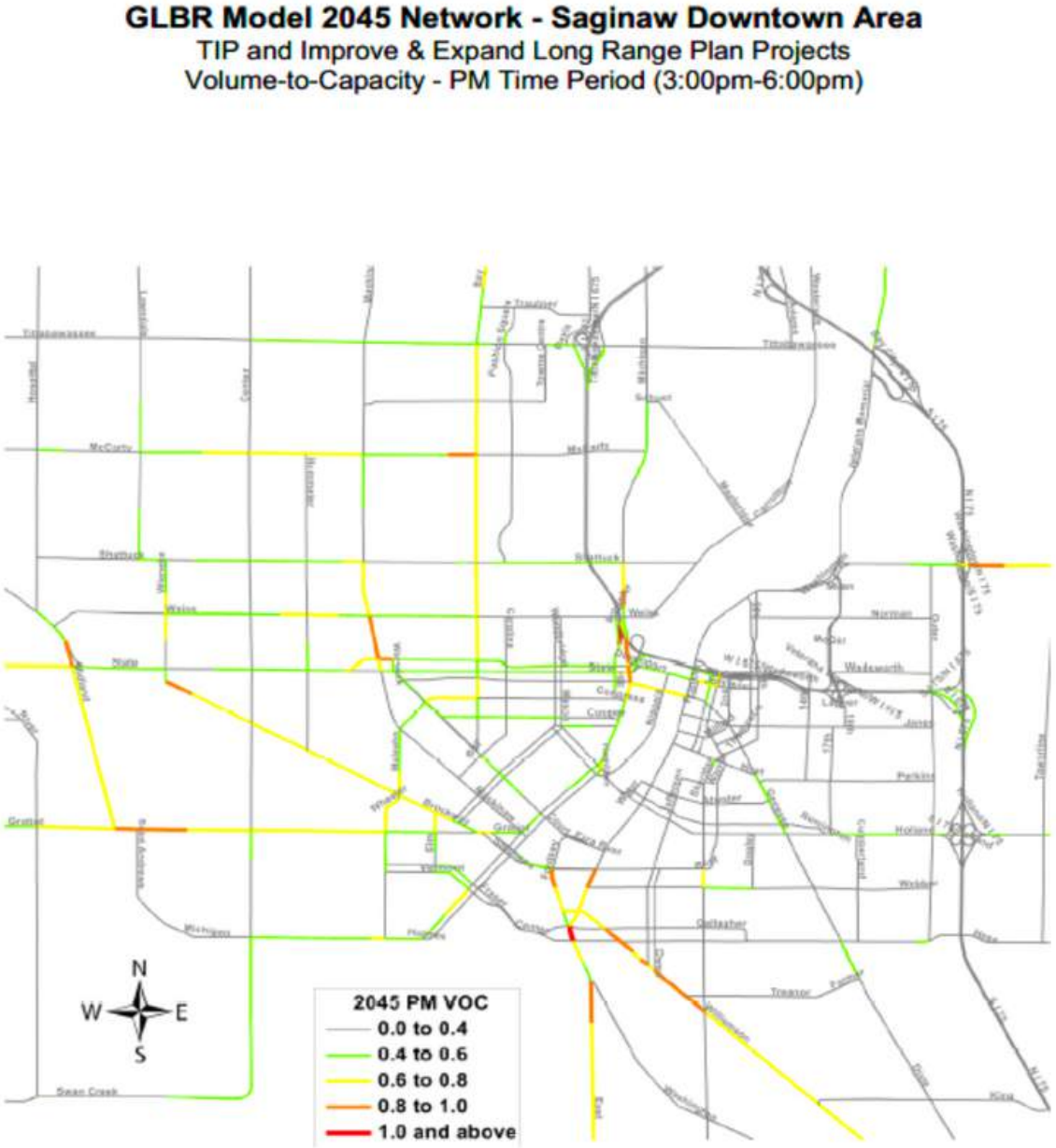

Figure 13: PM Time Period

Chapter 7: Financial Plan & Resources

The Metropolitan Planning Organization Saginaw Urbanized Area

Background/Purpose

The financial plan is intended to demonstrate that the priorities of LRTP 2045 can be implemented while assuring fiscal constraint.

The Plan will:

- Provide a range of implementation programs and activities by a range of agencies at the Federal, State, and Local levels.
- Provides an illustration of how each of the respective levels of government have a role in the provision of funding and implementation of roads, highway, transit and other modes of transportation.

The emphasis of LRTP 2045 is on investments that maintain, rehabilitate, and reconstruct the highways, bridges, transit, and other assets that have been constructed.

The financial plan is directed towards ensuring that the transportation network will:

- Continue to support the safe and efficient movement of people and goods.
- Ensure that the investment priorities are those that best emphasize the recommendations of the LRTP and be fiscally constrained so that the cost of investments does not exceed the reasonably expected amounts projected to be available to the region.
- Be used as a tool for SATA and its member agencies to strategically establish priorities that match the financial resources expected to be available over the planning horizon.
- Identify needed projects for the region. Does not fully provide funding for every need identified, but illustrates how available funding can be programmed in the current and future Transportation Improvement Programs.

- Provide a framework for short-term implementation decisions that align with long-range plans and performance targets.
- Strike a balance between the management of existing highway and transit assets while taking advantage of opportunities to retrofit the network to meet the evolving needs of the region.

SATA and its partners will continue to maximize the types and amount of funding available while positioning the region to meet the challenges of future changes in transportation revenues.

How Are Projects Funded?

Michigan receives its federal highway funding from the following programs: The Interstate Maintenance Program, the National Highway System Program, the Surface Transportation Program, the Highway Bridge Replacement, and Rehabilitation Program, among other available sources. The basic sources of transportation funding are motor fuel taxes and vehicle registration fees. Both the federal government and the State of Michigan tax motor fuel. The motor fuel taxes are “excise” taxes, which means they are a fixed amount per gallon. The State of Michigan also collects annual vehicle registration fees when motorists purchase license plates or tabs. This is a very important source of transportation funding for the state. Currently, roughly half of the transportation funding collected by the state is in a form of vehicle registration fees.

Below is a list and basic description of available Federal-Aid revenues. The list is not intended to be an exhaustive list of all potential resources or eligible activities, but rather the most likely used revenues and types of activities.

Surface Transportation Program (STP) Urban Program (STUL)

Funding allocation is used for construction, reconstruction rehabilitation, resurfacing, restoration, preservation, or operational improvement to federal-aid highways and replacement, preservation, and other improvements to bridges on public roads. Michigan's STP apportionment from the federal government is evenly split, half to areas of the state based on population and half that can be used in any area of the state.

STBG- Rural (STL)
The Rural Surface Transportation Block Grant Funds are intended to support transportation improvement projects in the rural areas.

State Trunkline
MDOT spends a significant amount of funding allocation on highway repairs. Priorities are set based on the overall condition of the trunkline system's condition.

Section 5303

Provides funding and procedural requirements for multimodal transportation planning in metropolitan areas and states. Planning needs to be cooperative, continuous, and comprehensive, resulting in long-range plans and short-range programs reflecting transportation investment priorities.

Section 5703

This is the largest single source of transit funding that can be used for capital projects, and transit planning.

Section 5310

Elderly and Persons with Disabilities funding benefits seniors and disabled persons when service is unavailable by removing barriers to transportation services.

Section 5311

Non-Urbanized Area Formula Grant: funds for capital, operating and rural transit planning activities in areas under 50,000 population.

Section 5337

State of Good Repair Grants – Funding to state and local governmental authorities for capital, maintenance, and operational support projects to keep fixed guide-way systems in a state of good repair.

Section 5339

Funds will be made available under this program to replace, rehabilitate, and purchase buses and related equipment, as well as construct bus related facilities.

ACT 51 Funds

Public Act 51 of 1951, also known as Act 51, governs the collection and distribution of Michigan's highway revenue. Revenue from the motor fuel tax and vehicle registration fees is deposited into the Michigan Transportation Fund (MTF). After certain grants and administrative costs are removed from Act 51 funding, around ten percent remains in the Comprehensive Transportation Fund (CTF) for transit. Thereafter, the remaining funds are divided among the Michigan Department of Transportation (MDOT), county road commissions, and municipalities (incorporated cities and villages) in proportions of 39.1 percent, 39.1 percent, and 21.8 percent. For transportation, MTF funds are the primary source of the 20% local match to 80% federal funds. Also, they are used for various other transportation projects, including maintenance work. Roadway maintenance projects can include activities such as salting, plowing, moving lawns, and trimming trees.

Transportation Economic Development Fund (TEDF)

Michigan has several programs that use both state funding and federal funding. These programs are collectively known as the Transportation Economic Development Fund (TEDF). The TEDF is split into several categories, depending on what that category is designed to accomplish. For example the one category available to SATA is TEDF Category D: All-season Road network in rural counties. Category D is a blend of state and federal funding. Act 51 specifies that $36.8 million of each year's MTF receipts be directed to the Transportation Economic Development Fund.

Local Funding Sources

Local governments can allocate additional funds to transportation projects. Funding comes primarily from millages (property taxes), general funds, township or county governments, and other sources. The City of Saginaw and the County Road Commission usually supplements its budget by partnering with local townships. Local governments that provide funds for transportation projects based on their needs.

Revenue forecast and fiscal constraint for SATA 2045 Long Range Transportation Plan is presented in the table below. This table shows the amount of funding estimated to be dedicated to each program; the details of each program can be found in the Appendix. The expenditures identified through the Prioritized Projects in the next chapter do not exceed the total federal, state, and local revenues expected to be available for the 2022-2045 time period.

Chapter 7: Financial Plan & Resources

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2022 – 2045 Total Revenues for SATA Area (Federal, State & Local Funding)

	2022-2025	2026-2035	2036-2045	Total
Local STP Urban Program	$16,205,791	$43,787.791	$ 53,749,331	$ 113,742,850
Local STP Rural and EDD Program	$ 7,480,760	$21,512,098	$ 26,223,127	$ 55,215,985
Non-Motorized Program	$ 1,075,000	$ 2,186,781	$ 2,687,018	$ 5,948,798
Local Safety Program	$ 2,057,725	$ 5,894,432	$ 7,242,813	$ 15,194,970
Local Bridge Program	$ 5,717,750	$ 14,191,674	$ 17,438,089	$ 37,347,513
Local Capital Program	$ 8,206,275	$ 23,180,275	$ 27,929,361	$ 59,315,958
State/Local Operations & Main Program	$64,765,022	$182,940,791	$220,421,005	$ 468,126,818
Trunkline Capital Program	$136,200,000	$393,000,000	$588,600,000	$1,117,800,000
Transit Program	$32,769,969	$92,987,213	$112,829,997	$238,587,179
Total:	**$274,478,292**	**$779,681,055**	**1,057,120,741**	**$2,111,280,071**

Exhibit 14: Estimated Revenues 2022-2045

Chapter 8: Prioritized Projects

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The center or focus of the Metropolitan Transportation Plan is a list of specific projects, which have been developed by SATA with the assistance of the road and transit agencies and MDOT. Each project must meet an identified transportation need, primarily addressing capacity and maintenance and improving safety. Under Federal guidelines, each project must be fundable with in anticipated financial resources.

The prioritized projects in the listing below give a general sense of project priorities and timing, however the listing is not meant to lock projects into a specific year. Instead, the timeframes are flexible and meant to allow the movement of projects as needs and opportunities occur. The exception to this is projects that are already programmed in the current (2020-2023) Transportation Improvement Program (TIP) cycle.

SATA - Prioritized Projects FY 2022 - 2045

Fiscal Year	Responsible Agency	Primary Work Type	Project Name	Limits	Project Description	Phase	Total Amount	Fund Source
2022	City of Saginaw	Reconstruction	W. Holland Avenue	N. Woodbridge Street to Hamilton St.	Reconstruction	CON	$2,225,000	STUL/Local
2022	MDOT	Traffic Safety	Signing Update	various locations	M-45 at Cumberland	CON	$1,666	HISP/State
2022	Saginaw County	Road Rehabilitation	N. Michigan Avenue	N. Michigan Avenue	Road Rehabilitation	CON	$1,200,000	STUL/EDF/Local
2022	City of Saginaw	Reconstruction	E. Remington St.	E. Remington Street	Reconstruction	CON	$250,000	STUL/LOCAL
2022	MDOT	Traffic Safety	M-81	Signing Update	Traffic Safety	CON	$10,000	NH
2022	MDOT	Traffic Safety	various locations	trunkline routes	Signing Updates	CON	$589,260	HSIP/State
2022	Saginaw County	Road Rehabilitation	Michigan	Shattuck to Schust	Road Rehabilitation	CON	$927,432	STUL/EDF/Local
2022	City of Saginaw	Bridge CPM	E. Holland Avenue	Holland Avenue over Saginaw River	Bridge repairs	CON	$386,000	MCS

Figure 15: LRP Project List

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2022	City of Saginaw	Bridge CPM	W. Genesee Ave.	W. Genesee Ave. over Saginaw River	Bridge Repairs	CON	$268,000	MCS
2022	MDOT	Road Capital Preventive Maintenance	E. Potter Road	E. Potter Road	Asphalt Crack Treatment	CON	$235	HSIP/State
2022	City of Saginaw	Bridge CPM	W. Genesee Ave.	W. Genesee Ave. over Saginaw River	Bridge repairs	CON	$740,000	MCS
2022	Saginaw County	Road Capital Preventive Maintenance	Center Road	Center Road, State to	Road Capital Preventive Maintenance	CON	$41,853	STUL/ACC/Local
2022	MDOT	Road Rehabilitation	M-46	Towerline Road to Richville	Mill and two course hot mix asphalt overlay	CON	$7,981,510	NH
2022	Saginaw County	Major Widening	McCarty Road	Bay Road to Fashion Square	Major Widening	CON	$552,498	HIC/HIP/Local
2022	MDOT	Traffic Safety	various locations	trunkline routes	Traffic Safety	CON	$3,220	HSIP/State
2022	Saginaw County	Road Rehabilitation	Swan Creek Road	Swan Creek Road from Graham M-52 to River	Road Rehabilitation 2 course Asphalt Resurface	CON	$260,366	STL/Local
2022	MDOT	Traffic Safety	various locations	trunkline routes	Traffic Safety	CON	$1,610	HSIP/State
2022	MDOT	Traffic Safety	various locations	trunkline routes	Traffic Safety	CON	$65,330	HSIP/State
2022	Saginaw County	Road Capital Preventive Maintenance	Kochville Road	Michigan to Westervelt	Resurface	CON	$569,715	STUL/Local
2022	MDOT	Road Capital Preventive Maintenance	M-84	McCarty Road North	Milling and One Course Asphalt Overlay	ROW	$25,000	NH
2022	MDOT	Road Capital Preventive Maintenance	M-84	McCarty Road North	Milling and One Course Asphalt Overlay	CON	$2,468,964	NH
2022	STARS	Preventative Maintenance	Replacement Bus	areawide	Bus Purchase w/o Lift SP 1104-40	NI	$625,000	5307
2022	STARS	Auxilary Equipment	Security Equipment	areawide	Security Equipment Purchase	NI	$12,000	5307
2022	STARS	Transit Capital	Bus Expansion	areawide	Replacement Bus	NI	$94,000	5317
2022	STARS	Transit Capital	State Urban Match	areawide	Transit Capital	NI	$50,000	5307
2022	STARS	Transit Capital	New Freedom Mobility Management	areawide	Transit Capital	NI	$150,000	5310
2022	MDOT	Traffic Safety	M-47	M-47	Geometric Improvement	CON	$56,427	NH
2022	MDOT	Traffic Safety	various locations	trunkline routes	Signing Updates	CON	$3,542	HSIP/State
2022	MDOT	Reconstruction	I-675	I-675 at Veterans Memorial	Reconstruction	PE	$989,009	NH
2022	STARS	Operating Assistance	State Match Urban Agency	areawide	Operating Assistance	CON	$2,800,000	5307
2022	MDOT	Reconstruction	M-58 E	Eastbound M-58	Reconstruction	CON	$20,000	NH
2022	STARS	Transit Capital	Bus Expansion	areawide	Bus Purchase	NI	$940,000	5310
2022	STARS	Transit Capital	Bus Expansion	areawide	Replacement Bus with lift	NI	$94,000	5317
2022	STARS	Transit Operating	State Match Urban Agency	areawide	Operating Assistance	NI	$20,000	5307

Chapter 8: Prioritized Projects

The Metropolitan Planning Organization
Saginaw Urbanized Area

2022	City of Saginaw	Non-Motorized Project	Wickes Park Belle Trail	Washington Avenue M-13 to Fordney	Non-Motorized Project	CON	$1,000,000	Local
2022	STARS	Transit Capital	State Urban Match	areawide	Transit Capital	NI	$50,000	5307
2023	STARS	Transit Operating	Operating Assistance	areawide	Transit Capital	NI	$20,000	5307
2023	MDOT	Traffic Safety	M-46	M-46 at Cumberland		CON	$367,057	NH
2023	STARS	Transit Capital	Bus Expansion	areawide	Bus Purchase	NI	$625,000	5310
2023	STARS	Auxiliary Equipment	Security Equipment	areawide	Equipment Purchase	NI	$12,000	5307
2023	STARS	Transit Capital	Bus Expansion	areawide	Transit Vehicle Replacement	NI	$131,250	5317
2023	MDOT	Traffic Safety	M-57	M-57 in Saginaw County	Signing Updates	CON	$277,604	HSIP/State
2023	MDOT	Reconstruction	M-58 E	Eastbound M-58	Reconstruction	CON	$11,883,394	HSIP/State
2023	Saginaw County	Traffic Safety	Dixie Highway	Dixie Highway at Curtis roundabout	Traffic Safety	CON	$750,000	HRRR
2023	Saginaw County	Bridge Rehabilitation	S. Hemlock Road	S. Hemlock Road Street	Bridge Rehabilitation	CON	$800,000	BHT
2023	MDOT	Traffic Safety	M-84 N.	Signing Upgrade	Traffic Safety	CON	$277,500	HSIP/State
2023	STARS	Transit Capital	New Freedom Mobility Management	areawide	Transit Capital	NI	$150,000	5317
2023	City of Saginaw	Reconstruction	Mackinaw Street	Alexander Street to	Reconstruction	CON	$2,026,108	STUL/Local
2023	MDOT	Traffic Safety	M-13	M-13 Non-Freeway Signing	Traffic Safety	CON	$92,000	HSIP/State
2023	MDOT	Traffic Safety	various locations	trunkline routes	Traffic Safety	CON	$3,220	HSIP/State
2023	Saginaw County	Road Rehabilitation	Seymour Road	Birch Run to Bell	Road Rehabilitation	CON	$1,100,000	STUL/Local
2023	Saginaw County	Road Capital Preventive Maintenance	Kochville Road	Michigan to Westervelt	Road Capital Preventive Maintenance	CON	$230,285	STUL/Local
2023	Saginaw County	Road Capital Preventive Maintenance	Dixie Highway	Hess Avenue to Fort	Road Capital Preventive Maintenance	CON	$1,449,500	STUL/Local
2023	MDOT	Traffic Safety	various locations	trunkline routes	Traffic Safety	CON	$512,785	HSIP/State
2023	Saginaw County	Road Rehabilitation	S. Front Street	Front Street from Peet	Road Rehabilitation	CON	$627,000	EDD/STUL/Local
2023	MDOT	Traffic Safety	I-75 S.	trunkline routes	Signing Updates	CON	$1,100,000	HISP/State
2023	MDOT	Traffic Safety	various locations	trunkline routes	Signing Updates	CON	$1,610	HSIP/State
2023	MDOT	Traffic Safety	various locations	trunkline routes	Traffic Safety	CON	$133,630	HSIP/State
2023	MDOT	Traffic Safety	various locations	trunkline routes	Traffic Safety	CON	$3,542	HSIP/State
2024	Saginaw County	Road Rehabilitation	Outer Drive	Perkins to I-675	Road Rehabilitation	CON	$300,000	STUL/Local
2024	Traffic Safety	Traffic Safety	various locations	trunkline routes	Signing Updates	CON	$3,220	HSIP/State
2024	Saginaw County	Road Rehabilitation	Hemmeter	State to McCarty	Road Rehabilitation	CON	$596,058	STUL/Local
2024	MDOT	Traffic Safety	various locations	trunkline routes	Signing Updates	CON	$1,610	HISP/State
2024	City of Saginaw	Road Rehabilitation	Sheridan Road	Treanor to Rust M-46	Road Rehabilitation	CON	$1,050,000	STUL/Local
2024	STARS	Transit Capital	Replacement Bus	areawide	Bus Purchase	NI	$500,000	5317

Chapter 8: Prioritized Projects

The Metropolitan Planning Organization
Saginaw Urbanized Area

2024	City of Saginaw	Road Rehabilitation	S. Jefferson	Hoyt to James	Road Rehabilitation	CON	$1,248,500	STUL/Local
2024	MDOT	Traffic Safety	M-81	trunkline routes	Signing Updates	CON	$69,000	HSIP/State
2024	STARS	Operating Assistance	Transit Operating	areawide	Operating Assistance	NI	$2,000,000	5307
2024	MDOT	Traffic Safety	various locations	trunkline routes	Signing Updates	PE	$3,220	HSIP/State
2024	MDOT	Traffic Safety		trunkline routes	Traffic Safety	CON	$512,785	HSIP/State
2024	MDOT	Traffic Safety	M-47	M-47 Geometric Improvements	Geometric Improvement	CON	$503,573	HSIP/State
2024	STARS	Preventative Maintenance	State Match Urban Agency	areawide	Transit Capital	NI	$750,000	5307
2024	MDOT	Traffic Safety	various locations	trunkline routes	Signing Updates	CON	$133,630	STUL/Local
2024	STARS	Transit Capital	Replacement Bus	areawide	Bus Purchase	NI	$250,000	5310
2024	MDOT	Traffic Safety		trunkline routes	Traffic Safety	CON	$3,542	STUL/Local
2024	STARS	Preventative Maintenance	Transit Capital	areawide	Transit Capital	NI	$125,000	5307
2024	MDOT	Reconstruction	I-675	I-675	Reconstruction	CON	$7,582,402	HISP/State
2024	City of Saginaw	Preventative Maintenance	Johnson Bridge	Johnson Bridge Over Saginaw River	Bridge Repair	CON	$410,000	BHT
2024	Saginaw County	Bridge Rehabilitation	S. Fordney	S. Fordney Road	Bridge Rehabilitation	CON	$800,000	BHT
2025	STARS	Transit Capital	Replacement Bus	areawide	Bus Purchase	NI	$250,000	5307
2025	STARS	Transit Capital	Replacement Bus	areawide	Bus Purchase	NI	$187,500	5307
2025	STARS	Preventative Maintenance	Transit Capital	areawide	Transit Capital	NI	$125,000	5307
2025	STARS	Preventative Maintenance	Transit Capital	areawide	Transit Capital	NI	$812,500	5307
2025	STARS	Transit Capital	Replacement Bus	areawide	Transit Capital	NI	$125,000	5307
2025	STARS	Transit Capital	Replacement Bus	areawide	Transit Capital	NI	$500,000	HISP/State
2025	City of Saginaw	Road Rehabilitation	Hess St.	S. Jefferson to Sheridan	Road Rehabilitation	CON	$1,878,500	STUL/Local
2025	MDOT	Traffic Safety	Signing Update	trunkline routes	Signing Updates	CON	$3,220	HISP/State
2025	MDOT	Traffic Safety	Signing Update	trunkline routes	Signing Updates	CON	$532,105	HISP/State
2025	Saginaw County	Road Rehabilitation	Brockway	Center to Wineke	Road Rehabilitation	CON	$360,000	STUL/Local
2025	MDOT	Traffic Safety	various locations	trunkline routes	Traffic Safety	CON	$1,610	HSIP/State
2025	MDOT	Traffic Safety	various locations	trunkline routes	Traffic Safety	CON	$85,330	HISP/State
2025	Saginaw County	Road Rehabilitation	Michigan Avenue	Weiss to Shattuck	Road Rehabilitation	CON	$300,000	STL/Local
2025	MDOT	Traffic Safety	various locations	trunkline routes	Signing Updates	CON	$3,542	HISP/State
2025	City of Saginaw	Non-Motorized Project	Belle Wickes	Wickes to Janes	Resurfacing existing roadway	CON	$75,000	Local
2026	Saginaw County	Road Rehabilitation	Tittabawassee	Bay to Michigan	Road Rehabilitation	CON	$1,318,800	STUL/Local

Chapter 8: Prioritized Projects

The Metropolitan Planning Organization
Saginaw Urbanized Area

2026	MDOT	Traffic Safety	various locations	trunkline routes	Signing Updates	PE	$3,220	HSIP/State
2026	MDOT	Traffic Safety	various locations	trunkline routes	Signing Updates	CON	$520,835	HSIP/State
2026	MDOT	Traffic Safety	various locations	trunkline routes	Signing Updates	PE	$1,610	HSIP/State
2026	MDOT	Traffic Safety	various locations	trunkline routes	Signing Updates	CON	$69,230	HSIP/State
2026	MDOT	Traffic Safety	various locations	trunkline routes	Signing Updates	PE	$3,542	HSIP/State
2026	City of Saginaw	Road Rehabilitation	Perkins Street	Genessee to 17th	Road Rehabilitation	CON	$1,999,000	STUL/Local
2026	STARS	Preventative Maintenance	Transit Capital	areawide	Transit Capital	NI	$875,000	5307
2026	STARS	Transit Capital	Replacement Bus	areawide	Transit Capital	NI	$250,000	5317
2026	STARS	Operating Assistance	State Match Urban Agency	areawide	Operating Assistance	NI	$2,000,000	5307
2026	STARS	Transit Capital	Replacement Bus	areawide	Bus Purchase	NI	$125,500	5317
2026	STARS	Preventative Maintenance	Transit Capital	areawide	Transit Capital	NI	$125,000	5307
2026	STARS	Transit Capital	Replacement Bus	areawide	Bus Purchase	NI	$187,500	5310
2026	STARS	Transit Capital	Replacement Bus	areawide	Bus Purchase	NI	$500,000	5310
by 2027	City of Saginaw	Non-Motorized Project	Iron Belle	Iron Belle Trail North Connector Janes Ave. to Weiss	Constructing	CON	$1,000,000	Local
by 2027	MDOT	Traffic Safety	various locations	trunkline routes	Signing Updates	PE	$3,542	HSIP/State
by 2026	Saginaw County	Resurface	Center Road	State to 450 N. State Street	Mill and Fill	CON	$150,000	STL/Local
by 2026	Saginaw County	Capacity	Center Road	Michigan to Gratiot Road	Capacity Project	CON	$2,500,000	STL/Local
by 2026	MDOT	Road Rehabilitation	M-52	Saginaw to Gratiot County Line M-52	Restore & Rehabilitate	CON	$5,792,000	HSIP/State
by 2026	Saginaw County	Road Rehabilitation	Dixie Highway	Curtis Rd. to Birch Run Rd.	Convert current 4- lane configuration to 3 lanes	CON	$17,500,000	STL/Local
by 2026	City of Saginaw	Lane Configuration	Michigan Avenue	Michigan/ Johnson Bridge/Niagara	Convert current 4-lane configuration to 3 lane	CON	$1,600,000	STUL/Local
by 2026	Saginaw County	Road Rehabilitation	Tittabawassee Road	Mackinaw Rd to Lawndale Rd.	Add continuous center left turn lane	CON	$3,500,000	STL/Local
by 2026	City of Saginaw	Road Rehabilitation	Davenport Avenue	Michigan Ave. to Johnson St. Bridge/Niagara St.	Convert current 4-lane configuration to 3 lane	CON	$1,600,000	STL/Local
by 2026	City of Saginaw	Reconstruction	Mackinaw Street	Congress to Alexander St.	Reconstruct road with two lane asphalt, cur and gutter cross section, including left turn lanes at major intersection.	CON	$1,800,000	STL/Local
by 2026	City of Saginaw	Reconstruction	Congress Avenue	Court St. to Brenner St.	3 Lane HMA Reconstruct	CON	$800,000	STL/Local

Chapter 8: Prioritized Projects

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Saginaw Urbanized Area

by 2026	City of Saginaw	Road Rehabilitation	Mason Street	Remington to State St.	Mill and Resurface HMA	CON	$260,000	STL/Local
by 2035	MDOT	Culvert Replacement	M-46	Over McClellan Run Creek	Culvert Replacement	CON	$2,971,000	HSIP/State
by 2035	Saginaw County	Reconstruction	McCarty Road	Bay to Fashion Square	Reconstruct 3 lanes	CON	$600,000	STL/Local
by 2035	City of Saginaw	Road Rehabilitation	S. Michigan Avenue	Joslin to Dearborn	HMA Reconstruct	CON	$2,500,000	STL/Local
by 2035	Saginaw County	Reconstruction	Michigan Avenue	Center to Saginaw City Limits	Reconstruct	CON	$2,000,000	STL/Local
by 2045	City of Saginaw	Mill and Resurface	Oakley Street	Oakley to Michigan Avenue	2' Mill and Resurface	CON	$300,000	STL/Local
by 2045	Saginaw County	Road Rehabilitation	M-46	Merrill West Village Limits to Brennan Rd.	Road Rehabilitation	CON	$4,915,000	STL/Local
by 2045	Saginaw County	Road Rehabilitation	Tittabawassee Road	Michigan to Bay	Pavement Joint Repair	CON	$1,500,000	STL/Local
by 2045	City of Saginaw	Reconstruction	Bay Street	Alexander Street to State Street M-58	Reconstruct road with three-lane asphalt, curb and gutter cross section, including	CON	$2,300,000	STL/Local
by 2045	City of Saginaw	Reconstruction	Webber Street	Washington M-13 to City Limits	Reconstruct road with two-lane asphalt, curb and gutter cross section, including left-turn lanes at major intersections	CON	$5,800,000	STL/Local
by 2045	City of Saginaw	Mill and Resurface	Mason Street	Brockway to Remington	Mill and Resurface HMA 2 inch	CON	$570,000	STL/Local
by 2045	Saginaw County	Reconstruction	Williamson	Dixie to Treanor	Reconstruct	CON	$5,000,000	STL/Local
by 2045	Saginaw County	Rehabilitation	Freeland Road	Garfield to Webster	Rehabilitation	CON	$997,500	STL/Local
by 2045	MDOT	Bridge Replacement	I-75 Bridges	Over CSX Railroad	Bridge Projects	CON	$14,676,000	HSIP/State
by 2045	City of Saginaw	Mill and Resurface	Court Street	Oakley to Michigan	2' Mill and Resurface	CON	$300,000	STL/Local
by 2045	City of Saginaw	Reconstruction	Hess Avenue	Washington to M-13 to City Limits	Reconstruction	CON	$8,000,000	STUL/Local

Chapter 9: Unfunded Project List

The Metropolitan Planning Organization Saginaw Urbanized Area

The following projects have not been programmed for improvements at the adoption of the LRTP 2045. Unfunded (illustrative) projects may be considered for future programming contingent upon additional resources becoming available. An LRTP amendment would be required to add them to the fiscally constrained financial plan.

by 2027	City of Saginaw	Non-Motorized Project	Iron Belle	Iron Belle Trail North Connector Janes Ave. to Weiss	Constructing	CON	$1,000,000
by 2027	MDOT	Traffic Safety	various locations	trunkline routes	Signing Updates	PE	$3,542
by 2035	MDOT	Culvert Replacement	M-46	Over McClellan Run Creek	Culvert Replacement	CON	$2,971,000
by 2035	Saginaw County	Reconstruction	McCarty Road	Bay to Fashion Square	Reconstruct 3 lanes	CON	$600,000
by 2035	City of Saginaw	Road Rehabilitation	S. Michigan Avenue	Joslin to Dearborn	HMA Reconstruct	CON	$2,500,000
by 2035	Saginaw County	Reconstruction	Michigan Avenue	Center to Saginaw City Limits	Reconstruct	CON	$2,000,000
by 2045	City of Saginaw	Mill and Resurface	Oakley Street	Oakley to Michigan Avenue	2' Mill and Resurface	CON	$300,000
by 2045	Saginaw County	Road Rehabilitation	M-46	Merrill West Village Limits to Brennan Rd.	Road Rehabilitation	CON	$4,915,000
by 2045	Saginaw County	Road Rehabilitation	Tittabawassee Road	Michigan to Bay	Pavement Joint Repair	CON	$1,500,000
by 2045	City of Saginaw	Reconstruction	Bay Street	Alexander Street to State Street M-58	Reconstruct road with three-lane asphalt, curb and gutter cross section, including	CON	$2,300,000
by 2045	City of Saginaw	Reconstruction	Webber Street	Washington M-13 to City Limits	Reconstruct road with two-lane asphalt, curb and gutter cross section, including left-turn lanes at major intersections	CON	$5,800,000
by 2045	City of Saginaw	Mill and Resurface	Mason Street	Brockway to Remington	Mill and Resurface HMA 2 inch	CON	$570,000
by 2045	Saginaw County	Reconstruction	Williamson	Dixie to Treanor	Reconstruct	CON	$5,000,000
by 2045	Saginaw County	Rehabilitation	Freeland Road	Garfield to Webster	Rehabilitation	CON	$997,500
by 2045	MDOT	Bridge Replacement	I-75 Bridges	Over CSX Railroad	Bridge Projects	CON	$14,676,000
by 2045	City of Saginaw	Mill and Resurface	Court Street	Oakley to Michigan	2' Mill and Resurface	CON	$300,000
by 2045	City of Saginaw	Reconstruction	Hess Avenue	Washington to M-13 to City Limits	Reconstruction	CON	$8,000,000

Figure 16: Unfunded Project List

Chapter 10: Environmental Mitigation & Justice

The Metropolitan Planning Organization Saginaw Urbanized Area

Environmental Mitigation

SATA has considered potential impacts on environmentally sensitive areas by the listed projects. The intent of the environmental mitigation process is to ensure that the decision makers and implementing agencies take into account any potential environmental impacts associated with the recommended transportation projects, so that consideration can be given to how such impacts can be mitigated.

This was accomplished by comparing the locations of the various transportation projects to available Geographic Information System (GIS) data layers containing relevant information. This information was obtained from the Saginaw Area GIS Authority (SAGA), of which Saginaw County is a member. The transportation projects were evaluated for their potential impacts on flood zones, wetlands, water bodies, and public lands (state, federal, and county).

In Chapter 6 Travel Demand Model identifies capacity improvement projects in relation to environmentally sensitive areas. All the listed local projects will be constructed within the existing right-of- way, which will help to minimize any impacts. From this initial review, it was determined that the following local projects have the potential for environmental impacts:

Route	Limits	Year	Type of Area Impacted
Dixie Highway	Various sequent	by 2026	100- year flood plain
Davenport Avenue	Michigan to Johnson St. Bridge/Niagara	by 2026	100-year flood plain
Center Street Bridge	n/a	by 2026	100-year flood plain

Figure 17: Potential Environmental Impacts Project List

Chapter 10: Environmental Mitigation & Justice

The Metropolitan Planning Organization Saginaw Urbanized Area

It is important to note an initial finding that a project has the potential to impact a resource or sensitive area does not mean that the project cannot be built. This analysis is simply meant to call attention to potential impacts, and to ensure that environmental resources are adequately considered in all phases of project planning, design, construction, and maintenance.

SATA and the agencies responsible for project implementation will take appropriate measures to minimize environmental impacts from the projects listed in this plan by following the guidelines established by the American Association of State Highway and Transportation Officials (AASHTO) Center for Environmental Excellence. Internet access to this resource is available at the following link (http:/ /www.environment.transportation.org). This site is intended to be a "one stop" source of environmental information for transportation professionals. The implementing agencies are encouraged to consult this resource and to utilize best practices in addressing potential impacts:

SATA includes in its LRP 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 metropolitan transportation plan. The purpose of this discussion is to ensure that environmental resources are adequately considered in all phases of project planning, design, construction, and maintenance.

Chapter 10: Environmental Mitigation & Justice

The Metropolitan Planning Organization Saginaw Urbanized Area

SATA and the partner agencies responsible for project implementation will take appropriate measures to minimize environmental impacts from the projects listed in this plan by following the guidelines established by the American Association of State Highway and Transportation Officials (AASHTO) Center for Environmental Excellence resource is available at the following link (www.environment.transportation.org). This site is intended to be a "one stop" source of environmental information for transportation professionals. The implementing agencies are encouraged to consult this resource and to utilize best practices in addressing potential impacts.

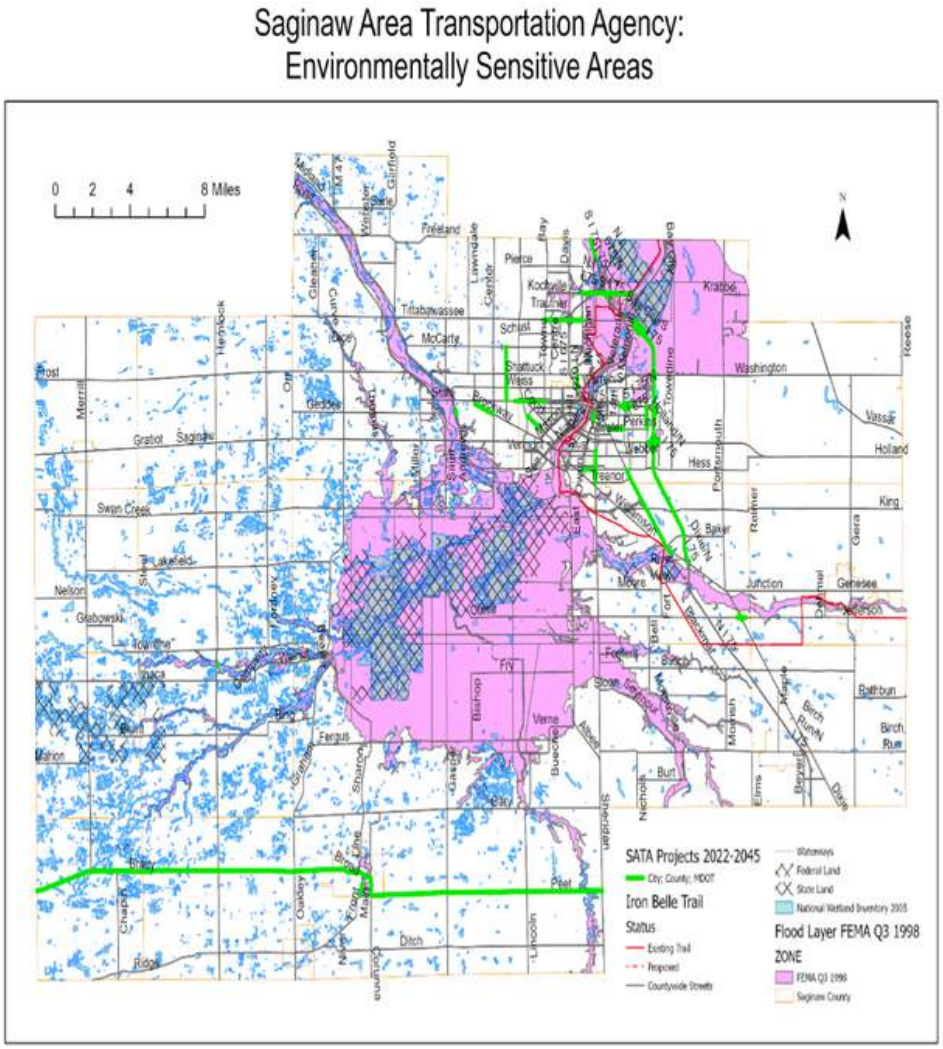

Figure 18: Environmentally Sensitive Areas

Chapter 11: Environmental Justice Analysis

The Metropolitan Planning Organization
Saginaw Urbanized Area

Executive Order (E.O.) 12698 issued in 1994 directs federal agencies to: identify and address Saginaw Urbanized Area the disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations, to the greatest extent practicable and permitted by law. Its focus was to Address Environmental Justice in Minority Populations and Low Income Populations (DOT Order 5610.2(a)).

The order generally describes the process for incorporating environmental justice principles into all DOT programs, policies, and activities. Environmental justice is an important part of the planning process and must be considered in all phases of planning. This includes all participation activities, the development of the Metropolitan Transportation Plan, and preparation of Transportation Improvement Programs that are adopted by SATA. Specifically,

SATA will ensure that environmental justice concerns are adequately considered within the project planning process and as part of its established Participation Plan activities.

Environmental justice includes the following fundamental concepts:

1. To avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority populations and low-income populations.
2. To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
3. To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority populations and low-income populations. .

4. SATA will aggressively participate in meetings and activities that will inform and encourage active participation in the transportation planning process in these very select communities. This is in addition to website adjustments detailed in chapter 10.

5. To help in accomplishing the above SATA will incorporate the latest demographic information and data to assist in addressing current Environmental Justice topics with the 21st century SATA Public Participation Plan document.

SATA will continue to work with all stakeholders to identify the residential, employment, and transportation patterns of low-income and minority populations so that their needs can be identified and addressed, and the benefits and burdens of transportation investments can be fairly distributed. SATA will also continue to evaluate and where necessary, improve the Public Participation Plan to eliminate barriers and engage minority and low-income populations in transportation decision making.

SATA will also continue to encourage the active participation of well-informed individuals, community groups, and other non-governmental organizations. The involvement of these individuals and groups advances the spirit and intent of environmental justice in transportation planning when they become involved in participation activities.

A basic concept is that early stakeholder involvement greatly improves opportunities for groups and individuals to achieve their desired impact on the process. There are many situations where public participation has influenced transportation decisions made in our community. SATA will encourage both early stakeholders and the entire process involvement to maximize community inclusion.

Chapter 11: Environmental Justice Analysis

The Metropolitan Planning Organization Saginaw Urbanized Area

SATA has developed an extensive list of organizations as part of its public participation and consultations efforts. However, the following groups are especially relevant as part of the outreach efforts for environmental justice purposes:

- Community Action Committee (programs for low income & elderly)
- Salvation Army
- First Ward Community Center (Potter-Longstreet Neighborhood)
- SVRC Industries (vocational rehabilitation services)
- Saginaw Chippewa Indian Tribe
- AARP, Michigan Chapter
- Saginaw County Commission on Aging

This list will continue to grow as additional groups are identified. Environmental justice efforts are ongoing as part of SATA's outreach and community involvement efforts. Specific strategies will be developed with each group after initial contact and discussions have occurred. This will ensure that the strategies will be developed jointly and cooperatively between the MPO and community organizations representing low-income populations and minority populations.

Definition of "Minority" for Purposes of Environmental Justice
According to the U.S. DOT Order 5610.2 the following groups are defined as "minority":

1. Black (a person having origins in any of the black racial groups of Africa).
2. Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race).
3. Asian American (a person having origins in any of the original people of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands).

4. American Indian and Alaskan Native (a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition).

5. Native Hawaiian or Other Pacific Islander (people having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands).

Definition of "Low-income" for Purposes of Environmental Justice

Low-income is defined as a person whose household income is at or below the Department of Health and Human Services (HHS) poverty guidelines. HHS poverty guidelines are used as eligibility criteria for the Community Services Block Grant Program and a number of other federal programs. However, a state or locality may adopt a higher threshold for low-income, as long as the higher threshold is not selectively implemented and is inclusive of all persons at or below the HHS poverty guidelines.

Analysis for SATA Area All Projects

In accordance with Federal guidelines on Environmental Justice (EJ) that amplify Title VI of the Civil Rights Act, recent attention has been placed on the need to incorporate environmental justice principles into the process of transportation planning, as well as the implementation of projects. While procedural and analytical processes for meeting these requirements are largely unspecified, the potential for disproportionate impacts of transportation improvement projects on racial minorities and impoverished neighborhoods must be considered. SATA has conducted an analysis within the metropolitan planning area to identify the intensity and location of racial minority populations. Additionally, SATA will conduct a review of populations below poverty level in the 2010 Census.

Chapter 11: Environmental Justice Analysis

The Metropolitan Planning Organization Saginaw Urbanized Area

The SATA area, as shown in figure 19 is predominately white in terms of race (66.79%), with minorities representing 33.21%. Further, there are 15,493 below-poverty-level households in the SATA area representing 17.8% of all households. Figure 20 shows the summary of the minority populations and households below poverty level for the SATA area and the percentages of each group located within a 0.25-mile radius of the 2022-2045 LRTP projects. As the data shows, there are not any groups that are disproportionately neglected or overexposed in terms of proposed transportation projects.

Data also shows that the low-income population within the SATA area is neither disproportionately burdened nor neglected with respect to future transportation improvements.

Percentage of Total Racial Distribution

Area	SATA MPO	SATA MPO	EJ Impact Area (0.25 miles)	% Within Impact Area
AREA	816	40.9		
Total Pop	200,169		12698	47.68%
White	133,699	66.79%	10416	39.11%
African American	38,114	19.04%	134	0.50%
Native American	877	0.44%	199	0.75%
Asian	2,108	1.05%	1071	4.02%
Hispanic	15,573	7.78%	9	0.04%
Hawaiian	65	0.03%	1106	4.15%
Other Races	4,757	2.38%	999	3.75%
Two or More Races	4,976	2.49%	12698	47.68%
Total Households	87,037			
Households below Poverty Level	15,493	17.8	7,487	48.3%

Figure 19: Percentage of Total Racial Distribution

Chapter 11: Environmental Justice Analysis

The Metropolitan Planning Organization Saginaw Urbanized Area

The table above compares the minority populations within the Impact Area to the total population within the Impact Area. This analysis shows that similar percentages of most minority groups and low-income population are represented within impact areas of proposed transportation projects. Accordingly, it seems clear that imminent transportation system investments are affecting all involved in a similar manner and the projects do not disproportionately burden nor fail to meet the needs of any segment of the population.

Area	SATA MPO	EJ Impact Area (0.25 miles)	% Within Impact Area
Total Pop	200,169	26633	13.31%
White	133,699	12698	9.50%
African American	38,114	10416	27.33%
Native American	877	134	15.29%
Asian	2,108	199	9.43%
Hispanic	15,573	1071	6.88%
Hawaiian	65	9	14.42%
Other Races	4,757	1106	23.26%
Two or More Races	4,976	999	20.08%
Total Households	87,037		
Households below Poverty Level	15,493	0	48.33%

Figure 20: Percentage of Minority Groups Impacted

Analysis of SATA Area for All Projects

SATA has developed and maintains a demographic profile of the transportation planning area that includes identification of the locations of minority populations and low-income populations as covered by the executive order on environmental justice. For the 2045 plan, similar profiles were prepared using the 2010 Census information from the previous 2045 plan.

Chapter 11: Environmental Justice Analysis

The Metropolitan Planning Organization Saginaw Urbanized Area

Using the latest Census data at the tract level, a series of Environmental Justice (EJ) Analysis maps was developed. The maps identified all Census tracts where the population exceeded the countywide average for the following environmental justice factors: Low Income Areas, African American Minority Areas, Hispanic Minority Areas, Asian American Minority Areas, and American Indian Minority Areas. The locations of the capacity projects listed in the plan were then overlaid on the maps to provide a visual analysis of the areas that may be impacted by the various projects.

In summary, this analysis shows that all transportation projects prioritized from years 2022-2045 within the project list identified Chapter 8 are located throughout the SATA planning area and that no population groups are disproportionately neglected or involved in any relocations or displacements.

Review of the preceding tables and the maps indicates that SATA's site-specific 2045 Plan projects will impact non-minority as well as minority and low-income populations. The figures in the tables suggest that larger percentages of the non-white populations may be impacted during the construction phase of the projects. However, the completion of these projects will, in turn, provide a higher benefit to those project areas than the overall population. None of the planned projects involve residential displacements. Other construction related project impacts, such as noise, dust, and access inconvenience will be temporary and confined to the traditional construction season.

During the planning process, all projects will have an opportunity for public comment and participation. Project open houses are held for major projects to discuss the impacts of the project on the community, including any impacts on low-income populations or minority populations. Also, during construction, appropriate detour routes are developed to minimize delay and disruption on all population groups.

Chapter 11: Environmental Justice Analysis

The Metropolitan Planning Organization Saginaw Urbanized Area

Having followed the appropriate environmental justice practices, SATA has not identified any disproportionately (unusually high) adverse impacts on minority or low-income populations that would result from the projects selected for the 2045 Metropolitan Transportation Plan.

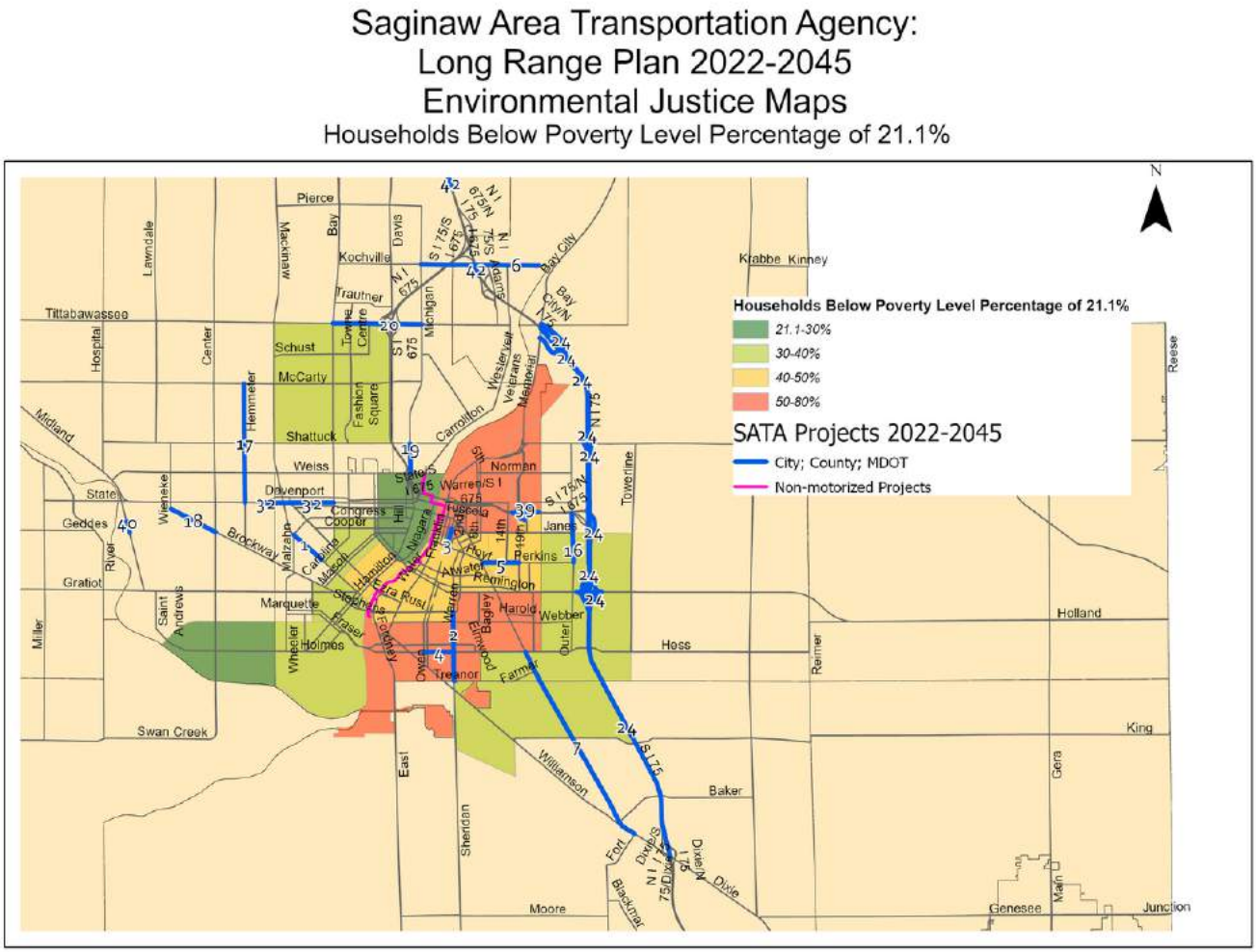

Figure 21: EJ Household Below Poverty

Chapter 11: Environmental Justice Analysis

The Metropolitan Planning Organization Saginaw Urbanized Area

Saginaw Area Transportation Agency:
Long Range Plan 2022-2045
Environmental Justice Maps
African American Populations above Area Average of 22.7%

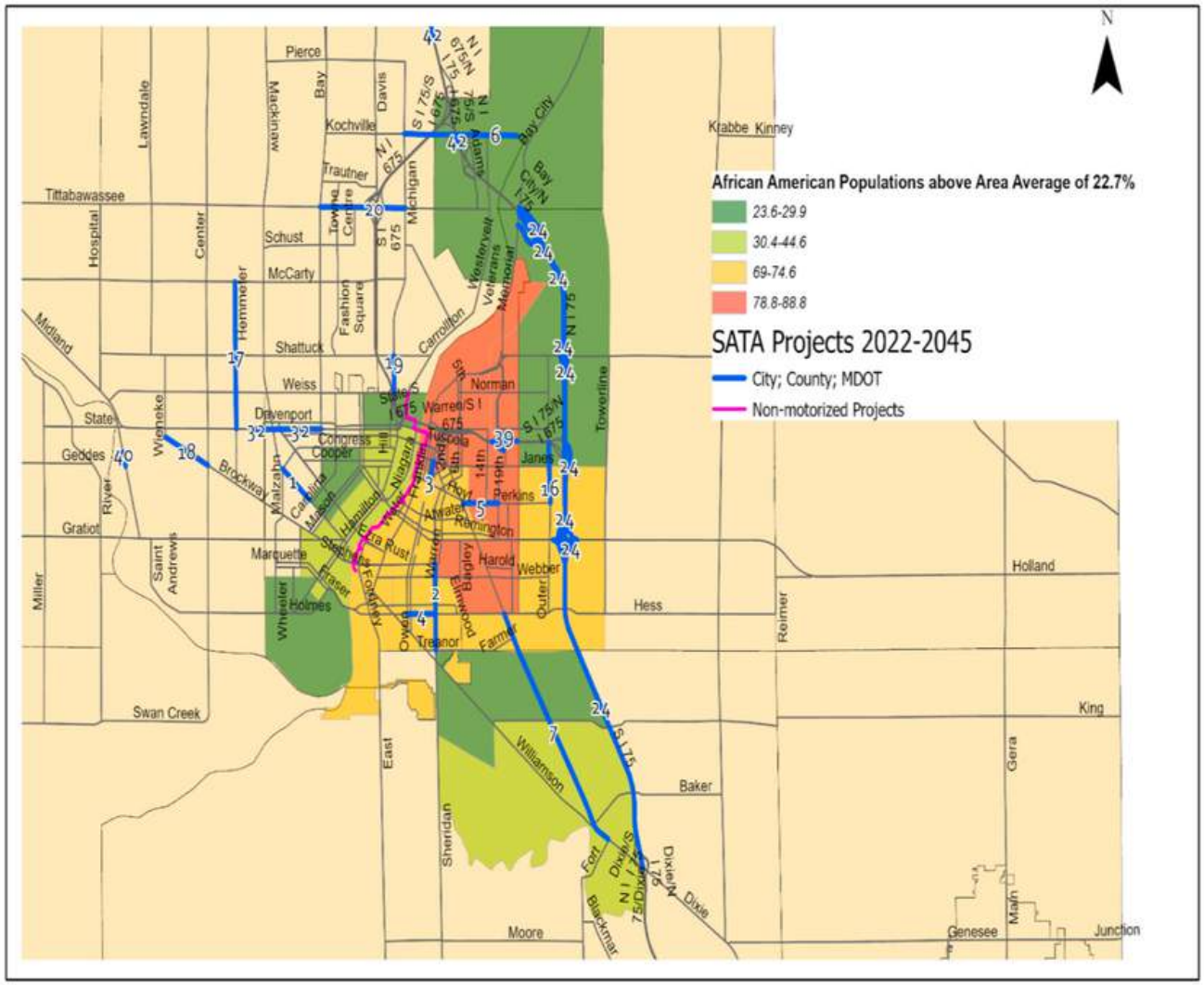

Figure 22: EJ African American Populations

Chapter 11: Environmental Justice Analysis

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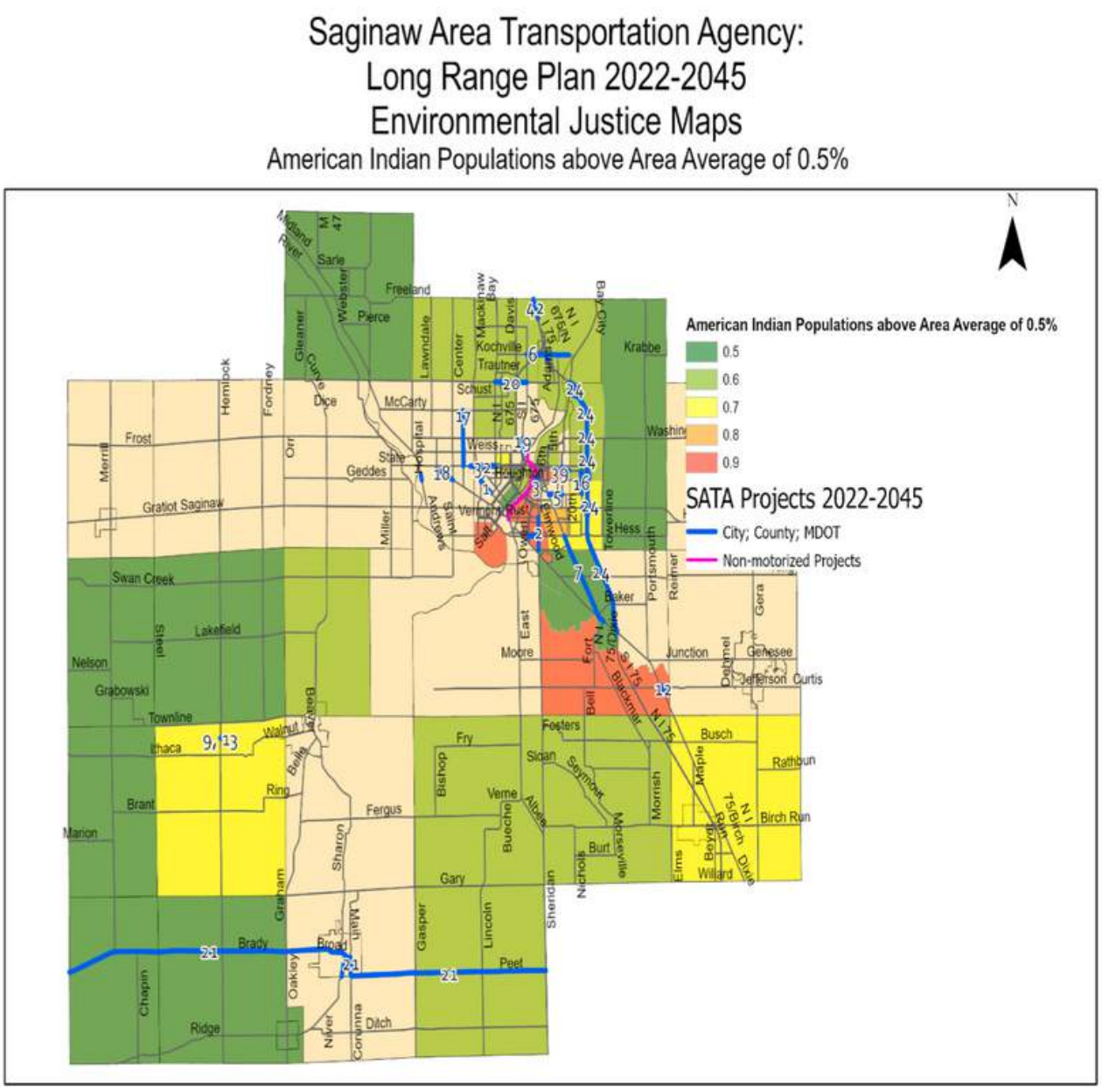

Figure 23: EJ American Indian Populations

Chapter 11: Environmental Justice Analysis

The Metropolitan Planning Organization Saginaw Urbanized Area

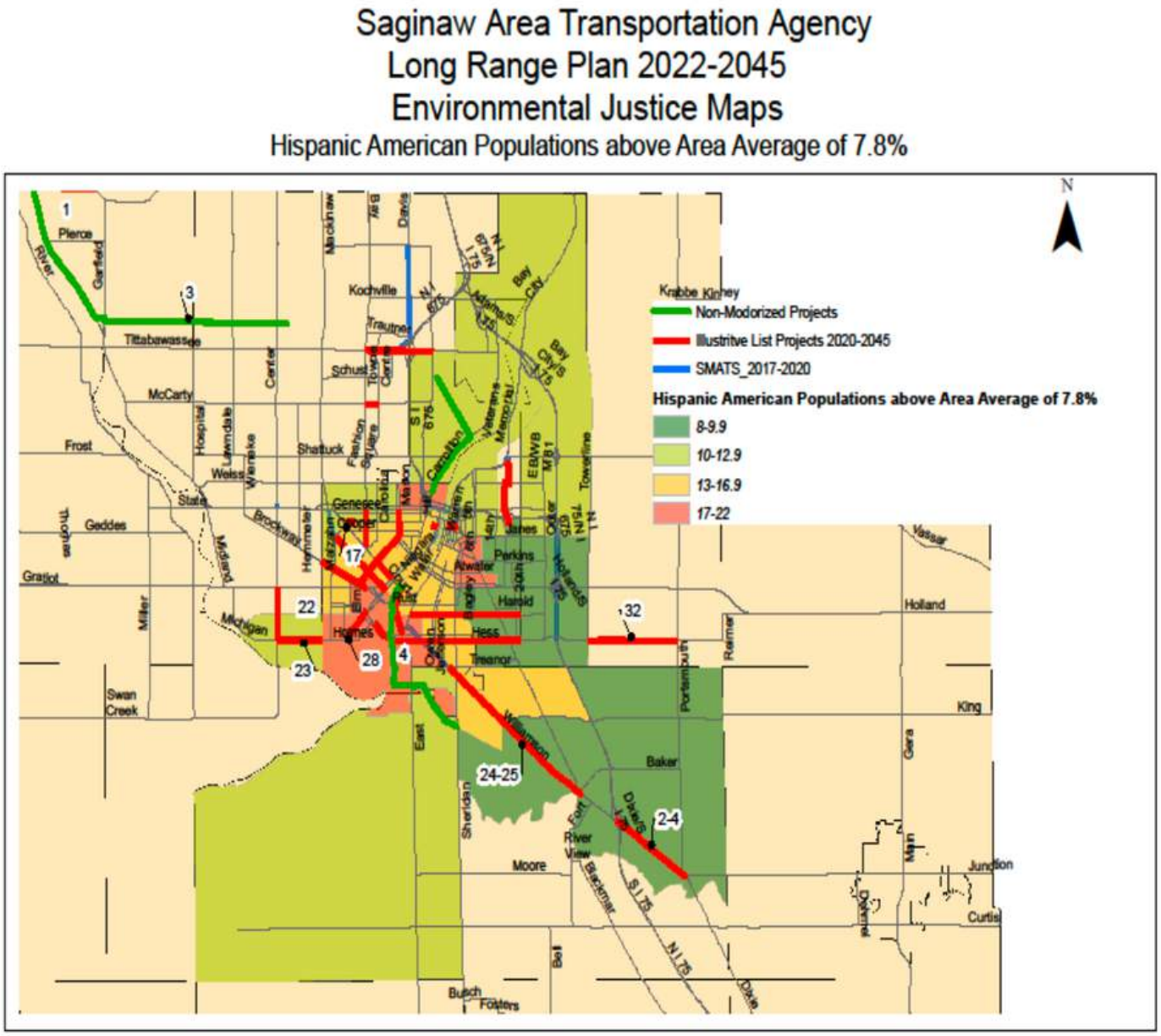

Figure 24: EJ Hispanic Populations

Chapter 11: Environmental Justice Analysis

The Metropolitan Planning Organization Saginaw Urbanized Area

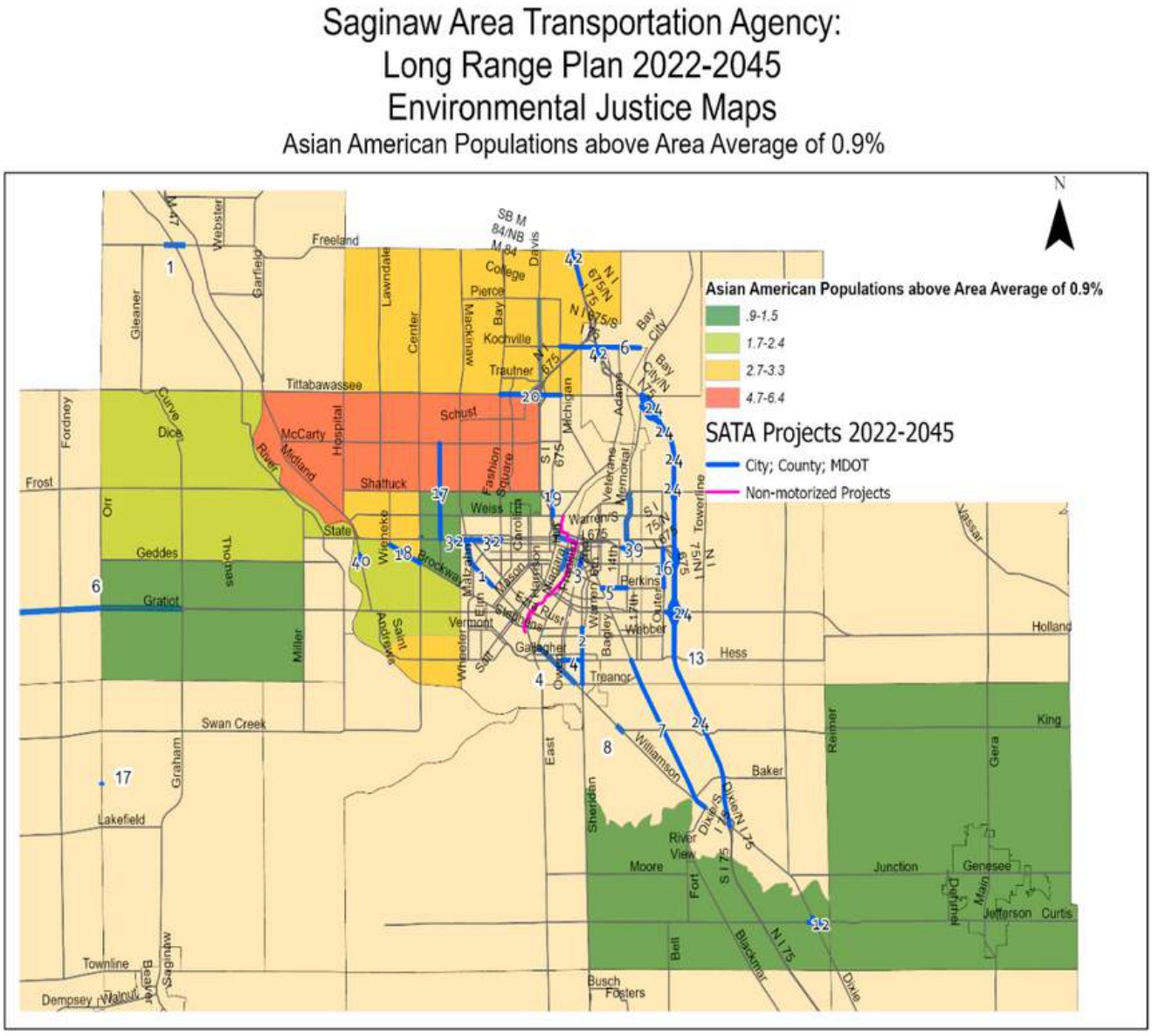

Figure 25: EJ Asian Populations

Chapter 12: Public Participation & Consultation Efforts

The Metropolitan Planning Organization Saginaw Urbanized Area

SATA serves all people, including minority populations, low-income populations, the elderly, persons with disabilities, and those who travel within the Metropolitan Area.

SATA recognizes its responsibility to provide fairness and equity in all its programs, services, and activities. In keeping with this responsibility, SATA actively seeks to involve its stakeholders in its planning efforts. The latest version of the SATA Participation Plan was revised in November 2021. The Participation Plan is intended to accomplish the following major objectives:

- Create a process that will improve and increase participation in the transportation planning process by all stakeholders.
- Provide for early involvement in the planning process by stakeholders to ensure there are ample opportunities to participate in key decisions.
- Facilitate access to the transportation planning process by populations that typically lack formal access, such as low income, elderly, minorities, and persons with disabilities.
- Encourage involvement in the planning process by non-traditional participants.

- Foster a process that will result in transportation plans and projects that reflect the values of the communities that SATA serves.

In response to not having the volume of participation desired, SATA will address strategy to remedy things we could do that would create interest, such as: creating and implementing a new web page specific to transportation feedback and tracking on the SATA public website .This will provide us an opportunity for gaining input on numerous topics throughout the planning cycle.

Compliance with Federal Requirements

MPO's such as SATA are required to develop and utilize a proactive public participation process that provides complete information, timely public notice, full public access to key decisions, and that supports continuing public involvement in the development of metropolitan transportation plans and transportation improvement programs. These requirements were first established by Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, and continued by its successor, the Transportation Equity Act for the 21st Century (TEA-21), in 1998. In 2006, the Safe, Affordable, Flexible and Efficient Transportation Equity Act - A Legacy for Users (SAFETEA-LU) further expanded public participation provisions by requiring MPO's to develop enhanced participation plans. These enhanced requirements included the following additional areas of emphasis:

- Conduct public meetings at convenient times and accessible locations.
- Make long range transportation plans and improvement plans available in electronic formats and means (such as on the Internet) as appropriate.
- Implement visualization techniques to describe metropolitan transportation plans and improvement programs.

Public Transit Program of Projects

The public participation program described in this document is used to satisfy the public participation process for the Program of Projects (POP), as prescribed in accordance with Chapter 53 of Title 49, United States Code (FTA requirements), and the metropolitan and statewide planning regulations under MAP-21, for the Saginaw Transit Authority Regional Services (STARS).

Participation Process

The components of this Participation Plan are included in the development, adoption, and amendment of SATA Transportation plans and programs. The participation process pertains specifically to the SATA Transportation Improvement Program (TIP) and the SATA Metropolitan Transportation Plan (MTP). The Participation Plan will be monitored and reviewed on a bi-annual basis to evaluate its effectiveness. The strategies identified in this plan are intended to result in well attended public meetings, local news coverage of programs, and more public interest in transportation issues within the region. A public comment period of 30 days is provided prior to the adoption or amendment of the Participation Plan in accordance with federal guidelines.

Chapter 12: Public Participation & Consultation Efforts

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Travel Demand Model Development Activities

During the development of the Great Lakes Bay Region Travel Demand Model for the 2045 MTP, SATA staff consulted with representatives of the communities both within and outside the urbanized area to review the updated socio-economic data for the base year and forecast years. Most of this consultation took place during 2021. These discussions focused on projected residential development and population changes, employment changes, and general transportation issues. In the fall of 2021 the model was completed and its results are included in Chapter 6 of this plan.

Consultation Efforts

As part of the plan's development, SATA has consulted with several agencies. Much of this consultation and coordination takes place on a frequent, ongoing basis, such as the interaction that occurs with MDOT Bay Region staff, STARS public transit staff, and the staffs of the Saginaw County Road Commission and the City of Saginaw Traffic Engineering. Other specific consultation activities that have occurred to date during the development of the MTP are described in the rest of this section.

A requirement for the development of long-range plans, since the implementing regulations of SAFETEA-LU back in 2005, is the aspect of “Consultation” with federal, state, and local entities that are responsible for the following:

- Economic growth and development
- Environmental protection
- Airport operations
- Freight movement
- Land use management

- Natural resources
- Conservation
- Historic preservation
- Human service transportation providers

Ongoing Consultation

Consultation efforts will continue during the review of the draft 2045 MTP. MPO staff will make additional outreach efforts with appropriate agencies, including the offering the opportunity to arrange individual meetings with stakeholder organizations if desired. The results of these further consultation activities will be reported in the final plan document. A complete list of stakeholders contacted during the MTP review process will be included in an appendix. SATA staff will hold at least 2 Open House meetings during the development and bringing public awareness of the MTP. These informal open houses provided opportunities to review and discuss the draft MTP. All the stakeholders identified in the Participation Plan will be contacted regarding the availability of the draft Metropolitan Transportation Plan and encouraged to review the full document and submit comments during the public review period. All written and verbal comments received will be included in an appendix in the final plan document.

SAGINAW URBAN HISTORY

The name Saginaw is derived from the language of the Chippewa Indians and it means land of the Sauks. The entire Saginaw Valley was inhabited by the Warlike Sauks. However, around the year 1520, the Chippewa's invaded the territory in great force and in the series of battles, the Sauks were virtually annihilated. The bloodiest of the battles was fought on what has since been known as Skull Island in the Saginaw River and on a bluff on the Flint River about a mile from the present village of Flushing.

Chapter 12: Public Participation & Consultation Efforts

The Metropolitan Planning Organization Saginaw Urbanized Area

Treaty of Saginaw -General Lewis Cass, Representing the President of the United States, concluded the treaty of the Saginaw with the Chippewa Indians. In it the Indians ceded to the United States Government thousands of acres of land, included all the land encompassed by the boundaries of the County of Saginaw.

The site on which the council was held is what is known the corner of Throop and north Hamilton Streets, in the City of Saginaw. The spot is now marked by boulder and plaque erected in 1916 by the daughters of the American Revolution and the City Federation of Women's Clubs.

Last Thoughts on Public Involvement

This is a new day with bringing the message of Transportation Planning activities to the front of the communities' attention. SATA will continue to make engagement a priority when available by providing a virtual public participation option for public involvement.

With the energy and focus that performance measures will bring, the SATA public involvement activities must reflect the new day.
It is important to note, SATA does have solid building blocks to move forward. Among them are:

- A public participation plan that will enable SATA to improve and increase participation into the transportation planning process.
- Environmental justice measures to prevent the denial of, reduction in, or significant delay in the receipt of transportation benefits by low-income and minority population.

Chapter 12: Public Participation & Consultation Efforts

The Metropolitan Planning Organization Saginaw Urbanized Area

- New and improved interactive website with more enhancements on the horizon to maximize easy and frequent feedback and communication opportunities with MPO staff to utilize in our
- planning dialog at meetings and in planning projects. This alone would increase by a large amount public participation/input to all planning projects and annual documents.
- Long-established relationship with EPA staff located in Saginaw to deal with local issue pertaining to the Tittabawassee River area.
- Experience facilitating participation of non-traditional participants in the planning process.
- History of encouraging timely and early participation to ensure the opportunity for comment (by stakeholders and the public) on transportation decisions.
- Development of transportation plans and projects that reflect SATA communities' values.

Chapter 13: Executive Summary

The Metropolitan Planning Organization
Saginaw Urbanized Area

The Saginaw Area Transportation Agency (SATA), as the Metropolitan Planning Organization (MPO) for the Saginaw urbanized area, is charged by the Federal Department of Transportation (DOT) with maintaining a continuing, comprehensive, and cooperative transportation planning program. At present, this charge includes the development of a transportation plan, with a horizon of 23-years, that is fiscally constrained by reasonably available revenues.

An important first step in any planning effort is the development of goals & objectives to support and to provide direction for the planning work to come. Goals & objectives reflect the values and desires of the individuals setting them. Goals & objectives are also valuable in measuring the effectiveness and success of the plans that are developed. Some of the objectives may compete or conflict with one another. This is to be expected, as the goals & objectives are broad in nature and designed to deal with many issues. It is the responsibility of the policy decision-makers to weigh the trade-offs between the goals & objectives when evaluating the plans and programs developed to address the needs of the community. It must be recognized that SATA by itself cannot implement projects or improvements to directly satisfy the stated goals & objectives; however, SATA provides a forum for coordinated decisions to be made cooperatively in the best interests of the Saginaw urbanized area.

Chapter 13: Executive Summary

The Metropolitan Planning Organization
Saginaw Urbanized Area

Federal transportation legislation requires transportation plans which involve all levels of government and all surface transportation modes. The intent of this legislation is to improve transportation and provide for consideration of projects and strategies that:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency
2. Increase the safety of the transportation system for motorized and non-motorized users
3. Increase the security of the transportation system for motorized and non-motorized users
4. Increase accessibility and mobility of people and freight
5. Protect and enhance the environment, promote energy conversation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight
7. Promote efficient system management and operation
8. Emphasize the preservation of the existing transportation system
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation
10. Enhance travel and tourism

The MPO plans are coordinated with the state plans (as noted above) and the statewide planning process. The following goals & objectives are part of the 2045 Metropolitan Transportation Plan.

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The Metropolitan Planning Organization
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GOAL 1: SAFETY
To minimize the loss of life, injuries, and property damage resulting from travel on all modes within the SATA area.

GOAL 2: ACCESSIBILITY
To provide all travelers in the community with reasonable access to important destinations such as: residence, employment, recreation, community facilities and commercial centers.

GOAL 3: PRESERVATION
To preserve the investment in the area's transportation system.

GOAL 4: EFFICIENCY
To achieve maximum efficiency, utilization, and performance from the transportation system.

GOAL 5: FINANCIAL
To minimize the financial costs of the transportation system to travelers and the community as a whole.

GOAL 6: COMPREHENSIVE PLANNING
To coordinate the planning and development of transportation facilities within the metropolitan area in conjunction with the countywide and statewide planning efforts.

GOAL 7: PUBLIC INVOLVEMENT
To provide for public involvement in the planning and development of transportation facilities and services.

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GOAL 8: ENVIRONMENTAL IMPACTS
To avoid disrupting social and economic life or creating a less attractive or less healthy living environment for Saginaw County area residents due to unintended harmful effects of transportation on the immediate and global environment.

GOAL 9: COMMUNITY IMPACT
To avoid and reduce conflicts between transportation facilities and land use.

Public Participation Plan

SATA serves all people, including minority populations, low-income populations, the elderly, persons with disabilities, and those who travel within the Metropolitan Area. SATA recognizes its responsibility to provide fairness and equity in all its programs, services, and activities. In keeping with this responsibility, SATA actively seeks to involve its stakeholders in its planning efforts. The latest version of the SATA Participation Plan was revised in November 2021. The Participation Plan is intended to accomplish the following major objectives:

- Create a process that will improve and increase participation in the transportation planning process by all stakeholders.
- Provide for early involvement in the planning process by stakeholders to ensure there are ample opportunities to participate in key decisions.
- Facilitate access to the transportation planning process by populations that typically lack formal access, such as low income, elderly, minorities, and persons with disabilities.
- Encourage involvement in the planning process by non-traditional participants.
- Foster a process that will result in transportation plans and projects that reflect the values of the communities that SATA serves.

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The Metropolitan Planning Organization Saginaw Urbanized Area

Participation Process

The components of this Participation Plan are included in the development, adoption, and amendment of SATA Transportation plans and programs. The participation process pertains specifically to the SATA Transportation Improvement Program (TIP) and the SATA Metropolitan Transportation Plan (MTP). The strategies identified in this plan are intended to result in well attended public meetings, local news coverage of programs, and more public interest in transportation issues within the region. A public comment period of 30 days is provided prior to the adoption or amendment of the Participation Plan in accordance with federal guidelines.

Consultation Efforts

As part of the plan's development, SATA has consulted with several agencies. Much of this consultation and coordination takes place on a frequent, ongoing basis, such as the interaction that occurs with MDOT Bay Region staff, STARS public transit staff, and the staffs of the Saginaw County Road Commission and the City of Saginaw Traffic Engineering. Other specific consultation activities that have occurred to date during the development of the MTP are described in the rest of this section.

Ongoing Consultation

Consultation efforts will continue during the review of the draft 2045 MTP. MPO staff will make additional outreach efforts with appropriate agencies, including the offering the opportunity to arrange individual meetings with stakeholder organizations if desired. The results of these further consultation activities will be reported in the final plan document. A complete list of stakeholders contacted during the MTP review process will be included in an appendix.

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Prioritized Projects in the MTP

Future capacity deficiencies on the SATA roadway network have been identified utilizing a computerized Travel Demand Forecast Model (TDFM) maintained by MDOT. Socio-economic data (population, households, and employment) in the model base year of 2017 were used to develop a simulation of traffic volumes and conditions on the area's roadways which are compared to known volumes and conditions in the same base year. Once the two sets of information are in relative agreement("calibrated"), the projection of future socio-economic data allows for future traffic volumes to be approximated on the roadway network and locations of future congestion (too many vehicles for the road design) to be identified. There were no significant future traffic capacity issues identified for the SATA area using the TDFM. Safety-related concerns are routinely identified through periodic review of crash data and discussions with staff of the area road agencies.

The center or focus of the Metropolitan Transportation Plan is a list of specific projects, which have been developed by SATA with the assistance of the road and transit agencies and MDOT. Each project must meet an identified transportation need, primarily addressing capacity and maintenance and improving safety. Under Federal guidelines, each project must be fundable within anticipated financial resources.

The prioritized projects (Chapter 8) gives in the listing below gives a general sense of project priorities and timing, however the listing is not meant to lock projects into a specific year. Instead, the timeframes are flexible and meant to allow the movement of projects as needs and opportunities occur. The exception to this projects that are already programmed in the current (2020-2023) Transportation Improvement Program (TIP) cycle.

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The Metropolitan Planning Organization Saginaw Urbanized Area

Financial Plan and Constraint

Federal regulations require an extensive review of the financial feasibility of the improvements included in the long-range plan. The SATA 2045 Metropolitan Transportation Plan must be financially constrained, which means that there must be sufficient and reasonably available funds to carry-out the projects recommended in the Plan. Adequate funding necessary to maintain the existing transportation system must also be shown to exist so that the existing system is preserved. The regulations also require that all revenues and costs be inflated to “year of expenditure dollars" to most accurately reflect the validity of the financial constraint calculated. SATA has conducted a lengthy process to determine costs and revenues in future dollars. Costs for the operations and maintenance of the of the existing system have been developed and projected over the life of the Plan. Based on all this analysis, tables were developed which summarized available revenue and available costs over the life of the plan and it has been determined that the projects identified in this plan do not exceed available expectant revenues thereby the plan is fiscally constrained per federal requirements. For detail about the financial plan please see Chapter 7 and the appendix detailing the full revenues and estimated costs per program in the full 2045 Metropolitan Transportation Plan document.

Environmental Mitigation/Justice

Federal regulations require that SATA include in its long-range plan “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 metropolitan transportation plan."

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The goal of this process is to eliminate or minimize environmental impacts from the planned projects in the MPO's transportation plan. This applies primarily to the "improve and expand" type projects. However, addressing this issue in the transportation plan is not intended to be project specific. The owners of any future project are still required to meet all of the necessary requirements of the National Environmental Policy Act (NEPA) process.

Environmental justice includes the following fundamental concepts:

1. To avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority populations and low-income populations.
2. To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
3. To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority populations and low-income populations.

SATA will proactively participate in meetings and activities that will inform an d encouraged active participation in the transportation planning process in these select communities. This is in addition to website adjustments detailed in chapter 10. SATA will also incorporate the latest demographic information and data to assist in addressing current Environmental Justice topics with the 21st century SATA Public Participation Plan document.

SATA will continue to work with all stakeholders to identify the residential, employment, and transportation patterns of low-income and minority populations so that their needs can be identified and addressed, and the benefits and burdens of transportation investments can be fairly distributed.

Chapter 13: Executive Summary

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SATA will continue to work with all stakeholders to identify the residential, employment, and transportation patterns of low-income and minority populations so that their needs can be identified and addressed, and the benefits and burdens of transportation investments can be fairly distributed.

SATA will also continue to evaluate and where necessary, improve the Participation Plan to eliminate barriers and engage minority and low-income populations in transportation decision making.

SATA will also continue to encourage the active participation of well-informed individuals, community groups, and other non-governmental organizations. The involvement of these individuals and groups advances the spirit and intent of environmental justice in transportation planning when they become involved in participation activities.

During the planning process, all projects will have an opportunity for public comment and participation. Project open houses are held for major projects to discuss the impacts of the project on the community, including any impacts on low-income populations or minority populations. Also, during construction, appropriate detour routes are developed to minimize delay and disruption on all population groups. Having followed the appropriate environmental justice practices, SATA have not identified any disproportionately (unusually high) adverse impacts on minority or low-income populations that would result from the projects selected for the 2045 Metropolitan Transportation Plan.

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Conclusion

The goals and objectives of the Plan promote an integrated multi-modal transportation system focused on addressing the needs of all users. The plan identifies the investments that will rebuild and preserve our existing system. It also identifies prioritized projects that help our system operate more efficiently and new facilities that will help expand our system's capacity and connectivity.

This Executive Summary provides review of the contents of the Saginaw Area Transportation Agency 2045 Metropolitan Transportation Plan as a succinct summary for interested individuals and the public. The full 2045 Plan document is a lengthy document. Specifics regarding the information contained in this Executive Summary can be found in the complete plan document.

The full document is available as a pdf document online at the SATA website at http://www.satampo.org. The document can also be obtained by contacting the SATA office at 4805 Towne Centre Road Suite 104 Saginaw, MI 48604 phone 989-759-9431 or contacting SATA by email at info@satampo.org. A fee may be charged for a paper copy of the full document.

APPENDIX A

Glossary of Terms

3-C AGENCY - The local agency or group responsible for the conduct of the Continuing, Cooperative, Comprehensive transportation planning process.

AGRICULTURE/MINING (AG/MNG) - An employment category comprised of workplaces related primarily to agriculture (including agricultural services such as veterinarian and landscaping services), forestry, fishing, and mining (including oil and gas extraction). ALL-OR-NOTHING

ASSIGNMENT - The process of allocating the total number of trips between each pair of traffic analysis zones (TAZ) to the path or route with the minimum travel time.

ANALYSIS AREA - Any geographic area such as a TAZ or group of TAZs combined for the purpose of making an analysis.

ANNUAL AVERAGE DAILY TRAFFIC (AADT) - The total number of vehicles passing a given location on a roadway over the course of one year, divided by 365 (days in the year). Requires permanent traffic recorder to measure annual total.

ARTERIAL - Class of street serving major movement of traffic not served by freeways.

ASSIGNMENT - See traffic assignment.

ATTRACTION - The pull or attracting power of a traffic analysis zone. For non-home based trips, attractions in a TAZ can be considered synonymous with trip destinations in that TAZ.

AVERAGE DAILY TRAFFIC (ADT) - The average number of vehicles passing a specified point during a 24- hour period, calculated from an approximation of AADT based on a limited number of 24-hour counts, adjusted for known variation in levels of travel by month of year and day of week.

APPENDIX A

Glossary of Terms

AVERAGE VEHICLES/DWELLING UNIT - Asocial-economic variable input to determining trip generation. A “surrogate" variable for household income, which relates directly to the number of vehicles available and consequently to the number of trips per day by household members.

BASE YEAR - The year selected to which the major portion of data is related. BCATS - Battle Creek Area Transportation Study

BLOCKS - The smallest Census Geographic area used as basic tabulation units in urbanized areas with populations of 10,000 or more.

CALIBRATION - The procedure used to adjust travel models to simulate base year travel.

CAPACITY RESTRAINT - The process by which the assigned volume on a link is compared with the practical capacity of that link and the speed of the link adjusted to reflect the relationship between speed, volume, and capacity. The procedure is iterative until a realistic balance is achieved.

CAPACITY - The maximum number of vehicles that can pass over a given section of a lane or roadway in one direction (or in both directions for a two-lane or three- lane highway) during a given time period under prevailing roadway and traffic conditions. It is the maximum rate of flow that has a reasonable expectation of occurring. The terms "capacity" and "possible capacity" are synonymous. In the absence of a time modifier, capacity is an hourly volume. The capacity would not normally be exceeded without changing one or more of the conditions that prevail. In expressing capacity, itis essential to state the prevailing roadway and traffic condition under which the capacity is applicable. Refer to the revised edition of the "Highway Capacity Manual" for more detail.

APPENDIX A

Glossary of Terms

CENTROID - An assumed point in a TAZ that represents the origin or destination of all trips to or from the TAZ. Generally, it is the center of trip ends rather than a geometrical center of the zonal area.

COUNT - A volume counted on the street, which may be used for comparison with the present traffic volume assigned to the corresponding link. The count may be directional or total two-way, peak period - morning and/or afternoon - and/or a 24 hour value.

DESTINATION - The TAZ in which a trip terminates.

DRIVING TIME - The time to traverse the distance between TAZs, not including terminal time at each
end of the trip.

DWELLING UNIT - A room or group of rooms occupied or intended for occupation as separate living quarters by persons or a group of persons. Includes houses, flats, apartments, or other places thought of as homes.

FACILITY - A specific road, road segment, route, or route segment.

F**HWA -** Federal Highway Administration

FISCAL YEAR (FY) - For Federal and State of Michigan agencies, and MATS, the time period beginning October 1 and ending September 30 of the subsequent calendar year. Fiscal years are designated by the calendar year in which they end.

FORECASTING - The process of determining the future values of land use, socio-economic, and trip making variables within the study area. FTA - Federal Transit Administration

APPENDIX A

Glossary of Terms

FUNCTIONAL CLASSIFICATION - An identification and categorization of segments of the street and highway system according to the character of service they provide.

GROWTH FACTOR - A ratio of future trip ends divided by present trip ends.

LABOR FORCE - The number of persons residing in a designated area assumed to be employable and
actively seeking work.

LEVEL OF SERVICE (LOS) - The term used to indicate the quality of service provided by a facility under a given set of operating conditions.

MDOT - Michigan Department of Transportation

METROPOLITAN PLANNING ORGANIZATION (MPO) - The organization designated by the Governor responsible, together with the State, for comprehensive transportation planning according to 23U.S.C. 134, 23U.S.C. 104(f)(3), and 49U.S.C. 1602(a)(2) and (c)(a)1, 49U.S.C. 1603(a), and 49U.S.C. 1064(g)(1) and (1). This organization shall be the forum for cooperative decision making by principal elected officials of general local government.

MICHIGAN TRANSPORTATION ECONOMIC DEVELOPMENT FUND(TEDF) - Special fund of transportation monies for projects promoting economic development. There are several categories of funds available, all with specific requirements and restrictions. Administered at the MDOT, calls for projects not on a predetermined schedule.

MODE OF TRAVEL - Means of travel such as auto driver, vehicle passenger, mass transit passenger, or walking.

NETWORK - A system of links describing a transportation system for analysis.

APPENDIX A

Glossary of Terms

ORIGIN - The location of the beginning of a trip or the TAZ in which a trip begins.

PEAK PERIOD - That period during which the maximum amount of travel occurs. Generally, there is a morning peak and an afternoon peak.

PRODUCTIONS - That number of home based trip eds in the TAZ of residence. For all non-home-based trips, productions are synonymous with origins.

ROUTE - That combination of street and freeway sections connecting an origin and destination. In traffic assignment, a continuous group of links connecting centroids that normally require the minimum time to traverse.

SAGINAW AREA TRANSPORTATION AGENCY (SATA) - designated planning organization for the Saginaw Urbanized Area.

TRAFFIC ANALYSIS ZONE (TAZ) - The basic analysis unit into which all socio-economic, land use, and trip generation used to determine origin and destination of travel are summarized. Their development is based on land use, human activity, natural boundaries, and compatibility with the street system.

TRAFFIC ASSIGNMENT - The process of determining route or routes of travel and allocating the TAZ-to- TAZ trips to these routes.

TRANSPORTATION IMPROVEMENT PROGRAM (TIP) - A staged multi-year program of planned transportation improvement projects.

TRAVEL DEMAND FORECAST MODEL (TDFM) - A series of computer programs used to analyze and evaluate motor vehicle travel on a highway network. It uses various data on the location and characteristics of a population and its employment to predict travel demand, which can ultimately be used to identify highway deficiencies.

APPENDIX A

Glossary of Terms

TRAVEL TIME - The time required to travel between two points, including the terminal time at both ends of the trip.

TRIP - A one-direction movement which begins at the origin at the start time, ends at the destination at the arrival time, and is conducted for a specific purpose.

T**RIP DISTRIBUTION** - The process by which the movement of trips between TAZs is estimated. The data for each distribution may be measured or be estimated by a growth factor process, or by synthetic model.

TRIP GENERATION - A general term describing the analysis and application of the relationships which exists between the trip-makers, the urban area, and the trip making. It relates to the number of trip ends in any part of the urban area.

TRIP PURPOSE - The reason for making a trip. Normally, one of ten possible purposes each trip may have a purpose at each end. For example, home to work. URBAN AREA - An urban place as designated by the Bureau of the Census having a population of 50,000 or more and not within any other urbanized area.

URBAN AREA BOUNDARY - The boundaries of the area that encompass the entire urban place as designated by the U.S. Bureau of Census plus that adjacent area as agreed upon by local officials in cooperation with the State.

URBANIZED AREA (UA) - An urban place containing a city (or twin cities) of 50,000 or more (central city) plus the surrounding closely settled incorporated area which meets certain criteria of population size or density, as designated by the Bureau of the Census, and not within any other urbanized area. As defined by minimum population density, the urbanized area can include the central city, suburbs, and the closely settled fringe of development.

APPENDIX A

Glossary of Terms

VEHICLE-MILES OF TRAVEL (VMT) - Generally used as an area-wide measure. May be calculated by summing data on a link basis or by multiplying average trip length (in miles) times the total number of vehicle trips.
VOLUME - The number of vehicles using a facility.

VOLUME TO CAPACITY RATIO (V/C) - A measure of the level of service on a facility.

APPENDIX B

Endangered Species

ID	Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank
1	Alasmidonta marginata	Elktoe		SC	G4	S3?
2	Alasmidonta viridis	Slippershell		T	G4G5	S2S3
3	Ammodramus henslowii	Henslow's sparrow		E	G4	S3
4	Ammodramus savannarum	Grasshopper sparrow	PS	SC	G5	S4
5	Botaurus lentiginosus	American bittern		SC	G5	S3
6	Chlidonias niger	Black tern		SC	G4G5	S2
7	Circus cyaneus	Northern harrier		SC	G5	S4
8	Cistothorus palustris	Marsh wren		SC	G5	S3
9	Clemmys guttata	Spotted turtle		T	G5	S2
10	Emydoidea blandingii	Blanding's turtle		SC	G4	S2S3
11	Epioblasma triquetra	Snuffbox	LE	E	G3	S1S2
12	Falco peregrinus	Peregrine falcon	PS:LE	E	G4	S3
13	Galearis spectabilis	Showy orchis		T	G5	S2
14	Gallinula galeata	Common gallinule	PS	T	G5	S3
15	Glyptemys insculpta	Wood turtle		SC	G3	S2
16	Haliaeetus leucocephalus	Bald eagle		SC	G5	S4
17	Hetaerina titia	Smokey rubyspot		SC	G5	S4
18	Isotria verticillata	Whorled pogonia		T	G5	S2
19	Jeffersonia diphylla	Twinleaf		SC	G5	S3
20	Ligumia nasuta	Eastern pondmussel		E	G4	S2

APPENDIX B

Endangered Species

ID	Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank
21	Ligumia recta	Black sandshell		E	G4G5	S1?
22	Notropis texanus	Weed shiner		X	G5	S1
23	Obliquaria reflexa	Threehorn wartyback		E	G5	S1
24	Obovaria olivaria	Hickorynut		E	G4	S1
25	Pantherophis gloydi	Eastern fox snake		T	G3	S2
26	Pantherophis spiloides	Gray ratsnake		SC	G4G5	S2S3
27	Percina copelandi	Channel darter		E	G4	S1
28	Percina shumardi	River darter		E	G5	S1
29	Platanthera leucophaea	Prairie white-fringed orchid	LT	E	G2G3	S3
30	Pleurobema sintoxia	Round pigtoe		SC	G4G5	S3
31	Potamilus ohiensis	Pink papershell		T	G5	SNC
32	Protonotaria citrea	Prothonotary warbler		SC	G5	SC
33	Ptychobranchus fasciolaris	Kidney shell		T	G5	SNR
34	Pycnanthemum pilosum	Hairy mountain mint	mint		G5T5	SNR
35	Rallus elegans	King rail		G	G4	S2
36	Sistrurus catenatus	Eastern massasauga	LT	SC	G3	S3
37	Toxolasma parvum	Lilliput		E	G5	S1
38	Truncilla truncata	Deertoe		SC	G5	S1
39	Utterbackia imbecillis	Paper pondshell		SC	G5	S2S3
40	Venustaconcha ellipsiformis	Ellipse		SC	G4	S3
41	Villosa iris	Rainbow		SC	G4	S2
42	Xanthocephalus xanthocephalus	Yellow-headed blackbird		SC	G5	S2

APPENDIX B

Endangered Species

Explanation of Federal Status, State Status, Global Rank, and State Rank
FEDERAL LEGAL STATUS
Legal status information provided for information only. For official definitions and lists of protected species, consult the relevant federal agency.

Definitions derived from U.S. Endangered Species Act of 1973, Sec. 3.

LE = Listed Endangered

LT = Listed Threatened

PE = Proposed endangered

PT = Proposed Threatened

C = Candidate

PDL = Proposed for delisting

E (S/A) or T (S/A) = Listed endangered or threatened because of similarity of appearance

XE = Essential experimental population

XN = Nonessential experimental population

No Rank = Usually indicates that the taxon does not have any federal status. However, because of potential lag time between publication in the Federal Register and entry in the central databases and state databases, some taxa may have a status which does not yet appear.

(Rank, Rank) = Combination values in parenthesis = The taxon itself is not named in the Federal Register as having U.S. ESA status; however, all of its infraspecific taxa (worldwide) do have official status. The statuses shown in parentheses indicate the statuses that apply to infraspecific taxa or populations within this taxon.

APPENDIX B

Endangered Species

(PS) = partial status= Status in only a portion of the species' range. Typically indicated in a "full" species record where an infraspecific taxon or population has U.S. ESA status, but the entire species does not.
(PS: Rank) = partial status= Status in only a portion of the species' range. The value of that status appears because the entity with status does not have an individual entry in Natureserve.

STATE STATUS
E= Endangered T=Threatened SC=Special Concern

GLOBAL RANK

G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
G2 = Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
G3 = Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
G4 = Apparently secure globally (may be rare in parts of range).
G5 = Demonstrably secure globally.
GH = Of historical occurrence throughout its range, may be rediscovered (e.g., ivory- billed woodpecker).
GX = Believed to be extinct throughout range.
GXC = Extirpated from the wild but still known from captivity or cultivation.

APPENDIX B

Endangered Species

G#? = Tentative rank (e.g., G2?).
G#G# = Range of rank; insufficient data to assign specific global rank (e.g., G2G3).
G#T# = Rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1).
G#Q = Rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q).
G#T#Q = Same as above, but validity as subspecies or variety is questioned.

STATE RANK

The priority assigned by the Michigan Natural Features Inventory for data collection and protection based upon the element's status within the state. Criteria not based only on number of occurrences; other critical factors also apply. Note that ranks are frequently combined.
S1 = critically imperiled in the state because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extirpation in the state.
S2 = imperiled in state because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extirpation from the state.
S3 = rare or uncommon in state (on the order of 21 to 100 occurrences).
S4 = apparently secure in state, with many occurrences.
S5 = demonstrably secure in state and essentially ineradicable under present conditions

APPENDIX C

Revenues and Fiscal Constraint Tables

Local STP Urban Program

(MPO STUL/HIP/HIPS Allocations and related local funds)

SATA

Estimated Revenues

Year	STUL Funding	STP-Flex	HIP & HIPS Funds	Local Funding	Total Funding
2022	$ 2,449,098	$ 151,405	$ 1,104,999	$ 1,077,781	$ 4,631,878
2023	$ 2,495,631	$ 154,282	$0	$ 1,289,959	$ 3,785,589
2024	$ 2,543,048	$ 157,213	$0	$ 1,314,468	$ 3,857,516
2025	$ 2,591,366	$ 160,200	$0	$ 1,339,443	$ 3,930,808
2026	$ 2,640,602	$ 163,244	$0	$ 1,364,892	$ 4,005,494
2027	$ 2,690,773	$ 166,346	$0	$ 1,390,825	$ 4,081,598
2028	$ 2,741,898	$ 169,506	$0	$ 1,417,251	$ 4,159,148
2029	$ 2,793,994	$ 172,727	$0	$ 1,444,178	$ 4,238,172
2030	$ 2,847,080	$ 176,009	$0	$ 1,471,618	$ 4,318,698
2031	$ 2,906,868	$ 179,353	$0	$ 1,502,019	$ 4,408,887
2032	$ 2,967,913	$ 182,760	$0	$ 1,533,049	$ 4,500,962
2033	$ 3,030,239	$ 186,233	$0	$ 1,564,721	$ 4,594,960
2034	$ 3,093,874	$ 189,771	$0	$ 1,597,048	$ 4,690,922
2035	$ 3,158,845	$ 193,377	$0	$ 1,630,044	$ 4,788,889
2036	$ 3,225,181	$ 197,051	$0	$ 1,663,722	$ 4,888,903
2037	$ 3,292,910	$ 200,795	$0	$ 1,698,097	$ 4,991,007
2038	$ 3,362,061	$ 204,610	$0	$ 1,733,183	$ 5,095,244
2039	$ 3,432,664	$ 208,498	$0	$ 1,768,996	$ 5,201,660
2040	$ 3,504,750	$ 212,459	$0	$ 1,805,549	$ 5,310,299
2041	$ 3,578,350	$ 216,496	$0	$ 1,842,858	$ 5,421,208
2042	$ 3,653,495	$ 220,609	$0	$ 1,880,940	$ 5,534,435
2043	$ 3,730,219	$ 224,801	$0	$ 1,919,809	$ 5,650,028
2044	$ 3,808,553	$ 229,072	$0	$ 1,959,483	$ 5,768,036
2045	$ 3,888,533	$ 233,425	$0	$ 1,999,978	$ 5,888,510
Total:	**$ 74,427,943**	**$ 4,550,241**	**$ 1,104,999**	**$ 38,209,908**	**$ 113,742,850**

Assumptions for years 2022-2045:
35% local match annually (2023-2045) %25% local match for FY2022 due to HIP/HIPS funding
STUL funding 1.9% annual gowth rate 2022-2030 2.1 % annual gowth rate 2030-2045
STUL funding based on IIJA estimates

STP-Urban Revenue Estimates:

	Federal Funds	Local Funds	Total Revenues
2022-2025	$ 11,184,141	$ 5,021,649	$ 16,205,791
2026-2035	$ 28,872,085	$ 14,915,643	$ 43,787,729
2036-2045	$ 35,476,715	$ 18,272,615	$ 53,749,331
Total:	**$ 75,532,942**	**$ 38,209,908**	**$ 113,742,850**

STP-Urban Expenditure Estimates:

	Federal Funds	Local Funds	Total Expenditures
2022-2025	$ 11,184,141	$ 5,021,649	$ 16,205,791
2026-2035	$ 28,872,085	$ 14,915,643	$ 43,787,729
2036-2045	$ 35,476,715	$ 18,272,615	$ 53,749,331
Total:	**$ 75,532,941**	**$ 38,209,907**	**$ 113,742,851**

All available revenues assumed to be utilized, always more projects than available revenues

LRP fiscally constrained based on comparison of prioritized expenditures versus expected revenues:

2022-2025 Prioritized Projects:

City of Saginaw Estimated Costs	$ 7,530,683		
Saginaw County Estimated Project Costs	$ 8,675,108		Revenues:
	$ 16,205,791	compared to:	$ 16,205,791

2026-2035 Prioritized Projects:

City of Saginaw Estimated Costs	$ 11,559,071		
Saginaw County Estimated Project Costs	$ 12,637,762		Revenues:
	$ 24,196,833	compared to:	$ 43,787,729

2036-2045 Prioritized Projects:

City of Saginaw Estimated Costs	$17,270,000.00		
Saginaw County Estimated Project Costs	$29,416,500.00		Revenues:
	$46,686,500.00	compared to:	$ 53,749,331

APPENDIX C

Revenues and Fiscal Constraint Tables

Local STP Rural and EDD Program

(Funds assigned through Rural Task Force to SCRC for projects in SATA area)

Estimated Revenues

Year	STL/ER Funding	EDD (State) Funds	Local Funding	Total Funding
2022	$ 1,270,507	$ 137,750	$ 406,753	$ 1,815,010
2023	$ 1,295,917	$ 140,505	$ 414,888	$ 1,851,310
2024	$ 1,321,835	$ 143,315	$ 423,186	$ 1,888,336
2025	$ 1,348,272	$ 146,181	$ 431,650	$ 1,926,103
2026	$ 1,375,238	$ 149,105	$ 440,283	$ 1,964,625
2027	$ 1,402,742	$ 152,087	$ 449,088	$ 2,003,918
2028	$ 1,430,797	$ 155,129	$ 458,070	$ 2,043,996
2029	$ 1,459,413	$ 158,231	$ 467,231	$ 2,084,876
2030	$ 1,488,601	$ 161,396	$ 476,576	$ 2,126,573
2031	$ 1,518,373	$ 164,624	$ 486,108	$ 2,169,105
2032	$ 1,548,741	$ 167,916	$ 495,830	$ 2,212,487
2033	$ 1,579,716	$ 171,275	$ 505,746	$ 2,256,737
2034	$ 1,611,310	$ 174,700	$ 515,861	$ 2,301,872
2035	$ 1,643,536	$ 178,194	$ 526,179	$ 2,347,909
2036	$ 1,676,407	$ 181,758	$ 536,702	$ 2,394,867
2037	$ 1,709,935	$ 185,393	$ 547,436	$ 2,442,764
2038	$ 1,744,134	$ 189,101	$ 558,385	$ 2,491,620
2039	$ 1,779,017	$ 192,883	$ 569,553	$ 2,541,452
2040	$ 1,814,597	$ 196,741	$ 580,944	$ 2,592,281
2041	$ 1,850,889	$ 200,676	$ 592,562	$ 2,644,127
2042	$ 1,887,907	$ 204,689	$ 604,414	$ 2,697,009
2043	$ 1,925,665	$ 208,783	$ 616,502	$ 2,750,950
2044	$ 1,964,178	$ 212,959	$ 628,832	$ 2,805,969
2045	$ 2,003,462	$ 217,218	$ 641,409	$ 2,862,088
Total:	**$ 38,651,189**	**$ 4,190,609**	**$ 12,374,187**	**$ 55,215,985**

Assumptions for years 2022-2045:

Federal funds representing approx 70% of total funds, with state/local match equal to approx 30%, annually

STL funding: 2% annual growth rate 2023-2045

EDD funding: 2% annual growth rate 2023-2045

STP-Rural Revenue Estimates:

	Federal Funds	State Funds	Local Funds	Total Revenues
2022-2025	$ 5,236,532	$ 567,751	$ 1,676,477	$ 7,480,760
2026-2035	$ 15,058,468	$ 1,632,657	$ 4,820,972	$ 21,512,098
2036-2045	$ 18,356,189	$ 1,990,200	$ 5,876,738	$ 26,223,127
Total:	**$ 38,651,189**	**$ 4,190,609**	**$ 12,374,187**	**$ 55,215,985**

STP-Rural Expenditure Estimates:

	Federal Funds	State Funds	Local Funds	Total Expenditures
2022-2025	$ 5,236,532	$ 567,751	$ 1,676,477	$ 7,480,760
2026-2035	$ 15,058,468	$ 1,632,657	$ 4,820,972	$ 21,512,097
2036-2045	$ 18,356,189	$ 1,990,200	$ 5,876,738	$ 26,223,127
Total:	**$ 38,651,189**	**$ 4,190,608**	**$ 12,374,187**	**$ 55,215,984**

All available revenues assumed to be utilized, always more projects than available revenues

LRP fiscally constrained based on comparison of prioritized expenditures versus expected revenues:

	Total Cost:		
2022-2025 Prioritized Projects:			
No projects idenfitied at this time			
	$ -	compared to:	Revenues: $ 7,480,760
2026-2035 Prioritized Projects:			
	$ -	compared to:	Revenues: $ 21,512,097
2036-2045 Prioritized Projects:			
	$ 3,650,000	compared to:	Revenues: $ 26,223,127

APPENDIX C

Revenues and Fiscal Constraint Tables

Non-Motorized Program

(TAUL federal funds, DNR funds, ACT 51 funds, foundation grants, corporate donations, general funds, etc)

Federal funding allocated per competitive grant basis. Funding varies significantly from year to year.

Local funding for non-motorized projects varies significantly from year to year and could be from a variety of sources (Act 51 funds, foundation grants, corporate donors, general funds, etc.)
Local funding for non-motorized projects representing anywhere from 20% to 100% of total project costs.
Funding for 2 projects by 2025 has been secured, some federal funding is expected to be available (applications approved or pending).
Due to extreme variability, $200,000, representing a conservative annual average for all funding sources for all NMT projects within SATA, used as a base FY 2026 funding amount.

Estimated Revenues

Year	Total Funding (Federal plus State plus Local)
2022	$1,000,000
2023	$0
2024	$0
2025	$ 75,000
2026	$ 200,000
2027	$ 203,800
2028	$ 207,672
2029	$ 211,618
2030	$ 215,639
2031	$ 220,167
2032	$ 224,791
2033	$ 229,511
2034	$ 234,331
2035	$ 239,252
2036	$ 244,276
2037	$ 249,406
2038	$ 254,644
2039	$ 259,991
2040	$ 265,451
2041	$ 271,025
2042	$ 276,717
2043	$ 282,528
2044	$ 288,461
2045	$ 294,519
Total:	**$ 5,948,798**

Additional assumptions:
Funding: 1.9% annual growth rate 2027-2030, 2.1% annual growth rate 2031-2045

Non-Motorized Program Revenue Estimates:

	(Federal, State & Local)
2022-2025	$ 1,075,000
2026-2035	$ 2,186,781
2036-2045	$ 2,687,018
Total:	**$ 5,948,798**

Non-Motorized Program Expenditure Estimates:

	(Federal, State & Local)
2022-2025	$ 1,075,000
2026-2035	$ 2,186,781
2036-2045	$ 2,687,018
Total:	**$ 5,948,799**

All available revenues assumed to be utilized, always more projects than available revenues

LRP fiscally constrained based on comparison of prioritized expenditures versus expected revenues:

	Total Cost:		
2022-2025 Prioritized Projects:			
	$ 1,000,000		
	$ 75,000		
			Revenues:
	$ 1,075,000	compared to:	$ 1,075,000
2026-2035 Prioritized Projects:	$ 1,000,000		
			Revenues:
	$ 1,000,000	compared to:	$ 2,186,781
2036-2045 Prioritized Projects:			
Non-specificed at this time			Revenues:
	$ -	compared to:	$ 2,687,018

APPENDIX C

Revenues and Fiscal Constraint Tables

Local Safety Program
(HSIP, HRRR-related projects)

Funding allocated per competitive grant basis. Funding varies significantly from year to year.

$400,000, representing a conservative annual average, used as a base FY 2022 federal funding amount. 0% state match and 20% local match assumed.

Estimated Revenues

Year	Federal Funding	State Funding	Local Funding	Total Funding
2022	$ 400,000	$0.0	$ 100,000	$ 500,000
2023	$ 407,600	$0.0	$ 101,900	$ 509,500
2024	$ 415,344	$0.0	$ 103,836	$ 519,181
2025	$ 423,236	$0.0	$ 105,809	$ 529,045
2026	$ 431,277	$0.0	$ 107,819	$ 539,097
2027	$ 439,472	$0.0	$ 109,868	$ 549,340
2028	$ 447,822	$0.0	$ 111,955	$ 559,777
2029	$ 456,330	$0.0	$ 114,083	$ 570,413
2030	$ 465,001	$0.0	$ 116,250	$ 581,251
2031	$ 474,766	$0.0	$ 118,691	$ 593,457
2032	$ 484,736	$0.0	$ 121,184	$ 605,920
2033	$ 494,915	$0.0	$ 123,729	$ 618,644
2034	$ 505,308	$0.0	$ 126,327	$ 631,635
2035	$ 515,920	$0.0	$ 128,980	$ 644,900
2036	$ 526,754	$0.0	$ 131,689	$ 658,443
2037	$ 537,816	$0.0	$ 134,454	$ 672,270
2038	$ 549,110	$0.0	$ 137,278	$ 686,388
2039	$ 560,641	$0.0	$ 140,160	$ 700,802
2040	$ 572,415	$0.0	$ 143,104	$ 715,519
2041	$ 584,436	$0.0	$ 146,109	$ 730,544
2042	$ 596,709	$0.0	$ 149,177	$ 745,886
2043	$ 609,240	$0.0	$ 152,310	$ 761,549
2044	$ 622,034	$0.0	$ 155,508	$ 777,542
2045	$ 635,096	$0.0	$ 158,774	$ 793,870
Total:	**$ 12,155,976**	**$0.0**	**$ 3,038,994**	**$ 15,194,970**

Additional assumptions:
TIP projects used for FY 2022-2023
Federal funding: 1.9% annual growth rate 2022-2030, 2.1% annual growth rate 2031-2045
0% state and 20% local match on average annually (2022-2045)

Local Safety Program Revenue Estimates:

	Federal Funds	State Funds	Local Funds	Total Revenues
2022-2025	$ 1,646,180	$0	$ 411,545	$ 2,057,725
2026-2035	$ 4,715,546	$0	$ 1,178,886	$ 5,894,432
2036-2045	$ 5,794,250	$0	$ 1,448,563	$ 7,242,813
Total:	**$ 12,155,976**	**$0**	**$ 3,038,994**	**$ 15,194,970**

Local Safety Program Expenditure Estimates:

	Federal Funds	State Funds	Local Funds	Total Expenditures
2022-2025	$ 1,646,180	$0	$ 411,545	$ 2,057,725
2026-2035	$ 4,715,546	$0	$ 1,178,886	$ 5,894,432
2036-2045	$ 5,794,250	$0	$ 1,448,563	$ 7,242,813
Total:	**$ 12,155,976**	**$0**	**$ 3,038,994**	**$ 15,194,970**

All available revenues assumed to be utilized, always more projects than available revenues

LRP fiscally constrained based on comparison of prioritized expenditures versus expected revenues:

	Total Cost:		
2022-2025 Prioritized Projects:			
None specified at this time			Revenues:
		compared to:	$ 2,057,725
2026-2035 Prioritized Projects:			Revenues:
None specified at this time	$0.00	compared to:	$ 5,894,432
2036-2045 Prioritized Projects:			Revenues:
None specified at this time	$0.00	compared to:	$ 7,242,813

APPENDIX C

Revenues and Fiscal Constraint Tables

Local Bridge Program

(Bridge Replacement, Rehabilitation, CPM)

Funding allocated per competitive grant basis. Funding varies significantly from year to year.
$800,000, representing a conservative annual average, used as a base FY 2024 federal funding amount.
Federal funding assumed to account for 80% of annual revenues, with 10% state match and 10% local match, respectively.

Estimated Revenues

Year	Federal Funding	State Funding	Local Funding	Total Funding
2022	$ 1,115,200	$ 139,400	$ 139,400	$ 1,394,000
2023	$ 1,440,000	$ 180,000	$ 180,000	$ 1,800,000
2024	$ 1,000,000	$ 125,000	$ 125,000	$ 1,250,000
2025	$ 1,019,000	$ 127,375	$ 127,375	$ 1,273,750
2026	$ 1,038,361	$ 129,795	$ 129,795	$ 1,297,951
2027	$ 1,058,090	$ 132,261	$ 132,261	$ 1,322,612
2028	$ 1,078,194	$ 134,774	$ 134,774	$ 1,347,742
2029	$ 1,098,679	$ 137,335	$ 137,335	$ 1,373,349
2030	$ 1,119,554	$ 139,944	$ 139,944	$ 1,399,443
2031	$ 1,143,065	$ 142,883	$ 142,883	$ 1,428,831
2032	$ 1,167,069	$ 145,884	$ 145,884	$ 1,458,836
2033	$ 1,191,578	$ 148,947	$ 148,947	$ 1,489,472
2034	$ 1,216,601	$ 152,075	$ 152,075	$ 1,520,751
2035	$ 1,242,149	$ 155,269	$ 155,269	$ 1,552,687
2036	$ 1,268,234	$ 158,529	$ 158,529	$ 1,585,293
2037	$ 1,294,867	$ 161,858	$ 161,858	$ 1,618,584
2038	$ 1,322,060	$ 165,257	$ 165,257	$ 1,652,575
2039	$ 1,349,823	$ 168,728	$ 168,728	$ 1,687,279
2040	$ 1,378,169	$ 172,271	$ 172,271	$ 1,722,711
2041	$ 1,407,111	$ 175,889	$ 175,889	$ 1,758,888
2042	$ 1,436,660	$ 179,583	$ 179,583	$ 1,795,825
2043	$ 1,466,830	$ 183,354	$ 183,354	$ 1,833,537
2044	$ 1,497,633	$ 187,204	$ 187,204	$ 1,872,042
2045	$ 1,529,084	$ 191,135	$ 191,135	$ 1,911,355
Total:	**$ 29,878,011**	**$ 3,734,751**	**$ 3,734,751**	**$ 37,347,513**

Additional assumptions:
TIP projects used for FY 2022-2023
Federal funding: 1.9% annual growth rate 2022-2030, 2.1% annual growth rate 2031-2045
10% state and 10% local match on average annually (2024-2045)

Local Bridge Program Revenue Estimates:

	Federal Funds	State Funds	Local Funds	Total Revenues
2022-2025	$ 4,574,200	$ 571,775	$ 571,775	$ 5,717,750
2026-2035	$ 11,353,339	$ 1,419,167	$ 1,419,167	$ 14,191,674
2036-2045	$ 13,950,471	$ 1,743,809	$ 1,743,809	$ 17,438,089
Total:	**$ 29,878,011**	**$ 3,734,751**	**$ 3,734,751**	**$ 37,347,513**

Local Bridge Program Expenditure Estimates:

	Federal Funds	State Funds	Local Funds	Total Expenditures
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2026-2035	$ 11,353,339	$ 1,419,167	$ 1,419,167	$ 14,191,674
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Total:	**$ 29,878,011**	**$ 3,734,751**	**$ 3,734,751**	**$ 37,347,513**

All available revenues assumed to be utilized, always more projects than available revenues

LRP fiscally constrained based on comparison of prioritized expenditures versus expected revenues:

	Total Cost:		
2022-2025 Prioritized Projects:	$ 1,394,000		
	$ 1,800,000		Revenues:
	$ 3,194,000	compared to:	$ 5,717,750
2026-2035 Prioritized Projects:			Revenues:
None specified at this time	$0.00	compared to:	$ 14,191,674
2036-2045 Prioritized Projects:			Revenues:
None specified at this time	$0.00	compared to:	$ 17,438,089

APPENDIX C

Revenues and Fiscal Constraint Tables

Local Bridge Program

(Bridge Replacement, Rehabilitation, CPM)

Funding allocated per competitive grant basis. Funding varies significantly from year to year.
$800,000, representing a conservative annual average, used as a base FY 2024 federal funding amount.
Federal funding assumed to account for 80% of annual revenues, with 10% state match and 10% local match, respectively.

Estimated Revenues

Year	Federal Funding	State Funding	Local Funding	Total Funding
2022	$ 1,115,200	$ 139,400	$ 139,400	$ 1,394,000
2023	$ 1,440,000	$ 180,000	$ 180,000	$ 1,800,000
2024	$ 1,000,000	$ 125,000	$ 125,000	$ 1,250,000
2025	$ 1,019,000	$ 127,375	$ 127,375	$ 1,273,750
2026	$ 1,038,361	$ 129,795	$ 129,795	$ 1,297,951
2027	$ 1,058,090	$ 132,261	$ 132,261	$ 1,322,612
2028	$ 1,078,194	$ 134,774	$ 134,774	$ 1,347,742
2029	$ 1,098,679	$ 137,335	$ 137,335	$ 1,373,349
2030	$ 1,119,554	$ 139,944	$ 139,944	$ 1,399,443
2031	$ 1,143,065	$ 142,883	$ 142,883	$ 1,428,831
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Additional assumptions:
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Total:	**$ 29,878,011**	**$ 3,734,751**	**$ 3,734,751**	**$ 37,347,513**

Local Bridge Program Expenditure Estimates:

	Federal Funds	State Funds	Local Funds	Total Expenditures
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2026-2035	$ 11,353,339	$ 1,419,167	$ 1,419,167	$ 14,191,674
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Total:	**$ 29,878,011**	**$ 3,734,751**	**$ 3,734,751**	**$ 37,347,513**

All available revenues assumed to be utilized, always more projects than available revenues

LRP fiscally constrained based on comparison of prioritized expenditures versus expected revenues:

	Total Cost:		
2022-2025 Prioritized Projects:	$ 1,394,000		
	$ 1,800,000		Revenues:
	$ 3,194,000	compared to:	$ 5,717,750
2026-2035 Prioritized Projects:			Revenues:
None specified at this time	$0.00	compared to:	$ 14,191,674
2036-2045 Prioritized Projects:			Revenues:
None specified at this time	$0.00	compared to:	$ 17,438,089

APPENDIX C

Revenues and Fiscal Constraint Tables

Trunkline Capital Program

Federal and state funds available for trunkline preservation and capacity projects, excluding CI, NR, TM and Rebuilding Michigan Bonds

Includes Road Rehabilitation/Reconstruction projects, Bridge Replacement/Rehabilitation/CPM projects, Traffic Safety projects, other capital projects

Year	Estimated Revenues Total Funding (Federal and State funds)
2022	$ 42,600,000
2023	$ 21,000,000
2024	$ 40,900,000
2025	$ 31,700,000
2026	$ 32,500,000
2027	$ 33,100,000
2028	$ 35,600,000
2029	$ 36,400,000
2030	$ 36,500,000
2031	$ 37,800,000
2032	$ 39,200,000
2033	$ 54,000,000
2034	$ 43,300,000
2035	$ 44,600,000
2036	$ 45,000,000
2037	$ 58,300,000
2038	$ 55,400,000
2039	$ 55,800,000
2040	$ 55,000,000
2041	$ 61,100,000
2042	$ 63,000,000
2043	$ 64,300,000
2044	$ 65,700,000
2045	$ 65,000,000
Total:	**$ 1,117,800,000**

Revenue estimates received from MDOT Statewide Planning (Heidi Phaneuf)

Trunkline Capital Program Revenue Estimates:

	(Federal & State)
2022-2025	$ 136,200,000
2026-2035	$ 393,000,000
2036-2045	$ 588,600,000
Total:	**$ 1,117,800,000**

Trunkline Capital Program Expenditure Estimates:

	(Federal & State)
2022-2025	$ 136,200,000
2026-2035	$ 393,000,000
2036-2045	$ 588,600,000
Total:	**$ 1,117,800,000**

All available revenues assumed to be utilized, always more projects than available revenues

LRP fiscally constrained based on comparison of prioritized expenditures versus expected revenues:

	Total Cost:		Revenues:
2022-2025 Prioritized Projects:	$ 11,887,967	Road, Brdiges, Traffic and Safety Projects	
	$ 17,380,173		
	$ 29,268,140	compared to:	$ 1,362,000,000
2026-2035 Prioritized Projects:	$ 9,361,759	Road, Bridges and Traffic Safety Projects	
	$ 9,361,759	compared to:	Revenues: $ 393,000,000
2036-2045 Prioritized Projects:	$ 14,676,000	Road, and Bridges Projects	Revenues:

APPENDIX C

Revenues and Fiscal Constraint Tables

State and Local Operations and Maintenance Program

Operations and maintenance defined as those items necessary to keep the road infrastructure functional for vehicle travel, excluding repair/replacement of capital assets.
O and M covers activities like grass cutting, trash removal, snow removal, other winter activities.
Only O and M expenditures on federal-aid network represented. Federal funds cannot be used for O and M.

Estimated Revenues

Year	Federal Funding	State Funding (Trunklines)	Local Funding (Federal-Aid Roads)	Total Funding
2022	$0.0	$ 7,784,178	$ 8,000,000	$ 15,784,178
2023	$0.0	$ 7,916,509	$ 8,136,000	$ 16,052,509
2024	$0.0	$ 8,051,090	$ 8,274,312	$ 16,325,402
2025	$0.0	$ 8,187,958	$ 8,414,975	$ 16,602,934
2026	$0.0	$ 8,327,153	$ 8,558,030	$ 16,885,183
2027	$0.0	$ 8,468,715	$ 8,703,516	$ 17,172,231
2028	$0.0	$ 8,612,683	$ 8,851,476	$ 17,464,159
2029	$0.0	$ 8,759,099	$ 9,001,951	$ 17,761,050
2030	$0.0	$ 8,908,004	$ 9,154,984	$ 18,062,988
2031	$0.0	$ 9,077,256	$ 9,328,929	$ 18,406,185
2032	$0.0	$ 9,249,723	$ 9,506,179	$ 18,755,902
2033	$0.0	$ 9,425,468	$ 9,686,796	$ 19,112,264
2034	$0.0	$ 9,604,552	$ 9,870,845	$ 19,475,397
2035	$0.0	$ 9,787,039	$ 10,058,391	$ 19,845,430
2036	$0.0	$ 9,972,992	$ 10,249,501	$ 20,222,493
2037	$0.0	$ 10,162,479	$ 10,444,241	$ 20,606,721
2038	$0.0	$ 10,355,566	$ 10,642,682	$ 20,998,248
2039	$0.0	$ 10,552,322	$ 10,844,893	$ 21,397,215
2040	$0.0	$ 10,752,816	$ 11,050,946	$ 21,803,762
2041	$0.0	$ 10,957,120	$ 11,260,914	$ 22,218,034
2042	$0.0	$ 11,165,305	$ 11,474,871	$ 22,640,176
2043	$0.0	$ 11,377,446	$ 11,692,894	$ 23,070,339
2044	$0.0	$ 11,593,617	$ 11,915,059	$ 23,508,676
2045	$0.0	$ 11,813,896	$ 12,141,445	$ 23,955,341
Total:	**$0.0**	**$ 230,862,987**	**$ 237,263,831**	**$ 468,126,818**

Additional assumptions:
State and Local funding: 1.7% annual growth rate 2022-2030, 1.9% annual growth rate 2031-2045

State O & M FY 2021 funding estimate for SATA area provided by Bay Region TSC ($7,654,059).
Derived as 11% (SATA percentage of trunkline lane miles in Bay Region) of Bay Region O & M 2021 budget (PDD & SOM: $10,706,776 + STO: $55,843,431)

Local O & M FY 2022 funding projections for SATA area estimated
Derived as $3,000,000 for City of Saginaw, +$5,000,000 for rest of Saginaw County (without Tittabawassee Twp)

State and Local Operations and Maintenance Program Revenue Estimates:

	Federal Funds	State Funds (Trunklines)	Local Funds (Federal-Aid Roads)	Total Revenues
2022-2025	$0	$31,939,735	$ 32,825,287	$ 64,765,022
2026-2035	$0	$90,219,692	$ 92,721,099	$ 182,940,791
2036-2045	$0	$108,703,560	$ 111,717,445	$ 220,421,005
Total:	**$0**	**$230,862,987**	**$ 237,263,832**	**$ 468,126,818**

State and Local Operations and Maintenance Program Expenditure Estimates:

	Federal Funds	State Funds (Trunklines)	Local Funds (Federal-Aid Roads)	Total Expenditures
2022-2025	$0	$31,939,735	$32,825,287	$ 64,765,022
2026-2035	$0	$90,219,692	$92,721,099	$ 182,940,791
2036-2045	$0	$108,703,560	$111,717,445	$ 220,421,005
Total:	**$0**	**$230,862,987**	**$237,263,831**	**$468,126,818**

All available revenues assumed to be utilized, usually more needs than available revenues

LRP fiscally constrained based on comparison of projected expenditures versus expected revenues.

O and M activities/projects not prioritized nor individually listed in SATA LRP or TIP

APPENDIX C

Revenues and Fiscal Constraint Tables

State and Local Operations and Maintenance Program

Operations and maintenance defined as those items necessary to keep the road infrastructure functional for vehicle travel, excluding repair/replacement of capital assets.
O and M covers activities like grass cutting, trash removal, snow removal, other winter activities.
Only O and M expenditures on federal-aid network represented. Federal funds cannot be used for O and M.

Estimated Revenues

Year	Federal Funding	State Funding (Trunklines)	Local Funding (Federal-Aid Roads)	Total Funding
2022	$0.0	$ 7,784,178	$ 8,000,000	$ 15,784,178
2023	$0.0	$ 7,916,509	$ 8,136,000	$ 16,052,509
2024	$0.0	$ 8,051,090	$ 8,274,312	$ 16,325,402
2025	$0.0	$ 8,187,958	$ 8,414,975	$ 16,602,934
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All available revenues assumed to be utilized, usually more needs than available revenues

LRP fiscally constrained based on comparison of projected expenditures versus expected revenues.

O and M activities/projects not prioritized nor individually listed in SATA LRP or TIP

APPENDIX C

Revenues and Fiscal Constraint Tables

ESTIMIATED REVENUES FY 2022 – 2045 TABLE

Summary				
2022-2045 Total Revenues for SATA area (Federal, State & Local Funding)				
	2022-2025	**2026-2035**	**2036-2045**	**Total**
Local STP Urban Program	$ 16,205,791	$ 43,787,791	$ 53,749,331	**$ 113,742,850**
Local STP Rural and EDD Program	$ 7,480,760	$ 21,512,098	$ 26,223,127	**$ 55,215,985**
Non-Motorized Program	$ 1,075,000	$ 2,186,781	$ 2,687,018	**$ 5,948,798**
Local Safety Program	$ 2,057,725	$ 5,894,432	$ 7,242,813	**$ 15,194,970**
Local Bridge Program	$ 5,717,750	$ 14,191,674	$ 17,438,089	**$ 37,347,513**
Local Capital Program	$ 8,206,275	$ 23,180,275	$ 27,929,361	**$ 59,315,958**
Trunkline Capital Program	$ 136,200,000	$ 393,000,000	$ 588,600,000	**$ 1,117,800,000**
State and Local Operations and Maintenance Program	$ 64,765,022	$ 182,940,791	$ 220,421,005	**$ 468,126,818**
Transit Program	$ 32,769,969	$ 92,987,213	$ 112,829,997	**$ 238,587,179**
Total:	**$ 274,478,292**	**$ 779,681,055**	**$ 1,057,120,741**	**$ 2,111,280,071**

APPENDIX D

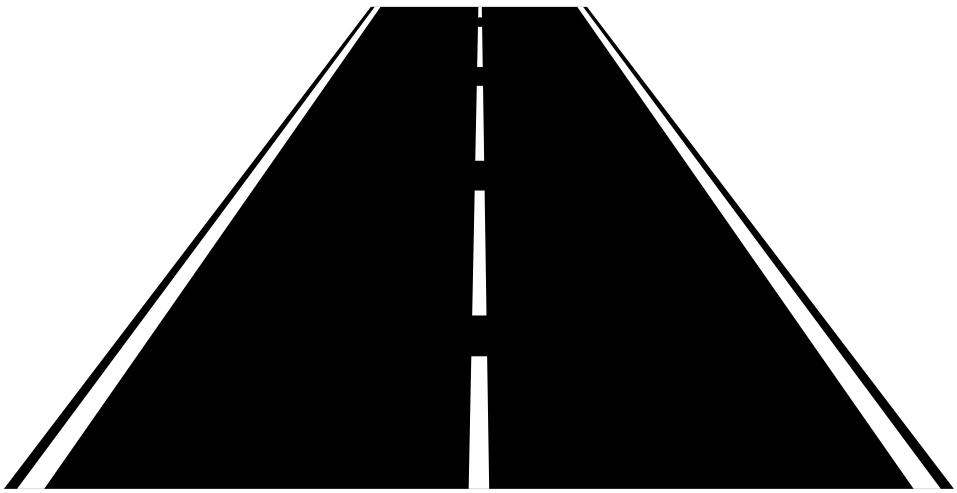
Transportation System Performance Report

According to the FAST Act, a long-range transportation plan needs to include a system performance report and subsequent updates evaluating the condition and performance of the transportation system with respect to the performance targets. The long-range transportation plan will provide information on the current and proposed target information adopted by MDOT for roads, highways and transit. Updates to target data will be on the SATA website.

Transportation Performance Measures

As part of the bill, national performance goals were created for roads and highways along with public transportation providers. Roads and Highways National Performance Goals 23 CFR 150 outlines the national goals for the federal aid highway program around which the federally required performance measures were created.

On the next page is a listing of those seven areas followed by a brief description of each goal and are also described in more detail in Chapter 5 Performance Measures and Plan Evaluation.



APPENDIX D

Transportation System Performance Report

- Safety - To achieve a significant reduction in traffic fatalities and serious injuries on all public roads
- Infrastructure Condition - To maintain the highway infrastructure asset system in a state of good repair
- Congestion Reduction - To achieve a significant reduction in congestion on the National
- Highway System
- System Reliability - To improve the efficiency of the surface transportation system
- Freight Movement - To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development
- Environmental Sustainability - To enhance the performance of the transportation system while protecting and enhancing the natural environment
- Reduced project delivery delay - To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies/work practices.

Monitoring progress towards achieving goals and objectives is helped by developing performance measures during the planning process. In general, performance measures must be directly relatable to goals, utilize available data that is trackable over time, and measure progress. According to the Federal Highway Administration (FHWA), “Performance measures are a qualitative or quantitative measure of outcomes, outputs, efficiency, or cost effectiveness.” The following information details how SATA will evaluate this plan’s foundation of data, information, and explanation stated in the previous chapters.

APPENDIX D

Transportation System Performance Report

This chapter will outline the process SATA will take in adopting the Performance measure, data collection, and methodology on reporting projects. In July 2012, then President Obama signed the Moving Ahead for Progress in the 21st Century (MAP-21 federal transportation legislation) that established transportation systems moving toward a performance- and outcome-based program. The objective of this performance and outcome-based program is for the investment of resources in projects that collectively make progress toward the achievement of nationally set goals.
This emphasis was continued in the most recent transportation bill, the FAST Act. On December 4, 2015, President Obama signed the Fixing America's Surface Transportation (FAST) Act into law—the first federal law in over a decade to provide long-term funding certainty for surface transportation infrastructure planning and investment. The FAST Act authorizes billions over for highway, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs.

Public Transportation National Performance Goals

MAP-21 also mandated the Federal Transit Administration (FTA) to develop a rule establishing a strategic and systematic process of operating, maintaining, and improving public capital assets effectively through their entire life cycle. The Transit Asset Management (TAM) Final Rule 49 CFR part 625 became effective Oct. 1, 2016 and established four performance measures. The performance Environmental Sustainability and Reduced Project Delivery Delays currently do not have any specific measures associated with these goals. Management requirements outlined in 49 CFR 625 Subpart D are a minimum standard for transit operators. Providers with more data and sophisticated analysis expertise are allowed to add performance measures and utilize those advanced techniques in addition to the required national performance measures.

APPENDIX D

Transportation System Performance Report

System Management

One of the primary roles of SATA is to facilitate coordination between the entities responsible for transportation improvements and operations in the area for performance measures. This is conducted through various programs and strategies to enhance system management in order to achieve the Performance Measure Targets of the Long-Range Plan. SATA will participate in or facilitates to meet the targets.

MPO Performance-Based Planning Process: Going forward, any new LRP or TIP being developed must demonstrate the amount of investment being made towards each performance goal in a way that is mutually agreed upon by both MDOT and the MPO.

Through the LRTP and TIP, the MPO established funding goals that generally target the performance categories specified. These goals were established in the LRTP and implemented through the 2023-2026 TIP as close as possible given the limitations on the availability and restrictions of local, state, and federal funding sources. The MPO will also continue to gather data for the development of performance measures such as pavement and bridge condition, traffic volumes, traffic flow, level of congestion, and safety.

The MPO will continue to analyze progress towards the performance goals in fiscal years 2020 and 2021 using the annual listing of obligated projects to determine spending in each category. The MPO will begin to fully implement these performance goals during the 2023-2026 TIP development process. The 2023-2026 TIP applications will place emphasis on meeting the targets and using a more performance-driven project selection process.

APPENDIX D

Transportation System Performance Report

Performance Reporting Requirements

According to 23 CFR 450.324(g)(4) in the FAST Act, metropolitan transportation plans shall, at a minimum, include a system performance report and subsequent updates evaluating the condition and performance of the transportation system with respect to the performance targets described in §450.306(d), including:

- Progress achieved by the metropolitan planning organization in meeting the performance targets in comparison with system performance recorded in previous reports, including baseline data; and
- For metropolitan planning organizations that voluntarily elect to develop multiple scenarios, an analysis of how the preferred scenario has improved the conditions and performance of the transportation system and how changes in local policies and investments have impacted the costs necessary to achieve the identified performance targets.

This document will provide information on the current and proposed target information adopted by the Michigan Department of Transportation for roads/highways, and transit. Regular updates to all target data will be shown on the agency's website www.satampo.org

SATA Adopts MDOT's State Targets

SATA has adopted the State Targets and passed a resolution in support of meeting those targets. A baseline number will be used to track the progress for Saginaw County on improving Safety within the SATA area. SATA does not select which safety projects will be implemented. The selection of Safety projects is conducted by MDOT, City of Saginaw, and the County Road Commission.

APPENDIX D

Transportation System Performance Report

To meet the safety goal of reducing fatalities and serious injuries on the state Trunkline system the strategy of the Safety Program is to select cost-effective safety improvements, as identified in Michigan's Strategic Highway Safety Plan (SHSP), to address Trunkline locations with correctable fatality and serious injury crashes. All proposed safety funded improvements must be supported by the MDOT Region's Toward Zero Deaths (TZD) Implementation Plan to mitigate such crashes within the region. Priority is given to those projects, within each Region, with SHSP focus area improvements that have the lowest cost/benefit analysis or are a proven low-cost safety improvement to address the correctable crash pattern. On the local road system

MDOT administers federal safety funds for safety improvements supported by a Local Road Safety Plan or addressed by means of a low-cost safety project. High Risk Rural Road is one program used to address rural roadways where fatalities and serious injuries exceed the statewide average for that class of roadway.

Safety On Michigan Roads

Roads and Highways Reporting Requirements

MDOT is required to report to FHWA on the establishment of state performance targets and the progress made in attaining the state targets on a biennial basis (October 1, of each even numbered year). One exception to the biennial reporting requirements is for the safety performance measures, which are required to be reported by MDOT to FHWA through the Highway Safety Improvement Program Annual Report by August 31 of each year. MPOs are not required to provide annual reports other than MPO decisions on targets. MPOs are required to report MPO performance targets to MDOT in accordance with the documented procedures for MPO reporting targets. This will result in MPOs reporting MPO safety targets annually to MDOT, and other performance targets as they are established (every two or four years).

APPENDIX D

Transportation System Performance Report

Rule-making In Performance Measures

Rule-making is a process that Federal agencies use to create and get the word out on regulations. Setting broad policy mandates by passing's statues, then agencies create more detailed regulations through rule-making. These specific rule-making areas then serve to fulfill the goals established in MAP-21 and the FAST act.

Implementation Schedule

The timeline for implementation of the national performance measures is determined upon when a final rule establishing when the date for the rule is effective. The table outlines the effective date of the final rule and when States and MPOs must act.

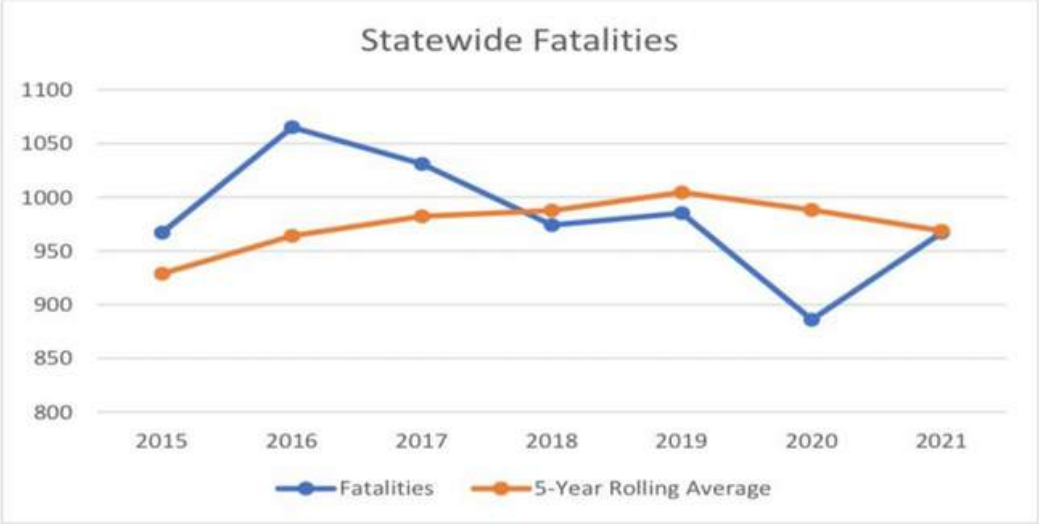
Performance Rule	MDOT Set Targets By (1year)	MPO's Set Targets By	MTP and TIP Inclusion
Safety Performance	August 31, 2017	Up to 180 days after the states set targets, but no later than February 27, 2018	Updates or amendments on or after May 28, 2018
Pavement and Bridge Condition	May 20, 2018	No later than 180 days after MDOT sets target November 16, 2018	Updates or amendments on or after May 20, 2019
System Performance Measures	May 20, 2018	May 27, 2018	Updates or amendments on or after May 20, 2019
Greenhouse Gas	9/27/2018	2-4 year cycle	
Statewide Non-metropolitan and Metropolitan Planning	May 27, 2018	MPO's compliant by May 27, 2018	TIP 3 yr cycle LRP 4-5 year cycle
Transit Asset State of Good Repair	January 1, 2017	Approved transit TAM plan Calendar 2021	

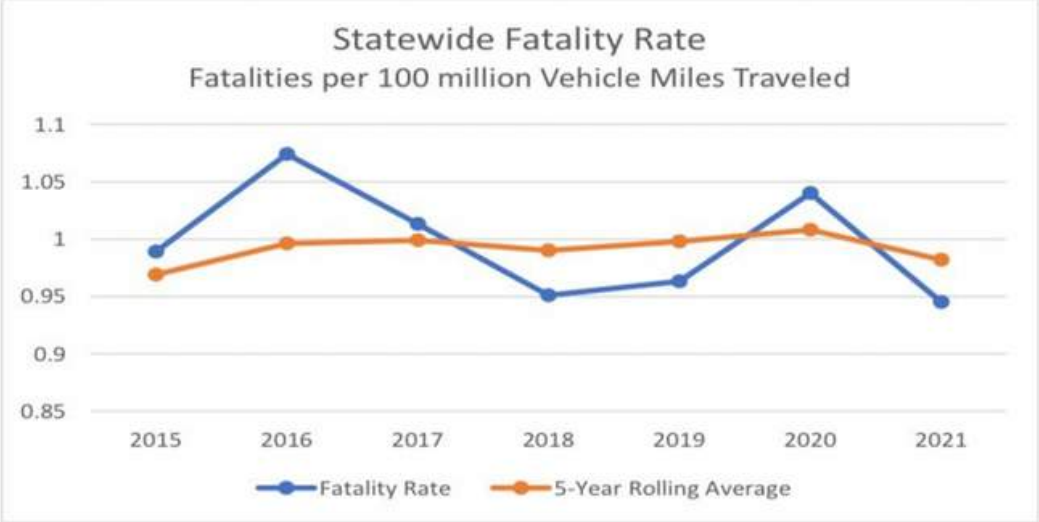
APPENDIX D

Transportation System Performance Report

MDOT's Statewide Fatalities and Rates

To determine the forecasted five-year rolling average forFatalities, Fatality Rate per 100 million VMT, Serious Injuries, and SeriousInjury Rate per 100 millionVMT, the forecast was obtained from the models for 2020 and 2021.The final forecasted value for fatalities is the average of MDOT and UMTRI forecasted values which predicts 886 in 2020and 967 in 2021. The target for calendar year2021 is 968.6for fatalities and 0.982 for fatality rate, which is show in the chart below.





APPENDIX D

Transportation System Performance Report

SATA Adopts MDOT's Statewide Fatalities & Fatality Rate

As shown in the table below, the MPO supported the adoption of MDOT's State Targets for Safety Performance Measure for Calendar year 2021. This established targets for five performance measure based on five-year rolling averages, including:

- Number of Fatalities,
- Rate of Fatalities per 100 million Vehicle Miles Traveled (VMT).

Safety Performance Measures Targets	MDOT Base Line	MDOT 2021 Targets
Fatalities	1,004.4	968.6
Fatality Rate	0.998	0.982

SATA has adopted the State Target and passed a resolution in support meeting those targets (see agency's website). The baseline number will be used to track the progress for Saginaw County on improving Safety within the SATA area. SATA does not select which safety projects will be implemented. The selection of safety projects is conducted by MDOT, City of Saginaw and the Saginaw County Road Commission to meet safety targets SATA has established the following goals and actions by the MPO.

SATA Safety Goal and MPO Actions:

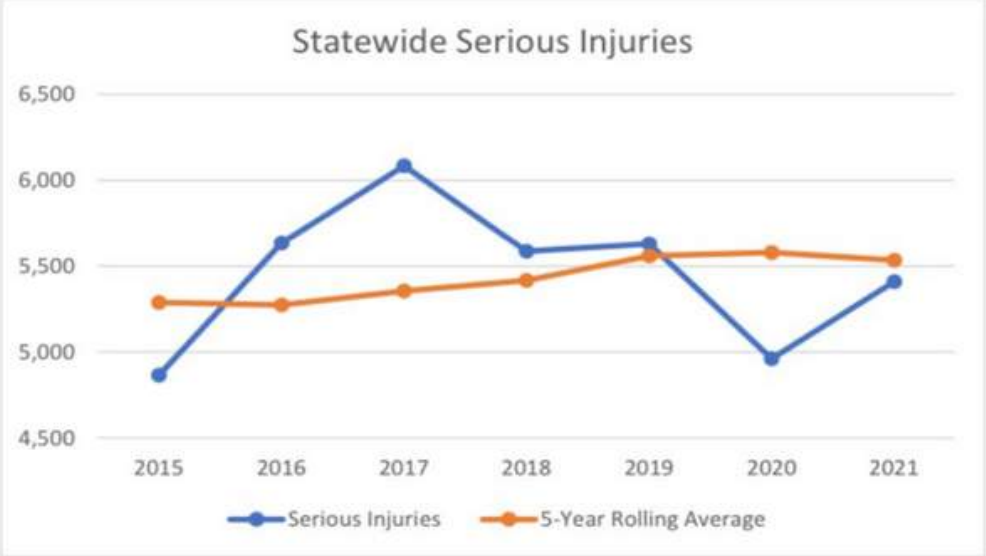
1. Support MDOT's Region's Towards Zero Deaths (TZD) initiative.
2. Work with the local agencies and safety stakeholders to address areas of concern for fatalities or serious injuries with the SATA planning area.
3. Give priority in the TIP to projects that address safety.
4. Use data to develop projects that address safety hazards in particular areas.
5. Promote safe travel habits for drivers, transit riders, cyclist, and pedestrians through education and enforcement initiatives and program.

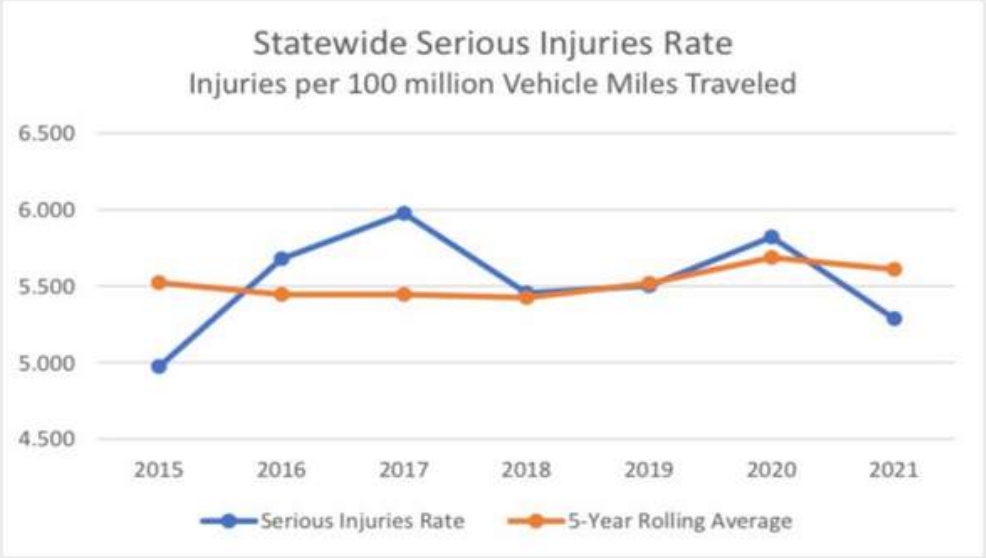
APPENDIX D

Transportation System Performance Report

SATA Adopts MDOT Statewide Serious Injuries & Serious Injuries Rate

To determine the forecasted five-year rolling average for Fatalities, Fatality Rate per 100 million VMT. Serious Injuries, and Serious Injury Rate per 100 million VMT, the forecast was obtained from the models for 2020 and 2021. The final forecasted value for serious injuries 5,533.6 and 5.609 for serious injury rate.





APPENDIX D

Transportation System Performance Report

As shown in the table below, the MPO supported the adoption of MDOT's State Targets for Safety Performance Measures for Calendar Year 2021. This established targets for five performance measures based on a five-year rolling average, including:

- Number of Serious Injuries
- Rate of Serious Injuries per 100 million VMT.

Safety Performance Measures Targets	MDOT Base Line	MDOT 2021 Targets
Serious Injuries	5,559.6	5,533.6
Serioius Injury Rate	5.518	5.609

SATA has adopted the State Target and passed a resolution in support meeting those targets (see agency's website). The baseline number will be used to track the progress for Saginaw County on improving Safety within the SATA area. SATA does not select which safety projects will be implemented. The selection of safety projects is conducted by MDOT, City of Saginaw and the Saginaw County Road Commission to meet safety targets SATA has established the following goals and actions by the MPO.

SATA Safety Goal and MPO Actions:

1. Support MDOT's Region's Towards Zero Deaths (TZD) Initiative.
2. Work with the local agencies safety stakeholders to address areas of concern for fatalities or serious injuries within the SATA planning area.
3. Give priority in the TIP to projects that address safety.
4. Use Data to develop projects that address safety hazards in particular areas trough education and enforcement initiatives and programs.
5. Promote safe travel habits for drivers, transit, cyclists and pedestrians through education and enforcement initiatives and programs

APPENDIX D

Transportation System Performance Report

SATA Adopts MDOT Statewide Serious Pedestrian and Bicycle Fatalities and Serious Injuries

The forecast targets for calendar year in 2021 is 786.8 serious injuries and 771.2 serious injuries rate.

SATA Adopts MDOT Statewide Serious Pedestrian and Bicycle Fatalities and Serious Injuries

As shown in the table below, the Saginaw MPO supported the adoption of MDOT's State Targets for Safety Performance Measures for Calendar Year 2021. The established targets for five performance measures based on five-year rolling averages, including the number of non- motorized fatalities and serious injuries.

Safety Performance Measures Targets	MDOT Base Line	MDOT 2021 Targets
Non-motorized Fatalities and Serious Injuries	768.8	771.2

APPENDIX D

Transportation System Performance Report

SATA Safety Goals MPO Actions:

1. Continue to work with local agencies safety stakeholders to address areas of concerns for bicyclists and pedestrians in the non-motorized element.
2. Continue to work with local agencies to develop a region wide non-motorized plan.
3. Utilization of MDOT safety data and programs to promote Toward Zero Deaths National Strategy

Transit Reporting Requirements

The Federal Transit Administration Transit Asset Management Rule requires a group Transit Asset Management (TAM) plan to set one or more performance targets for each applicable performance measure. The goal is to establish a strategic and systematic process of operation, maintaining, and improving public capital assets effectively through their entire life cycle. The targets should be based on realistic expectations, and the recent data available and the financial resources from all sources that area reasonably expected funding the TAM plan horizon period. The three asset classes to be in the Transit Asset Management plan are Revenue Vehicles, Service Vehicles, and Facilities.

In MAP-21 mandated FTA to develop a rule establishing a strategic and systematic process of operating, maintaining, and improving public capital assets effectively through their entire life cycle. The TAM Final Rule 49 USC 625 became effective Oct. 1, 2016, and established four performance measures. The performance management requirements outlined in 49 USC 625 Subpart D are a minimum standard for transit operators. Providers with more data and sophisticated analysis expertise are allowed to add performance measures and utilize those advanced techniques in addition to the required national performance measures.

APPENDIX D

Transportation System Performance Report

Transit Asset Management Final Rule (49 CRF Part 625 Part D), effective October 1, 2016, requires Transit Operators to set "State of Good Repair" performance measure targets each year for four asset categories.

The Saginaw Transit Authority Regional Services (STARS) has provided the Saginaw Area Transportation Agency with its "State of Good Repair" targets for FY 2021 for the following asset categories:

Transit Asset Management Performance
• Rolling-Stock means a revenue vehicle used in providing a public transportation, including vehicles used for carrying passengers on fare-free services.
• Equipment – means an article of non-expendable, tangible property has useful life of at least one year
• Facilities – means a building or structure that is used to providing public transportation
• Infrastructure – means the underlying framework or structures that support a public transportation system

APPENDIX D

Transportation System Performance Report

Performance of the NHS, Freight, and CMAQ

On May 20, 2017, a federal Highway Administration (FHWA) finale rule took effect regarding Performance of the NHS, Freight, and CMAQ. The rule established performance measure that State Departments of Transportation (DOT'S) and metropolitan planning organizations (MPO's) will use to report on the performance of the Interstate and non-interstate National Highway System (NHS) to carry out the National Highway Performance Program (NHPP), freight movement on ther Interstate system to carry out the National Highway Freight Program (NHFP), and traffic congestions and on-road mobile source emission for the purpose of carrying out the Congestion Mitigation and Air Quality Improvement (CMAQ) Program. The rule addresses requirements established by the MAP -21. Specific measures associated with this rule are:

1. Percent of the Interstate System Proving for Reliable Travel
2. Percent of the Interstate System Where Peak Hour Travel Times Meet Expectations
3. Percent of the Non-Interstate NHS Providing for Reliable Travel; and
4. Percent of the Non-Interstate NHS Where Peak Hour Travel Times Meet Expectations

Pavement and Bridge Condition Targets

On May 20, 2017, the FHWA Final Rule on pavement and bridge condition performance measures took effect. This Pavement and Bridge Condition Performance measure final rule establishes measures for State DOTs to carry out the NHPP and the assess the condition of pavements on the non-interstate NHS, pavements on the interstate system and bridges carrying the NHS, including on-and -off ramps connected to the NHS.

APPENDIX D

Transportation System Performance Report

This rule will be used by State DOTs and MPOs to assess the performance of the Interstate and non-Interstate National Highway System (NHS) for the purpose of carrying out the National Highway Performance Program (NHPP); to assess freight movement on the Interstate System; and to assess traffic congestion and on-road mobile source emissions for the purpose of carrying out the Congestion Mitigation and Air Quality Improvement (CMAQ) Program

This final rule includes the following six measures:

Pavement and Bridge Condition Performance Measures
• Percentage of pavements on the Interstate System in Good condition
• Percentage of pavements on the Interstate System in Poor condition
• Percentage of pavements on the NHS (excluding the Interstate System) in Good condition
• Percentage of pavements on the NHS (excluding the Interstate System) in Poorcondition
• Percentage of NHS bridges in Good condition
• Percentage of NHS bridges in Poor condition

***SATA recognize the importance of a safe transportation system and supports MDOT's bridge targets.**

SATA Reporting Safety Projects Selection and Data Collection

SATA will continue to work with MDOT on reporting in a manner that is agreed upon between both parties. While FHWA may review MPO performance as part of ongoing transportation planning process reviews, there is no formal requirements for MDOT or FHWA to directly assess MPO progress toward meeting MPO targets. SATA intends to continue working with MDOT and update the project submittal and selection process to include more description for Safety and other performance measure projects. SATA also intends to incorporate an after-action review of these projects to monitor the reported crashes at each project. Additionally, data will be collected on the entire Saginaw County Road system and focus will be given to the top ten highest crash road segments and intersections.

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Transportation System Performance Report

Pavement Performance/Bridge Condition Targets

The Transportation Performance Measure regulatory requirements outlined in 23 CFR 490.105 and 23 CFR 490.107 regarding bridge condition targets, are based on a state adjusted 4-year National Highway System targets. The Saginaw Area Transportation Agency recognized the importance of safe transportation system and supports the cooperatively developed bridge targets from the Michigan Department of Transportation

SATA Policy Committee supported the Pavement Performance Bridge Condition/Travel Time Reliability Targets as show below:

State Targets for First Performance Period

Performance Area	Measures	Baseline Calendar Year 2017	Targets 2 -Year	Targets 4 - Year
Bridge	%NHS Deck Area In Good condition	32.7%	27.2%	26.2%
	% NHS Deck Area in Poor Condition	9.8 %	7.2%	
Pavement	% of Interstate Pavement in Good Condition	56.8%	N/A	47.8
	% of Interstate Pavement in Poor Condition	5.2%	N/A	10.0%
	% of Non-Interstate NHS in Good Condition	49.7%	46.7%	43.7%
	% of Non-Interstate NHS in Poor Condition	18.6%	21.6%	24.6%
Reliability	Interstate Travel Time Reliability Level	85.1%	75.0%	75.0%
	Non – Interstate Travel Time Reliability Level	85.8%	N/A	70.0%
	Freight Reliability Measure on the Interstate	1.38	1.75	1.75

SATA MPO Bridge Conditions

Deck Area in Good Condition	Deck Area in Fair Condition	Deck Area in Poor Condition
31.8%	43.9%	24.3%
241,917 square feet	494,688 square feet	109,643 square feet

**Total deck area in the SATA MPO is 846,248*
Local Total Bridges is 214

APPENDIX D

Transportation System Performance Report

Infrastructure Evaluation Method (PASER)
Reporting Requirements:

According to Michigan's Public Act 51 (P.A. 499 in 2002 and P.A. 199 in 2007), each local road agency must annually report the mileage and condition of the road and bridge system under their jurisdiction to the Michigan Transportation Asset Management Council. The Transportation Asset Management Council (TAMC) is comprised of professionals representing road commissions, cities, counties, townships, regional and metropolitan planning organizations, and state transportation department personnel.
TAMC - About Us (michigan.gov))

SATA is directly involved in the process of Asset Management regarding monitoring road conditions within the MPO boundaries. Asset Management is a process that provides key data for monitoring, planning and strategically improving the road network. Each local agency within SATA' area has access to PASER data and Road- Soft computer software that assists in evaluating information that has been collected. This provides a means for local agencies to track road segments' distress and implement a strategic method of investing funds to mitigate those identified issues.

As required by October 1, 2021, the City of Saginaw developed their asset management plan and Saginaw CountyRoad Commission plan will be available by October 1, 2022. The plan is a strategic and systematic process of operating, maintaining, and improving physical assets, with a focus on engineering and economic analysis based upon quality information, to identify a structured sequence of maintenance, preservation, repair, rehabilitation, and replacement actions that will achieve and sustain a desired state of good repair over the life cycle of the assets at minimum practicable cost.

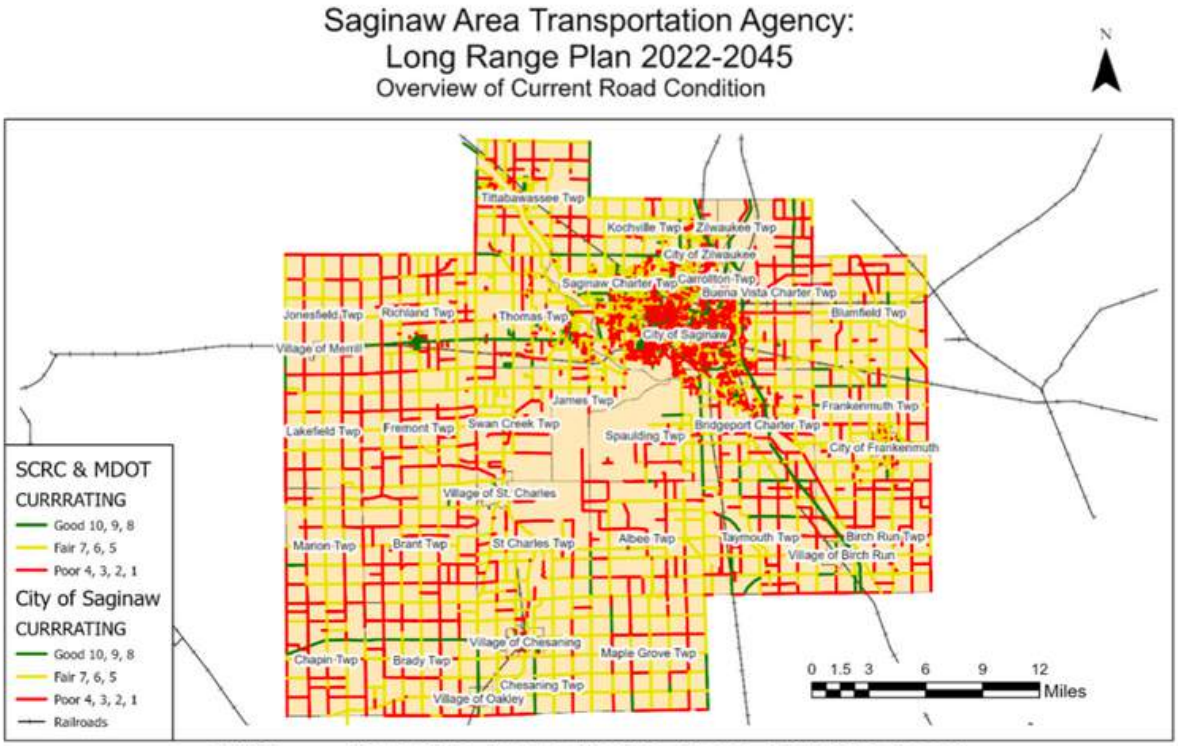
APPENDIX D

Transportation System Performance Report

Every year TAMC contracts with each of Michigan's twenty-one RPOs and MPOs to coordinate the annualPASER condition assessment for the paved federal-aid road system.A team of three trained composed of a representative from the MPO,MDOT, and local city and county embark on an effort to rate at least 50 percent of the paved federal-aid road system each year. However, because 2020was a missed year for rating due to COVID-19 the team collected 100 percent of PASER data. The team evaluates the pavement while driving and records, the roads surface type, number of lanes, and PASER rating of each road using a laptop and GPAS receiver. Data is then stored and analyzed using a program called Roadsoft, developed by the Michigan Technological University's Center for Technology and Training.

SATA Pavement Quality

2021 Federal Aid Road Condition



PASER	County Miles	Percent	City Miles	Percent	MDOT Miles	Percent
Good 10-8	92.32	5.4%	17.58	6.1%	96.21	37%
Fair 7-5	882.4	52%	46.95	16%	129.11	49%
Poor 4-1	737.17	43%	222.83	78%	38.15	14%
Total Rated Miles	1711.89		287.35		263.46	

APPENDIX D

Transportation System Performance Report

SATA Pavement Quality
2021 Federal Aid Road Conditions

PASER is a visual tool used to evaluate the surface distress that pavement develops over time, distress is rated on a scale from 1 to 10. According to the Michigan Asset Management Council (TAMC) policies, the collected rating is arranged into subgroups of:

Capital Preventative Maintenance (CPM)

CPM is a key implementation component of asset management practices. This strategy includes roadway improvements such as resurfacing, re-paving, re-striping, signal upgrades, re-decking, and other preventative activities which will extend the life of the existing transportation infrastructure. These projects are much smaller in scope and therefore are not identified specifically in the Long-Range Plan. However, SATA promotes CPM in its Transportation Improvement Program (TIP). These projects are typically identified as a General Program Account (GPA) on the TIP. A GPA is a grouping of similar CPM projects occurring each fiscal year. For example, a Saginaw County Road Commission GPA that has several resurfacing projects would be called Local Highway Rehabilitation and Reconstruction GPA. This GPA process makes it easier for local implementing agencies to complete CPM projects by streamlining project development and review

APPENDIX D

Transportation System Performance Report

Traffic Counts

The collection of traffic count data is another example of ongoing system operations to enhance the transportation network in the SATA area. Both the City of Saginaw and Saginaw County Road Commission collect traffic count data on federal-aid and local roads to be utilized for various purposes. For example, traffic count data can be used to assist with the review and potential reclassification under the NFC, of SATA area roadways. Providing traffic count data for roadways which are supporting higher traffic volumes potentially allows for that roadway to be reclassified to a higher level. This process determines whether the roadway is eligible for federal funds, either as part of the National Highway System (NHS) or through the Surface Transportation Program (STP). SATA plans on working with other agencies to increase the number of traffic counters and number of segments collected each year. SATA will also work with MDOT and the agencies to streamline the collection process and provide a clean data set for MDOT personal. Hopefully, MDOT upgrade to MS2 software will provide a more convenient system to upload data and be able to distribute to varying agencies in MDOT. Additionally, SATA will work with MDOT and other agencies to develop a non-motorized count system.

Complete Streets

This program is a measure to support a balanced transportation system and a guide to incorporating the needs of all users (i.e. transit and non-motorized) in the planning, design, and implementation of projects. Examples of non-motorized facilities considered while planning road projects include sidewalks, bike lanes, non-motorized paths, ADA accessible crosswalks and ramps, signalized intersections, among many other enhancements. SATA requires that all projects proposed for inclusion in the TIP must be reviewed in consideration of the extent that the project will accommodate Complete Streets measures, or that the project should be exempt.

Local agencies and MDOT are actively involved in this process and the implementation of these types of projects. SATA as stated in the non-motorized section plan's on developing a complete streets guideline within its area wide non-motorized plan.

Transit Coordination

SATA will continue to work with STARS to conduct and update current studies to take a closer look at regional transit services and how they can be enhanced. Although these studies are on- going and will potentially lead to improvements regarding transit coordination and services, currently there are some noticeable issues with the area's public transportation. Work is currently in progress on enhancing the project selection and amendment process for STARS. Additionally, SATA will provide information and help with developing performance goals for STARS such as a bus replacement schedule.

Enhancing Livability

Livability is the ability of transportation to provide a higher quality of life for citizens by providing access to a better road system, improve quality of life, enhances local economy, provides a safe system to navigate, and improve all modes of travel. Addressing livability issues in transportation planning, development and implementation ensures that transportation investments support both mobility and broader community goals. SATA goals, performance measures, projects, and the above regional concerns when implemented and constructed will have these factors considered in the planning process. A detailed transportation network that connects and functions effectively will have a relevant impact on economic prosperity and quality of life. The following are ways SATA can implement strategies to meet livability goals in the area.

APPENDIX D

Transportation System Performance Report

1. Continue to network with other local industries and groups to design facilities that meet the needs of all users and modes of travel.

- Example of STARS transporting workers out of County.
- Tittabawassee Township working with local business along M-47 to develop a non-motorized trail along with MDOT.
- Provide access studies for business along Tittabawassee and Bay Road to emphasize increased traffic flow and safety along these roads.

2. Promote projects that improve sustainability and the environment (SATA goal five).

- Increase the number of projects utilizing recycled tire's instead of asphalt incorporate the principles of resiliency into their programs and projects, resulting in increased collaboration, better environmental outcomes, and improved quality of life for surrounding communities.
- Utilizing grants from other sources such as the Department of Interior to help
- Increase public access to the Shiawassee National Wildlife Refuge, while preserving the natural ecosystem.
- Implement safety performances measures (PM 1) and suggestions from the regional traffic safety plan to inform investment decisions into safety projects.
- Saginaw County has one of the highest percentages of senior citizens in Michigan, which will require SATA to plan and implement senior citizen driver education classes and provide a quality transit system for those who cannot drive.
- Thomas Township with the assistance of the Saginaw County Road Commission is implementing the Safe Routes to Schools program and grants for area schools to help get kids safely and actively to school.

APPENDIX E

Consultation Efforts

PUBLIC INVOLVEMENT REQUIREMENTS

The metropolitan transportation planning rules and regulations that implemented SAFETEAU-LU continued the provision contained in the ISTEA and TEA 21 legislation that proceeded it. However, SAFETEAU-LU expanded upon the process of the prior legislation in many respects relative to the participation of the public and other interested parties in the transportation planning process. Specifically:

"The MPO shall develop and use a documented participation plan that defines a process providing citizens, affected public agencies representatives of public transportation employees, freight shippers, providers of freight transportation services, private providers of transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, and other interested parties with reasonable opportunities to be involved in the metropolitan transportation planning process".

The Map-21/FAST Act regulations continued with specific things that the MPO should include or do as part of the public participation process. These include:

- Provide adequate public notice and time for public review
- Provide timely notice and reasonable access to information
- Employ visualization techniques for conveying information about Plans and TIP's
- Make information available in electrically accessible formats/means
- Hold public meetings at accessible places and times
- Demonstrate consideration of comments received during public input for the Plan and the TIP
- Seek out and consider the needs of the traditionally under-served
- Provide additional public input opportunities when plans or programs change
- Significantly from the versions originally offered for public comment
- Coordinate with statewide transportation planning public involvement and consultation efforts
- Periodically review effectiveness of the transportation participation plan

APPENDIX E

Consultation Efforts

Public Involvement Documentation

Your Opinion Matters We want to hear from you!

Public involvement activities were held for the Metropolitan Transportation Plan to maximize feedback, participation and to obtain input from a broad cross section of the public. The public involvement process extended from February 24 through March 24, 2022.

The following public engagement strategies were used to solicit public input:

- Held Open House at SVRC Marketplace – 30 responses
- Held Open House at Hoyt Public Library – 5 responses
- Posted information on the Saginaw Area Transportation Agency Website
- Used distribution emails lists to send survey, announce upcoming events, and encourage sharing of surveys and events with local constituents
- Held meeting with Technical and Policy committees which are open to the public for comments

What We've Heard

Public engagement for LRTP 2045 included two in-person public involvement opportunities. The first round being at the Saginaw SVRC Market Place on Friday, March 4, 2022. The marketplace is one of Saginaw's newest attractions for good food, services, unique items for purchase and a great atmosphere. Saginaw received 30 written surveys and verbal comments from the public.

The second round of public involvement was held at the downtown Saginaw Hoyt Public Library on March 7, 2022, and there were 5 written surveys received.

Public outreach helps the Saginaw MPO establish priorities, policies, and ultimately investment strategies that meet the vision and needs of the people. Information gathered throughout the public involvement process resulted in the results below.

APPENDIX E

Consultation Efforts

Sample questions on survey:

1. Prior to COVID-19 please select your primary means of travel for work and/or school:

Responses: 35

Drive Alone	Bicycle	Drive with other's (carpool)	Walk	Public Transit
26	1	2	1	5

Sample questions on survey:

2. During COVID-19 please select your primary means of travel for work and or/school

Responses: 35

Drive Alone	Bicycle	Drive with other's (carpool)	Work Remotely	Public Transit
25	2	3	1	4

Sample questions on survey:

3. Do you consider Saginaw Transportation System reliable, safe, and available?

Responses: 35

Yes	No	Unsure
19	15	1

APPENDIX E

Consultation Efforts

Sample questions on survey:

4. What would you like to see more of in your community? Check or add suggestions

Response: 35

Walking or biking Trails	Electric Vehicles	Expansion of Transit Bus Services
12	5	18

Sample questions on survey:

5. Where do you see the most need?

Responses: 35

24	2	3	2	2	2	0
Maintain existing road/bridges	Add bicycle facilities (bicycle lanes)	Add pedestrian facilities (sidewalk, enhanced crosswalks)	Add bus routes and/or stops	Improve intersection operation/traffics signals	Remove existing road/bridges that are under utilized	Expand the rail system
68.58%	5.71%	8.58%	5.71%	5.71%	5.71%	0

Sample questions on survey:

6. Do you feel that the transportation system infrastructure (road, bridges, sidewalk) needs repair?

Responses: 35

	Yes	%	No	Unsure	%
Roads	35	100			
Bridges	30	85.7		5	14.3
Sidewalk	10	16.7		25	83.3
Trails	15	42.86		20	57.14
Bus Stops	23	65.71		12	34.29

APPENDIX E

Consultation Efforts

As a result of the 30-day public review and comment period process, SATA results reflected largely in the support of the document.

Verbal Comments: March 7, 2022

Are there any factors that you think will impact the transportation system over the next 25 years? Please explain.

Saginaw City has some of the worst roads in Saginaw County. Roads most important inbound & outbound! Bay Road terrible!! Court Street getting bad again. Will take 3-5 years to fix Mackinaw which takes a beating because schools in area. People will not come to city – the minute boarder is crossed its evident.People will continue moving to move out of the city because of safety and roads. I know I'm frustrated with the condition of the main roads leading in and out of the city. Schools, roads, preventing crime should be the focus or each census will have less and less people. This comes from a die-hard city supporter and contributor.

What do you see more need of in your community?

1. Fix the road (potholes) improve and add sidewalks around the city
2. Saginaw needs more roads projects on the city's east-side and walking trails
3. Need more bus stops and expanded bus services
4. Expansion of transit dial-a-ride service
5. There need to be more money put into the Saginaw east-side the township has perfect roads.It seems that all of the tax dollars are being spent on the west and the east side is getting worst.
6. Intermodal connecting between 3 major communities
7. More Housing Downtown
8. Increased use of hybrids and electric vehicles, development of tiny house communities, more urban vegetable garden downtown

9. Saginaw City has some of the worst roads in Saginaw County. Roads most important inbound & outbound! Bay Road terrible!! Court Street getting bad again. Will take 3-5 years to fix Mackinaw which takes a beating because schools in area. People will not come to city – the minute boarder is crossed its evident.People will continue moving to move out of the city because of safety and roads. I know I'm frustrated with the condition of the main roads leading in and out of the city. Schools, roads, preventing crime should be the focus or each census will have less and less people. This comes from a die-hard city supporter and contributor.

10. Alternative fuel options and more funding towards infrastructure

11. More accessible transportation in the county more reliable public transportation in the county

12. Saginaw needs more pedestrian friendly area

In viewing the LRTP what are your thoughts about the plan? (e.g. any suggestions)

13. Looks like a good start!

14. It's a full of interesting information about Saginaw

Did this survey miss anything that's important to you? No

APPENDIX E

Consultation Efforts

Stakeholders and Consultation List

- Saginaw Valley State University
- Delta College
- Saginaw County Chamber of Commerce
- UAW Regional Office
- ISD (All County School Districts)
- Public Libraries of Saginaw
- Community Action Committee
- SVRC (Saginaw Valley Rehabilitation Center)
- Saginaw Future Inc.
- Michigan Works!
- Saginaw Community Foundation
- Underground Railroad
- First Ward Community Center
- Salvation Army
- Saginaw County Convention Bureau
- United Way of Saginaw County
- MBS International Airport
- Harry Browne Airport
- Railroads (Huron & Eastern, Saginaw Bay Southern, and Lake State)
- Saginaw River shippers/businesses
- Saginaw County Parks and Recreation
- Shiawassee National Wildlife Refuge
- Michigan Dept. of Environmental Quality (Saginaw Bay District)
- Michigan Dept. of Natural Resources (Saginaw Bay District)
- Historical Society of Saginaw County
- AARP, Michigan Chapter
- Saginaw YMCA
- City of Saginaw
- Home Builders Association
- Saginaw County Road Commission
- U. S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- East Michigan Council of Governments (EMCOG)
- 7-b Rural Task Force Small Cities and villages

APPENDIX E

Consultation Efforts

- Federal Highway Administration Michigan Division
- Federal Transit Administration
- Midland Area Transportation Study (MATS)
- Bay County Area Transportation Study (BayCATS)
- City of Saginaw (Traffic Engineering)
- City of Zilwaukee
- Michigan Dept. of Transportation (Official -Lansing)
- Michigan Dept. of Transportation -Bay Region
- Bridgeport Township
- Buena Vista Township
- Carrollton Township
- James Township
- Kochville Township
- Saginaw Township
- Spaulding Township
- Tittabawassee Township
- Thomas Township
- The Ezekiel Project
- Saginaw Chippewa Indian Tribe
- Tri-City Cyclist
- Saginaw Habitat for Humanity
- Members of various other committees and individual residents