Twin Cities Area Transportation Study (TwinCATS)

>>>

2050 LONG RANGE TRANSPORTATION PLAN

Principles in Motion 2050 >>>

The preparation of this document has been financed through the Federal Highway Administration (FHWA), the Federal Transportation Administration (FTA), the Michigan Department of Transportation (MDOT) and TwinCATS member communities under provisions of the BIL (Bipartisan Infrastructure Law), and FAST (Fixing America's Surface Transportation) Act.

January 2023

Southwest Michigan Planning Commission

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MPO Organization

The Southwest Michigan Planning Commission (SWMPC) is one of fourteen regional planning and development regions in the state of Michigan. In 1981 SWMPC was designated by the Governor of Michigan to be the Metropolitan Planning Organization (MPO) for the Benton Harbor-St. Joseph urbanized area. The SWMPC relies on this committee of the Twin Cities Area Transportation Study (TwinCATS) to provide local, state, and federal input toward the development of essential MPO work products.

The staff at SWMPC provides transportation planning services for TwinCATS and is guided by the advice of members from the TwinCATS Policy Committee and Technical Advisory Committee. Members, such as cities, townships, villages, counties, public transit agencies, the airport authority, and the road department appoints representatives to serve on the following Twin- CATS committees:

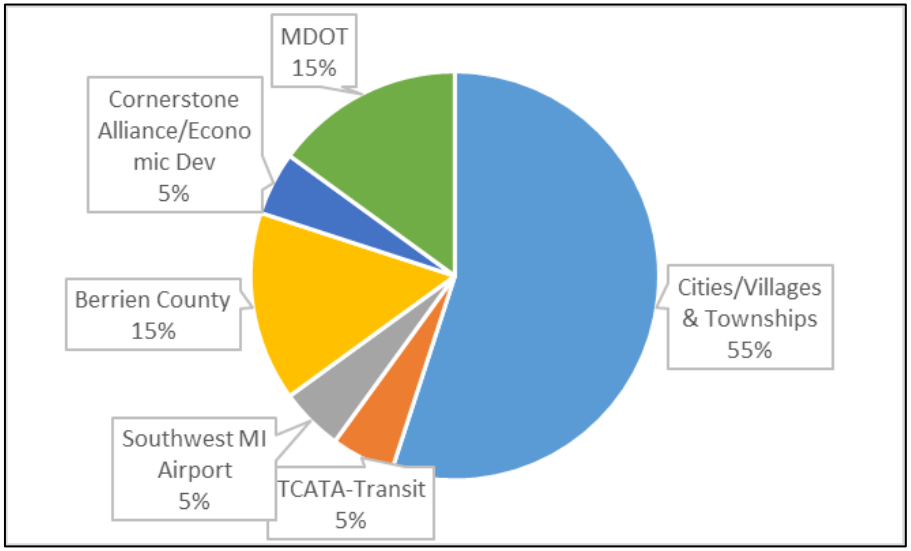
1. The Technical Advisory Committee is comprised of planners, engineers, transit operators, and local units of government. This committee provides technical assistance to SWMPC staff and makes recommendations to the Policy Committee on potential actions.

2. The Policy Committee is comprised of representatives from similar agencies as the Technical Advisory Committee and is responsible for establishing transportation policies, overseeing the planning process, and providing a forum for cooperative decision-making.

TwinCATS Policy Committee

TwinCATS Policy Committee is organized to conform with federal requirements for an MPO. TwinCATS Policy Committee is composed of 17 voting members from member communities, transportation and economic development agencies. The Policy Committee also has three non-voting members that include Federal Highway Administration, Federal Transit Administration, and Northwest Indiana Regional Planning Commission.

TwinCATS Policy Committee Membership



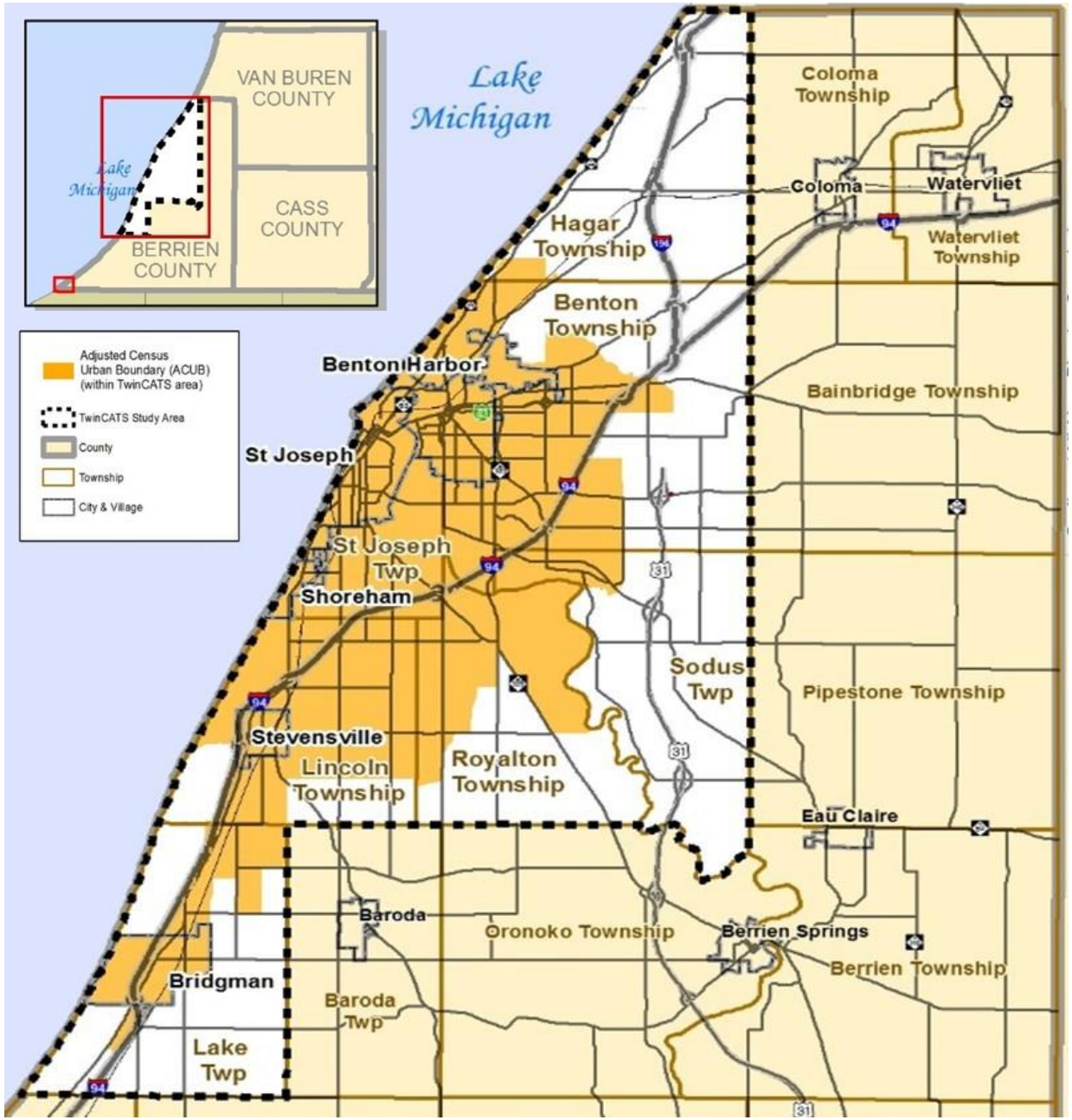
The SWMPC Governing Board is composed of appointed representatives from the counties of Berrien, Cass and Van Buren and affirms the decisions of the TwinCATS Committee for various federally re- quired plans and documents that include:

- Long Range Transportation Plan
- Unified Work Program
- Transportation Improvement Program
- Public Participation Plan

Metropolitan Area Boundaries

The U.S. Census Bureau designated Benton Harbor-St. Joseph as an urbanized area in 1981 following benchmarks for concentrations of population that comprise one or more central places and adjacent developed areas that together have a minimum of 50,000 people. Today, the Benton Harbor-St. Joseph urbanized area is home to approximately 63,000 people.

The TwinCATS study area encompasses each community that contains a portion of the Benton Harbor-St. Joseph urbanized area. This area covers approximately 146 square miles and makes up the locations where the transportation planning process is carried out. The 12 local units of government that make up the TwinCATS study area are the cities of Benton Harbor, St. Joseph, Bridgman, the townships of, Benton, Hagar, Lake, Lincoln, Royalton, Sodus, St. Joseph, and the villages of Shoreham and Stevensville. Only projects located within the TwinCATS study area are eligible for federal funding through the MPO.



MPO SATELLITE

The Villages of Grand Beach and Michiana and part of New Buffalo Township are considered a satellite of the Twin Cities Urbanized Area, but they are part of the Michigan City-La Porte Urbanized Area. This satellite does not have federal aid-eligible roads. Therefore, this Long Range Transportation Plan does not cover the satellite.

2050 Long-Range Transportation Plan

The development and adoption of a Long-Range Transportation Plan is required by the U.S. Department of Transportation to receive federal funding under the current Infrastructure Investment and Jobs Act (IIJA) also known as the Bi-Partisan Infrastructure Act (BIL) and the prior Fixing America's Surface Transportation Act (FAST Act).

The plan must have no less than a 20-year horizon date, represent all municipalities within the designated urbanized planning area, and consider all modes of transportation. The plan must also address the ten planning factors to ensure the plan is consistent with national goals for transportation planning.

The Long-Range Transportation Plan is the transportation vision for the urbanized area just like a master plan can be the land use vision for a community.

Principles in Motion >>>

TwinCATS 2050 Long Range Transportation Plan Vision

To ensure public investments and policies are strategically used for the optimization of a safe, reliable, and equitable transportation network that enhances economic opportunity, growth, and quality of life while preserving our environment.

Planning Factors

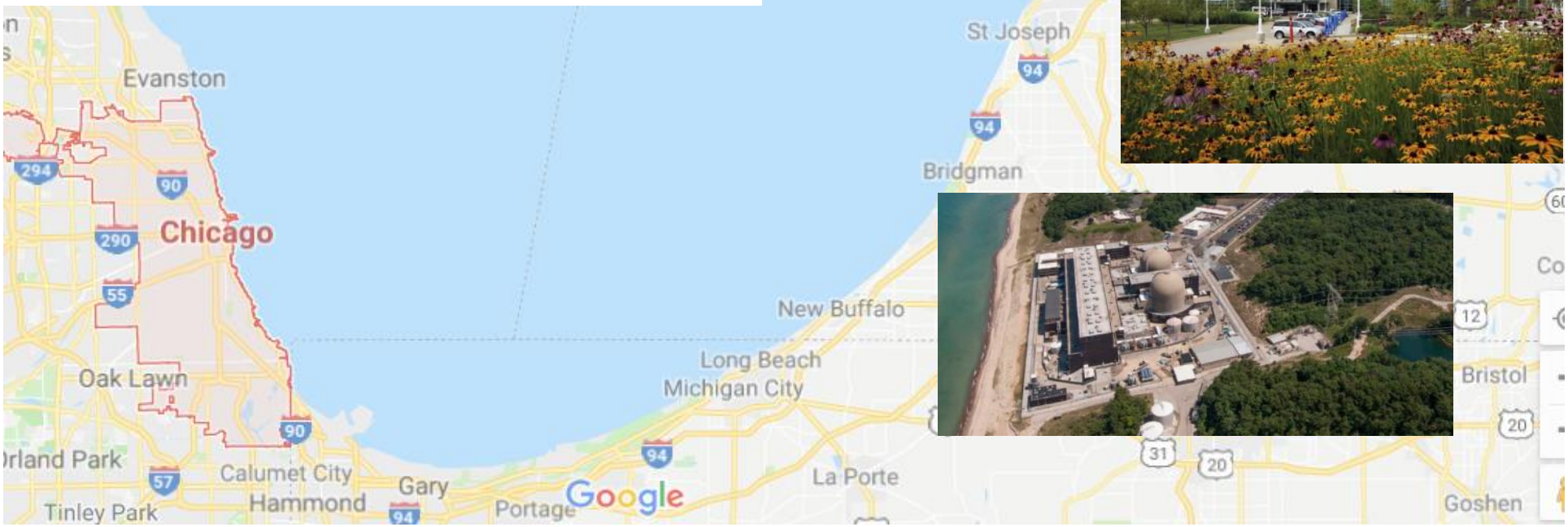
- **Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.**
- **Increase the safety of the transportation system for motorized and non-motorized users.**
- **Increase the security of the transportation system for motorized and non-motorized users**
- **Increase the accessibility and mobility options available to people and for freight.**
- **Protect and enhance the environment, promote energy conservation, improve quality of life, and promote consistency between transportation improvements.**
- **Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.**
- **Promote efficient system management and operation.**
- **Emphasize the preservation of the existing transportation system.**
- **Improve the resiliency and reliability of the transportation system and reduce or mitigate storm water impacts to surface transportation.**
- **Enhance travel and tourism.**

REGIONAL CONTEXT

Metropolitan Planning Area

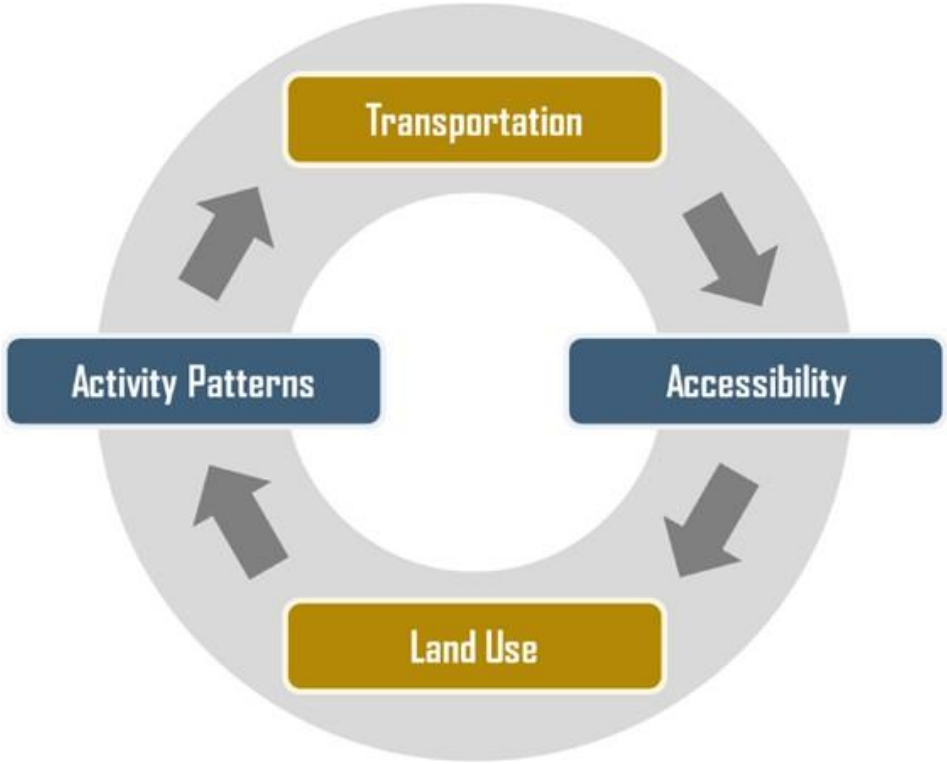
The St. Joseph-Benton Harbor Urbanized Area is located in Berrien County, Michigan. The southern border of the County abuts the northern Indiana state line. The cities in the southern portion of the County are strongly influenced by the population and economics of the Indiana cities that lie in close proximity including South Bend, Mishawaka, and Michigan City. Chicago is also a powerful influence on many aspects of life in southwest Michigan. Benton Harbor and St. Joseph are home to Whirlpool, the world's largest appliance manufacturer, and LECO, who manufactures scientific instrumentation. Other large employers include Lakeland Hospital and the Cook Nuclear Power Plant.

The St. Joseph-Benton Harbor Urbanized Area regional transportation assets include: a deep-water port, freight and passenger rail service, I-94, and I-196.



Transportation and Land Use

Transportation and land use considered together can respond better to community needs by combining economic vitality and mobility with quality-of-life and environmental issues. A municipality's land is perhaps its greatest resource. Changes to the way it is used can permanently shape the community's future.



The Importance of Transportation as Part of Local Land Use

Every local land use decision has a transportation consequence:

Residential developments may require modifications to existing roadway networks to ensure adequate access for motorists, pedestrians and bicyclists.

Industrial or commercial facilities may require parking and possible accommodations for public transportation and bicyclists in addition to roadway access enhancements.

Commercial, industrial, retail or residential uses may have a variety of transportation impacts, including the need for turning lanes and traffic signal installations, and trip generation impacts that extend beyond municipal borders.

Link Land Use and Transportation Planning

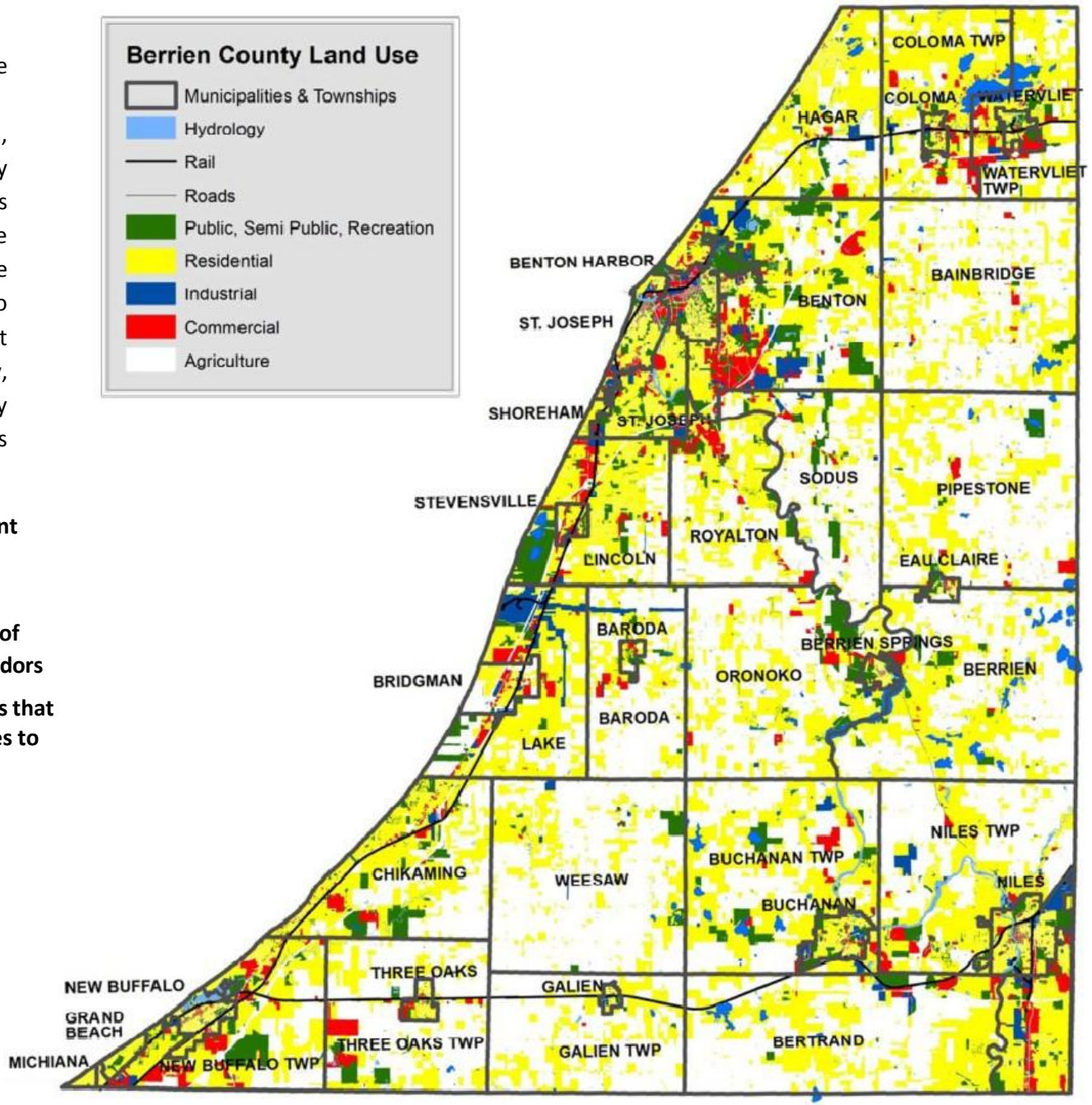
- Tax dollars to infrastructure costs necessary to support development, such as roads and sewers.
- Costs of emergency services, roadway maintenance and other municipal services.
- Lack of coordinated land use and transportation can result in worsening air and water pollution resulting from additional roadway traffic and storm water runoff into our streams, rivers and lakes.
- Uncoordinated land use and transportation decision-making can result in park and ride facilities with no transit access, greater pedestrian injuries and deaths, and more time spent in the car per day away from our families.
- The conversion of open space or farmland to large residential subdivisions or big box retail or distribution centers can result in decreased air quality and a loss of community character.

Berrien County Master Plan

As shown on the existing land use map, from the 2015 Berrien County Master Plan, residential areas dominate in the TwinCATS Area, whereas the surrounding area is largely agricultural. Agriculture, the rural landscape, plays an important cultural and economic value of the whole region. Recognizing the significance of the rural community drives the Plan's objective to promote higher density infill and redevelopment within the existing urbanized areas. Similarly, other objectives proposed in the Berrien County Master Plan are in direct alignment to address goals of the TwinCATS Long Range Plan.

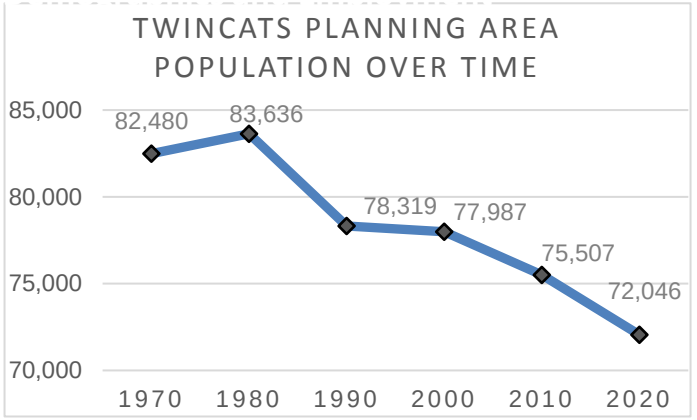
- ◊ **Maintain and provide efficiencies in the current transportation system**
- ◊ **Connect centers of employment, education, commerce, and housing with multiple modes of transportation, including non-motorized corridors**
- ◊ **Advocate "complete streets" design standards that correlate with state initiatives like Safe Routes to Schools and Building Healthy Communities**

Land Use *	Acres	Percent
Residential	132,573	36.1%
Commercial	14,202	3.9%
Industrial	6,870	1.9%
Public/ Semi-public	23,611	6.4%
Agricultural	176,265	47.9%
Roads	14,082	3.8%

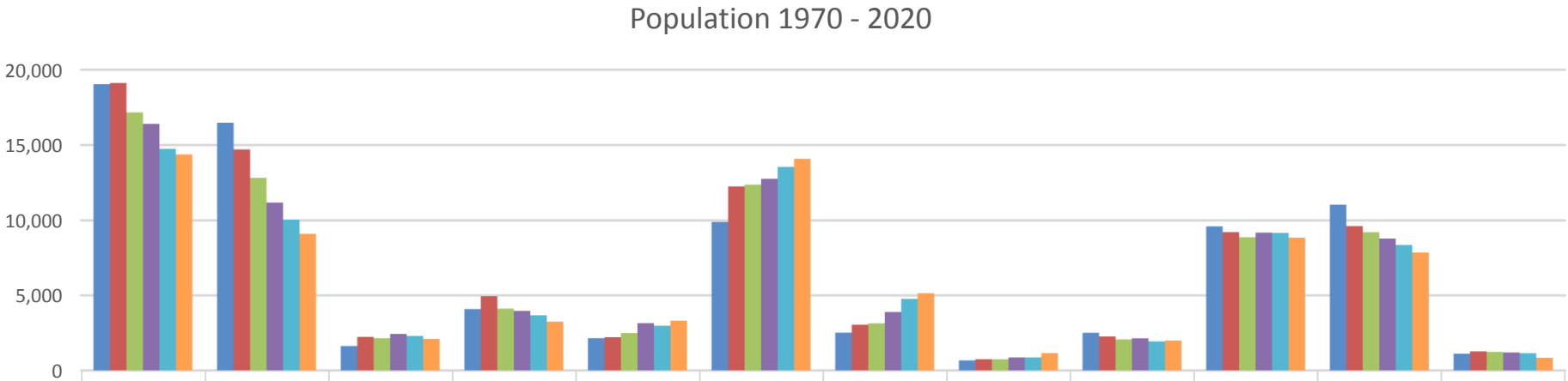


Population

From the late 19th century until early 1970s, Michigan's population grew more rapidly than the nations. The nationwide recession of the early 1980s hit Michigan harder than most other states because of its effect on the auto industry and the related smaller businesses associated with the auto industry. Since then, Michigan has grown more slowly than the rest of the nation. The population in TwinCATS experienced a similar trend with the highest population in the 1970s. As in the entire state, from 1980-1990 there was a substantial decrease in population. Since the 1990 the population is decreasing, yet at a lower rate, where it remains today.



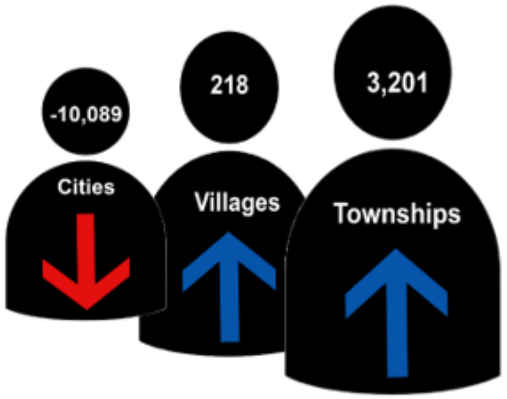
Source (below and right figures): U.S. Census Bureau



	Benton Charter Township	Benton Harbor City	Bridgman City	Hagar Township	Lake Charter Township	Lincoln Charter Township	Royalton Township	Shoreham Village	Sodus Township	St. Joseph Charter Township	St. Joseph City	Stevensville Village
1970	19,034	16,481	1,621	4,088	2,146	9,900	2,513	666	2,504	9,605	11,042	1,107
1980	19,120	14,707	2,235	4,943	2,212	12,252	3,046	742	2,260	9,219	9,622	1,268
1990	17,163	12,818	2,140	4,113	2,487	12,374	3,135	737	2,065	8,876	9,214	1,230
2000	16,404	11,182	2,428	3,964	3,148	12,761	3,888	860	2,139	9,182	8,789	1,191
2010	14,749	10,038	2,291	3,671	2,972	13,549	4,766	862	1,932	9,166	8,365	1,142
2020	14,374	9,103	2,096	3,243	3,316	14,085	5,141	1,147	1,995	8,846	7,856	844

Population Shift

Comparing 1970 to 2020, the total population has not increased dramatically; however, there has been a shift in population numbers between townships, villages, and cities. The largest increase in population has occurred in Lincoln and Lake Charter Townships, which have grown more than three times larger in the last fifty years. The greatest decrease in population has occurred in the City of Benton Harbor, which has lost almost half of its population in the last fifty years.



Jurisdiction	1970	2020	Change	Percent Change
Benton Charter Township	19,034	14,374	**-4,660**	-24%
Benton Harbor City	16,481	9,103	**-7,378**	-45%
Bridgman City	1,621	2,096	**475**	29%
Hagar Township	4,088	3,243	**-845**	-21%
Lake Charter Township	2,146	3,316	**1,170**	55%
Lincoln Charter Township	9,900	14,929	**5,029**	51%
Royalton Township	2,513	5,141	**2,628**	105%
Shoreham Village	666	1,147	**481**	72%
Sodus Township	2,504	1,995	**-509**	-20%
St. Joseph Charter Township	9,605	9,993	**388**	4%
St. Joseph City	11,042	7,856	**-3,186**	-29%
Stevensville Village	1,107	844	**-263**	-24%

Source: U.S. Census Bureau 2020

Population Forecast: 2015-2045

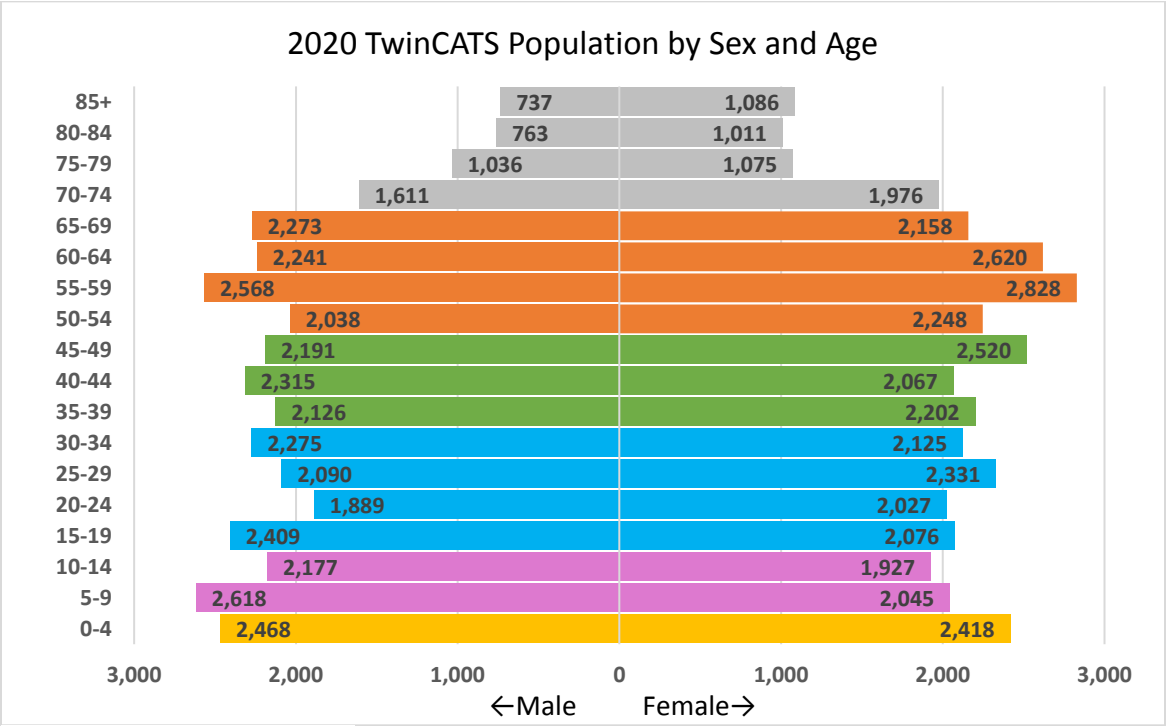
Population forecasts for the TwinCATS planning area show that the majority of jurisdictions are expected to grow. Exceptions to this population growth are the Village of Shoreham, Hagar Township, and Sodus Township.

Jurisdiction	2015	2045
City of Benton Harbor	9,998	10,003
City of Bridgman	2,258	2,295
City of St. Joseph	8,286	8,354
Village of Shoreham	853	847
Village of Stevensville	1,130	1,203
Benton Charter Township	14,459	14,565
Hagar Township	3,671	3,593
Lake Charter Township	2,939	3,112
Lincoln Charter Township	13,398	14,255
Royalton Township	4,759	5,308
St. Joseph Charter Township	9,013	9,105
Sodus Township	1,935	1,869
TwinCATS Total	72,699	74,509

Source: REMI

Generations

Changing cultural preferences for transportation are evident from both younger (millennials) and older generations (baby boomers). A large portion of these populations express a desire to live in communities that are bikeable, walkable and have transit.



Source: ACS 2020

Generation	Percent
Silent/Greatest (born before 1945)	8%
Baby Boomers (1945-1964)	25%
Gen X (1965-1979)	18%
Millennials (1980-2000)	24%
Generation Y (2000-2015)	18%
Generation Alpha (born after 2015)	7%

The U.S. population age 65 and older is growing at a faster rate than the population under age 65. Lower birth rates and increased longevity have led to this rapid growth not just in the United States but across the world.

The Millennials and Boomers are the two largest age cohorts alive today nationwide and within the TwinCATS planning area. Millennials between 15 and 34 years of age in 2015 will be age 45 to 64 by 2045. Baby Boomers, ages of 50-69 in 2015 will be 80 years and older by 2045. The Gen X population that in 2015 represented 19 percent of the TwinCATS area population, in 2045 will be age 64-79.

Household Size

Jurisdiction	Year	Number of Households	1-Person	2-Person	3-Person	4+ Person
CITIES			***PERCENT***			
Benton Harbor	2015	3,902	37.7%	24.3%	16.4%	21.7%
	2020	4,427	36.9%	27.4%	16.9%	18.8%
Bridgman	2015	872	37.2%	36.7%	12.3%	13.9%
	2020	919	27.4%	36.5%	14.7%	21.4%
St. Joseph	2015	4,013	41.8%	38.0%	9.3%	10.9%
	2020	4,084	42.3%	37.8%	9.1%	10.8%
VILLAGES						
Shoreham	2015	379	27.4%	42.2%	11.3%	19.0%
	2020	390	32.8%	42.8%	10.8%	13.6%
Stevensville	2015	592	33.4%	38.5%	11.3%	16.7%
	2020	538	39.2%	40.0%	9.5%	11.3%
TOWNSHIPS						
Benton Charter	2015	5,606	33.6%	31.0%	14.3%	21.0%
	2020	6,052	36.3%	31.4%	13.9%	18.4%
Hagar	2015	1,535	31.7%	35.2%	16.5%	16.7%
	2020	1,453	25.7%	43.5%	11.1%	19.7%
Lake Charter	2015	1,218	24.5%	40.8%	18.3%	16.3%
	2020	1,310	27.2%	39.6%	19.5%	13.7%
Lincoln Charter	2015	5,414	28.5%	36.3%	13.1%	22.1%
	2020	5,278	22.7%	39.0%	17.5%	20.8%
Royalton	2015	1,548	17.8%	38.3%	9.2%	34.8%
	2020	1,574	17.1%	44.2%	13.6%	25.2%
St. Joseph Charter	2015	3,715	26.1%	38.2%	18.5%	17.2%
	2020	3,700	24.4%	40.8%	12.9%	21.9%
Sodus	2015	833	31.3%	45.6%	12.5%	10.6%
	2020	827	24.2%	48.9%	16.8%	10.2%

Largest Increase

City of Benton Harbor
525 Households

Largest Decline

Lincoln Charter Twp. -
136 Households

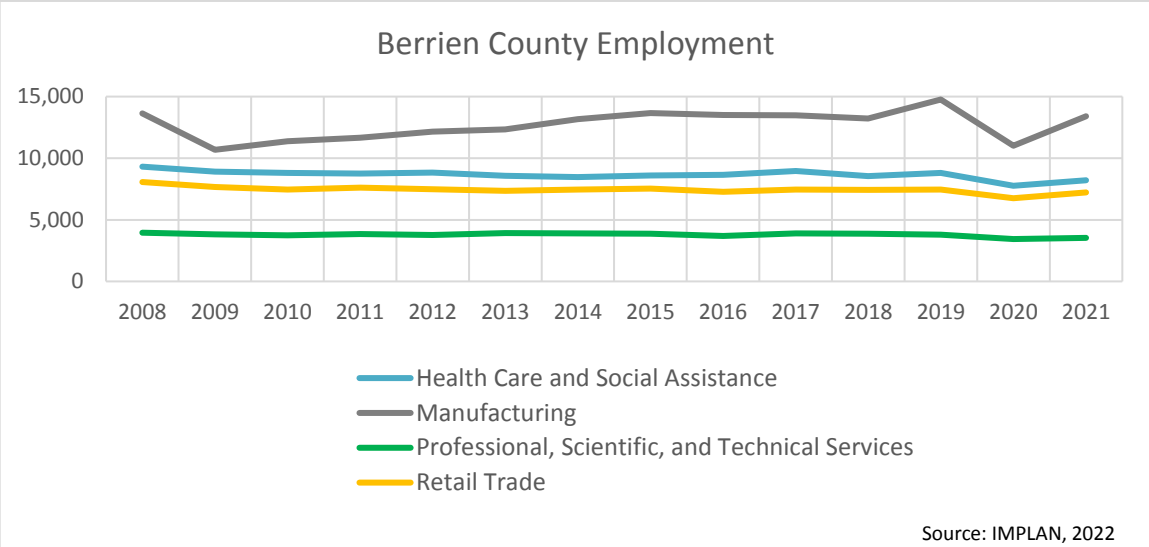
Households

The number of households and their size is an indicator of how the population is distributed over the TwinCATS area. Overall, the number of households by jurisdiction remained relatively steady between 2010 and 2020. Several jurisdictions had a significant increase in the percent of one-person households.

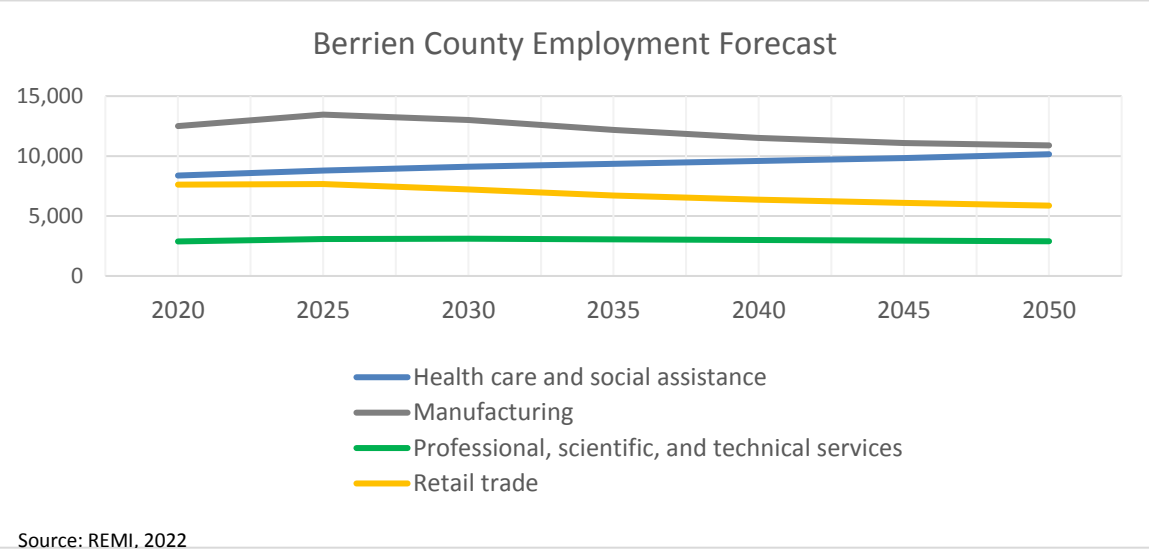
There is a growing preference for attached and smaller detached homes. Nationwide, research shows that about 40 percent of respondents would choose to own or rent an apartment or townhouse if it had an easy walk to shops and restaurants and offered a shorter commute to work. About 60 percent of those preferring detached options would choose smaller lots if they had the same attributes.

Nelson, Arthur. (2009). Reshaping America's built environment. Metropolitan Research Center, University of Utah

Employment



Source: IMPLAN, 2022



Source: REMI, 2022

For transportation planning, it is helpful to anticipate large changes in the employer/ employment market. For example, a strong retail market requires a different capacity in a transportation network than that of a strong manufacturing economy. All-season roads, designed for truck traffic are likely of greater importance on a continuing basis to manufacturers than retailers.

In Berrien County, it is forecasted that employment in health care and social assistance will overtake manufacturing in the 2030s.

Retail trade and manufacturing employment are projected to decrease over the next twenty -five years whereas employment in professional, science, and technical services and health care and social assistance are expected to increase.

Employment Density & Household Income

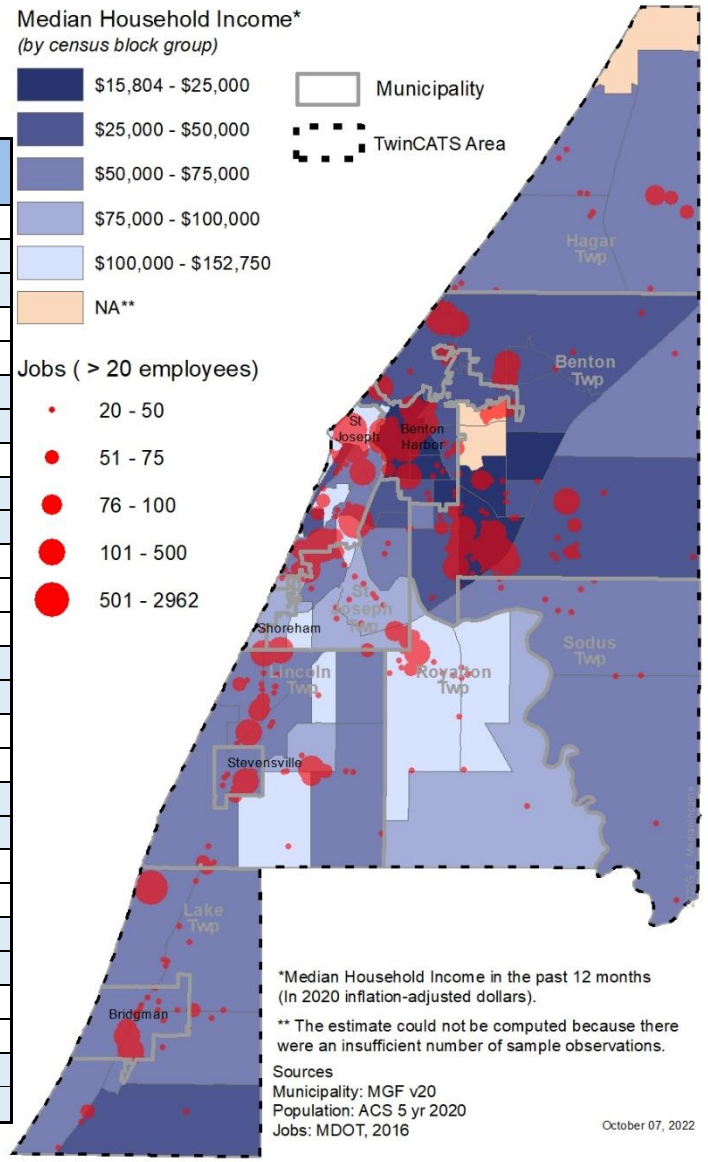
Median household income serves as an important indicator of transportation options available for the residents of the region. Lower household incomes usually correlate with lower vehicle ownership and thus a greater reliance on other modes of transportation such as public transit to reach employment opportunities.

In the TwinCATS area, approximately 35 percent of jobs are in areas outside of public transit service areas. Those without access to cars—including low-income workers and people with disabilities—lose out on employment opportunities. Low-income people who do have access to cars spend a significant percentage of their household resources on transportation at the expense of other necessities.

Jurisdiction	Percent Below Poverty
Cities	
Benton Harbor	44%
Bridgman	9%
St. Joseph	10%
Villages	
Shoreham	3%
Stevensville	6%
Townships	
Benton Charter	32%
Hagar	9%
Lake Charter	11%
Lincoln Charter	7%
Oronoko Charter	19%
Royalton	1%
St. Joseph Charter	6%

Highest Rates of Poverty
Benton Harbor: 44%
Benton Charter Townships: 32%

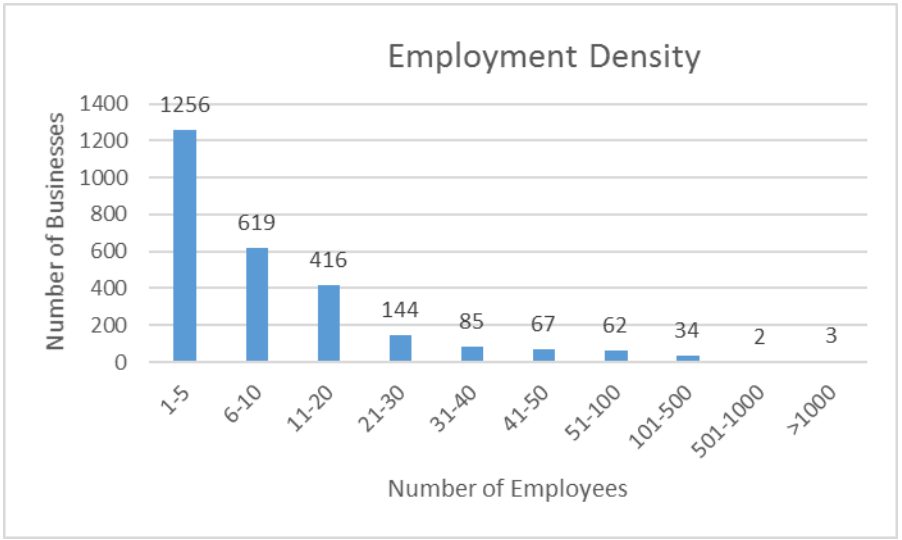
Jurisdiction	Year	Median Household Income
Cities		
Benton Harbor	2015	$18,085
	2020	$21,947
Bridgman	2015	$42,903
	2020	$71,133
St. Joseph	2015	$55,012
	2020	$60,379
Villages		
Shoreham	2015	$78,194
	2020	$91,389
Stevensville	2015	$51,667
	2020	$59,605
Townships		
Benton Charter	2015	$28,446
	2020	$32,401
Hagar	2015	$53,087
	2020	$64,583
Lake Charter	2015	$67,120
	2020	$60,547
Lincoln Charter	2015	$69,069
	2020	$78,411
Royalton	2015	$87,900
	2020	$104,609
St. Joseph Charter	2015	$63,566
	2020	$74,044
Sodus	2015	$44,757
	2020	$60,375

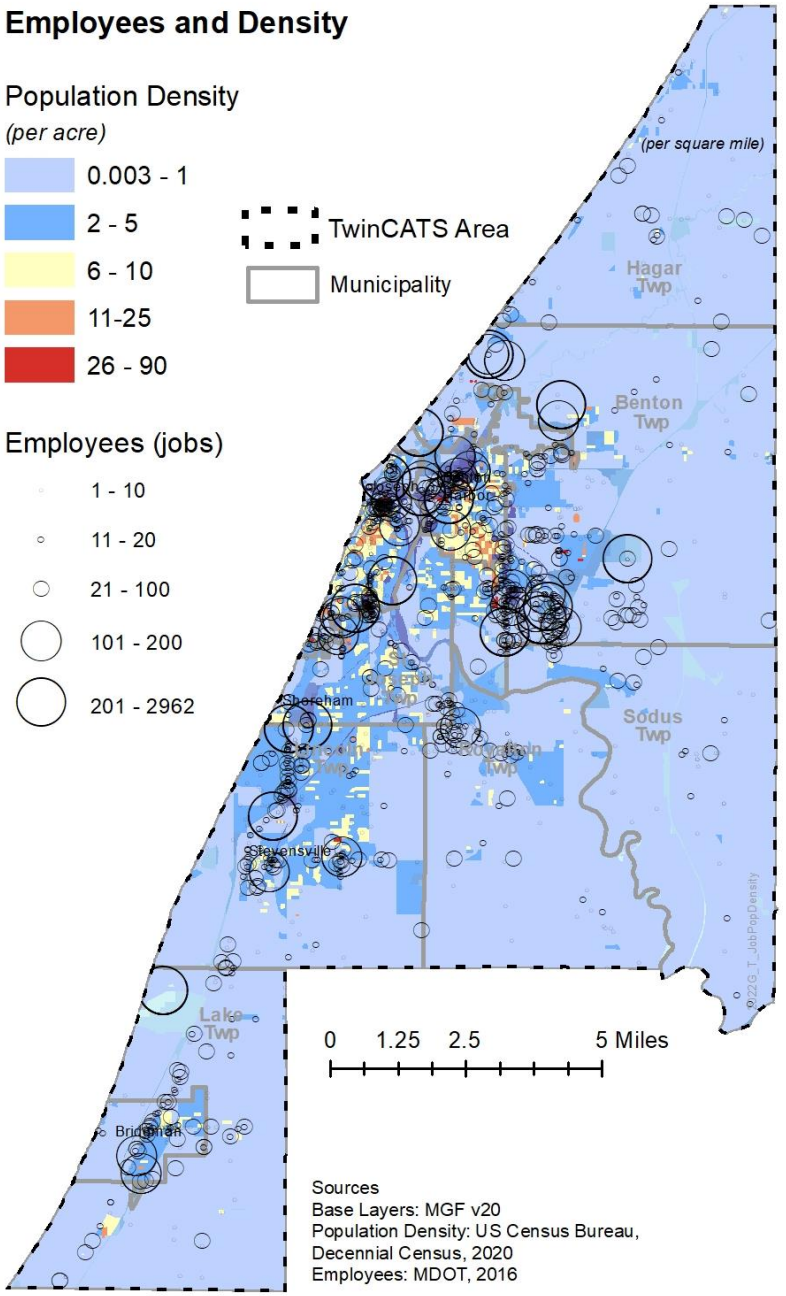


Employment and Population Density

Many communities across the U.S. have experienced a decline in traditional downtown employment centers in favor of office parks and retail in outer suburbs. Such dispersion of employment to the suburbs can result in reduced accessibility by workers due to long- er average trip distances, and lack of public transit. The movement of jobs to areas outside of the core cities has been the most pronounced in industries that offer low- and middle-skill jobs. The National Research Council reported that while half of the people on welfare live in the core city, 70 percent of jobs available to them are located outside of the core city. The City of Benton Harbor is a good example of this. In the 1970s most of the jobs moved out of the city and into Benton Township.

53% of the businesses within the TwinCATS planning area employ five people or less.





Commuting to Work

According to the American Community Survey (2020), 85 percent of workers who live in the metro area commute by personal vehicle. Of those, 78 percent drove alone while 7 percent carpooled. Only about 2 percent of the workers within the TwinCATS area commute using active transportation such as walking, biking, or taking transit. This rate is about half of the state average rate.

Highest rates of pedestrian and bicycle commuters:
City of Benton Harbor, 8% and
City of St. Joseph 3%

	Drove Alone	Car-pooled	Bus	Bike	Walked	Other	Work from Home
Benton Harbor City	75%	12%	2%	1%	6%	1%	2%
Bridgman City	81%	13%	0%	0%	1%	0%	4%
St. Joseph City	82%	6%	1%	0%	3%	1%	7%
Benton Charter Township	75%	16%	2%	0%	2%	1%	4%
Hagar Township	86%	5%	0%	0%	3%	3%	3%
Lake Charter Township	81%	15%	0%	0%	0%	1%	3%
Lincoln Charter Township	87%	5%	0%	0%	1%	1%	7%
Royalton Township	77%	10%	0%	0%	0%	0%	13%
St. Joseph Charter Township	84%	7%	0%	0%	2%	1%	6%
Sodus Township	80%	14%	0%	0%	2%	1%	3%
TwinCATS	**81%**	**9%**	**1%**	**0%**	**2%**	**1%**	**6%**
Berrien County	81%	10%	0%	0%	3%	1%	5%
Michigan	81%	9%	1%	0%	2%	1%	6%

Highest rates of commuting by automobile
Lincoln Twp. 95%
Sodus Twp. 96%

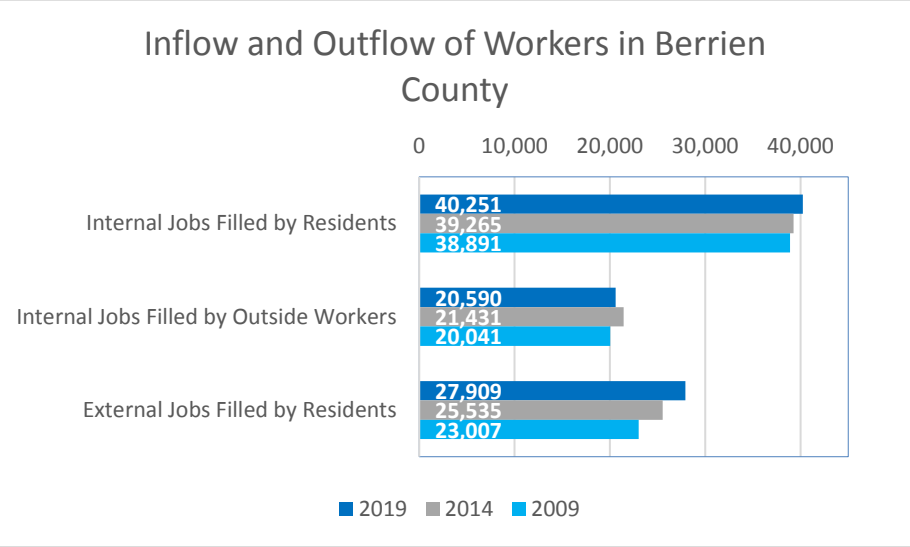
Average Commute Time

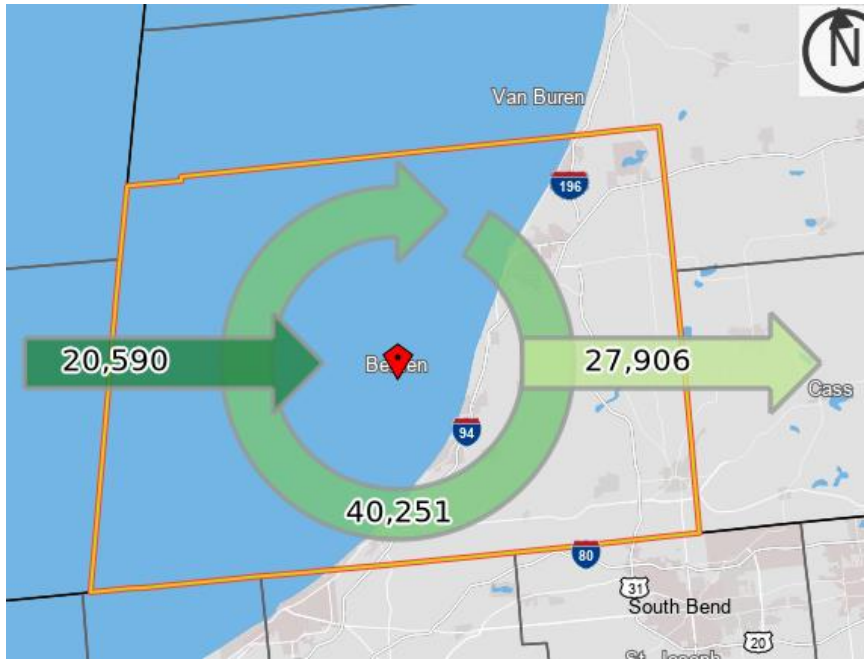
Berrien County: 22 minutes
Michigan: 24 minutes
United States: 28 minutes
Source: ACS 2020

Reliance on automobiles for work trips increases as the distance from high-density employment areas increases.

Commuting Patterns of Workers within Berrien County

U.S. Census Bureau's Longitudinal Employer-Household Dynamics Origin-Destination Employment data measures the inflow and outflow of Berrien County's workers and employed residents. Today, 46 percent of workers who reside in Berrien County work outside of the County. From 2009 to 2019, there has been a 3 percent increase in the number of jobs filled by residents within the County.





2019 U.S. Census Bureau's Longitudinal Employer-Household Dynamics Origin-Destination Employment data

20,590 commuters ENTER Berrien County every day for work.

27,909 commuters LIVE in Berrien County and LEAVE every day for work.

40,251 commuters LIVE and WORK in Berrien County.

Potential Future Impacts

COMMUTER TRAVEL PREFERENCES

Younger generations are increasingly looking for more transportation options, especially for their trips to work. Frequent transit routes and bicycling facilities are in higher demand. Choosing to live closer to where you work provides opportunities to walk. As desire to walk more increases, demand for better sidewalk conditions also increases.

E-COMMERCE

The recent trend of E-commerce is expected to be an important issue in transportation planning moving forward. The purchase of goods online has had dramatic impacts on shopping stores and created a greater emphasis on freight and trucking movement.

The increases in the number of delivery trucks may have impacts on the transportation system, including the local road system. The impacts could include safety issues, traffic congestion, and the demand for short-term parking and drop-off zones.

E-commerce centers will also attract commuting trips from larger numbers of employees working multiple shifts, often outside traditional transit service areas. The transportation system will need to support this commuting access.

CLIMATE CHANGE

Environmental changes could challenge the resilience of the transportation network. Roadways, bridges, and other transportation infrastructure are susceptible to environmental impacts including a higher frequency of flash flooding and unpredictability of pavement freeze-thaw cycles, which could lead to uncertainty of material lifecycles. These impacts have the potential to effect daily regional transportation operations.

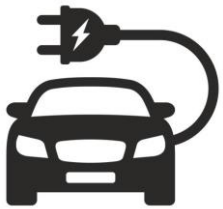
TELEWORKING

The COVID-19 pandemic led to many changes in how people led their lives in 2020 and 2021. Moving forward, these changes may have lasting impacts on the transportation industry. Teleworking inspired by the pandemic remains widespread and has reduced travel demand including the number of commute trips and altered trip-making patterns at other times of the day. The MPO will continue to monitor data on the vehicle miles of travel (VMT) and other traffic congestion measures.

Emerging Technologies

New vehicle and roadway infrastructure technology will have a significant impact on the future transportation system. These developments could reduce crashes and injuries while increasing existing roadway capacity and reducing traffic congestion. These technologies are rapidly evolving, so it is impossible to predict their specific impact over the 20-year plan period, but in some cases this technology is already being implemented within the region

ELECTRIC VEHICLES



EVs will provide benefits to the environment by reducing fossil fuel consumption.

More affordable and accessible charging infrastructure is needed for communities and travelers.

A major barrier for EV sales is overcoming range anxiety. An initial priority is to ensure that interstates have places where EVs can charge quickly (DC fast chargers).

AUTONOMOUS VECHILCES

This technology relates to driverless vehicles and will likely play a significant role by 2040 after more testing is completed.

It could affect roadway safety and traffic congestion as some travel like trucks could be moved to off-peak times or travel in "platoons".

Transit system vehicles could be operated without drivers providing more flexibility in service and addressing staffing shortfalls

MOBILITY ON DEMAND

The growth of on-demand transportation (e.g. Uber/Lyft) will change how people get around.

Such options may reduce the need for car ownership and affect how much parking is needed in urban areas.

How might this impact transit ridership in the future as options become more affordable or if combined with autonomous technology?

SIGNAL AND INTELLIGENT TRANSPORTATION SYSTEMS

Signal technology including "adaptive" signal timing can adjust the amount of green and red time based on traffic conditions seen by cameras.

Other traffic monitoring systems allow signals to be connected and controlled by a traffic monitoring system that can be used to help divert traffic efficiently during incidents or events.

GUIDING PRINCIPLES AND STRATEGIES

GUIDING PRINCIPLES & STRATEGIES

Economic Opportunity
Supports growth, innovation, job creation and productivity.

Environment
Protects and preserves our natural resources, including land, water and air.

System Preservation
Maintains existing facilities in good and reliable condition.

Choice
Offers multi-modal transportation options that are affordable and accessible.

Safety & Security
Enhances the safety and security of all users.

Health
Invites and enhances healthy and active lifestyles.

Equity
Provides access and opportunity for all people and all Neighborhoods.

Resiliency & Reliability
Improves the ability to prepare, plan for, absorb, and recover from actual or potential adverse events.

Economic Opportunity

Supports growth, innovation, job creation and productivity

An efficient, reliable, and accessible transportation network is an essential component for fostering economic opportunity – one that connects suppliers with producers; businesses with workers and customers; and people with employment centers, education, and services. A modern transportation system is indispensable for our region's future prosperity. To sustain our economy and quality of life, residents must be able to travel quickly and easily around our region so they can choose from a wide variety of jobs, and communities in which to live. Businesses must be able to count on the timely delivery of their goods.

Proximity

Proximity to major markets of Chicago, Detroit (90 miles to Chicago, 180 miles to Detroit)

- 3 Class 1 & 2 short rail providers, deep freight ports in St. Joseph MI, Burns Harbor, IN, and Chicago IL.
- Convergence of I-94, I-196, I-80, I-90
- 12 Interchanges off I-94
- 37 % of the US population can be reached in one day.
- More than 78% of the U.S. population can be reached within two days by roadway.

Labor Force and Talent

Proximity greatly impacts the quality of the labor shed. The TwinCATS planning area is positioned to pull labor not only from within the planning area, but also from Michigan City, South Bend, Mishawaka, and Kalamazoo.

Distribution and Logistics Cluster

"Michigan's Great Southwest's proximity to major thoroughfares and strategic positioning between Chicago and Detroit, make it a natural fit for focusing on the targeted industry of logistics and warehousing. Positioned along the North American Free Trade Agreement (NAFTA) Corridor, businesses can connect regionally, nationally and across the globe." — *Cornerstone Alliance:* 2012 Study conducted for Cornerstone Alliance by Whitaker and Associates

GUIDING PRINCIPLES & STRATEGIES – Economic Opportunity

The efficiency of Michigan's transportation system, particularly its highways, is critical to the health of the state's economy. Businesses rely on an efficient and dependable transportation system to move products and services. A key component in business efficiency and success is the level and ease of access to customers, markets, materials and workers. – *TRIP National Transportation Research Group*

Strategies to Enhance Economic Opportunity

- Encourage use of intelligent transportation technologies to improve corridor efficiency.
- Sustain funding for port operations including annual dredging of inner and outer harbor.
- Encourage integrated corridor management by engaging critical stakeholder groups that include: MDOT, local road agencies, public transit, freight haulers, emergency management, law enforcement.)

Performance Measure	Description	Base Data - 2017		State Target 2021	Data Source
		SWMPC*	State		
Percentage of the person-miles traveled on the Interstate that are reliable.	The percentage of miles traveled by a person on the Interstate that are reliable.	NA	85%	75%	INRIX/ NPMRDS
Percentage of the person-miles traveled on the non-Interstate NHS that are reliable.	The percentage of miles traveled by a person on the non-Interstate NHS that are reliable.	94.3%	86.10%	70%	INRIX/ NPMRDS
Truck Travel Time Reliability (TTTR) Index	The sum of maximum TTTR for each reporting segment, divided by the total Interstate system miles	1.11	1.38	1.75	INRIX/ NPMRDS

Environment

Protects and preserves our natural resources, including land, water and air

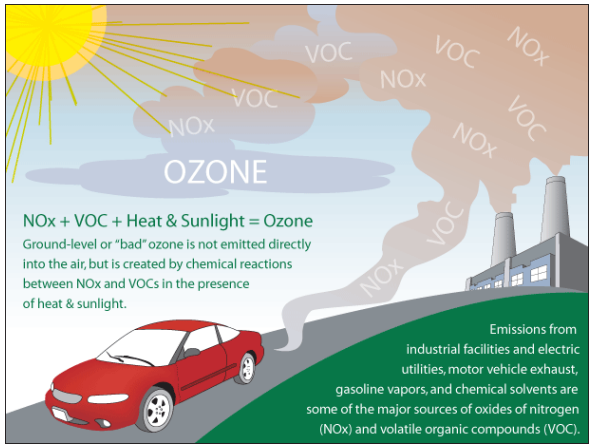
Air Quality

The Air Quality Clean Air Act requires the United States Environmental Protection Agency to set limits on how much of a particular pollutant can be in the air anywhere in the United States. National Ambient Air Quality Standards are the pollutant limits set by the Environmental Protection Agency; they define the allowable concentration of pollution in the air for six different pollutants:

- Carbon Monoxide
- Lead
- Nitrogen Oxides
- Particulate Matter
- Ozone
- Sulfur Dioxide

The Clean Air Act specifies how areas within the country are designated as either "attainment" or "nonattainment" for an air quality standard and provides the Environmental Protection Agency the authority to define the boundaries of nonattainment areas. On August 3rd 2018 Berrien County was designated in nonattainment status for the 8-Hour Ozone 2015 National Ambient Air Quality Standard (NAAQS) and therefore is subject to air quality conformity requirements. In addition, Berrien County must also still separately show conformity for the 1997 Ozone standards.

For areas designated as nonattainment for one or more National Ambient Air Quality Standards, the Clean Air Act defines a specific timetable to attain the standard and requires that nonattainment areas demonstrate reasonable and steady progress in reducing air pollution emissions until such time that an area can demonstrate attainment. Each state must develop and submit a State Implementation Plan that addresses each pollutant for which it fails to meet the National Ambient Air Quality Standards. Individual state air quality agencies are responsible for defining the overall regional plan to reduce air pollution emissions to levels that will enable attainment and maintenance of the National Ambient Air Quality Standards.



This strategy is articulated through the State Implementation Plan. Regions, which do not meet air quality standards, are required to develop transportation plans in conformance with the State Implementation Plan (SIP), including more frequent updates to plans such the Long Range Transportation Plan.

As a result of nonattainment status all transportation projects were reviewed to ensure they will not worsen the violation.
The Berrien County Air Quality Conformity Analysis can be found at: www.swmpc.org/iawg.asp

Transportation and Land Cover

Looking at both the land use and land cover provides a comprehensive picture of the area. Land use refers to **how** people are using the land, while land cover is defined by **what** is on the surface of the land, whether vegetation, urban infrastructure, water, bare soil or other. For example, a *land use* of residential may have the *land cover* of developed or if vacant, the *land cover* of forest.

In TwinCATS, an invaluable natural resource is the water, shown on the map as a network of rivers, streams and open water. Wetlands are found along most of these waterways, with an exceptional green infrastructure core* along the Paw Paw River. Two state parks are seen, highlighted in yellow, showing the unique sand dunes along Lake Michigan. Farmland dominates the western portion of the area reaching into Hagar Township. The highest intensity of development is within the city and village limits, in addition to areas in Benton Township. Surrounding these areas, the land is low to medium developed. The transportation network can be seen across TwinCATS classified as medium and low developed.

**Green infrastructure core is a natural, relatively undisturbed, intact area, larger than 100 acres in size and 650 feet wide that can provides good quality habitat for native species.*

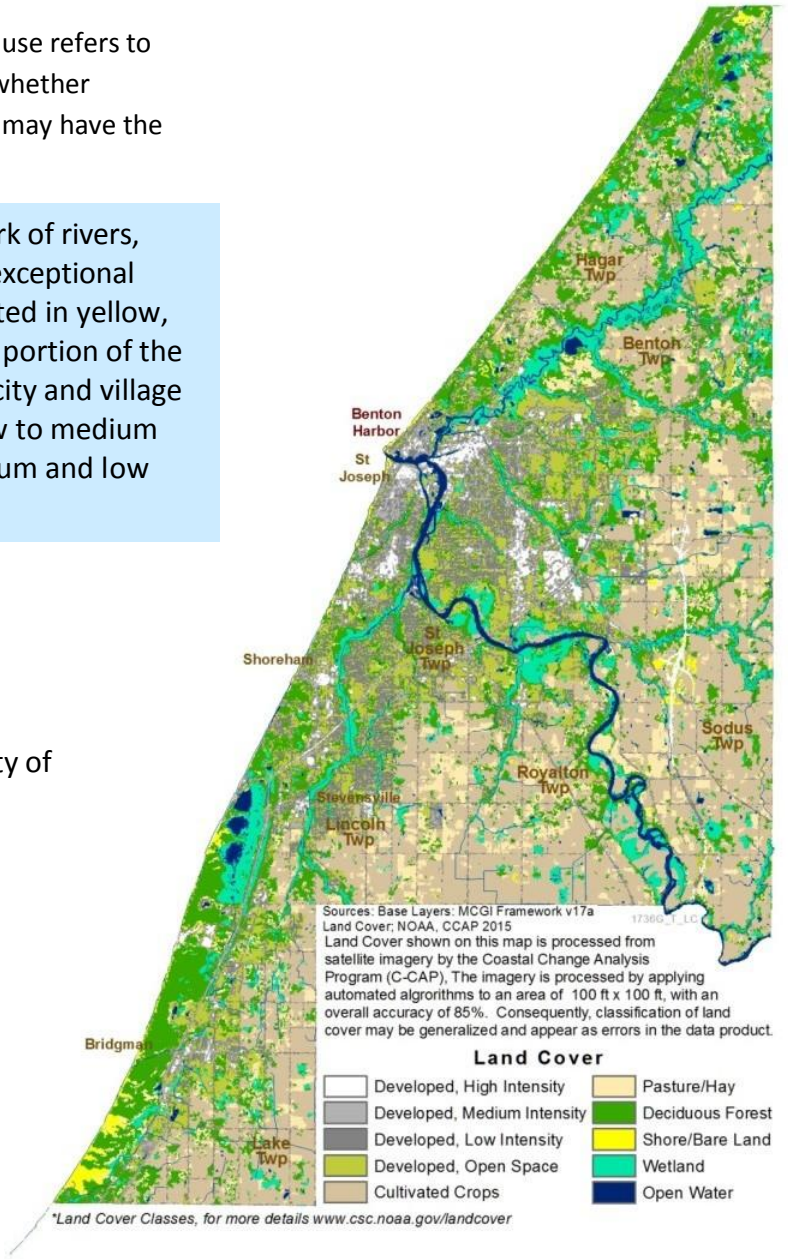
Overall, using land efficiently conserves farmland, water resources and environmentally sensitive areas such as wetlands that absorb and filter stormwater, reducing localized flooding and its impacts, and provide opportunities for recreation and enhance the quality of life and economic development in our communities.

LAND USE – Residential, Commercial, Agriculture

HOW THE LAND IS USED

LAND COVER – Developed, Wetlands, Crops

PHYSICAL AND BIOLOGICAL FEATURES

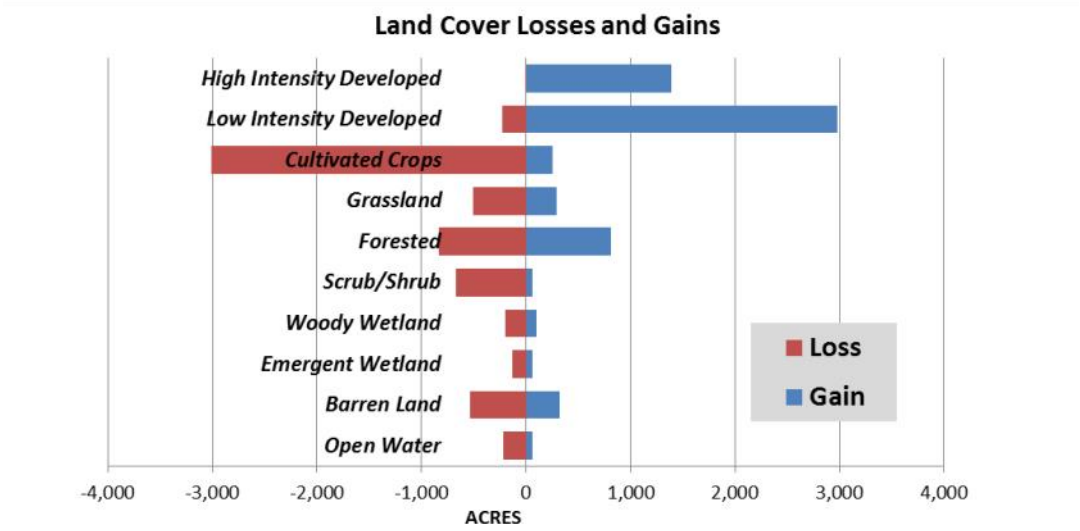


Land Cover Change 1975-2016

In TwinCATS, the largest change in land cover is the increase in development. In 2016, the combined area of low and high intensity developed is 27 percent of the land cover (25,279 acres). This is an in- crease of 4,139 acres since 1975.

Land Cover Class	1975	Loss	Gain	2016	Net Change	Percent Change	2016 Percent Land Cover
High Intensity Developed	4,099.40	-7.56	1,388.19	5,480.03	1,380.63	33.7%	5.92%
Low Intensity Developed	17,039.90	-222.84	2,981.65	19,798.70	2,758.81	16.2%	21.39%
Cultivated Crops	37,910.77	-3,006.11	253.75	35,158.41	-2,752.36	-7.3%	37.98%
Grassland	3,260.31	-507.73	296.45	3,049.03	-211.28	-6.5%	3.29%
Forested	16,439.65	-831.53	812.41	16,420.53	-19.13	-0.1%	17.74%
Scrub/Shrub	1,612.36	-668.96	62.27	1,005.67	-606.69	-37.6%	1.09%
Woody Wetland	8,257.74	-201.71	95.85	8,151.88	-105.86	-1.3%	8.81%
Emergent Wetland	1,201.60	-130.32	62.05	1,133.32	-68.28	-5.7%	1.22%
Barren Land	1,353.72	-538.20	320.47	1,135.99	-217.72	-16.1%	1.23%
Open Water	1,397.31	-217.95	59.82	1,239.18	-158.12	-11.3%	1.34%

**Land Cover Classes, for more details www.csc.noaa.gov/landcover*

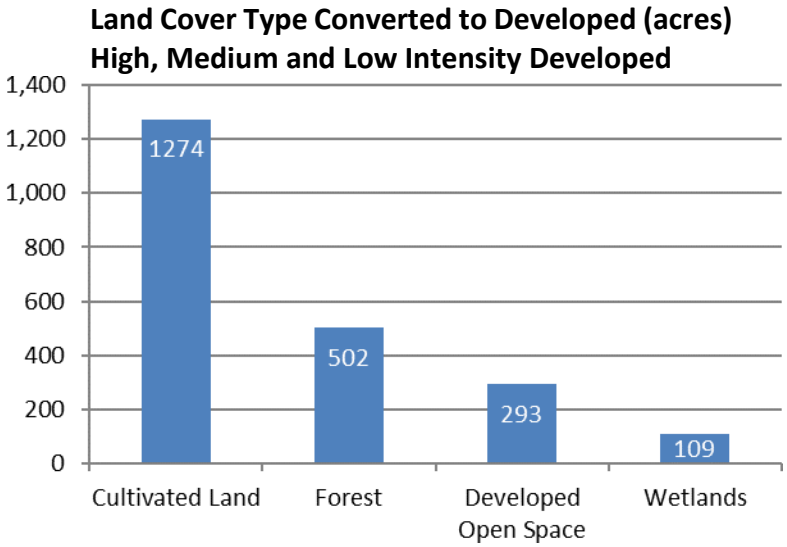


Source: NOAA's Coastal Change Analysis Program (C-CAP) 1975 to 2016 Regional Land Cover Change Data

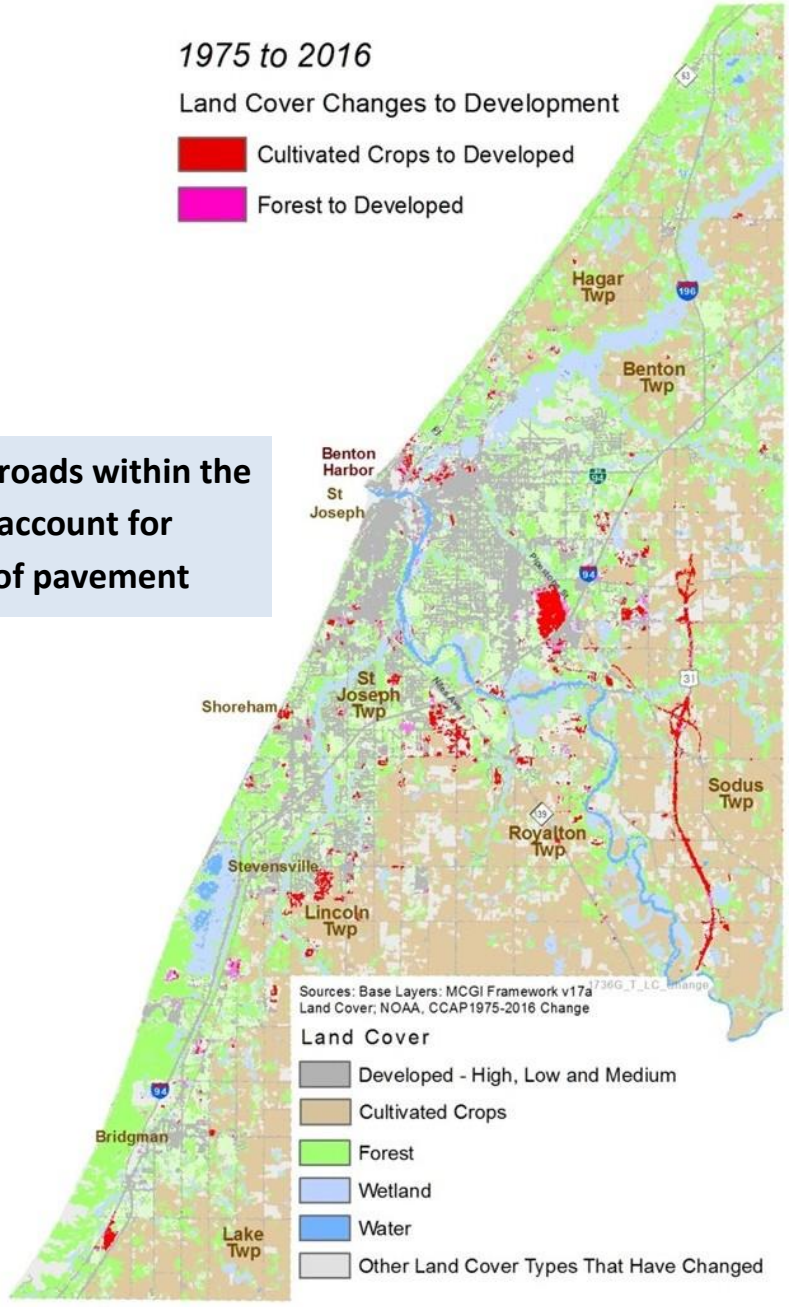
The largest decrease in land cover is cultivated crops with a loss of 2,750 acres; this is comparable to the size of the City of Benton Harbor at 2,830 acres.

Land Cover Change 1975-2016: Trends in Detail

In the TwinCATS area, the trend over the last 40 years has been an increase in development and a loss of cultivated cropland. The main transformation in the region is shown on the map with US 31, running north to south, a large tract of land at I-94 and Pipestone Street and the I -94/Niles Ave exit. In various locations, smaller tracts of forest land cover have been transformed into developed areas. Highlights of the land cover types that were converted into developed areas are shown in the table below.



The federal aid roads within the TwinCATS area account for about 86 acres of pavement

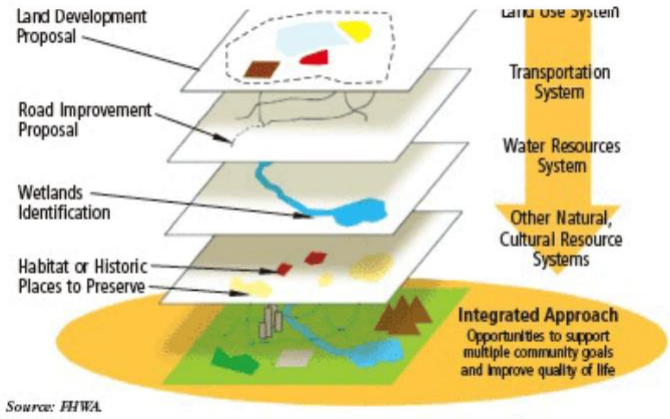


Agricultural areas being converted to development would be an undesirable future trend in the area. This trend leads to increased pressure on the transportation infrastructure, creates issues of mobility accessibility, and increases impermeable surfaces. Given this past trend of increase in impermeable surfaces, the loss of any wetlands should be closely monitored. Wetlands function to lessen storm water run-off and diminish the impacts of flooding events. The total loss of wetlands was 173 acres during this time.

GUIDING PRINCIPLES & STRATEGIES – Environment

How we use our land impacts the type of design of transportation infrastructure and feasibility of travel modes. While it is important to recognize differences in local and regional land use and economic development objectives, coordinating land use with transportation is an essential step in addressing many environmental concerns.

Planning and Environment Linkages



Strategies to Protect or Preserve the Environment

- Avoid impacts to environmentally sensitive features, such as woodlands and wetlands, early in the planning process when planning for and designing and building new infrastructure.
- Integrate land use and economic development goals with transportation planning. Encourage and support land use plans and policies to enhance overall transportation efficiency, including compact and mixed-use development.
- Establish communication and an informational process with municipalities to emphasize the land use-transportation connection.
- Promote ride sharing through the Go Rideshare program to reduce single occupancy trips.
- Program CMAQ projects utilizing cost-effective clean air strategies that implement the transportation and motor vehicle provisions of the State Implementation Plan (SIP)

Performance Measure	Description	Baseline Data	Target	Data Source
Total nitrogen oxide (NOx) emission reduction (Berrien County)	The amount of NOx emitted through mobile sources. (Tons per day)	5.29	Decrease	FHWA/MDOT Emission Forms
Total volatile organic compounds (VOC) emission reduction (Berrien County)	The amount of VOC emitted through the mobile source (Tons per day)	3.26	Decrease	FHWA/MDOT Emission Forms
Percent of Single Occupancy Vehicles	The percentage change in single occupancy vehicles	85%	Decrease	American Community

System Preservation

Maintains existing facilities in good and reliable condition

Maintenance and modernization of highways, bridges, and transit infrastructure is a central focus at the federal and state level. Going forward the state of good repair will be a local priority as well.

Asset Management:
Systematic way of maintaining, upgrading, and operating physical assets cost-effectively.

State and local agencies have made strides toward building effective asset management systems:

⇒ State of Michigan piloted Regional Infrastructure Pilot that will standardize the way data is collected across all infrastructure types and jurisdictions.

⇒ Transportation Asset Management Council piloted a culvert assessment program to assess condition within municipalities and counties.

⇒ TCATA public transit has been actively assessing and building an inventory of assets including vehicles and facilities.

⇒ Some local communities have invested in a pavement management system to help them decide the type and timing of pavement management.

TwinCATS Planning Area

15% of National Highway System is in **Poor Condition**

1 % of Bridges are in **Poor Condition**

63 % of Locally controlled federal aid roads **are in poor condition**

0 % of Transit vehicles have **exceeded their useful life**

Strategies to Ensure System Preservation

- Effectively manage and maximize existing transportation assets by prioritizing preservation treatments, rehabilitation, and replacement of aging infrastructure.
- Focus investments on roadways with the highest traffic volumes.
- Establish achievable pavement condition targets.
- Ensure investments are adequate to improve bridge and pavement conditions, keep transit fleet in a state of good repair, and maintain bicycle and pedestrian facilities.

Performance Measure	Description	Base Data - 2017		State Target 2021	Data Source
		TwinCATS	State		
Pavement condition of the Interstate System	Percentage of pavement in good condition Percentage of pavement in poor condition	34.7% 8.2%	56.8% 5.2%	47.8% 10.0%	International Roughness Index
Pavement condition of the non-interstate National Highway System	Percentage of pavement in good condition Percentage of pavement in poor condition	39.6% 25.2%	49.7% 18.6%	43.7% 24.9%	International Roughness Index
National Highway System (NHS) bridge Condition	Percentage of deck area in good condition Percentage of deck area in poor condition	17.5% 11.3%	32.7%` 9.8%	26.2% 7.0%	National Bridge Inventory

Performance Measure	Description	Asset	Base Data - 2018	Target 2019-2020	Data Source
Rolling stock in a state of good repair	Percent of rolling stock transit vehicles that have exceeded useful life	25 Cutaway Buses 1 Passenger Van	0% 0%	0% 0%	PTMS
Non-Revenue Vehicles in a state of good repair	Percent of non-revenue vehicles that have exceeded useful life	2 Staff Cars 1 Wrecker	100% 100%	0% 0%	PTMS
Facilities in a state of good repair	Percent of facilities within an asset class rated 3 or below on the FTA TERM scale.	Administration Building	0%	0%	PTMS

Choice

Develop a transportation system that expands transportation options and connectivity

CHOICE

Transportation that meets the diverse needs of individuals as they move through their lives.

It takes me **where** I want to go.

It takes me **when** I want to go.

It is a good use of my **time**.

It is a good use of my **money**.

I can **trust** it.

It **respects** me.

It gives me **freedom** to change my plans.

Source *Jarrett Walker "*Human Transit: How Clearer Thinking About Public Transit Can Enrich Our Communities and Our Lives"

A variety of safe, affordable, dependable, and user-friendly travel options enable people of all ages to stay active and engaged in their communities. A community that provides easy transportation access to its citizens is a community that works better. It is about connecting people to the jobs, schools, stores, doctors, and social activities they use every day.

Without public transit, bike lanes, sidewalks, and walking paths that encourage outdoor exercise, many residents risk being cut off from opportunities to work, socialize, and maintain a daily routine.

The benefits of improved transportation choices are cross-generational, young people have more options to get to school and recreational activities, older residents stay independent, workers of all ages can commute to their jobs, and the opportunity to connect to places outside of the region increases when people have choices.

Complete Streets Policy

"Complete Streets" are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities. In 2014 TwinCATS adopted a "Complete Streets" policy with the aim of:

1. Ensuring that the safety and convenience of all users of the transportation system is accommodated, including pedestrians, bicyclists, users of mass transit, people with disabilities, older adults, and young children, motorists, freight providers, emergency responders, and adjacent land users.

2. Ensuring that all area residents have access to vital destinations regardless of their ability to drive, and to recognize the diverse needs of different transportation users.

3. Incorporating Complete Streets principles into all aspects of the transportation project development process.

4. Creating an integrated, and connected transportation network that promotes integrated, sustainable development and attractive and economically vibrant communities.

5. Ensuring the use of the latest and best design standards.

6. Designing solutions that are flexible enough to meet the needs of all users while fitting within their local contexts.

An integrated and comprehensive network of pedestrian and bicycle facilities helps to expand transportation choices and complement transit services. Though a majority of residents may choose private motor vehicles for most of their daily trips, nearly every- one relies on other modes to meet some of their needs, whether it is walking to a bus stop or neighborhood park; catching a bus to school, work, or special events. For individuals who do not own or have limited access to a private vehicle, these facilities are invaluable.

A One-Stop Shop for Transportation Options

In 2010 the Southwest Michigan Planning Commission created and housed a Mobility Management program. The goal of the program was to organize and foster a full range of transportation options for all users and to provide person-centered transportation plans for people with disabilities, low-income people, and seniors. The My Way There website is a product of the program and contains information on a full range of transportation options for Berrien, Cass and Van Buren Counties. Also through the program, one on one information was provided to the people to solve transportation hurdles, outreach to work sites, and overall communication to the area on transportation opportunities

Mobility Management

Mobility management involves creating partnerships with transportation providers in a community or region to enhance travel options and then developing the means to effectively communicate those options to the public through both traditional and state-of-the-art channels. It requires moving beyond the usual patterns of doing business. Through innovation and multi-agency activity, resources can be coordinated efficiently, customers can make better decisions, and customer service and satisfaction is enhanced. Components of a good mobility management program:

- Multi-agency partnerships that can reduce costs through efficient and effective coordination, potential partners might include social service agencies, senior programs, non-emergency medical providers, and taxi companies.
- A customer-driven, market-based approach to transportation delivery that offers a variety of individualized travel options.
- Greater use of information technology systems in real-time, which includes the development and implementation of one-stop travel information and trip planning systems.

Mobility management is an overarching approach to transportation that is focused on individual customer travel needs rather than a "one size fits all" solution. It improves awareness of transportation options and reduces customer confusion, expands travel options and access for consumers, and provides more cost-effective and efficient service delivery through improved coordination and partnerships.

Transportation Modes and the Roles They Play

To be efficient and fair, a transportation system must be multimodal, to serve diverse demands and allow the traveler to choose the best option for each trip.

Mode	*Non-Drivers*	*Low Income*	Disabled	Seniors	Limitations	Most Appropriate Uses
Walking	Yes	Yes	Varies	Yes	Requires physical ability. Limited distance and carrying capacity. Can be difficult if the pavement is uneven, crossing times are not long enough or sidewalks are not continuous along the route.	Short trips by physically able people.
Wheelchair	Yes	Yes	Yes	Yes	Requires sidewalk or path. Limited distance and carrying capacity.	Short urban trips by people with a physical disability
Bicycle	Yes	Yes	Varies	Yes	Requires bicycle and physical ability. Limited distance and carrying capacity. Infrastructure needs to accommodate different types of bicycles.	Short to medium-length trips by physically able people on suitable routes. Seasonal use
Taxi	Yes	Limited	Yes	Yes	Relatively high cost per mile.	Infrequent trips, short and medium distance trips
Fixed Route Transit	Yes	Yes	Yes	Yes	Destinations and times are limited. Limited carrying capacity	Short to medium-distance trips along busy corridors.
Dial A Ride / Demand Response	Yes	Yes	Yes	Yes	Can require up to 24-hour reservation. Wait times can vary depending on the number of service requests. Higher cost than fixed route service. Limited carrying capacity.	Short to medium distance trips, last mile of service to connect to a fixed route. Service to lower-density areas.
Paratransit	Yes	Yes	Yes	Yes	High cost and limited service area.	Travel for people who have a qualified disability and live along a fixed transit route.
Door thru Door	Yes	Limited	Yes	Yes	High-cost service, not covered by most insurance.	Travel for people who require assistance at Their origin and destination.
Auto Driver	No	Limited	Varies	Yes	Requires driving ability and automobile/insurance. High fixed costs.	Travel by people who can drive and afford an automobile/Insurance
Car Rental or Car Share/	Yes	Limited	Varies	Yes	Uber/Lyft requires the use of a smartphone phone/internet. Both services require a credit card.	Occasional use by people who don't own or have a reliable automobile.
Carpooling	Yes	Yes	Limited	Yes	Requires one person to have a car and share the ride with people traveling to the same destination during the same time of day. Limited to driver's car reliability, the person's ability to connect to the meeting spot.	Suitable for people commuting in the same direction at the same time of day, towards a pre-determined destination, best for shift work.
Telecommute	Yes	Varies	Varies	Limited	Requires equipment, technology & skill	Alternative to some types of trips
Intercity Bus	Yes	Yes	Varies	Yes	Single stop in the city requires connection to fixed route transit, taxi service, walking	Long-distance trips between cities.
Amtrak	Yes	Limited	Yes	Yes	Single stop in the city, lower frequency of service, requires connection to the final destination by transit, light rail, taxi, walking or car share. Higher cost.	Long-distance trips between cities.

Transportation Modes and the Roles They Play - TwinCATS Current Conditions

Mode	State of Current Conditions	Available
Walking	The connected walking network is limited to the City of Benton Harbor and the City of St. Joseph. Walking after a snowfall can be dangerous or impossible because of spotty or no ice or snow removal. Outside the city limits, there is no connected walking network forcing people into the streets.	24 hours/7 days Seasonal
Wheelchair	Connected travel by wheelchair is limited to the City of Benton Harbor and the City of St. Joseph. Travel by wheelchair after a snowfall is impossible because of spotty or no ice or snow removal. Outside the city limits, there is no connected network, forcing people into the streets.	24 hours/7 days Seasonal
Bicycle	Bike lanes and wide shoulders are available; however, there is very little connectivity for commuting by bike. Most bike lanes and shoulders are clear of snow when the roadway is plowed. Chip seal preservation treatments can make bike lanes and wide shoulders dangerous for cyclists because of the rough surface and loose stone.	24 hours/7days
Taxi	Taxi service is limited and can be unreliable. No handicap-accessible service is available.	24 Hours/7 days
Fixed Route Transit	Two routes that serve three group housing developments and service employment areas include Lakeland Hospital, Fairplain Mall area, Red Arrow corridor in Stevensville, and Niles Ave corridor in the City of St. Joseph. Each bus has room for two bikes. Access to stops is limited because of the absence of sidewalks and bike lanes – especially in the townships.	Mon- Fri 6 am10pm Sat. 8 am-9 pm
Dial A Ride/ Demand Response	TCATA Dial a Ride (DAR) service is provided in approximately 52% of the TwinCATS Planning Area. The remaining 48% of the urbanized has very little or no service. Lake Michigan College is served by DAR and represents a large portion of TCATA ridership. Waits can vary between 15 minutes and 90 minutes depending on demand. Because of this, utilizing the service for employment trips can be unreliable because wait times vary.	Mon-Fri 6am-6pm Sat: 8am-3pm
Paratransit	Service is limited to people who have a qualifying disability and live within ¾ miles of fixed route service. Paratransit service is only available along a portion of the TCATA Red Route within the City of Benton Harbor, Benton Twp., and the City of St. Joseph. Service is not promoted.	Same as a fixed route.
Door thru Door	Service is expensive – Trips can range from $75.00 up. Many times this service is needed by people who live alone and need assistance getting ready for non-emergency medical trips.	By appointment
Auto Driver	85% of people are commuting alone by automobile within the TwinCATS Planning Area.	24 Hours/7 days
Car Rental	Within TwinCATS, there are two rental car agencies. Avis can be accessed from the Red fixed route, while Enterprise is not located on a fixed route. Rates can be high because of demand and lack of competition. Rentals require a credit card and require the driver to be 25 years of age.	Mon-Fri 7am-6pm Sat: 8am-noon
Car Share/ Uber	Lyft and Uber operate in portions of Berrien County. Short-distance trips within the TwinCATS planning area are possible seven days a week- wait times can vary due to demand.	24 hours/7 days
Rideshare	The regional Go Rideshare program offers an online matching service through the MyWayThere.org website. There are three park-and-ride lots located in the TwinCATS area. I—94 Exit 23, I-94 Exit 30, US-31 Napier Ave. The Red Route will flex to Exit 23 and 30 park and ride lots.	24 hours/7 days
Intercity Bus	Service several times a day to Kalamazoo, Chicago, Detroit, and Grand Rapids where people can connect to trains or intercity bus system for longer distance trips. Same-day round-trip service is limited by schedule.	Varies
Amtrak	Amtrak service to Chicago is available once daily with same-day return service in the evening. Service to Grand Rapids is available once daily with evening service requiring an overnight stay in Grand Rapids.	1x per day

GUIDING PRINCIPLES & STRATEGIES – Choice

Higher-risk people drive even if they should and want to use alternatives. Many traffic safety strategies, such as graduated licenses, special senior driving tests, anti-impaired and anti-distracted driving campaigns, and laws are intended to reduce high-risk driving. Their effectiveness depends, in part, on these groups having viable alternatives to driving.

For low-income residents, affordable and efficient transportation options are a stepping stone to economic opportunity.
Transportation options also expand the pool of lower-wage workers available to employers, many are limited in their ability to drive and so must rely on alternative modes, at least occasionally.

Strategies to Expand Transportation Options

- Increase last-mile service transportation options to increase access to public transit for all users.
- Increase the number of wide shoulders or bike lanes to improve conditions for commuting by bike.
- Enhance access to activity centers (e.g. commercial areas, schools, parks and recreation, and employment centers) by ensuring transit service and safe, low-stress pedestrian routes and bike facilities are available.
- Utilize travel demand data collected by the University of Michigan to evaluate travel conditions of lower-wage workers and people with disabilities.

PERFORMANCE MEASURE	DEFINITION	DESIRED TREND	BASELINE	DATA
Jobs accessible by public transit within the TwinCATS planning area.	Percentage of jobs accessible by public transit within the TwinCATS planning area.	Increase	In Dev.	LEHD Data
Miles of suitable sidewalks/multi-use paths. on federal aid-eligible roads within the TwinCATS planning area.	Miles of suitable sidewalks/multiuse paths on federal aid-eligible roads within the TwinCATS planning area.	Increase	48 Miles	Roadsoft
Miles of wide shoulders or bike lanes.	Miles of wide shoulders or bike lanes on federal aid-eligible roads within the TwinCATS planning area.	Increase	34 Miles	Roadsoft
Number of wheelchair-accessible taxis or Uber/Lyft vehicles.	Number of wheelchair-accessible taxis or Uber/Lyft vehicles available in the TwinCATS planning area.	Increase	0 Vehicles	Roadsoft

Safety & Security

Designs and maintains transportation network to enhance the safety and security of all users

The safety of motorists, bicyclists, and pedestrians is a top priority in transportation planning. Motor vehicle collisions result in premature deaths, and serious injuries, and are a cause of major economic losses and disruptions to the transportation system. Safety concerns can discourage people from utilizing active transportation such as bicycling, walking, and transit.

Planning for transportation safety should be a comprehensive, system-wide, multi-modal process that integrates safety into surface transportation decision-making.

Serious and Fatal Crashes – TwinCATS Planning Area

Year	Total Crashes	Fatalities	Serious Injuries
2012	1,905	4	45
2013	2,129	16	44
2014	2,223	7	36
2015	2,294	9	35
2016	2,295	6	49
2017	2,285	9	58
2018	2,253	11	46
2019	2,316	11	56
2020	1,901	7	56
2021	2,046	11	49
Total	**21,647**	**91**	**474**

ECONOMIC COSTS

The U.S. Department of Transportation's most recent estimate of the annual economic cost of crashes was

$242 billion (2020)

Years of experience with safety projects and strategies have shown that benefits far outweigh the resources consumed. The most critical safety benefit is in decreasing the number of fatal and serious injury crashes that occur each year.

GUIDING PRINCIPLES & STRATEGIES – Safety and Security

The Michigan Strategic Highway Safety Plan (SHSP) provides a comprehensive framework for reducing traffic fatalities and serious injuries on public roads. The purpose of the SHSP is to identify Michigan's key safety needs and guide investment decisions to achieve significant reductions in traffic fatalities and serious injuries on public roads.

Michigan Strategic Highway Plan Emphasis Areas: At-Risk Road Users

Prior research and crash statistics illustrate that there are specific groups of road users who are overrepresented in traffic crashes, injuries, and fatalities. As such, understanding the contributing factors that lead to this overrepresentation allows for the identification of appropriate strategies and countermeasures to address these at-risk road users. The action teams that fall under this emphasis area are:

- Commercial Motor Vehicle Safety
- Motorcycle Safety
- Pedestrian and Bicycle Safety
- Senior Mobility and Safety
- Drivers Aged 20 and Younger

High-Risk Behaviors

Despite continuous efforts that have improved the safety of roadways, that safety is ultimately reliant upon road-user behavior. Research has shown that the vast majority of crashes are due to errors by these users. Fortunately, many of these errors are ultimately preventable and strategies to encourage the safe behavior of road users is integral to highway safety improvement efforts. At the statewide level, implementation strategies are guided by three action teams:

- Distracted Driving
- Impaired Driving
- Occupant Protection

The success of Michigan's Strategic Highway Safety Plan is dependent on all highway agencies working together to align and leverage resource to collectively address Michigan's safety challenges.

Engineering Infrastructure

Geometric design elements, traffic control devices, and targeted policies and program countermeasures aimed at encouraging or discouraging specific behaviors among road users.

System Administration

Effective system administration is critical to improving traffic safety. To identify, diagnose, and efficiently treat safety concerns, a well-integrated framework is required. This framework includes an ability to monitor system performance in near-real time, as well as close collaboration among a network of safety stakeholders from the engineering, education, enforcement, and EMS communities. Statewide efforts in this emphasis area are tasked to two action teams:

- Traffic Incident Management
- Traffic Records and Information Systems

Source: 2019-2022 State of Michigan, Strategic Highway Safety Plan

High Risk Driver Behaviors

Impaired Driving
From 2013-2017 alcohol- and/or drug-involved fatalities increased 35 percent. Impaired driving crashes were most prevalent among young male drivers, including underage males, as well as weekend crashes. In 2018, Michigan voters chose to legalize recreational marijuana, and the law went into effect on December 2018. Michigan has responded to these issues through a combination of prevention, education, enforcement, and adjudication countermeasure programs. Source 2019-2022 State of Michigan, Strategic Highway Safety Plan

Local/State-wide Initiatives
In 2017 Berrien County and Michigan law enforcement agencies began a one-year oral fluid roadside drug testing pilot program to combat the dangers of drugged driving. The program included Lincoln Township and five other Michigan Counties. The pilot program reporting was completed in 2019. The highest positive result identified was Cannabis usage. In December 2018, the Michigan Legislature agreed to support the ongoing funding of the oral fluid pilot and the expansion of the pilot program to additional interested, qualified counties around the state. Source: Michigan State Police, Oral Fluid Roadside Analysis Pilot Program – Phase II

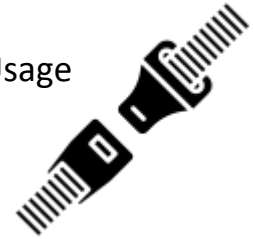
Occupant Protection
Studies show that occupants increase their survival rate by 45 percent if a seat belt is used. Unbelted fatalities have increased 4.2 percent from 2013-2017 even though Michigan has a consistent 92 percent or higher seat belt use rate for that same time. Michigan requires all children up to age 8 or 4 feet 9 inches in height to use a booster seat. The Office of Highway and Safety (OHSP) also funds Child Passenger Safety (CPS) technicians to educate parents and caregivers on restraint use. In addition to educating drivers about seat belts and safety seats via publications, websites, motor vehicle network messages in SOS branch offices, outreach events, the MDOS partnered with MDHHS, Office of Migrant Affairs, OHSP, and Farm Worker Legal Services to develop a quick reference traffic law guide for migrant farm workers. Source 2019-2022 State of Michigan, Strategic Highway Safety Plan

Distracted Driving
Distracted driving-related car crashes including those involving texting drivers increased approximately 27% from 1,888 to 2,394 in Michigan between 2016 and 2020. Tragically, fatal crashes involving distracted and texting drivers nearly doubled during that same 5-year period. Michigan's Texting While Driving Law Prohibits drivers from reading, manually typing, or sending a text message while driving. A national program to address drivers behavior began in 2022, Connect to Disconnect (C2D), which aims at a commitment to enforcing cell phone and texting bans, U Drive, U Text, U Pay campaign. Sources: *Michigan Autolaw 2022, Michigan State Police, 2022*

SNAPSHOT TWINCATS

42% Fatal Crashes Involved Drugs or Alcohol Use
Michigan Crash Facts TwinCATS 2012-2021

33% Fatalities Involved No seatbelt Usage
Michigan Crash Facts TwinCATS 2012-2021



2021 - 109 Crashes Involved Distracted Driving
Michigan Crash Facts TwinCATS 2021

At Risk Road Users

Pedestrian and Bicycle Safety

From 2013-2017, there were 800 fatalities involving pedestrians and 143 fatalities involving bicyclists in Michigan. Pedestrian fatalities increased 5 percent and bicyclist fatalities decreased 28 percent in the same time. Risk behaviors for pedestrians include failing to yield and disregarding traffic control (for both motorists and pedestrians). This accounted for more than half of all crashes. For bicyclists, the risk behaviors also included failure to yield and disregarding traffic control (both motorists and bicyclists) followed by overtaking, loss of control/turning error, and bicyclists riding in the wrong direction. *Source: Michigan Strategic Highway Safety Plan 2019-2022*

Drivers Age 20 and Younger

In Michigan from 2013-2017, fatalities involving drivers age 20 and younger decreased 2.9 percent. Among the most prevalent hazardous actions attributed to young drivers are speeding, unable to stop in assured clear distance, and failure to yield. These actions may be attributed to inexperience or poor risk assessment. (MI Strategic Highway Safety Plan 2019-2022). Michigan's graduated driver licensing law, implemented in 1997 includes passenger restrictions and strengthened nighttime driving restrictions. The process largely works. Between 2015 and 2019, there have been significant drops in the involvement of teenagers operating motor vehicles aged 16-18 years of age in fatal car crashes in Michigan (Michigan Autolaw).

Senior Mobility and Safety

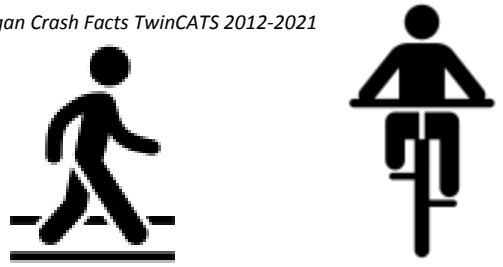
In Michigan, 17-percent of residents are aged 65 or older and make up the fastest growing age group in the state. In 2019 there were 1.5 million licensed drivers over the age of 65, which is nearly 30-percent of all licensed drivers in the state. After about age 70, the crash fatality rates begin to increase and in the oldest age groups, these rates are higher than any other age group including teens (University of Michigan Transportation Research Institute). Fatalities for drivers ages 65 and over have decreased 5.1 percent from 2013-2017. Data shows that older drivers have higher seat belt-use rates and lower alcohol-related crash rates and fatality rates. *Source: Michigan Strategic Highway Safety Plan 2019-2022*

Snapshot of TwinCATS

25% of Fatal Crashes

Involved in Pedestrians or Bicycles

Michigan Crash Facts TwinCATS 2012-2021



20% of Fatal Crashes

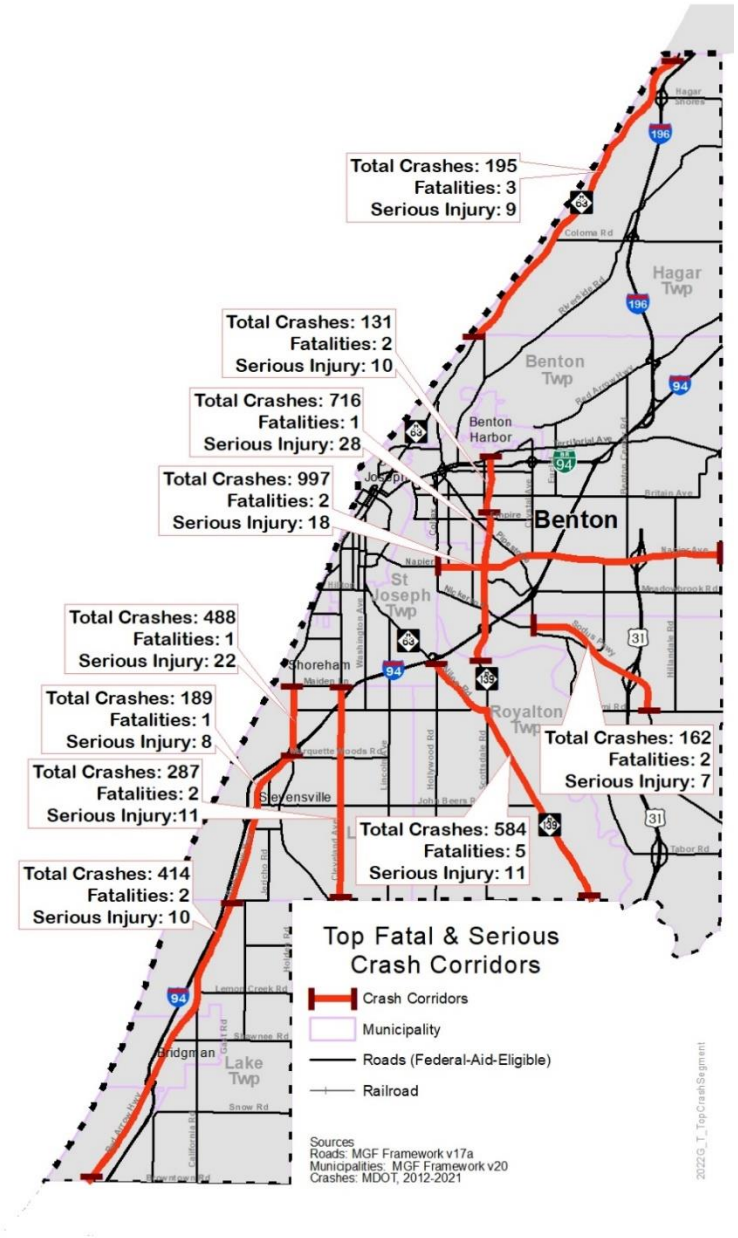
Involved a Driver 24 & Under

Michigan Crash Facts TwinCATS 2012-2021

25% Fatal Crashes

Involved Drivers 65 and Older

Michigan Crash Facts TwinCATS 2012-20



Top Fatal and Serious Injury Crash Corridors

27.4% of crashes that involved a pedestrian or bicyclist resulted in a serious or fatal injury.

– 2012-2021 MI Crash Facts

2.2% of all vehicular crashes resulted in a serious or fatal injury.

– 2012-2021 MI Crash Facts

Year	Total Crashes	Fatalities	Serious Injuries
2012	1,905	4	45
2013	2,129	16	44
2014	2,223	7	36
2015	2,294	9	35
2016	2,295	6	49
2017	2,285	9	58
2018	2,253	11	46
2019	2,316	11	56
2020	1,901	7	56
2021	2,046	11	49
Total	**21,647**	**91**	**474**

2012-2021

16% Crashes

Involving a

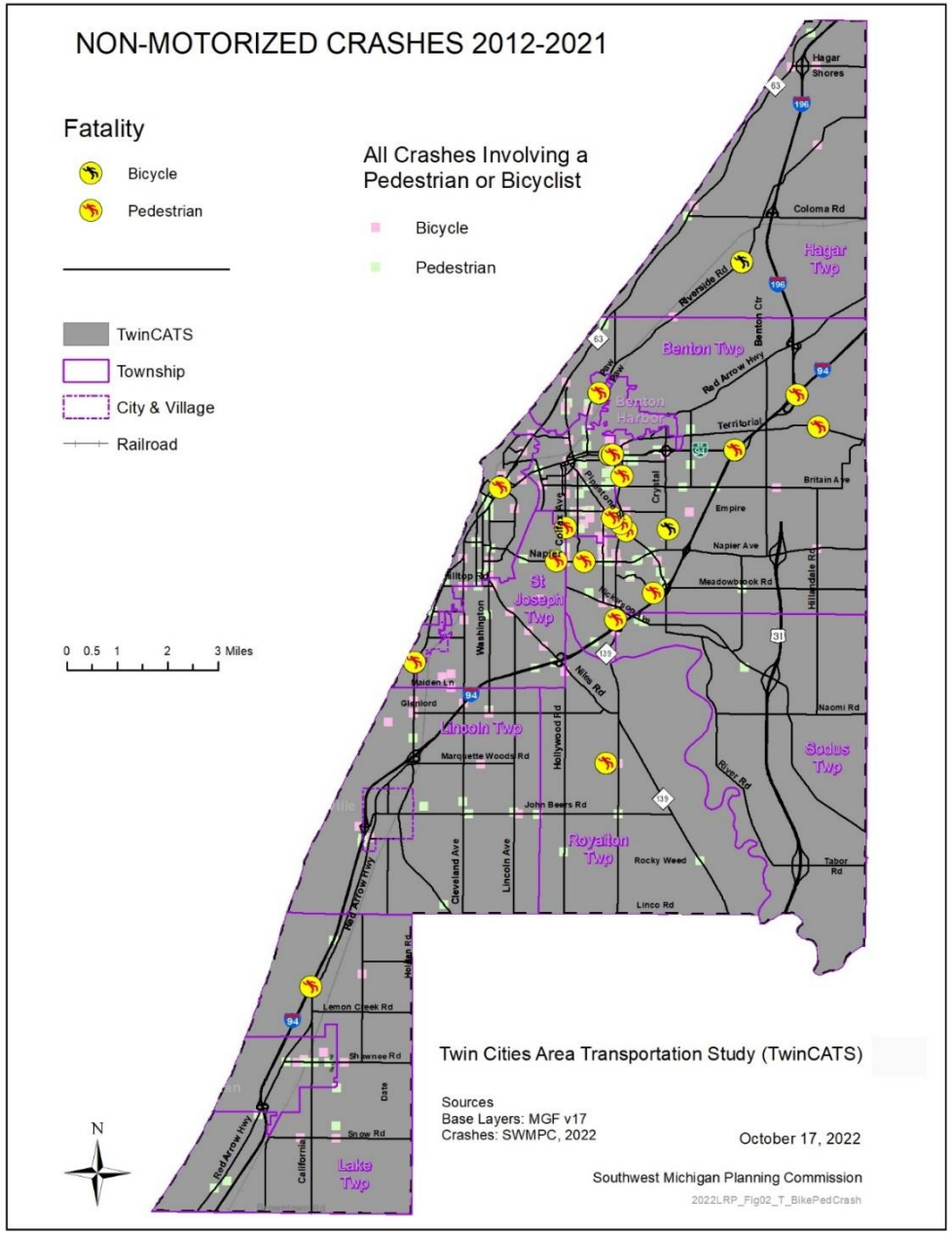
Pedestrian or Bicyclist

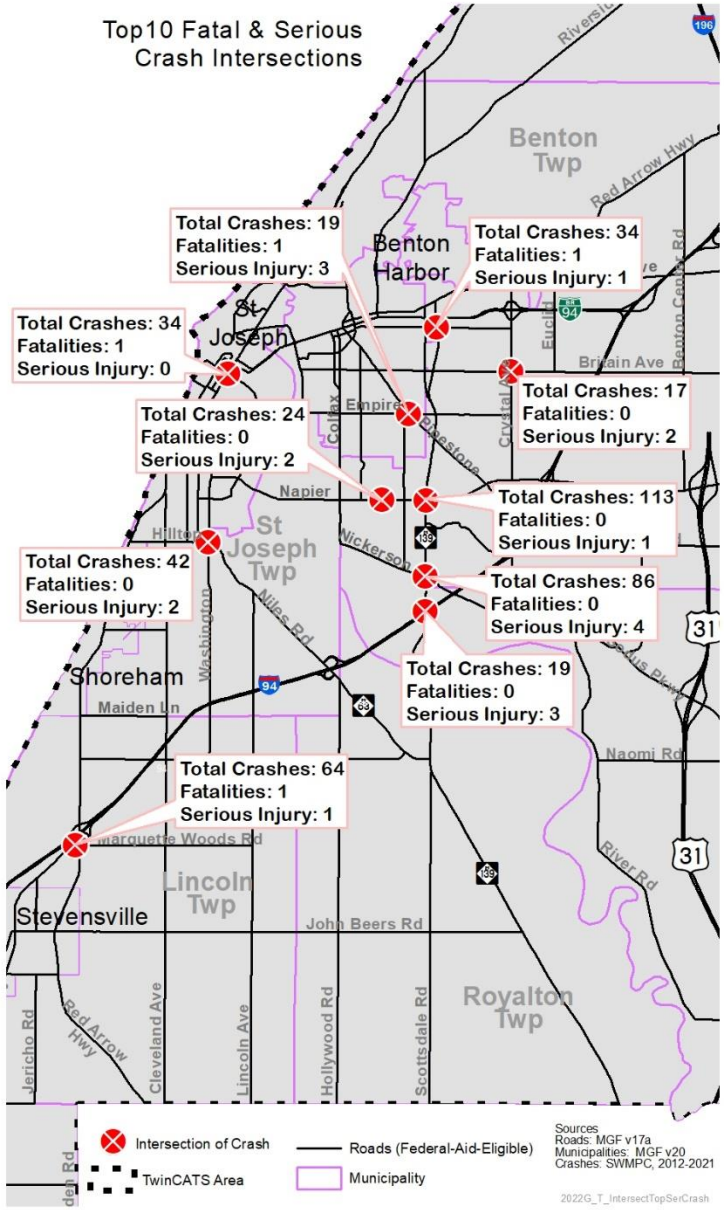
Took Place on

Napier Avenue

Top 15 roads of pedestrian or bicyclist's crashes, 2012-2021. *Source SWMPC 2022*

Road Name	Non-Motorized Crashes	Fatalities & Serious Injuries
Napier Avenue	17	7
Pipestone Avenue	14	5
Main Street	11	4
Niles Avenue	8	2
Crystal Avenue	6	3
Empire Avenue	6	1
Red Arrow Highway	6	2
Britain Avenue	5	1
Colfax Avenue	5	1
Lake Street	5	1
M-139	5	4
Martin Luther King Drive	5	3
Paw Paw Avenue	5	2
Union Avenue	5	1





There were 7,119 Intersection-related crashes between 2012-2021 representing 33 percent of all crashes. These crashes resulted in 27 fatalities (30 percent of total fatalities) and 165 incapacitating injuries (35 percent of total incapacitating injuries).

The identification and analysis of high-risk intersections statewide is a safety priority. At the local level, we will use various software tools, including Safety Analyst and Roadsoft, to help identify the most problematic intersection

Nickerson & M-139

86 crashes

4 serious injuries

Marquette Woods & St. Joseph Avenue

64 crashes

1 fatality

1 serious injury

Napier & M-139

113 crashes

1 serious injury

Strategies to Improve Safety & Security

- Transportation partners will incorporate safety considerations for all modes and users throughout the processes of planning, funding, construction, and operation.
- Transportation partners will support the state's vision of moving toward zero traffic fatalities and serious injuries, which includes addressing the state emphasis areas.
- Transportation partners will use best practices to provide and improve facilities for safe walking and bicycling, since pedestrians and bicyclists are the most vulnerable users of the transportation system.
- Provide information on top collision trends such as distracted or impaired driving, and incidents involving bicycles and pedestrians.
- Provide recommendations for facilities based on FHWA, NACTO, and AASHTO best practices and design principles that have proven to be safe and reliable.
- Assist the TwinCATS Policy Committee in evaluating safety considerations during Transportation Improvement Program (TIP) call for projects.
- Conduct road safety audits (MDOT).
- Produce and distribute an annual report of crash data that includes vehicle, pedestrian, and bicycle total crashes, total serious injury crashes, and total fatal crashes.
- Broaden the use of currently accepted and proven countermeasures.
- Identify cost-effective strategies that reduce unintentional lane departure, as well as alert the driver should a departure event occur.

Performance Measure	Description	Base Data - 2021		State Target 2023	Data Source
		TwinCATS	State		
A number of fatalities.	The number of fatalities due to a vehicular crash.	9.8	1041.8	1015.6	Michigan Crash Facts
Fatalities per 100 million vehicle miles traveled (VMT).	The rate of serious injuries is based on the total miles driven in the area.	0.957	1.071	1.136	Michigan Crash Facts & HPMS
Number of serious injuries.	The number of serious injuries due to a vehicular crash.	53.0	5,5742.2	5,909.2	Michigan Crash Facts
Serious injuries per 100 million vehicle miles traveled (VMT).	The rate of serious injuries is based on the total miles driven in the area.	5.212	5.878	6.058	Michigan Crash Facts & HPMS
Non-motorized fatalities, serious injuries.	The number of pedestrians and bicyclists seriously injured or killed due to a vehicular crash.	7.4	752.0	743.4	Michigan Crash Facts

Health

To plan and promote transportation systems that protect the health and safety of all people and enhance the quality of life in communities.

The Transportation system influences public health through five primary pathways:

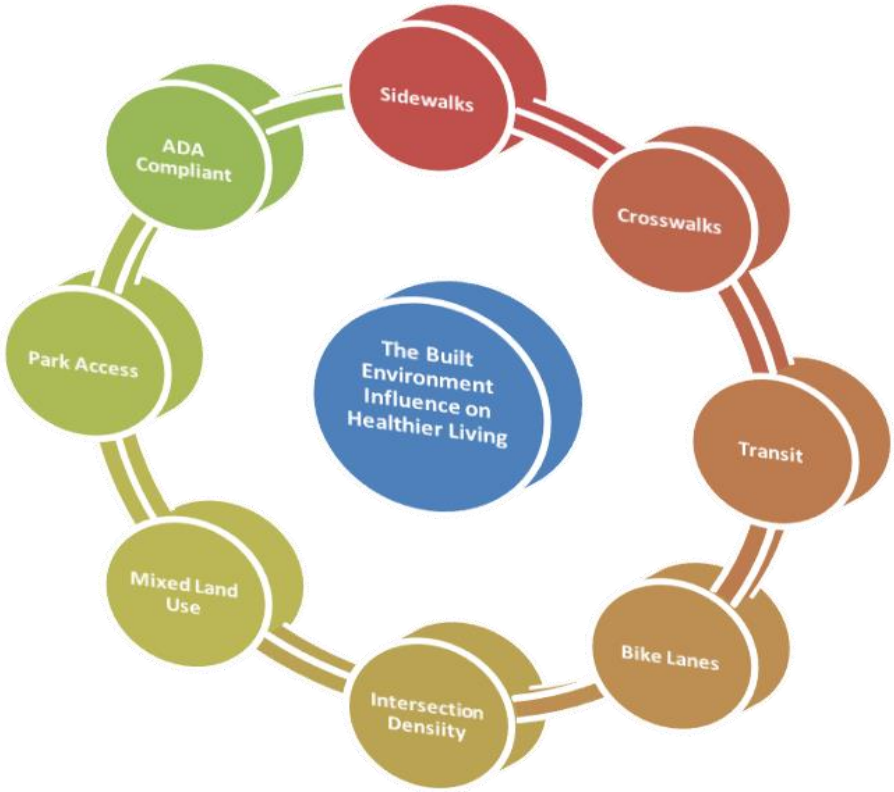
Active transportation — Transportation agencies and their partners can help people lead more active lifestyles by giving them options for getting to places they need to go without driving. They can also reduce the distance between destinations people travel to satisfy daily needs.

Safety — Motor vehicle crashes are one of the leading causes of death in the United States. By providing transportation options and improving roadway facilities, transportation agencies can reduce the incidence of motor vehicle crashes.

Cleaner air — Air pollution has been linked with heart disease and respiratory illnesses, including asthma. Improving transportation system efficiency and supporting cleaner vehicles and fuels can improve air quality.

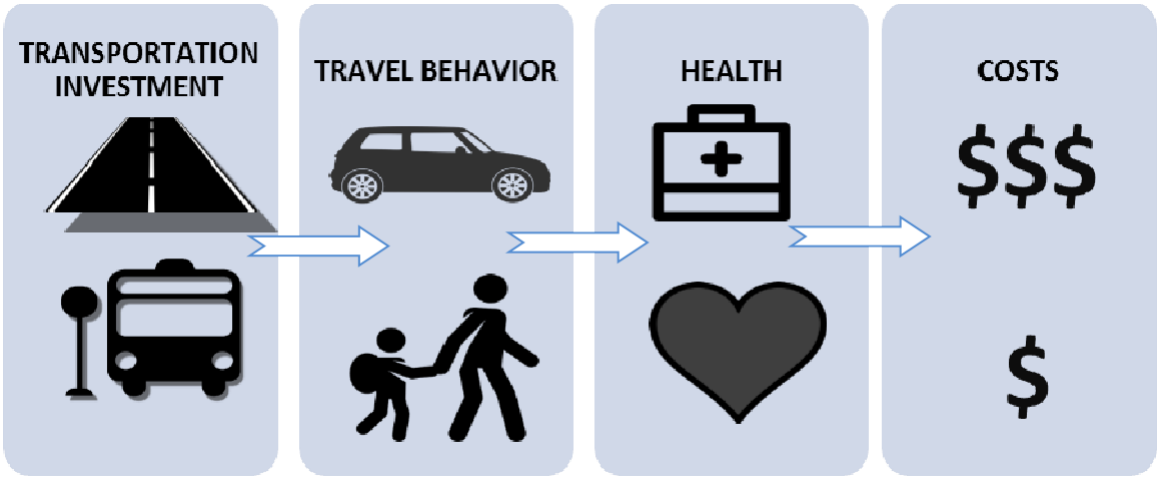
Connectivity — Providing a well-connected, multi-modal transportation network increases people's ability to access destinations that can influence their health and well-being, such as jobs, health care services, and parks.

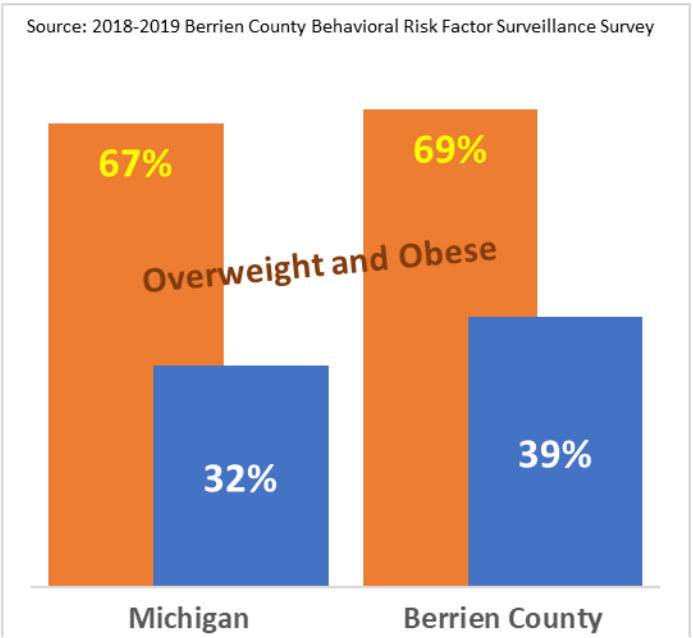
Equity — Negative health effects related to the transportation system often fall hardest on more vulnerable members of the community, such as low income residents, communities of color, children, and older adults.



Walking and bicycling are key ways in which people can get sufficient physical activity as part of their daily lives. For example, in some communities almost one-third of transit users get their entire recommended amount of physical activity just by walking to and from transit stops, conversely, people who travel by car are more sedentary, which is associated with chronic disease and premature death.

The cost of our transportation system on health is often hidden while the impact of traffic crashes, air pollution, and physical inactivity alone add hundreds of billions of dollars in costs. *Source: The Hidden Health Costs of Transportation, APHA, 2010.*





*Weight that is higher than what is considered as a healthy weight for a given height is described as overweight or obese. Body Mass Index (BMI) is a screening tool used to calculate this relationship. BMI >30 is considered obese.

Results from the Berrien County Community Health Needs Assessment (CHNA) survey question "What are the biggest health issues in your community?" was first mental health issues and second obesity. Also, respondents to the survey suggested that adding or improving sidewalks and increasing lighting would help to improve health in the community. Research indicates that sidewalks are important opportunities for physical activity and increase community mobility. Source: CHNA 2019-2021

According to the 2018-2019 Berrien County Behavioral Risk Factor survey, Berrien County has more adults not getting enough aerobic activity (71.5%) compared to the state of Michigan where only 50.5% report an inadequate amount of aerobic activity. The lack of physical activity among residents may be attributed to results found in the TwinCATS Bike Survey (2018). Over 50 percent of respondents found a lack of bike lanes, feeling unsafe, and the poor conditions of roads as a barrier to commuting by bicycle.

Transportation & Health Partnerships

What Works?

Collaborating with public health partners to achieve common goals can lead to new resources and project opportunities. - *Metropolitan Area Transportation Planning for Healthy Communities. FHWA, 2012.*

The SWMPC actively engages partners across the study area on topics related to health in transportation planning. The MPO planning process is now understood by partners in this sphere as a place where important decisions are made that have long-term impacts on public health.

The Healthy Berrien Consortium

The Healthy Berrien Consortium (HBC) is a network of key healthcare organizations and leaders formed to jointly undertake improving the health and well-being of Berrien County Residents. Organizations represented include Corewell Lakeland Health (the major hospital and health network in the region), Riverwood Center (mental health services), Berrien County Cancer Service, Berrien County Health Department, Intercare Community Health Network, United Way of Southwest Michigan, Area Agency on Aging, and the SWMPC. They have a long history of driving change through resource allocation into areas where their research dictates the needs are the greatest. The SWMPC has been included because of the HBC's collective recognition that mobility is a major driver in the ability our residents to access health care and other important determinants to healthy lives like healthy food, social interaction, and fitness options.

Be Healthy Berrien

HBC research has revealed alarming rates of obesity in Berrien County. Michigan is regularly ranked among the states with the highest rates of obesity with Berrien County well above the state's average. The linkage between high rates of obesity and chronic disease is powerful enough that the HBC recognized that focused action was necessary. In 2011 Be Healthy Berrien (BHB) was formed. The group is a collaborative that includes five organizations: the Berrien County Health Department, Corewell Lakeland, SWMPC, the United Way of Southwest Michigan, and the YMCA. BHB proceeded to develop a strategic plan and has since, systematically driven actions dictated by that plan. Those actions include advocacy for complete streets, concerted support for improved public transportation, and for targeted improvements to specific corridors that are vital to improved safety and mobility.

Michigan's Great Southwest Strategic Leadership Council

An initiative has grown over the last several years to connect leaders from across Berrien County. The purpose is to seek out ways that collective action can drive positive change. Michigan's Great Southwest Strategic Leadership Council (MGSSLC) now has a membership list of over 150 leaders. Transportation issues fall within the Council as does a range of other health-related topics. The SWMPC regularly meets with leaders from the MGSSLC whose work intersects with public health. From the Council local funding was generated to match a Federal Transit Administration grant to produce a county-wide plan for public transportation service improvement in Berrien County. The awareness of the vital role that mobility plays in Berrien County has been significantly raised by this group.

Equity

Provides access and opportunity for all people and all neighborhoods.

Equity (also called justice and fairness) refers to the distribution of impacts (benefits and costs) and whether that distribution is considered fair and appropriate. Transportation planning decisions can have significant and diverse equity impacts:

- The quality of transportation available affects people's economic and social opportunities.
- Transport expenditures represent a major share of most household, business and government expenditures.
- Transport facilities require significant public resources (tax funding and road rights of way), the allocation of which can favor some people over others.
- Transport planning decisions can affect development location and type, and therefore accessibility, land values and local economic activity.
- Transport planning decisions can affect employment and economic development which have distributional impacts.

Source: Guidance For Incorporating Distributional Impacts in Transportation Planning
Todd Litman Victoria Transport Policy Institute

As someone without driving privileges, getting around to just get by, with dignity and a fulfilling lifestyle, is nearly impossible.

-2018 TwinCATS Transportation Survey

Challenges to Mobility & Access

- 24% of Americans living in poverty do not own an auto-mobile.
- Because low-income individuals are less likely to own a car, they are more likely to walk, wheel, or bike, even when conditions are not ideal.
- Low income and minority populations are less likely to live near or travel along roads with safe, accessible, and high-quality pedestrian and bicycle facilities.
- Low-income, minority, or immigrant individuals are more likely to have jobs that require them to commute outside of traditional '9 to 5' business hours, often in the dark and when or where transit services are not operating.
- Adults with disabilities are more than twice as likely as those without disabilities to have inadequate transportation (31% versus 13%).
- Children, older adults, and individuals with physical or cognitive disabilities may be unable to drive and are more reliant on non-motorized travel modes.
- As individuals age, they are increasingly likely to de- pend on public transit for their primary transportation.

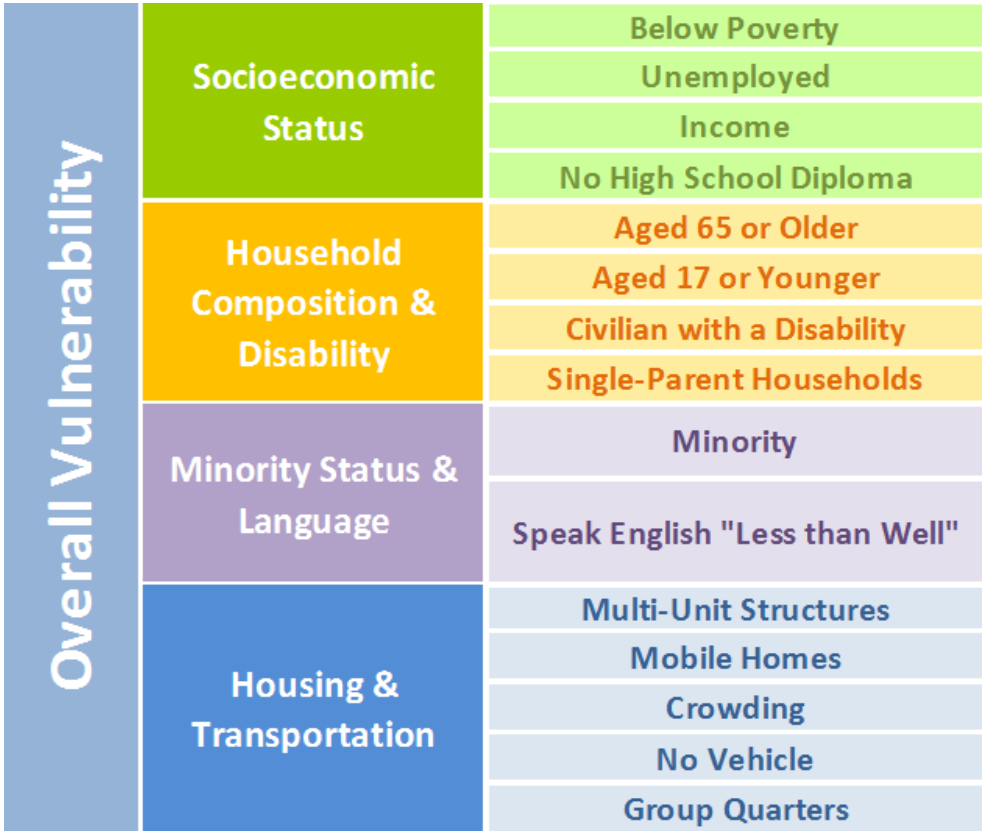
2009 National Household Travel Survey

Social Vulnerability Index

The Social Vulnerability Index (SVI) was created for communities to identify populations at greater risk in the event of human made or natural disasters. At the same time, the data directly relates to current conditions that make these same communities in need of transportation alternatives.

The merging of different social factors gives greater weight to the overall conditions that impact a person's ability to travel to jobs, medical services, educational resources, grocery stores, and other places that offer means of survival.

Social Vulnerability Index (SVI) uses U.S. Census data to determine the social vulnerability of every Census tract. Census tracts are subdivisions of counties for which the Census collects statistical data. The SVI ranks each tract on 14 social factors, including poverty, lack of vehicle access, and crowded housing, and groups them into four related themes. Maps of the four themes are shown on the next pages. Each tract receives a separate ranking for each of the four themes, as well as an overall ranking. *For more information about the SVI, visit: http:// svi.cdc.gov*



The transportation network exerts a profound influence on people's economic and social opportunities. At a broad level, transportation is necessary for individuals to access employment, education, housing, health care, recreation, and other daily activities. Individuals who are low-income, minority, elderly, limited English proficiency, youth, and persons with disabilities often face transportation challenges.

Social Vulnerability Index (SVI)

The index assigns a flag of one, to the top 10 percent, at the 90th percentile using the entire state's population. The table shows the specific variable that was flagged as 1, to rate an overall vulnerability score (per census tract). The census tract number in the table can be used to find the location on the map. Colors in table correspond the category of vulnerability.

CENSUS TRACT #	BELOW POVERTY (>53%)	UNEMPLOYED (>25%)	INCOME (<$12,000)	NO HIGH SCHOOL DIPLOMA (>24%)	AGE 65 OVER (>22.5%)	AGE 17 & UNDER (>28%)	DISABILITY	SINGLE PARENT (>20%)*	MINORITY (>90%)	LESS ENGLISH (>3.2%)	MULTI-UNIT (>24%)	MOBILE HOME (>15%)	CROWDING (>4%)*	NO VEHICLE (>24%)	GROUP QUARTERS (>4.4%)*	TOTAL FLAGS
4	1		1	1		1		1	1		1		1	1		9
22	1	1	1	1		1		1	1				1	1		9
5	1	1	1	1		1		1	1					1		8
23	1		1	1		1		1					1			6
6	1	1	1				1		1							5
21		1	1	1			1					1				5
3		1	1	1					1							4
8															1	1
9											1					1
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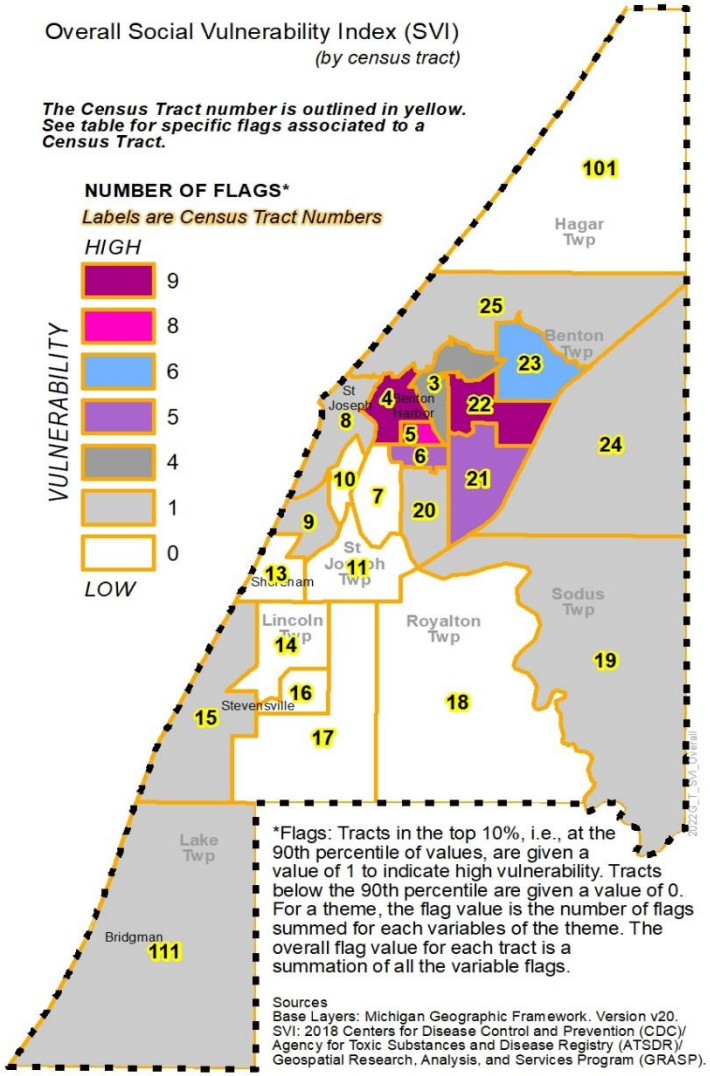
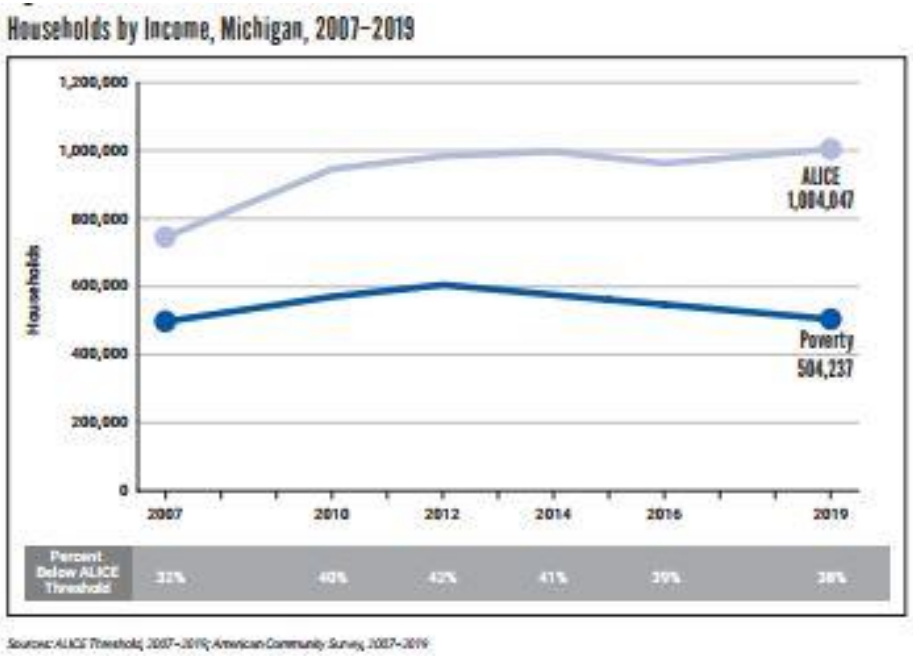
111					1											1



Asset Limited, Income Constrained & Employed Populations

ALICE is an acronym for **A**sset **L**imited, **I**ncome **C**onstrained, **E**mployed – households that earn more than the Federal Poverty Level, but less than the basic cost of living for the county (the ALICE Threshold, or AT). Combined, the number of poverty and ALICE households equals the total population struggling to afford basic needs. The number of households below the ALICE Threshold changes over time; households move in and out of poverty and ALICE as circumstances improve or worsen. The Great Recession, from 2007 to 2010, caused hardship for many families. Overall, the percentage of households living below the ALICE Threshold (ALICE and poverty-level households combined) increased from 32% in 2007 to 38% in 2019. Statewide 25% of households are struggling to afford basic needs



Asset Limited, Income Constrained, Employed households that earn more than the Federal Poverty Level of $12,490 for a single adult and $25,750 for a family of four, but less than the basic cost of living for the county.

In the City of Benton Harbor
71% of Households Are Struggling to Afford Basic Needs.

Source: ALICE Threshold, 2019

Community	Total Households	% ALICE & Poverty
Benton Charter Township	5,802	61%
Benton Harbor City	4,143	71%
Bridgman City	1,043	30%
Hagar Township	1,566	32%
Lake Charter Township	1,478	39%
Lincoln Charter Township	6,057	26%
Royalton Township	1,663	17%
Sodus Township	803	41%
St. Joseph Charter Township	4,046	25%
St. Joseph City	4,059	33%

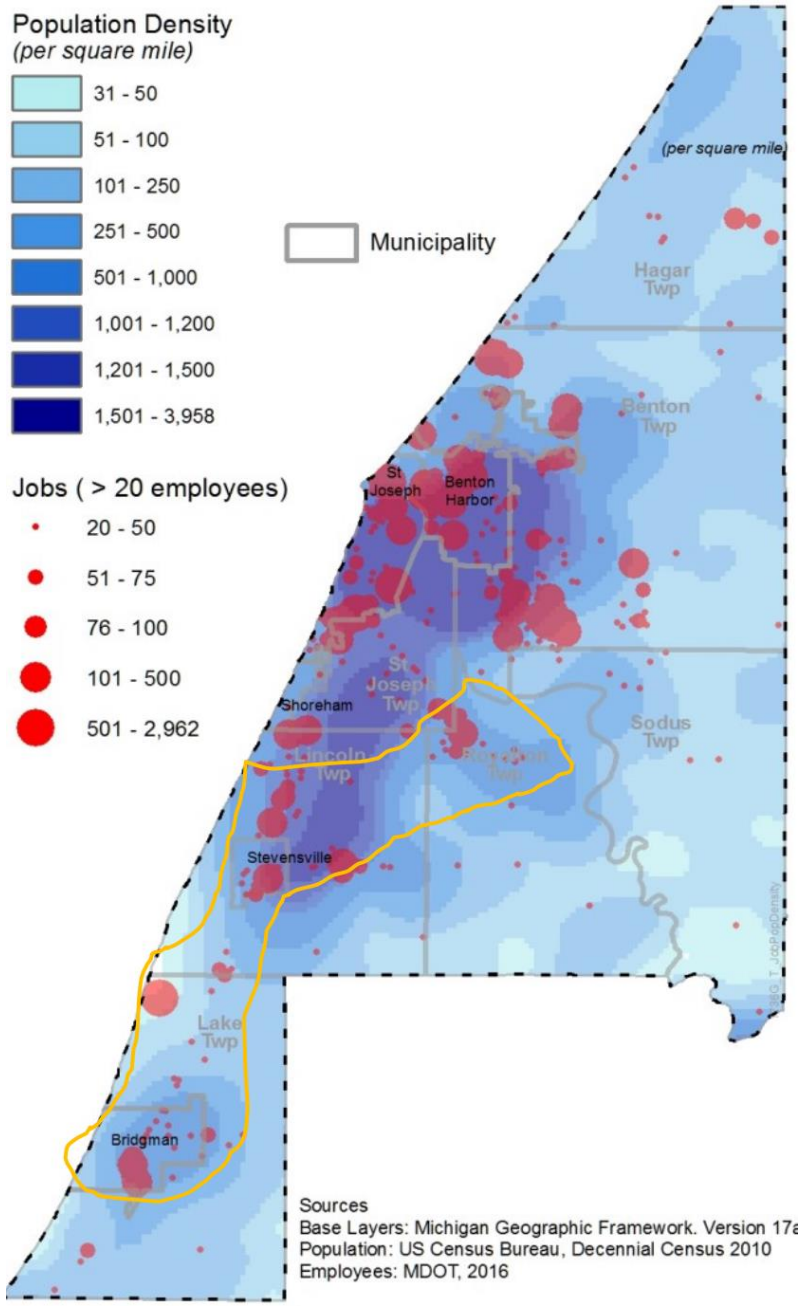
Spatial Mismatch Between the Residential Location of Low-Income Households and the Location of Jobs

Disadvantaged workers often find themselves in a double bind. They may be qualified for many entry-level jobs but have no way of reaching employment centers outside of their community; they may also be easily able to reach many jobs nearby, but lack the qualifications for them. These two statements describe the interconnected problems of spatial mismatch and skills mismatch.

- Access to job vacancies via transit varies greatly by industry and location within the TwinCATS Planning Area. While transit access is generally good for travel within the communities of Benton Harbor, Benton Charter Township and the City of St. Joseph. Employment located in Lincoln Township and the City of Bridgman have relatively poor access.

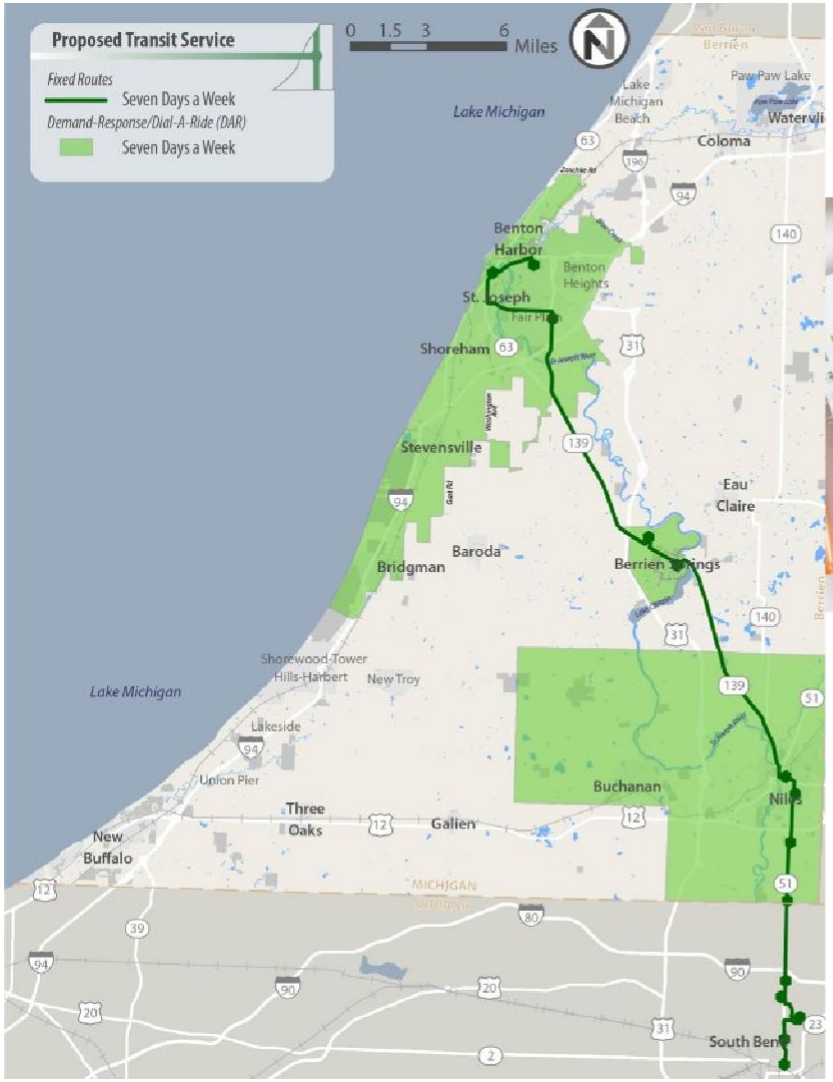
- In high-demand sectors, there are a significant number of occupations in which most job vacancies do not require postsecondary education and offer a livable median hourly wage. Examples include machinists in the manufacturing sector, nursing assistants in the healthcare sector, and truck drivers in the transportation and warehousing sector. Several of these sectors are located in the City of Bridgman, St. Joseph Charter Township, and Lincoln Charter Township which are not served by regular public transit service.

- There also is broad agreement about the need to connect workers with jobs outside of the current public transit service area.



GUIDING PRINCIPLES & STRATEGIES – Equity

With a growing economy juxtaposed against persistent disadvantage in the City of Benton Harbor and Benton Charter Township, and with an active countywide public transit service planning effort, now is an opportune time to study the relationships between spatial mismatch and skills mismatch. The current situation also offers an opportunity to influence the course of both for decades to come.



Strategies to Increase Access to Jobs

⇒ Redefine “accessible jobs" based on access by transit, not geography.

⇒ Consider the entire pipeline linking workers with jobs: individuals' skills and interests, available training, jobs reachable by transit, and employers interested in hiring workers for those jobs.

⇒ Identify employers who stand to benefit from engaging with workforce development and transit planning efforts. The employers may include those facing labor supply problems in inaccessible locations as well as those with ambitious goals for di- verse hiring.

⇒ Redefine flexible transportation to take into account disadvantaged workers’ often complex lives and nontraditional sched- ules.

⇒ Pursue diverse first-mile/last-mile solutions to connect work places with transit lines.

⇒ Engage transportation management organizations and also consider employer or district shuttles, car or bicycle sharing, or partnerships with transportation networking technologies.

Source: Opportunities for Integrated Transit Planning and Workforce Development Yingling Fan Andrew Guthrie Kirti Vardhan May 2016.

Resiliency

Improve the ability to prepare and plan for, absorb, recover from, or more successfully adapt to actual or potential adverse events.

Berrien County communities identified winter weather and infrastructure failure as one of the top 5 hazards in the County.

Citizens are dependent on the public and private utility infrastructure to provide essential life-supporting services such as electric power, water, sewage disposal and treatment, storm drainage, communications, and transportation for the movement of people and goods. When one or more of these independent yet interrelated systems fail for even a short time, due to disaster or other causes, it can have devastating consequences.

During the planning process for the 2005, Berrien County Hazard Mitigation Plan municipalities identified and ranked the hazards to determine which hazards were of greatest concern. Of the 24 identified and ranked, winter weather and infrastructure failure were ranked in the top 5 hazards utilizing the following criteria:

- Likelihood of Occurrence
- Percent of the Population Affected
- Potential for Causing Casualties
- Potentials for Negative Economic Effects

The plan also noted that communities need to continue to push for greater system reliability through mitigation efforts. Although the The problem of infrastructure failure will never be eliminated, it can certainly be greatly diminished through proper planning, design, construction, and maintenance practices.

As part of the Long Range Transportation planning process MPOs are required to assess assets and other strategies that could reduce the vulnerability of existing transportation infrastructure to natural or other disasters.

Emergency Planning

Under the guidance of the Federal and State Department of Homeland Security and the Federal and State Emergency Management Agencies, The Berrien County Sheriff's Department serves as the Emergency Management Agency for the TwinCATS planning area. In coordination with all government agencies, Berrien County Emergency Services is responsible for the Countywide Emergency Plan. (CEMP). The CEMP documents the county level emergency planning process that establishes policies and procedures needed to prepare for, respond to, recover from, and mitigate the impacts of all types of natural, technical, and criminal/hostile disasters. The transportation system has been identified as a key infrastructure for carrying out emergency response activities in the county. Various federal, state and local government agencies provide day-to-day security for all five modes of transportation in the planning area.

Transportation System	Agency
Road Network	Michigan State Police, Berrien County Sheriff Department City/Township Police/Fire
Rail	Michigan State Police, Berrien County Sheriff Department City/Township Police/Fire
Port/Lake Michigan	U.S. Coast Guard, Cities of Benton Harbor St. Joseph Police and Fire, Berrien County Sheriff
Airport	Transportation Security Administration, Michigan State Police, Berrien County Sheriff, City of Benton Harbor, Benton Charter Township Police & Fire
Public Transit	Michigan State Police, Berrien County Sheriff, Department City/Township Police/Fire

The definition of an emergency, in the "emergency management world", is summarized as an event that overwhelms or challenges the ability of those normal on-duty responders to control the impact of that emergency.

A car crash would likely be resolved effectively by law enforcement on-duty staff.

A 93-car pile-up in the winter, involving hazardous materials leaks, would challenge the on-duty responders in that they would likely need to call for additional outside help.

Incident Management

The Statewide Transportation Operations Center (STOC) focuses on MDOT's goals of incident management, crash reduction, traveler information, and congestion reduction. STOC provides motorists with real-time travel information and partners with emergency responders to provide response services to traffic crashes, saving lives, time, and money. STOC serves motorists in MDOT's Southwest Region which includes Berrien, Cass, and Van Buren Counties. This center oversees a traffic monitoring system along, I-94 and I-196 The STOC operates 24 hours a day, 7 days a week, 365 days a year.

Transportation Incident Management Infrastructure in the TwinCATS area includes:

Traffic Cameras - 8
Dynamic Message Signs - 1
Truck Parking Availability Signs - 2
Vehicle Detectors - 1

The Berrien County Emergency Management Division is an entity that helps in coordinating the management of the incident, and our local emergency responders are responsible for executing the work that will resolve the incident. The Berrien County Emergency Management Division has incorporated the National Incident Management System (NIMS) as the system to be used in Berrien County.

Incident Management		
Agency	**Role**	**Local /State Agency/Business**
Law Enforcement	Often first responder on scene, LE personnel will secure the incident scene; provide initial emergency re-response if there are injuries; direct traffic around the incident; conduct accident investigation.	Michigan State Police Berrien County Sherriff City & Township Law Enforcement
Fire and Rescue	Protect the incident scene; provide emergency aid to injured motorists; suppress fires; address any initial hazardous materials release.	City & Township Law Enforcement. Several have reciprocal agreements in place to aid.
Emergency Medical Services	Treat injuries; prepare and transport more seriously injured motorists to the hospital.	Medic One, Pride Care
Towing & Recovery	Removal of damaged vehicles and debris; incident scene clean-up.	Hasse Towing, Jeff's Towing & Recovery
Transportation DOT	Secure the incident scene; establish traffic control around incident; pro-vide motorist assistance; incident clearance; restore traffic flow after incident cleared.	Michigan State Police

Asset Management & Resiliency

Asset Management is not a complete answer to addressing the threats to physical transportation assets but it can serve as an important component of the Three R's, particularly in making assets robust and agencies' asset-repair practices resilient in times of crisis.

Redundancy can be defined as duplicative or excess capacity that can be used in times of emergency. Adding redundant highway capacity generally falls outside the practice of asset management. However, sound management of the assets on detour and emergency evacuation routes increases a highway system's redundancy.

Robustness can be defined as the capacity to cope with stress or uncertainty. asset management focuses upon optimizing the conditions of assets with available revenues. Well-maintained assets generally are better able to withstand the stresses of storm events and other disasters better than weakened and poorly maintained ones.

Resiliency has been defined as the ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events. Enhanced resilience allows better anticipation of disasters, better planning to reduce disaster losses and faster recovery after an event.

"Where recurring severe damage and system failures occur, due to natural or technological hazard events, it makes sense to explore enhancing infrastructure design, construction, and operational codes and standards."

—2005 Berrien County Hazard Mitigation Plan

GUIDING PRINCIPLES & STRATEGIES – Resiliency and Reliability

Each cell of the "honeycomb" represents some facet of resilience but is not, by itself, the whole. For example, while emergency management is an essential component of resilience, its conceptual framework is ill-suited for the kinds of actions necessary to mitigate or adapt to slow disruptors such as climate change. Some disruptions are known well in advance and can be planned for in great detail; others occur with no warning and require a great deal of resourcefulness to restore service. Resilience, much like safety, affects every major business function within a transportation agency, not just operations. Planning, design engineering, maintenance, and business management divisions all play significant roles.

Strategies to Improve Resiliency & Reliability

- Develop, promote, and encourage effective working relationships among local and regional officials and other stakeholders responsible for various aspects of transportation infrastructure protection, emergency management, and system operations.
- Update inventories of assets and their condition and life cycle to assist in identifying which assets are at risk for given types of events such as winter weather, power failures, and large rain events.
- Identify and update assets that are vulnerable to extreme weather events and prioritize future investments through the use of a lifeline network that defines critical facilities, corridors, systems, or routes that must remain functional during a crisis or be restored most rapidly.
- Research and provide MPO members with information about new studies, forecasts, or environmental risks that could affect the future condition of transportation assets.
- Encourage sound inspection and maintenance practice regimes for transportation-related infrastructure that includes but is not limited to bridges, culverts, underdrains, catch basins, transit facilities, and buses.

FUTURE TRANSPORTATION FUNDING

Fiscal constraint is a required component of long-range planning. Transportation expenditures included in this Plan do not exceed revenue estimates during the life of the Plan. Simply put, this Plan includes only those transportation improvements that can be realistically completed based on anticipated revenues.

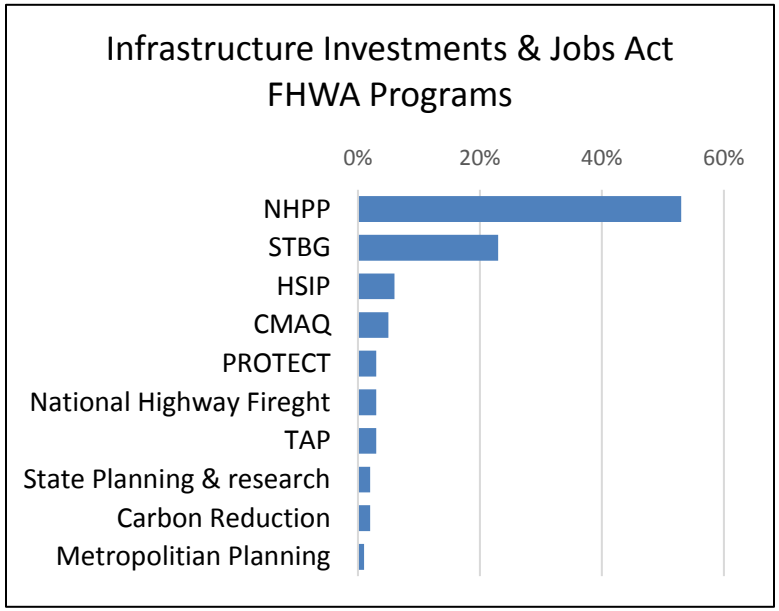
Future Transportation Funding

Financial Planning Overview

A sound financial plan, which demonstrates how the unified vision for the regional transportation system can be achieved is a critical element of Principles in Motion 2050. While this Long Range Transportation Plan is not a programming document, FHWA regulations require that the Plan be "fiscally constrained." This means that the plan should include strategies and projects which we reasonably believe can be funded. To accomplish this, an analysis of fiscal constraint was undertaken for the life of the plan (2023-2050). This means comparing the estimates for future revenue against any known projects. This ensures that there is adequate funding in place.

Following are brief descriptions of the primary funding sources used to forecast future funding targets. While there are many additional State and Federal funding sources available, this list includes only those that the TwinCATS urbanized area has been successful in obtaining through either direct apportionment or through competitive grant processes.

Federal Funding Programs in the Infrastructure Investment & Jobs Act



National Highway Performance Program (NHPP): Funding for resurfacing, restoring, and rehabilitating, the National Highway System. The NHPP is a primary funding category that MDOT uses for projects, especially for the interstate. Currently, MDOT only assigns the funds to MPOs with a population over 200,000.

Surface Transportation Block Grant (STBG): Funding for improvements to roads and bridges on the federal-aid system, transit capital projects, bicycle, and pedestrian facilities, and enhancement projects. STBG funds are given to MDOT, which then appropriates the funds to TwinCATS. STBG funds are programmed by the TwinCATS Policy Committee using a competitive grant process.

Transportation Alternatives Program (TAP): Funding for enhancement activities that have a direct relationship to surface transportation facilities This includes facilities for bicycles and pedestrians (including safety and educational activities), landscaping and other scenic beautification, historic preservation, and the preservation of abandoned railway corridors for bicycle and pedestrian uses. TAP funds are awarded through a statewide competitive grant process.

Bridge Formula Program (BFP): A new program under the IIJA which was established to provide funding for highway bridge replacement, rehabilitation, preservation, protection, and construction projects on public roads. BFP funding is distributed by a statutory formula based on the relative costs of replacing all highway bridges classified in poor condition in a State and the relative costs of rehabilitating all highway bridges classified in fair condition in a State

Congestion Mitigation and Air Quality Improvement Program (CMAQ): Funding for transportation projects and programs that reduce congestion and improve air quality to help meet the requirements of the Clean Air Act. CMAQ funds are allocated at a countywide level, with projects chosen at a countywide meeting.

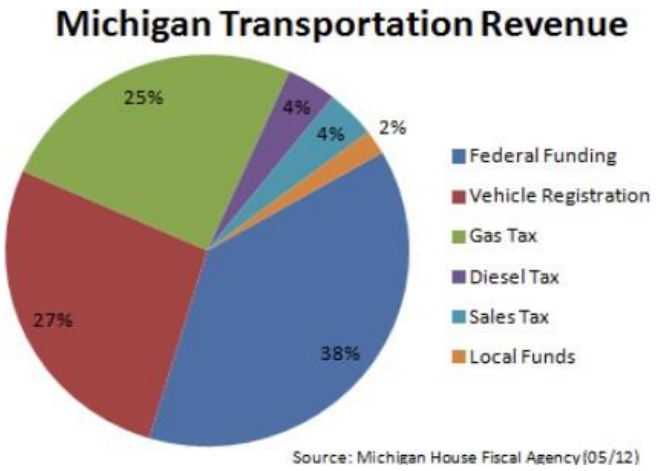
Carbon Reduction Program (CRP): A New Program under the IIJA which is intended to reduce transportation emissions through the development of state carbon reduction strategies and by funding projects that reduce transportation emissions. The CRP funds are allocated by MDOT to TwinCATS, and the TwinCATS Policy Committee will vote on how to utilize these funds.

Highway Safety Improvement Program (HSIP): Funding for projects that achieve a significant reduction in traffic fatalities and serious injuries on all public roads, (including non-federal aid roads). Projects are chosen by a data-driven statewide competitive grant process.

State & Local Transportation Revenue Funding Sources

- Historically, approximately two-thirds of the state transportation funding comes from state-restricted revenue, with approximately one-third from federal sources.
- Federal transportation revenue is collected from gasoline and diesel fuel sales taxes.
- State transportation revenue is collected from a variety of sources including fuel, sales and income tax, and vehicle registration fees.
- The revenue that is collected is credited to the Michigan Transportation Fund (MTF) which is constitutionally restricted for use on the transportation system by Michigan Public Act 51 of 1951.
- The State of Michigan allocates up to 10% of the MTF to the Comprehensive Transportation Fund (CTF) which was established to fund public transit improvements.
- 90% of the MTF funding is distributed to county road agencies, cities, and villages

  using a formula that includes population and roadway miles in each jurisdiction.
- County and city MTF allocations have generally accounted for over half of locally available transportation revenues.
- Local funding sources for transportation improvements include:
  - ⇒ General fund dollars
  - ⇒ Property tax millage
  - ⇒ Obligation bonds
  - ⇒ Contributions from other units of government
  - ⇒ Tax increment financing and special assessments
  - ⇒ Interest on accumulated MTF funding
  - ⇒ Public-private partnerships



Increase in State Road Funding

In 2015, Michigan passed a road funding package that redirected certain income tax revenue that had previously been credited to the state general fund to the MTF.

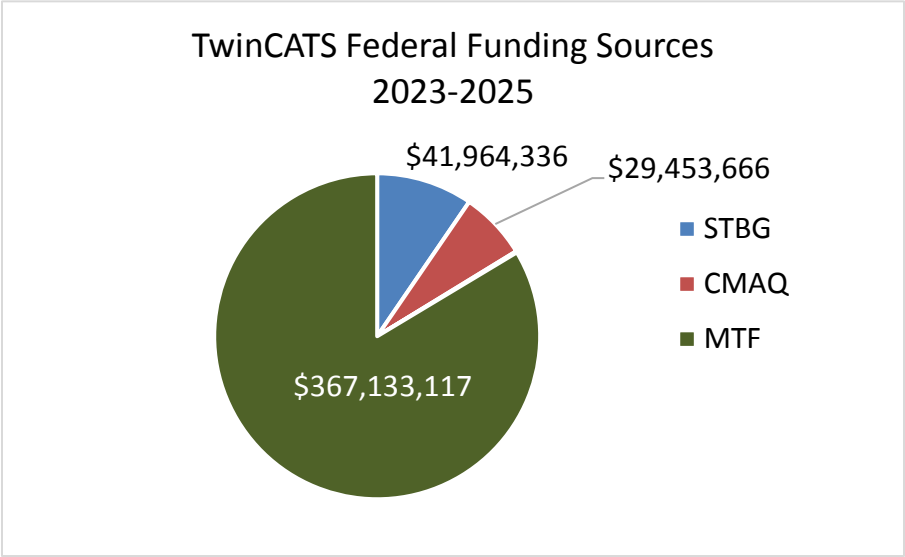
2018 - 2019 **$150 million**

2020 Forward **$600 million**

State and Federal Funds for Locally Controlled Roads

Program	Description	2023-2030 Funding	2031-2040 Funding	2041-2050 Funding	2023-2050 Funding
Federal Surface Transportation Block Grant	Funding for improvement to roads and bridges on the federal-aid system, transit capital projects, bicycle, and pedestrian facilities, and enhancement projects.	$9,824,474	$14,562,059	$17,577,804	$41,964,336
Federal Congestion Mitigation and Air Quality Improvement	Flexible funding for transportation projects and programs tasked with helping to meet the requirements of the Clean Air Act.	$6,894,358	$10,221,263	$12,338,046	$29,453,666
Federal Carbon Reduction Program	A new fund source from the IIJA tasked with reducing carbon emissions from transportation	$562,000	$0	$0	$562,000

STBG and CMAQ is estimated to grow by 1.9% annually between 2023 and 2030 followed by a 2.1% annual growth rate between 2031 and 2050. The State funding (Act 51) is estimated to grow by 1.7% annually between 2023 and 2030 followed by a 1.9% annual growth rate between 2031 and 2050.



State and Federal Funds for MDOT Controlled Roads

Program	Description	2023-2030 Funding	2031-2040 Funding	2041-2050 Funding	2023-2050 Funding
Preservation	Estimated Long Range State and Federal Revenue Available for Trunkline Capital Program (excluding CI, NR, TM, and Rebuilding Michigan Bonds)	$116,115,997	$165,735,385	$219,199,747	$501,051,129

MDOT's revenue estimates include funding for the preservation of the state controlled roadway system. The funds represent the full amount available for preservation activities which have a broad definition that includes anything that does not expand or create a new roadway. MDOT has a pavement preservation formula that allocates funding to its seven regions. The formula weighs four overall factors: pavement condition, eligible lane miles for pavement reconstruction and repair work, usage (average daily traffic volumes), and regional cost. These factors form the basis for how pavement preservation funds are distributed to each region. The formula is updated annually with current pavement conditions, traffic, cost, and eligible lane miles. Revenue for operations and maintenance are not included in these figures.

Activities Covered by the Trunkline Capital Program Include:

- **Rehabilitation and Reconstruction**
- **Capital Preventive Maintenance**
- **Freeway Lighting**
- **Freeway Resurfacing Program**
- **Non-Freeway Resurfacing Program**

Sources for Funding Local Roads

To ensure federal projects will have an adequate local match it is necessary to estimate future local funding. State funding is estimated to increase by 1.7 percent from 2023-2030. This is followed by an estimated annual growth rate of 1.9 percent until 2050. The Michigan Transportation Fund (MTF) is the funding road agencies receive from the state gas tax and vehicle registration fees. For most road agencies, this represents the vast majority of the funding available for road maintenance. Unlike federal funding which typically has restrictions on how it can be used, MTF funds can be used for a broad variety of transportation projects. While STBG is restricted to roads designated as federal aid eligible, it is local funding, mainly through the MTF that funds repairs on the local (non-federal aid) streets. Local funds are also used to ensure the operation and maintenance of the road system, including agency salaries and other overhead costs. Most federal funding requires a local match. STBG will fund up to 81.85 percent of the construction costs project with the remaining 18.15 percent required from the local match. The local match for most federally funded road projects comes from the MTF.

MTF (Act 51) Distribution 2021	
Benton Harbor	$1,356,785
Benton Twp.	$2,302,110
Bridgman	$332,021
Hagar Twp.	$534,115
Lake Twp.	$752,311
Lincoln Twp.	$1,304,066
Royalton Twp.	$603,470
Shoreham	$83,497
Sodus Twp.	$711,934
St Joseph	$1,010,499
St Joseph Twp.	$654,496
Stevensville	$193,776
TwinCATS Total	$9,839,080

The table on ACT 51 distribution shows what each community received from the MTF in 2021. For the townships, the funding is distributed to the Berrien County Road Department. The Road Department receives funding based on all townships in Berrien County. Funding is not allocated for any single township specifically. The Township allocation is the calculated portion based on the Twps. population and road miles.

Michigan Transportation Fund

Allocation (Act 51)

	2023-2030	2031-2020	2041-2050
Funding (in Millions of $)	$86.42	$127.18	$153.52

State and Local Operations and Maintenance

Construction, reconstruction, repair, and rehabilitation of roads and bridges account for only a portion of the total costs for the highway system. The system must also be operated and maintained. Operations and maintenance (O&M) is defined as those all of the items necessary to keep the highway infrastructure functional for vehicle travel, other than the construction, reconstruction, repair, and rehabilitation of the infrastructure. These activities are vital to the smooth functioning of the highways.

Federal transportation funds cannot be used for operations and maintenance of the highway system. However, federal regulations require an estimate of the amount of state and local funding that will be spent operating and maintaining the federal-aid eligible highway system over the period of the long-range plan.

Operations and Maintenance Activities

- Snow and ice removal
- Pothole patching
- Rubbish removal
- Maintaining the right-of way
- Maintaining traffic signs and signals
- Clearing highway storm drains
- Electrical bills for street lights and traffic signals,
- Personnel and direct administrative costs necessary to implement these projects

Operations & Maintenance Cost & Revenue

MDOT estimated that its operations and maintenance costs were approximately $13,319 per lane-mile in FY 2021. Based on this MDOT estimated that it spent a total of $4.6 million for O & M within the TwiNCATS Area. To estimate future operations and maintenance costs, an annual growth rate in state funding of 1.7 percent was applied for 2021-2030, and 2.1 percent for 2031-2050.

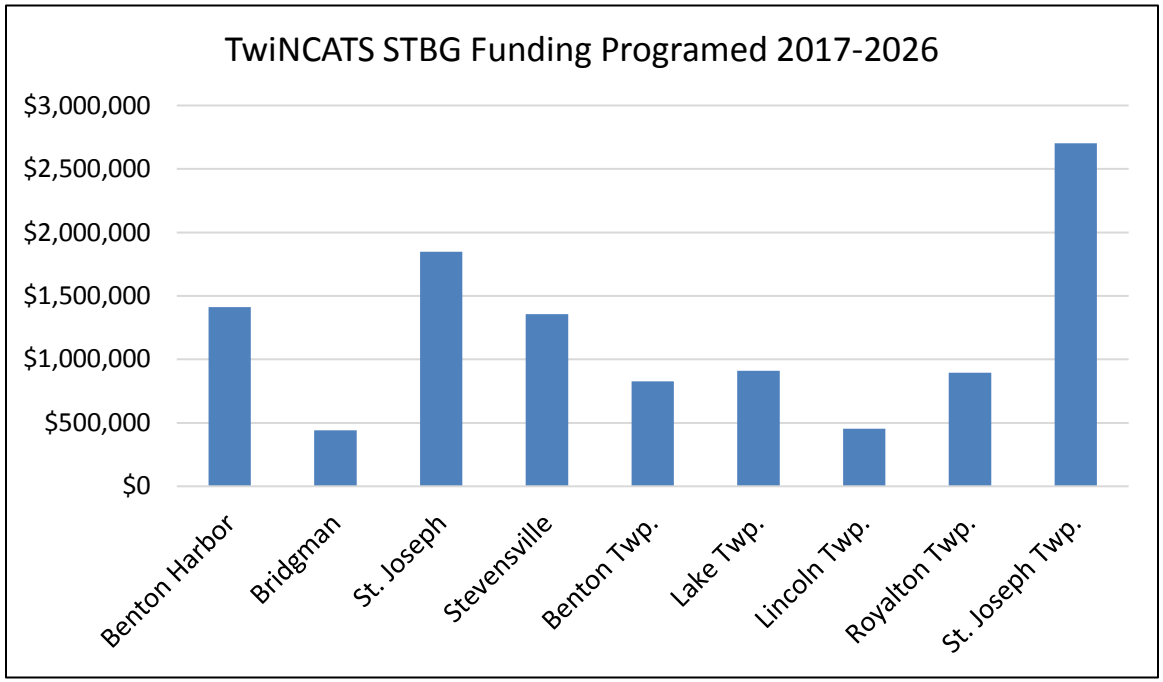
The estimated operations and maintenance costs for the locally maintained federal aid roads are based on an assumption that every lane-mile of federal aid road has an approximately equal cost for operations and maintenance. Within the TwinCATS area, local road agencies are responsible for the operation and maintenance of 395 lane miles of federal-aid roads. Applying the $31,319 per lane mile figure gives an estimated cost of $5.26 million in the base year of FY 2021. The same growth rates for the MDOT roads were applied to get the total costs of operations and maintenance for the life of this plan

Operations and Maintenance Cost (millions of dollars)

	2023-2030	2031-2040	2041-2050
MDOT Roads	$46.21	$59.95	$72.36
Locally Controlled Federal Aid Roads	$40.73	$68.01	$82.09
Total	$86.95	$127.95	$154.45

Process for awarding the TwinCATS Allocation of Surface Transportation Block Grant Funds (STBG)

Local Road Agencies identify which roads need repairs based on their asset management plans which incorporate their roads' pavement condition, and potential repair costs. These agencies submit an application to TwinCATS Staff who score the project based on the criteria approved by the Policy Committee. These criteria include how the projects will help TwinCATS meet the transportation performance measures and how the project fits with the strategies laid out in the Long Range Plan. Using these scoring criteria as a guide, TwinCATS members work cooperatively through committees to reach an agreement on which projects to fund. The Committees include officials from each community. The public is then given an opportunity to review the proposed project and make comments before the funding is approved by the TwinCATS Policy Committee.



Project Identification: TwinCATS member communities choose projects to submit.

PROJECT SUBMISSION: Local Road agency engineers submit project applications to SWMPC staff.

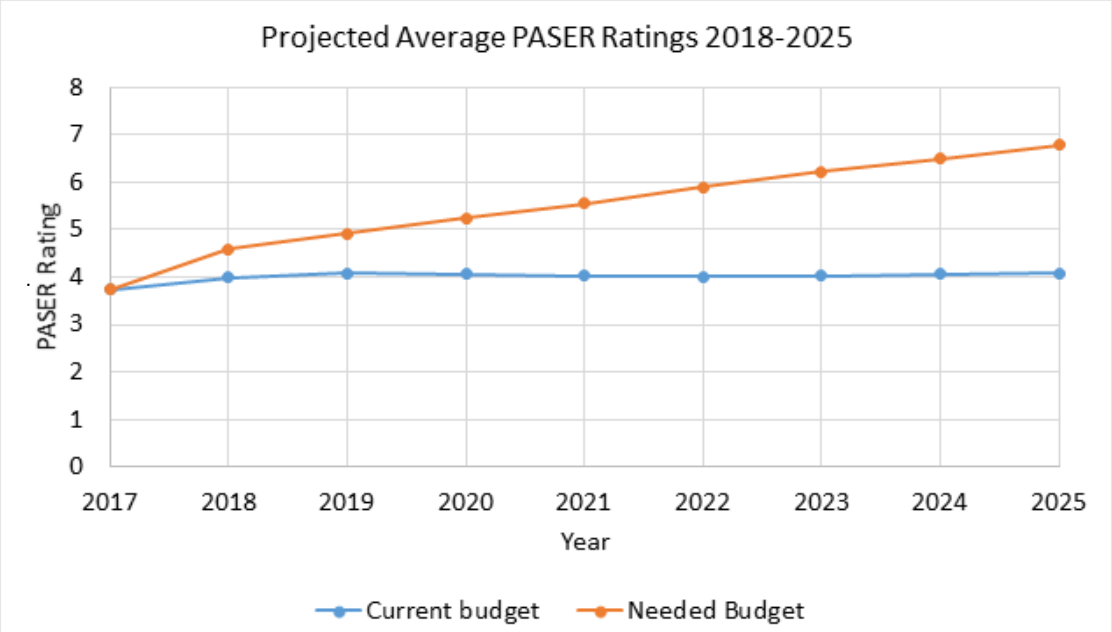
QUALIFICATION: SWMPC staff verify that the project application meets federal guidelines.

PROJECT SCORING: SWMPC staff score applications based on criteria approved by the TwinCATS TAC and Policy Committee

RECOMMENDATION: TAC reviews staff scoring and makes funding recommendations to TwinCATS Policy Committee.

SELECTION: The TwinCATS Policy Committee reviews TwinCATS Technical Advisory Committee recommendations and chooses which projects to fund.

FUTURE TRANSPORTATION FUNDING— Fundng Needs



Assumptions: Actual annual budget increase of 2% and a 2% inflation on construction costs cancels out. Costs estimated based on report by MDOT, Asset Management Council, and Michigan Tech

Local Federal Aid Roads would remain unchanged (Poor) with a current annual budget of

$1 Million

We need to invest an additional

$3 Million

annually within our MPO for the next 7 years to bring our locally controlled federal aid roads back to 80% good or fair.

Demonstration of Fiscal Constraint

Fiscal constraint, which is a required component of long range planning, means that expenditures included in the plan do not exceed revenue estimates during the life of the Plan. This Plan includes only the transportation improvements that can be realistically completed based on anticipated revenues. Thus Fiscal Constraint is met.

Local road agencies decided not to program any specific projects in the long range transportation plan past 2026. Based on the results of the travel demand model, no significant congestion on local roads was identified so no capacity projects are included. Local agencies agree that the preservation of the existing roadway system is the top priority. A secondary priority is improving the non-motorized network and reducing transportation emissions. While the general use of the funds was identified, specific projects will be determined on an ongoing basis based on specific future conditions.

Similarly, MDOT has also not decided to identify specific projects past 2026 and supplied a general preservation funding estimate. MDOT's preservation budget is the annual amount the MDOT region is allocated to maintain and repair trunkline roads. This budget includes numerous state and federal sources. MDOT programs projects based on need and then they allocate an applicable fund source to the project. Only the total amount of MDOT funding is estimated. There are no estimates of specific federal or state funding sources.

Details about transit funding can be found in the Passenger Transportation section on Page 120.

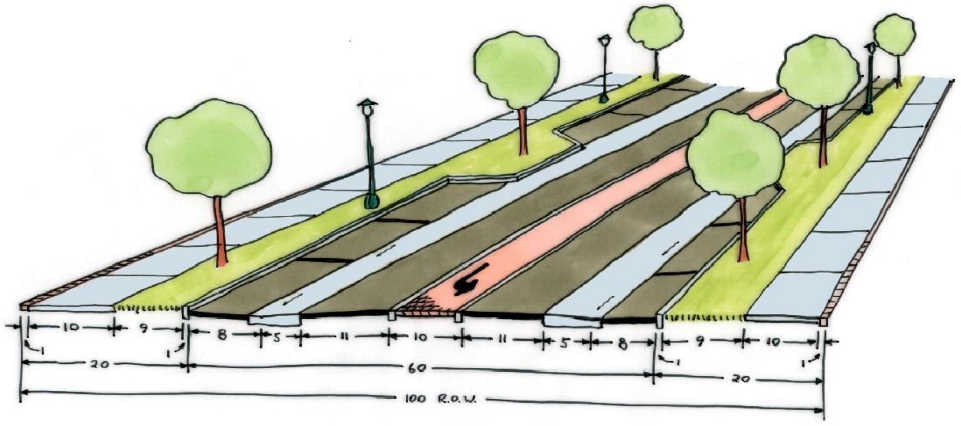
Funding Category	Revenue	Expenditures	Balance
2023-2030			
STBG	$9,824,474	$9,824,474	$0
CMAQ / CRP	$7,456,358	$7,456,358	$0
MTF	$86,423,848	$86,423,848	$0
MDOT Preservation	$116,115,997	$116,115,997	$0
Federal Transit Operating	$9,421,239	$9,421,239	$0
Federal Transit Capital	$1,191,631	$1,191,631	$0
State CTF	$9,307,612	$9,307,612	$0
Local Operating	$3,621,275	$3,621,275	$0
2023-2030 Total	$243,362,433	$243,362,433	$0
2031-2040			
STBG	$14,562,059	$14,562,059	$0
CMAQ / CRP	$10,221,263	$10,221,263	$0
MTF	$127,184,888	$127,184,888	$0
MDOT Preservation	$165,735,385	$165,735,385	$0
Federal Transit Operating	$14,113,637	$14,113,637	$0
Federal Transit Capital	$1,785,142	$1,785,142	$0
State CTF	$13,697,464	$13,697,464	$0
Local Operating	$5,329,218	$5,329,218	$0
2031-2040 Total	$352,629,05	$352,629,055	$0
2041-2050			
STBG	$17,577,804	$17,577,804	$0
CMAQ / CRP	$12,338,046	$12,338,046	$0
MTF	$153,524,380	$153,524,380	$0
MDOT Preservation	$219,199,747	$219,199,747	$0
Federal Transit Operating	$17,373,862	$17,373,862	$0
Federal Transit Capital	$2,197,507	$2,197,507	$0
State CTF	$16,534,156	$16,534,156	$0
Local Operating	$6,432,878	$6,432,878	$0
2041-2050 Total	$445,178,380	$445,178,380	$0
2023-2050 Plan Total	**$1,041,169,869**	**$1,041,169,869**	**$0**

ROAD & BRIDGE NETWORK

ROAD & BRIDGE NETWORK

Within the TwinCATS planning area there are 767 miles of public roads. Road agencies in TwinCATS, which include cities, villages, and the Berrien County Road Department, are responsible for the maintenance of 624 miles of these roads. The other 143 miles are owned and maintained by MDOT, including the interstate (I-94, I-196), US-31, BL-94, and all routes with an "M" designation (M-63, M-139). Three hundred ten miles of road are part of the federal aid highway system, which enables these roads to use federal surface transportation block grant funds for maintenance. This road network is the main transportation system carrying automobiles, buses, pedestrians, cyclists, and freight throughout the region and beyond.

The road network includes a variety of road types that serve various trip purposes. The local non-federal eligible roads are mainly designed to serve as residential streets or to provide access to individual properties. The federal aid network is the backbone for cross-jurisdictional and region-wide trips. Within this category is the National Highway System (NHS) which is not just important regional roads, but they are vital to the movement of people and goods across the state and the nation.



TwinCATS Planning Area Road Network:

78 Miles

Interstate Highway

62 Miles

National Highway System (Non-Interstate portion)

172 Miles

Federal Aid Eligible Roads Not part of the NHS

460 Miles

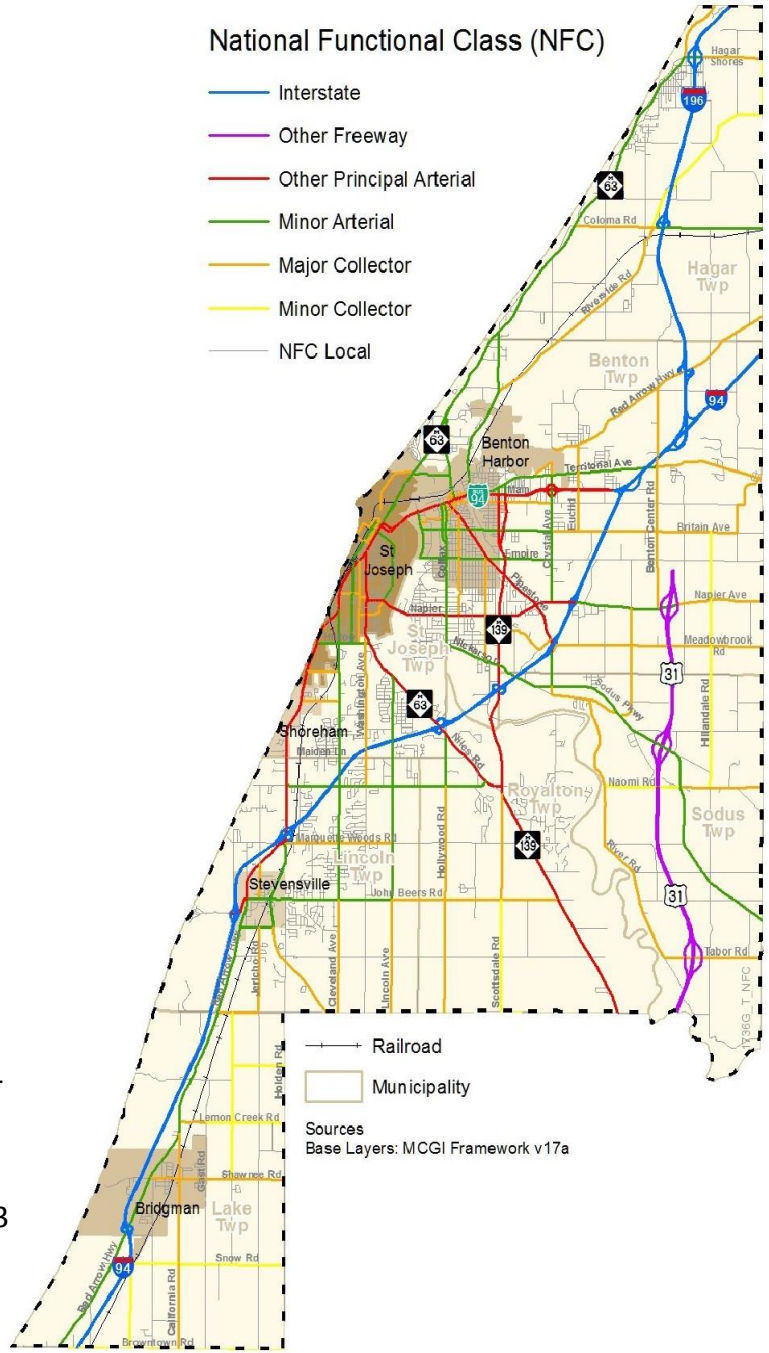
Non-Federal Aid Eligible Roads

767 Miles Total

National Functional Classification

The National Functional Classification (NFC) is the system by which the FHWA classifies roads according to the function, speed, and amount of traffic the facility carries. NFC is used to determine design standards of roads and is a consideration in determining eligibility for federal aid funding. NFC classification is determined through cooperation between the road agency, MPO, MDOT, and FHWA. There are seven NFC categories, they are grouped into four major categories.

	Miles	Principal Arterials
INTERSTATE 94	31	**Interstate**: Also known as the Eisenhower Interstate System, they are designated with an "I" prefix. These roads are high-speed divided highways that cover multiple states. While funded by the federal government, they are maintained by the state DOTs
31	7	**Other Freeways & Expressways (OF&E):** All other high-speed, limited access divided highways, which are not designated as interstate (in TwinCATS, the 7.4 miles of US-31 south of Napier Ave.) In Michigan, all OF&E routes are maintained by MDOT.
BUSINESS LOOP 94	40	**Other Principal Arterial (OPA**): These routes are typically designed for high volumes of through traffic as well as commercial traffic. Unlike freeways, OPA often have direct access to adjacent properties. In TwinCATS, OPA includes 39 miles: 30 miles are maintained by MDOT (BL-94, M-139, and M63 between M-139 and BL-94). 9 miles are locally maintained roads: Red Arrow Highway and Grand Mere Road between Exits 22 and 23 of I-94, Napier Ave between M-63 and I-94, and Pipestone between BL-94 and I-94.
M 63		



National Functional Classification - cont.

Miles

78

Minor Arterial (NFC 4): A major thoroughfare, typically used for shorter trip distances and carries less traffic than principal arterials

88

⇒ **Major Collector:** These routes funnel traffic from local and minor collector routes to the arterials. These may directly serve schools, business districts, and important public functions.

⇒ **Minor Collector:** Carries more through traffic than a local road but not as heavy as a major collector.

26

◊ ***Urban minor collectors*** were created recently by the 2010 Highway Performance Monitoring System (HPMS) reassessment and have federal-aid eligibility—TwinCATS: 6 mi.

◊ ***Rural minor collectors*** are not federal-aid highways but do have limited STBG federal-aid eligibility—TwinCATS: 20 mi.

436

Local Roads (NFC 7): Predominately traveled by those accessing their property, rural farm roads, and residential neighborhood roads. This is the majority of public road mileage.

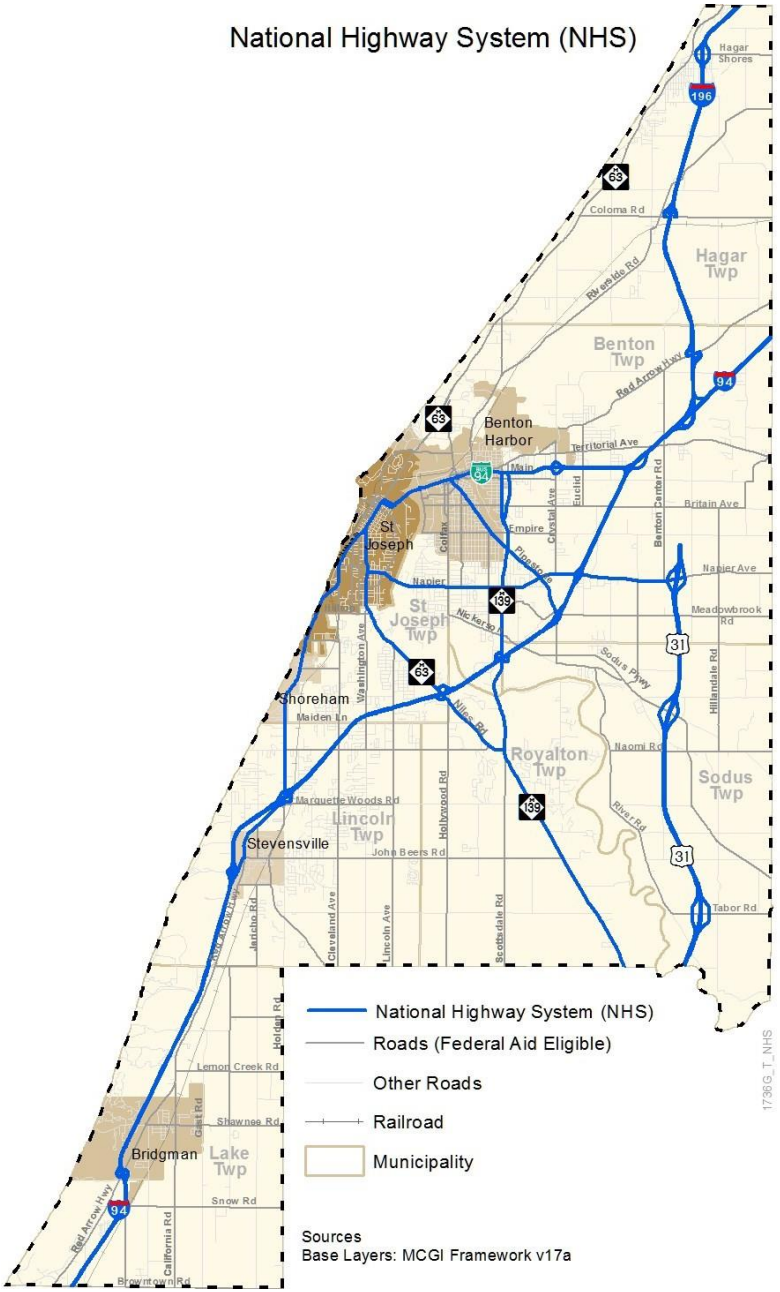
TwinCATS NHS:

80

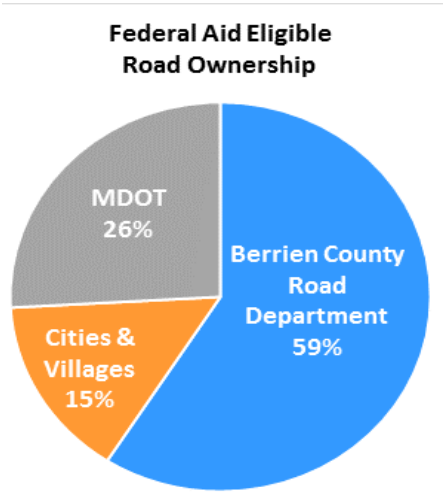
miles

National Highway System (NHS)

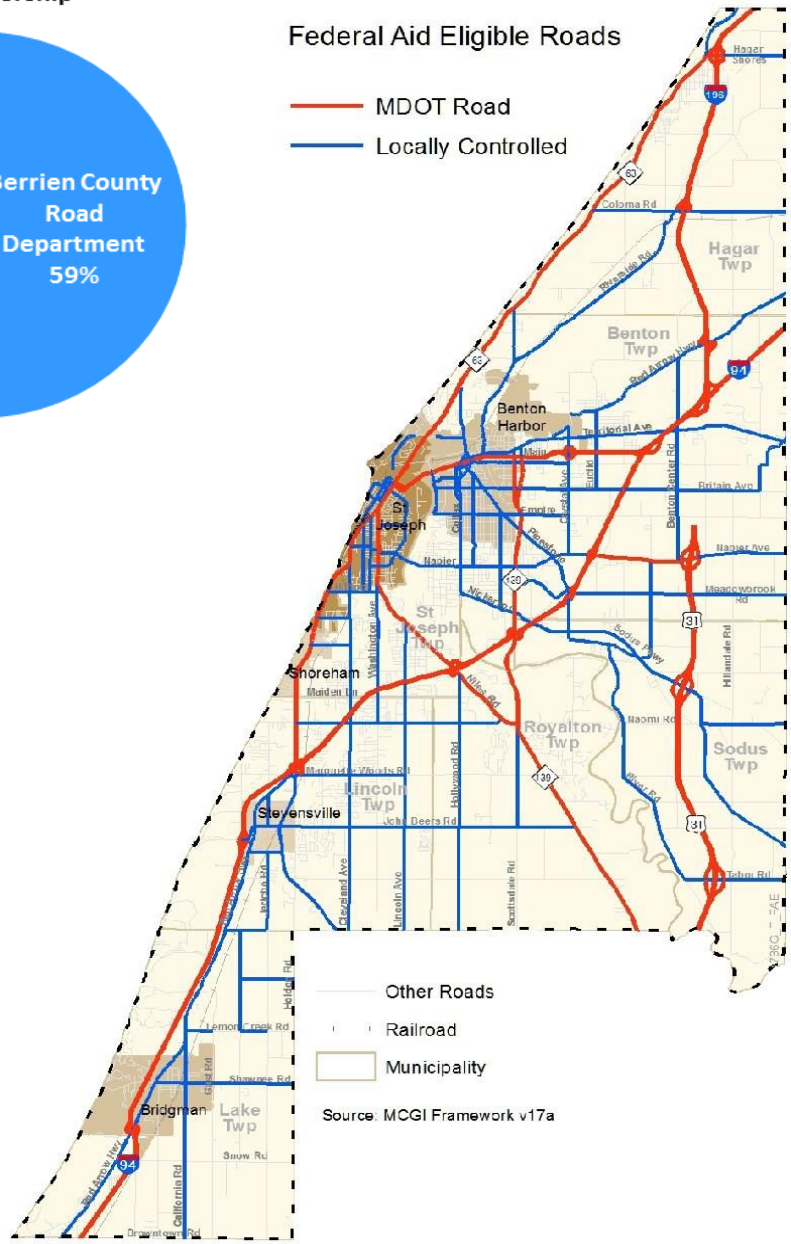
The NHS is a category for the most important roads for the nation's economy, defense, and mobility. The NHS includes all interstates, freeways and other principle arterials. It also includes Napier between US 31 and I-94. MDOT maintains 71 miles and nine miles are locally controlled.



ROAD & BRIDGE NETWORK – Road Miles



Jurisdiction	Total Local Miles	Local Non-Fed Aid	Federal Aid Eligible		Total Miles
			Local	MDOT	
City of Benton Harbor	57	40	17	2	60
City of Bridgman	20	10	10	2	21
City of St. Joseph	45	31	14	7	52
Village of Shoreham	4	2	2	1	5
Village of Stevensville	10	5	5	1	11
Benton Township	157	100	57	28	185
Hagar Township	66	52	14	13	79
Lake Township	66	33	32	5	71
Lincoln Township	105	68	37	6	111
Royalton Township	52	35	16	7	59
Sodus Township	51	31	20	7	58
St Joseph Township	58	47	11	4	62
TwinCATS Total	691	455	236	84	775



Vehicle Miles Traveled

Vehicle Miles Traveled (VMT) represents an estimate of all the combined miles that were driven by all vehicles within the TwinCATS Area. VMT is calculated based on traffic counts and travel models through the Highway Performance Monitoring System (HPMS). Traffic on local roads is based solely on estimates because HPMS currently doesn't collect traffic counts on non-federal aid-eligible roads. VMT helps us understand generally how trends in vehicle use and congestion change over time.

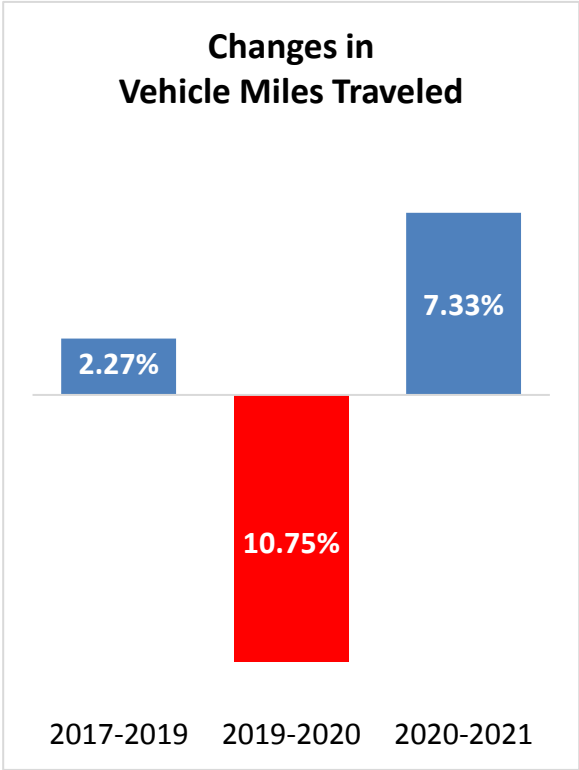
Before 2020 VMT was increasing slowly in the TwinCATS Area. Interstate VMT rose by 4.4% between 2017-2019 while VMT on other federal aid roads remained unchanged. In 2020, VMT fell sharply by 11 % due to Covid and reduced travel. During this time interstates experienced an average reduction of 6% while other federal aid roads had an average reduction of 16 %. These figures indicate that local travel was more impacted than long-distance trips.

Yearly Vehicle Miles Traveled (1,000s miles)

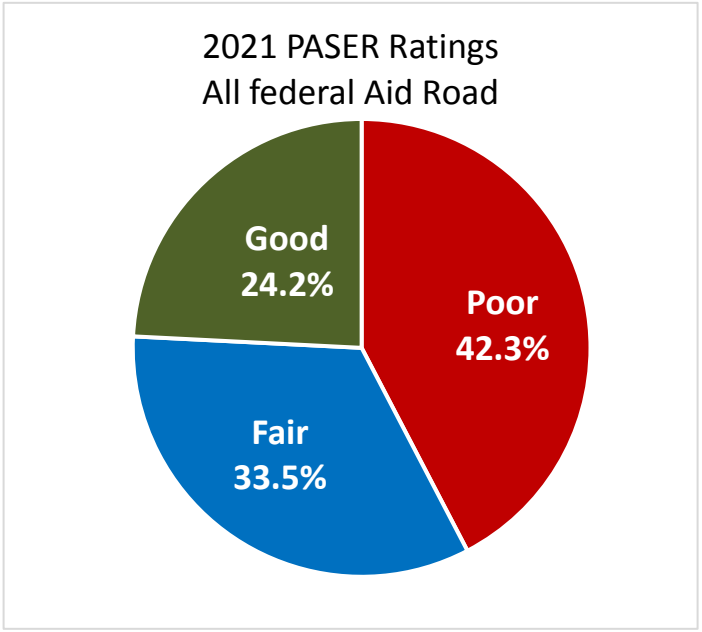
Functional Class	2017	2018	2019	2020	2021
Interstate	515,393	541,714	538,208	506,180	524,380
Other Principle Arterial	159,403	156,868	153,129	125,622	144,316
Minor Arterial	173,439	178,732	178,104	153,778	170,580
Major Collector	80,737	79,380	82,794	68,334	74,723
Minor Collector	7,090	7,130	7,136	6,231	6,686
Local	96,079	94,918	96,162	81,955	90,436
TOTAL	1,032,141	1,058,742	1,055,533	942,100	1,011,121

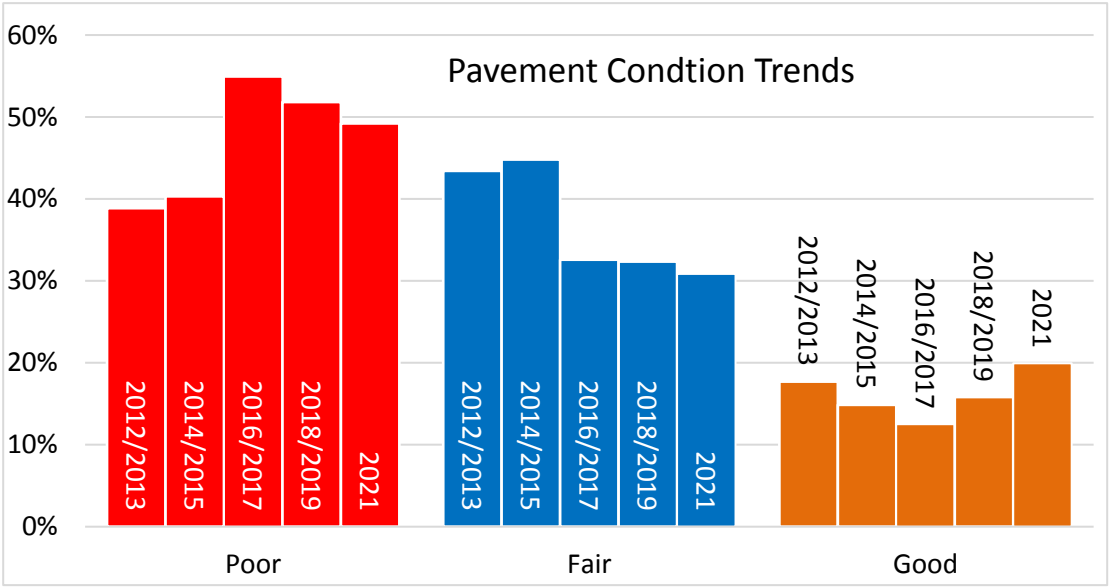
MDT- HPMS

VMT was slowly increasing before 2020. But between 2019-2020 VMT fell significantly due to COVID 19 with the biggest drops on surface streets, and a much small drop to Interstate travel. VMT rose back in 2021 but has not returned to the same levels as in 2019.



Pavement Condition—TwinCATS Federal Aid Network



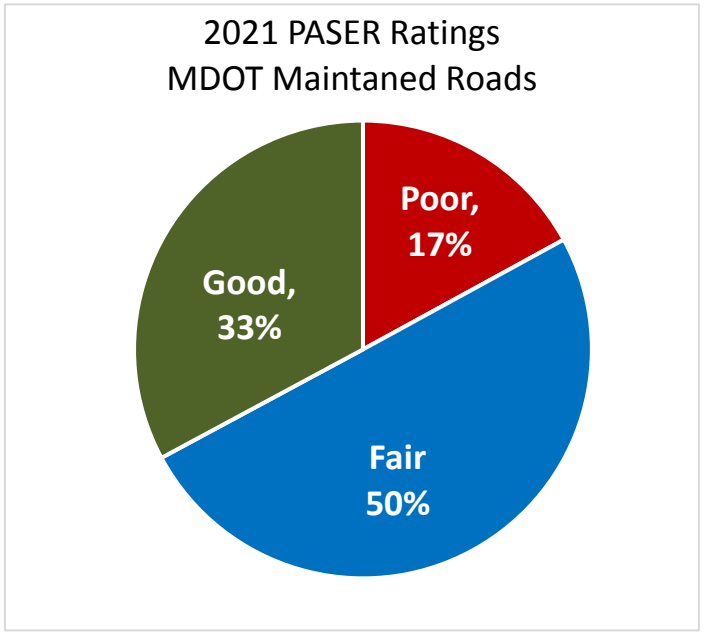


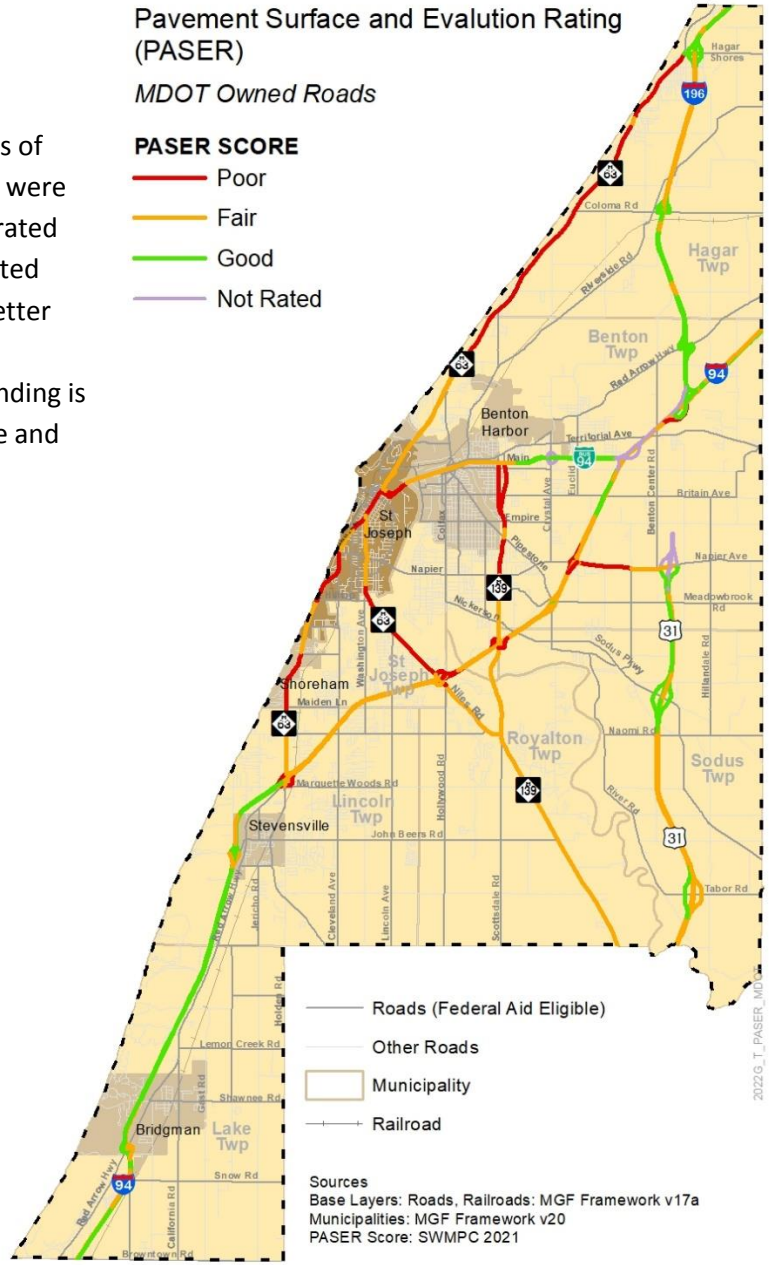
All Federal Aid Roads (includes MDOT roads)				
2021	**Miles Rated**	**Poor**	**Fair**	**Good**
Benton Harbor	17.4	49.7%	44.3%	6.1%
Benton Twp.	93.9	52.9%	36.8%	10.3%
Bridgman	8.1	0.9%	48.9%	50.2%
Hagar Twp.	31.5	45.9%	53.1%	1.0%
Lake Twp.	24.0	42.5%	27.5%	30.1%
Lincoln Twp.	35.7	67.4%	17.4%	15.2%
Royalton Twp.	18.4	51.7%	35.8%	12.6%
Shoreham	1.8	66.5%	7.8%	25.7%
Sodus Twp.	35.4	37.9%	14.1%	45.3%
St Joseph	18.3	47.6%	46.9%	5.4%
St Joseph Twp.	15.4	50.6%	46.6%	2.8%
Stevensville	7.2	68.3%	10.9%	20.9%
TwinCATS Total	**307.1**	**49.8%**	**33.9%**	**16.3%**

Pavement Condition – Federal Aid MDOT Network

Pavement condition is gathered using the Pavement Surface Evaluation and Rating system (PASER) which gives every road a rating score from 1-10 with 10 being a new or newly reconstructed road and 1 being a complete failure. Ratings for all federal aid routes are gathered every year by a team comprised of SWMPC staff, a Berrien County Road Department engineer, and an MDOT staff member.

The condition for roads owned by MDOT is relatively good. MDOT owns roughly 143 miles of road in the TwinCATS area. Of these, 23 miles were rated in good condition, while 68 miles were rated fair. On the other hand, only 44 miles were rated poor. MDOT-owned roads are overall in far better condition than the locally owned roads.
This is due mainly to the fact that far more funding is allocated to the maintenance of the Interstate and other highways.

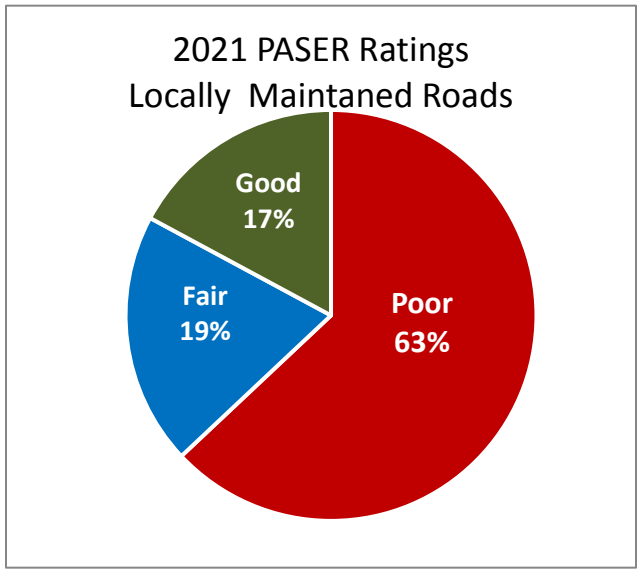


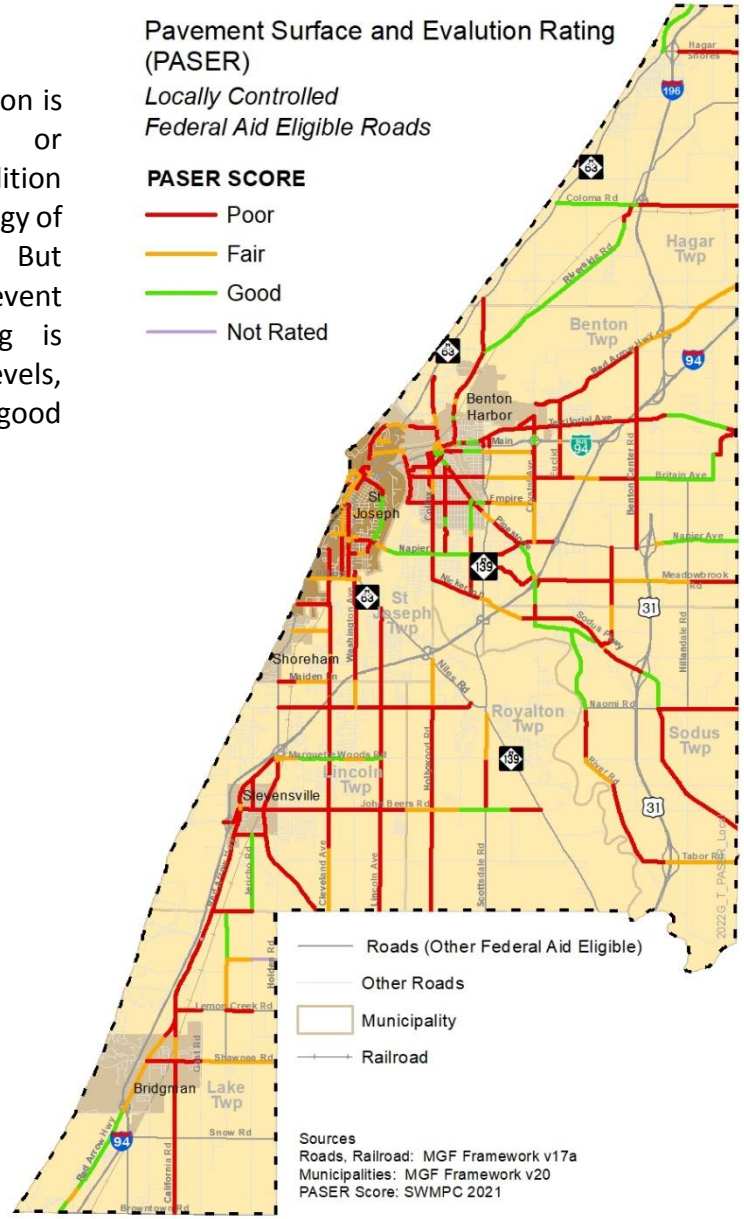


Pavement Condition – Federal Aid Locally Owned

While MDOT roads are generally in fair or good condition, the locally owned roads are in far worse condition. There are 166 miles of locally controlled federal aid-eligible roads in the TwinCATS area. Out of this number, 105 miles are rated poor. 28.6 miles are rated in good condition. About 60 miles (or a third of the locally owned federal aid miles) have a PASER of 4. What this means is that while roads are in the poor category, most have not reached a point where a complete reconstruction is the only option.

Maintaining roads in good or fair condition is far cheaper than reconstruction or resurfacing to bring roads in poor condition up to good condition. A long-term strategy of routine maintenance will be required. But currently, the more expensive fixes to prevent poor roads from completely failing is required. With current funding levels, improving road conditions from poor to good or fair is an extremely challenging task.

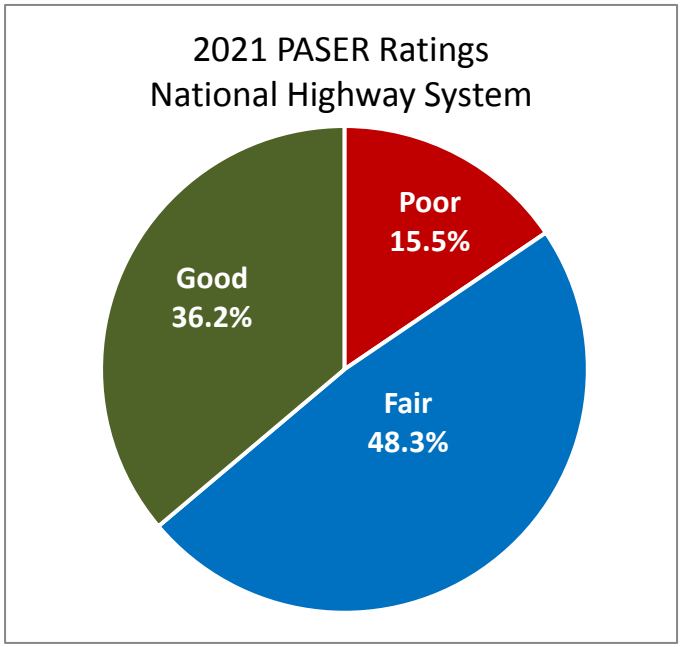


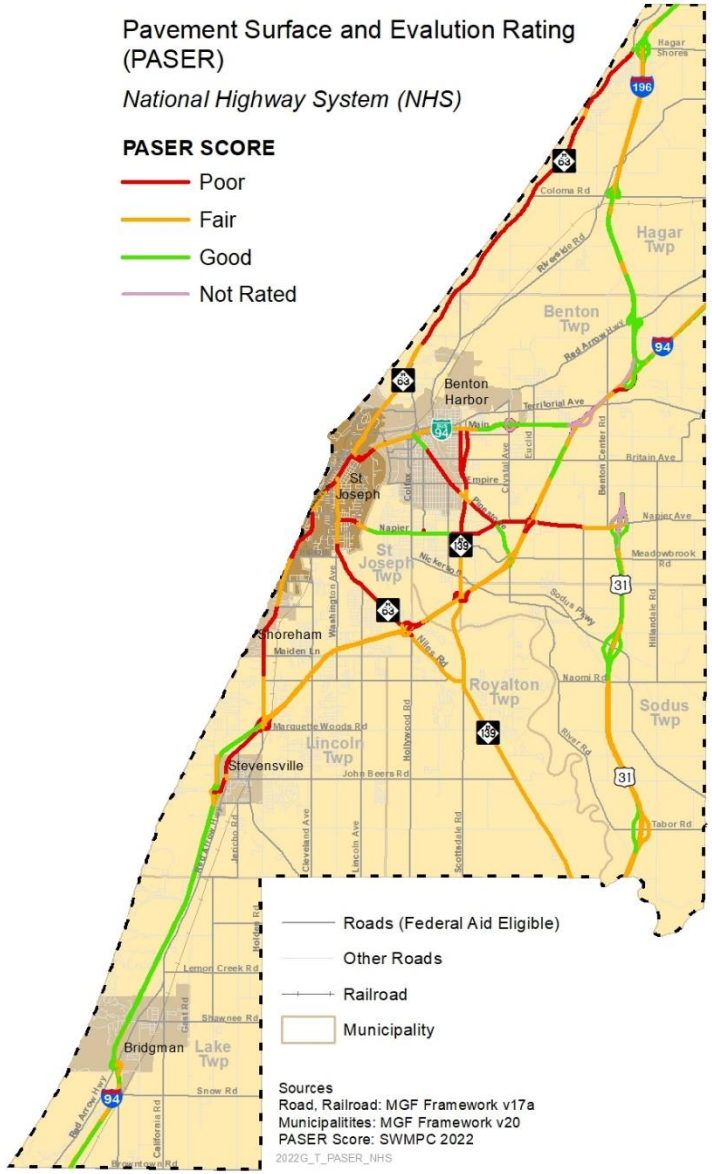


Pavement Condition – National Highway System

Due to the importance of the National Highway system to the nation's economy and defense, there are more stringent requirements for maintaining this network. The Interstate is especially critical for national travel, thus the FHWA has placed requirements on MDOT to prioritize Interstate maintenance.

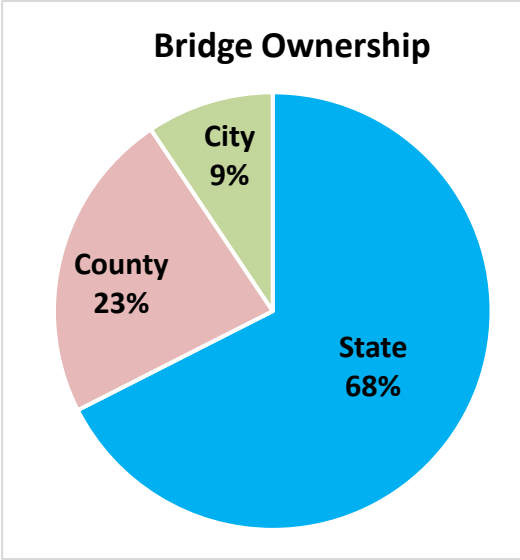
The vast majority of the NHS is owned by MDOT. Of the 141 miles of NHS, 132 are owned by MDOT while only 9 miles are owned by local road agencies: Red Arrow Highway and Grand Mere Road between Exits 22 and 23 of I-94, Napier Ave. between M-63 and I-94, and Pipestone between BL-94 and I-94.





Bridge Condition

MDOT owns most of the bridges in the TwinCATS area which are overpasses located on I-94 and I-196.

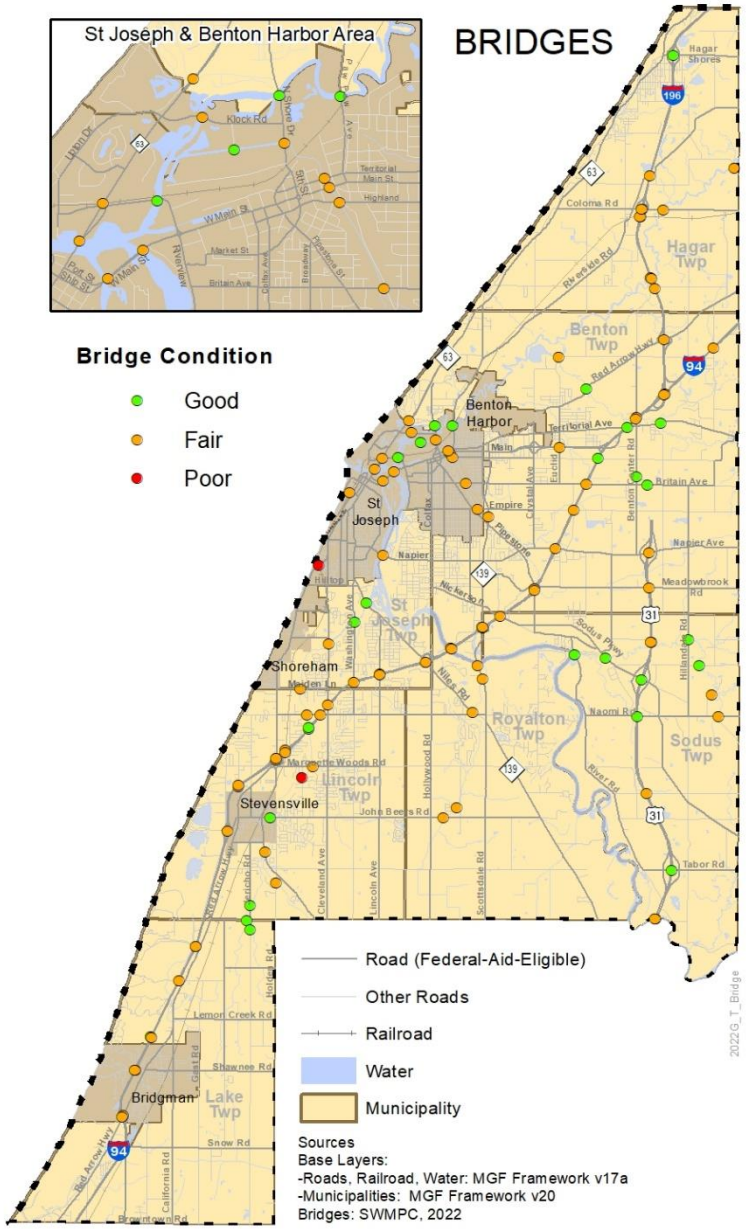


TwinCATS 117 Bridges:

50 Over Roads

12 Over Railroad

55 Over Water



Bridge Condition

Inspectors rate Michigan's bridges using the National Bridge Inventory (NBI) 0 to 9 rating scale where they rate each of a bridge's primary elements: deck, superstructure, substructure, and culvert. The lowest rated element is used for the overall bridge rating. The ratings are divided into the following categories:

7-9 Good Condition: This indicates a completely new bridge or has only minor problems
5-6 F air Condition: All structural elements are sound but may have minor corrosion, cracking or chipping.
0-4 Poor Condition: Previously known as structurally deficient. There is advanced corrosion, deterioration, cracking, or chipping. This does not necessarily mean the bridge is unsafe. Within the poor category, a value of 2 to 3 is serious or critical. A value of 0-1 means the bridge is closed or is in imminent danger of failure.

As of 2021, two bridges in the TwinCATS area have a rating of a 4:

- I-94 BL over the CSX rail in St. Joseph
- Roosevelt Rd. Over Hickory Creek.

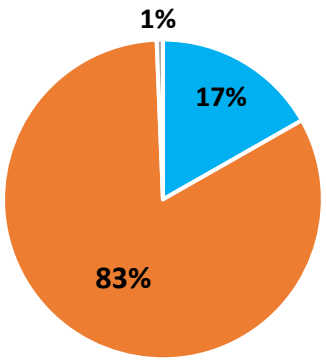
No bridge was rated lower than a 4.

TwinCATS NHS Bridges:	
3% Good	0.9% Poor

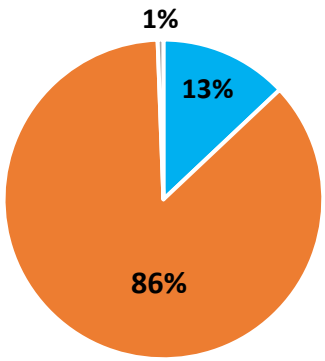
Based 2021 condition by total deck area

Good Fair Poor

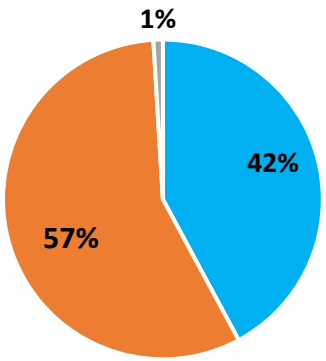
All Bridges



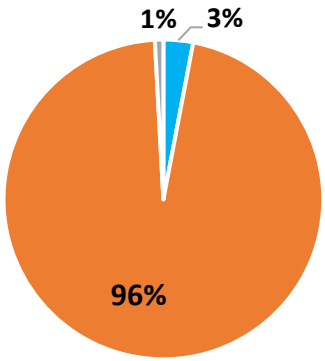
State



Local

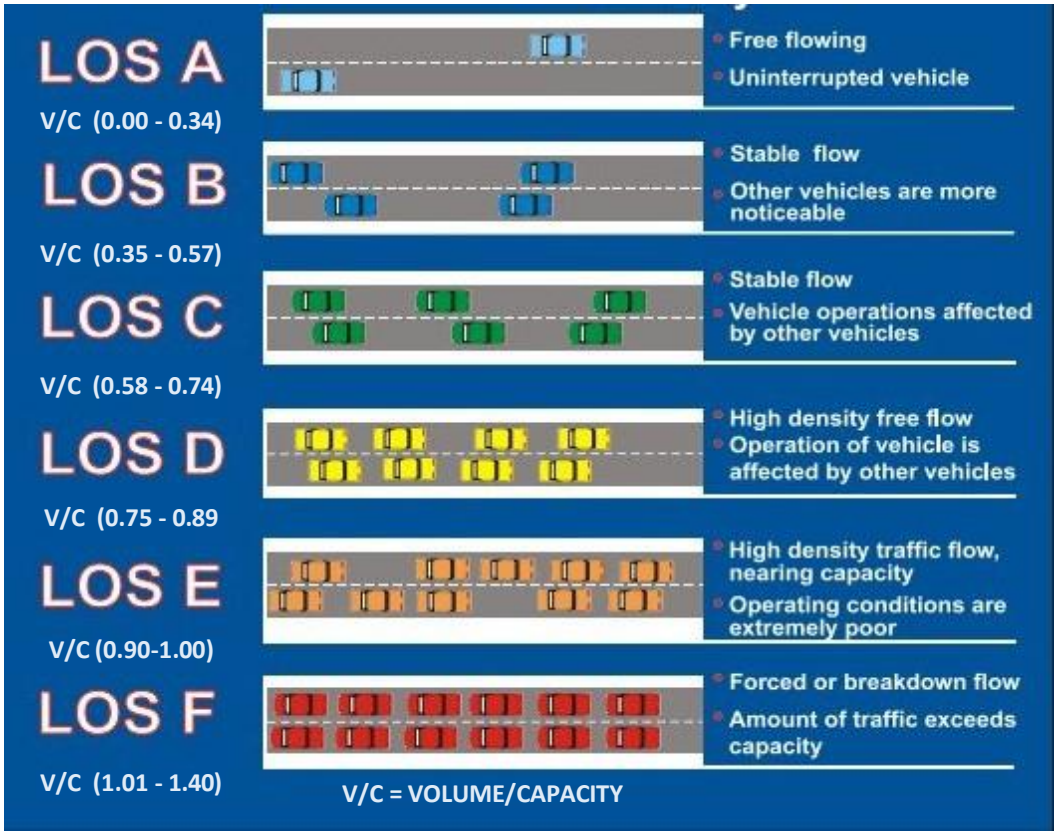


NHS



Level of Service (LOS)

Level of service (LOS) is a qualitative measure used to relate the quality of motor vehicle traffic service. Six LOS letters are used, namely A, B, C, D, E, and F, where A denotes the best quality of service and F denote the worst. MDOT and TwinCATS have adopted the measure of LOS "E" as the design capacity for vehicular traffic modeling and planning. LOS E represents the "ultimate theoretical capacity" of roadways. As traffic approaches LOS E, drivers experience congestion and delays. LOS on the roads in TwinCATS is derived from the Travel Demand Model.



Travel Demand Model

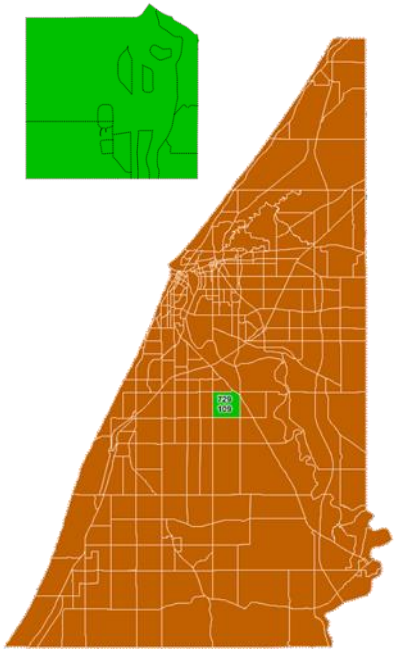
A travel demand model is a computer estimation of current and future traffic conditions for use in system-level transportation planning. The model is a forecasting tool that inputs existing road networks and socioeconomic data to determine where trips are generated from, how they are distributed, what the mode choice will be, and what routes are used. The maps on pages 84 and 85 show LOS for current conditions and future scenarios.

The travel demand modeling process was a collaborative effort between the SWMPC, MPO committee members, and the MDOT Statewide and Urban Travel Analysis Section. MDOT has taken the lead role in the travel demand modeling for "small MPO" areas throughout the state. Both entities collectively reach a consensus on critical decisions in the development of the model with data largely generated and validated by the SWMPC.

Components of the Travel Demand Model

Traffic Analysis Zone (TAZ)

The Traffic Analysis Zone (TAZ) is the primary geographical unit of analysis of the travel demand model – a TAZ represents the origins and destinations of the travel activity within the model area. TAZs 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. TAZs vary in size depending on population, employment, and road network density. The TwinCATS region is divided into 343 TAZ. Each TAZ includes population and employment data (often aggregated from Census blocks) which is fed into the Travel Demand Model.



Road Network

A computerized traffic assignment network is built to represent the existing road system. The TwinCATS 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 available, National Functional Classification, and traffic counts (where available). The network attributes were provided by MDOT staff and reviewed by the Technical Advisory and Policy Committees. 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 deficient traffic conditions (a Volume-to- Capacity Ratio of 0.75 or greater or LOS D).

Travel demand models are driven, in part, by the relationship between 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 a given TAZ. These characteristics are generally referred to as socioeconomic data. The modeling process translates this data into vehicle trips on the modeled transportation network. Socioeconomic data collection and verification was a collaborative effort between SWMPC, MPO Committee members, and MDOT. Household, population, and employment data from the 2010 U.S. Census, the 2015 American Community Survey, and Claritas and Hoover's employment databases were presented to the Technical Advisory and Policy Committees. They were asked to provide detailed information about new development and where employers or population had been lost. The revised data was included in the travel demand model.

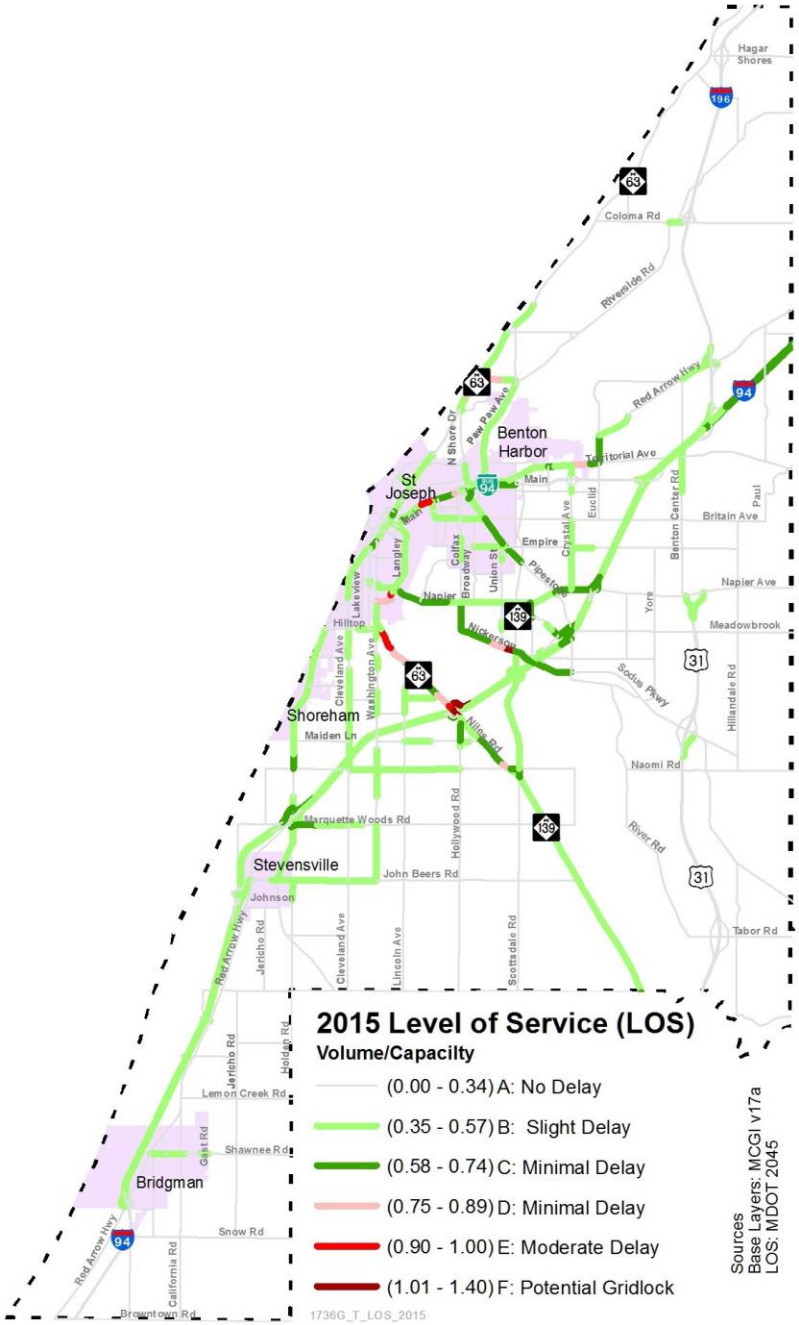
Travel Demand Model

2015 Base Scenario
The Base Year 2015 Scenario analysis looked at existing conditions of the area-wide transportation system as it was in 2015. Recent road projects and socio-economic data changes are not included in this scenario.

In the 2015 Base Scenario, the vast majority of roads experienced little or no congestion with 87 percent of road miles at a LOS A and 12 percent at a LOS of B or C. About 0.6 percent of roads are at a LOS D, E or F. The roads that regularly experience congestion at peak hours are listed above.

Road Name	Section Description	Level of Service (LOS)	Volume/ Capacity 2015
Niles Ave.	Crossing I-94	F	1.37
W I-94/Niles Ave Ramp	Ramp	F	1.06
Nickerson Ave.	Union to Michigan	F	1.04
Niles Ave.	Hilltop to Lincoln	E	0.96
West Main St.	Riverview traffic circle	E	0.93

In 2015, greater than 99% of the roads in TwinCATS experience relatively little congestion (LOS: A, B and C)



Travel Demand Model 2050 Scenarios (US 31 Built)

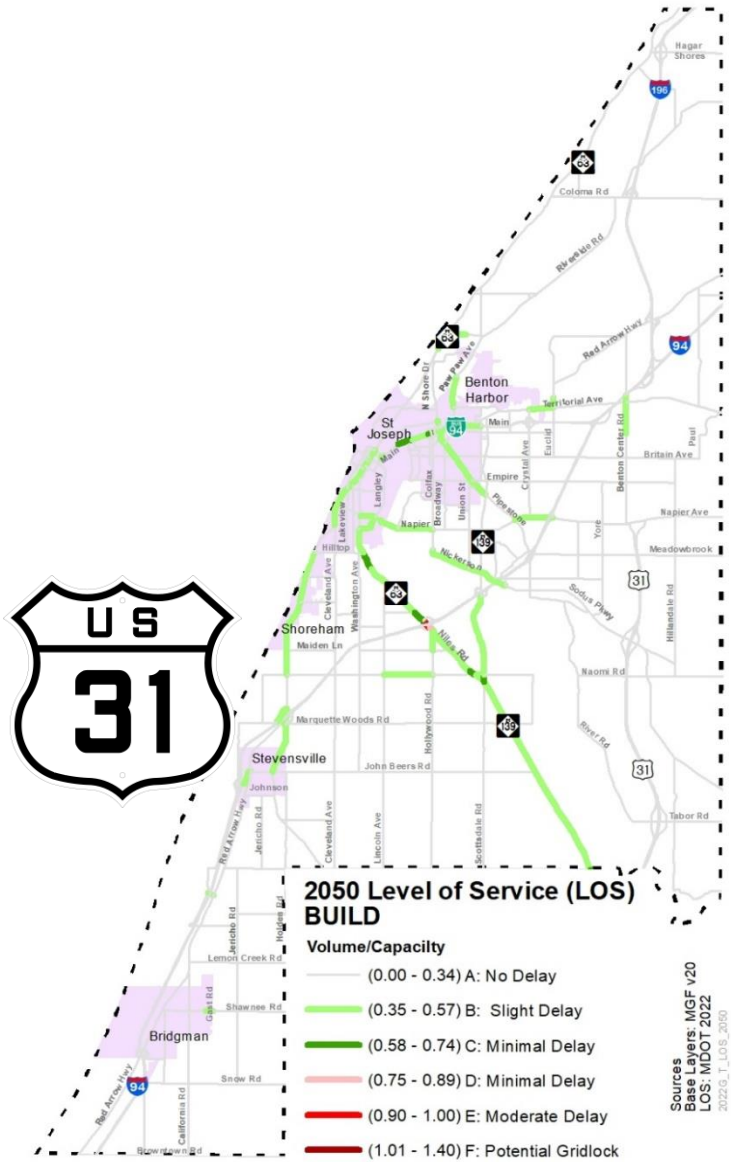
2050 Build Scenario
The Horizon Year 2050 with the committed projects found in the Fiscally Constraint Road and Bridge Projects section (page 98). This scenario includes the projected changes in socio-economic data through 2050. Traffic volume results were also compared to the expected capacities for the road system in 2050.

With the US-31 interchange connection completed in 2022, integration in the model shows only one area of congestion on Niles Avenue at the I-94 interchange.

Road Name	Section Description	Level of Service (LOS)	Volume/ Capacity 2050
Niles Ave.	Crossing I-94	E	0.92

Addressing areas of congestion
New traffic signals are programmed for the Niles and Hilltop intersection which will include intelligent transportation systems (ITS) features, to improve safety and traffic flow.

No other actions are being planned to address capacity issues. Overall congestion is minimal and does not significantly affect travel in the TwinCATS area. Given the condition of the roads and a limited budget, this Plan prioritizes fixing existing roads above addressing the few congested locations.



US-31 Interchange Connection

The US-31 freeway project in Berrien County has been in development for more than 40 years. The project was to provide a freeway connection from the I-80/90 toll road in Indiana to the US-31/I-196/I-94 connection in Michigan. Construction completed in 2003 extended the US-31 freeway from the Indiana Toll Road to Napier Avenue.

Between 2020-2022 the last 2 miles of US-31 were completed along with a rebuild of 3.5 miles of I-94 and two freeway interchanges. The new roadway completes the last segment of US-31 to connect directly to I-94 & I-196. It provides access to the west side of Michigan and Grand Rapids without forcing traffic to exit a freeway to get to an interchange with I-94, saving time and money for everyone.

STRATEGIES:

IMPROVING THE ROAD AND BRIDGE NETWORK

Strategy	Guiding Principles Met
Preserve and maintain existing road & bridge network	✓ ✓ ✓ ✓ ✓ ✓ ✓

- Keep records on the condition of pavements, culverts, and bridges. Use PASER condition as a tool to help select projects.
- Encourage the use of local asset management plans to identify the most appropriate treatment strategies. Monitor the effectiveness of fixes to ensure investments meet the expected useful life.
- Encourage the use of preventative maintenance to extend pavement lifespan.

Implement Complete Streets Policy	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓

- Ensure all projects meet the TwinCATS Complete Streets Policy.
- Provide educational and planning assistance to local governments in implementing Complete Streets principles.
- Consider reallocation of extra space in the right of way for other modes.

Analyze safety issues and potential solutions	✓ ✓ ✓ ✓ ✓ ✓ ✓

- Distribute TwinCATS safety reports which show trends in collisions, common crash causes, and high crash locations. Provide education on and raise awareness of safety issues for all users.
- Incorporate safety considerations for all modes and users throughout the processes of planning, funding, construction, and operation. Provide recommendations for safety countermeasures based on FHWA, NACTO and AASHTO best practices and design principles.

Analyze safety issues and potential solutions	✓ ✓ ✓ ✓ ✓ ✓ ✓

- Maintain inventories of assets, condition, and life cycle to assist in identifying which assets are at risk for failure.
- Encourage sound inspection and maintenance practice regimes for transportation-related infrastructure that includes but is not limited to bridges, culverts, underdrains, catch basins, transit facilities, and buses.
- Consider potential hazards in project design, selection, and construction.
- Ensure redundancy in transportation networks to ensure critical services can be delivered during road closures.

NON-MOTORIZED NETWORK

NON-MOTORIZED NETWORK – Regional Non-Motorized Transportation

TwinCATS MPO

NON-MOTORIZED NETWORK

48 miles

Federal Aid Roads with Sidewalks

35 Miles

Federal Aid Roads with Wide Shoulders

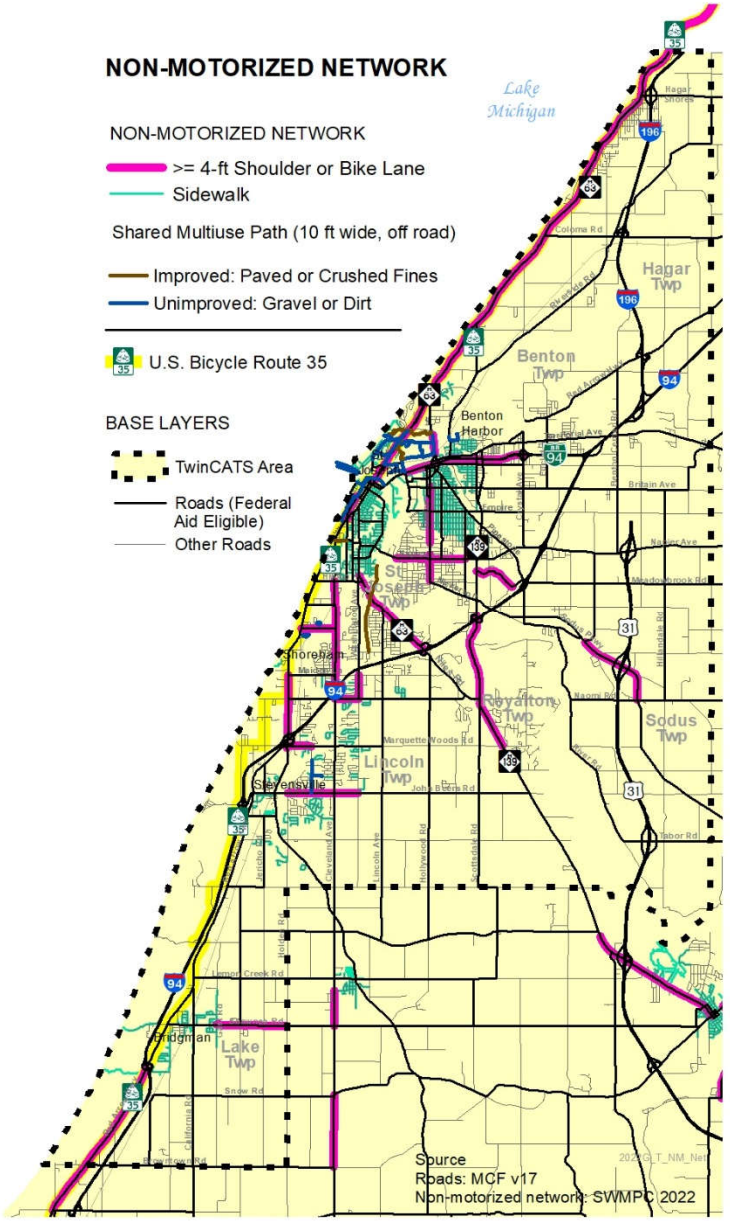
65% Federal Aid Eligible Roads

Have No Accommodations for Pedestrians or Cyclists.

2.3% TwinCATS Commuters

Walk or Bike

Source: U.S. Census Bureau, 2020 5yr American Community Survey



Considering the Needs of All Users

Part of the TwinCATS mandate is to consider the needs of all users; this includes walking, or bicycling by people of all ages and ability levels, including people with disabilities.

TwinCATS considers walking and cycling priorities because they produce a variety of benefits include improved health, attraction of new residents who desire walkable communities, and a decrease in vehicle miles traveled. Yet despite its benefits few residents in the TwinCATS area walk other than for recreation, likely because conditions for walking and cycling are overall poor. Most of the employment, shopping, and other tasks are difficult to accomplish without a car. Yet despite sometimes challenging conditions, there are residents who must walk or bike because they lack other means of travel. Furthermore, those who use transit must begin and end their journey on foot or bicycle.

USDOT 2010 Policy Statement on Bicycle & Pedestrian Accommodations

"Because of the numerous individual and community benefits that walking and bicycling provide—including health, safety, environmental, transportation and quality of life—transportation agencies are encouraged to go beyond the minimum standards to provide safe and convenient facilities for these modes."

2018 TwinCATS Transportation Survey

WALK

89% rarely/never commute by walking to work or school

BIKE

66% rarely commute by bike to work or school.

Maintaining Pedestrian and Bicycle Facilities

Poorly maintained roads have been cited as a major concern for motorists, but well-maintained facilities are just as important a need for pedestrians and bicyclists.

Cyclists encounter the following on a frequent basis:
72% Poor Roadway Surface
41% Worn out pavement markings
2018 TwinCATS Transportation Survey

- Bicyclists are especially vulnerable to poor pavement condition because bicycles are more likely to have an accident if they encounter obstacles like large cracks or potholes.
- Bicyclists will sometimes have to avoid dangers which means they may have to leave the
- shoulders and enter the automobile travel lanes or stop abruptly. This can be unpredictable for drivers and lead to crashes.

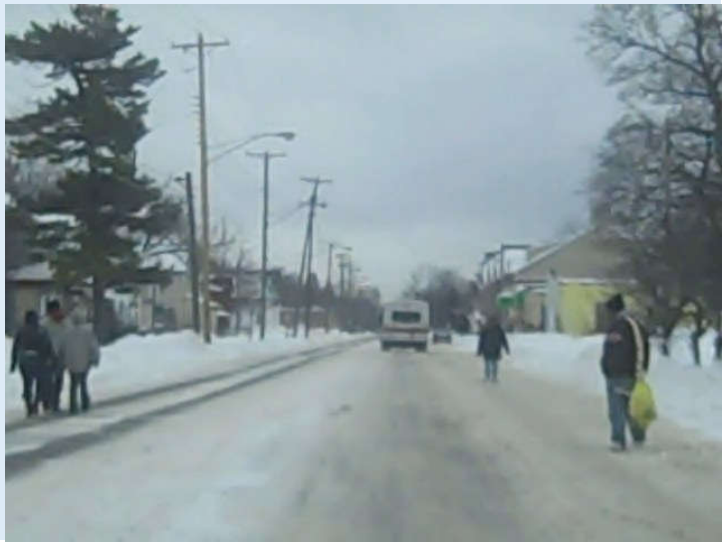
Any break in the pedestrian network or disrepair can potentially eliminate walking or transit option for people or source a choice to drive instead of walk.

65% of pedestrians encountered a missing sidewalk or no sidewalks at all.

2018 TwinCATS Transportation Survey

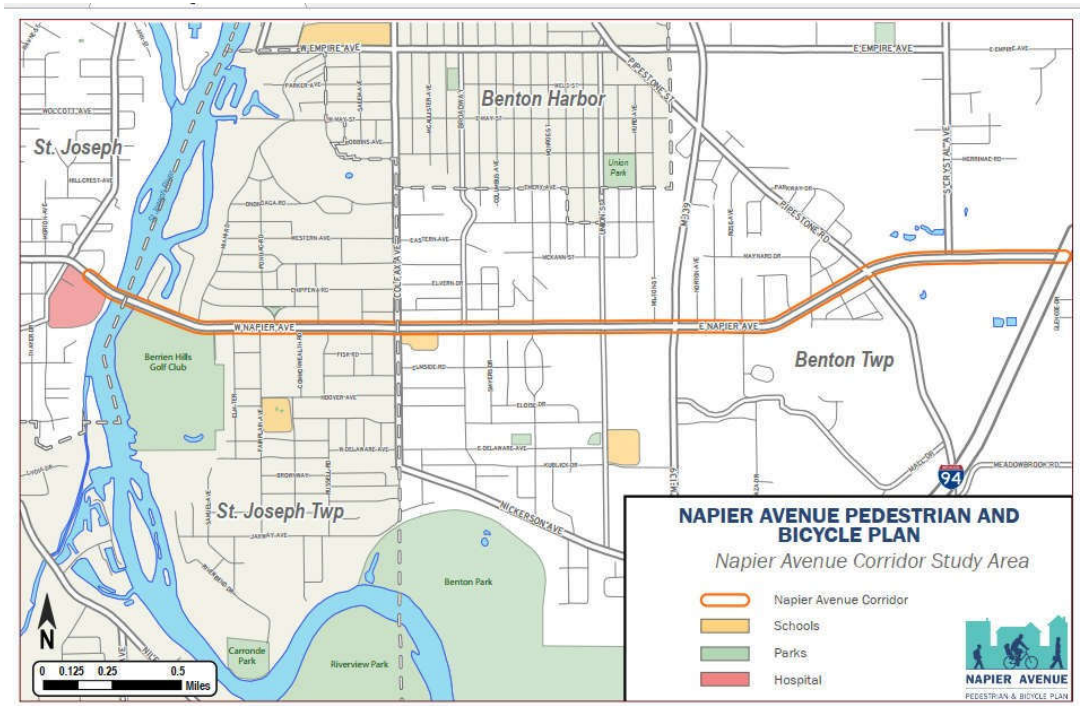
Common challenges to pedestrian travel after a snowfall

- Street and parking lot plowing that pushes the snow onto sidewalks or blocks crosswalks.
- Clogged or obstructed drains that create puddles at curb ramps
- Patches of ice that create slip hazards.
- Long stretches of snow or ice covering sidewalks



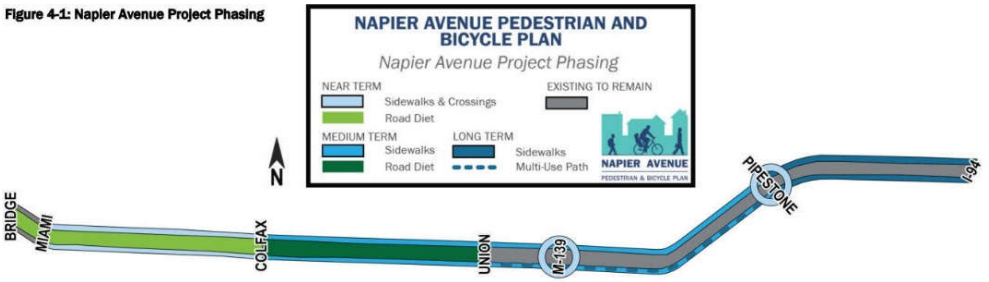
High Priority Pedestrian and Bicycle Transportation Link Proposal

The Napier Avenue Corridor is an important east-west transportation corridor in the Benton Harbor – St. Joseph metro area, providing connectivity from the expressway into the core cities, providing access to major shopping and medical destinations, and serving several neighborhoods and community businesses. The existing condition of Napier Avenue was simply not comfortable and safe for all users, and in many places is lacking basic pedestrian infrastructure. The Corridor is heavily traveled and has a variety of land uses that serve essential functions including healthcare (Lakeland Hospital) at its west end and employment, education, and retail on its east end (Fairplain Plaza, Orchards Mall, businesses along M- 139). The Napier Avenue Pedestrian and Bicycle Plan was initiated in 2017 to document the need for pedestrian and bicycle uses, examine options for how to better meet those needs, and develop a design and implementation strategy. Implementation of the Plan has begun with a road diet and bike lanes in 2020.



PHASE	IMPLEMENTATION STEP	WHERE	STATUS
Near Term	Road diet and bike lanes	Bridge to Colfax Ave	Completed 2020
	6-ft wide non-motorized path	Miami Rd to Colfax Ave	Construct 2023
	Enhanced crossings	At M-139 and Pipestone Road	
Medium Term	Road diet and sidewalks	Colfax Ave to Union Ave	
	Sidewalks	Colfax Ave to Pipestone Rd	
Long Term	Sidewalks	Pipestone Rd to I-94	
	Multi-use path	Union Ave to Pipestone Rd	

Figure 4-1: Napier Avenue Project Phasing

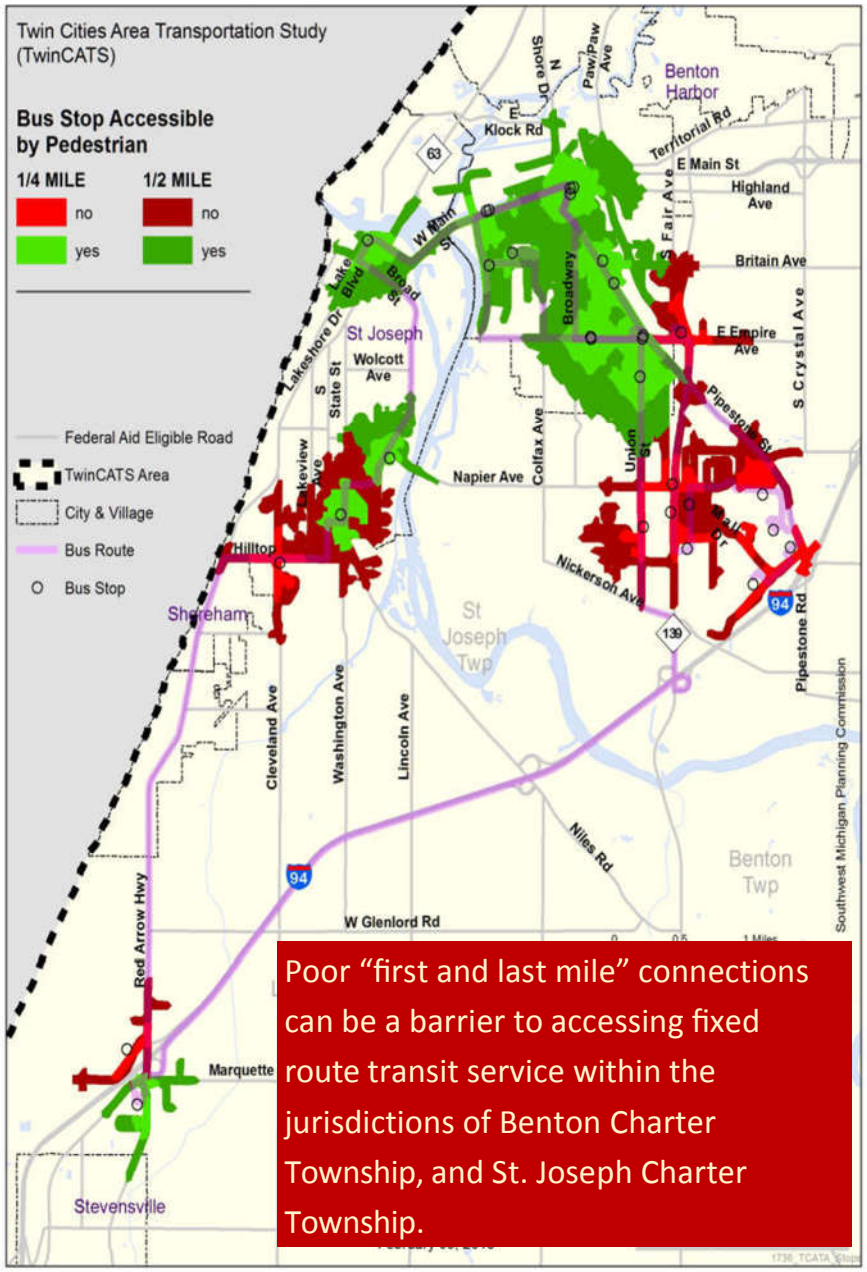


WALK. BIKE. RIDE.

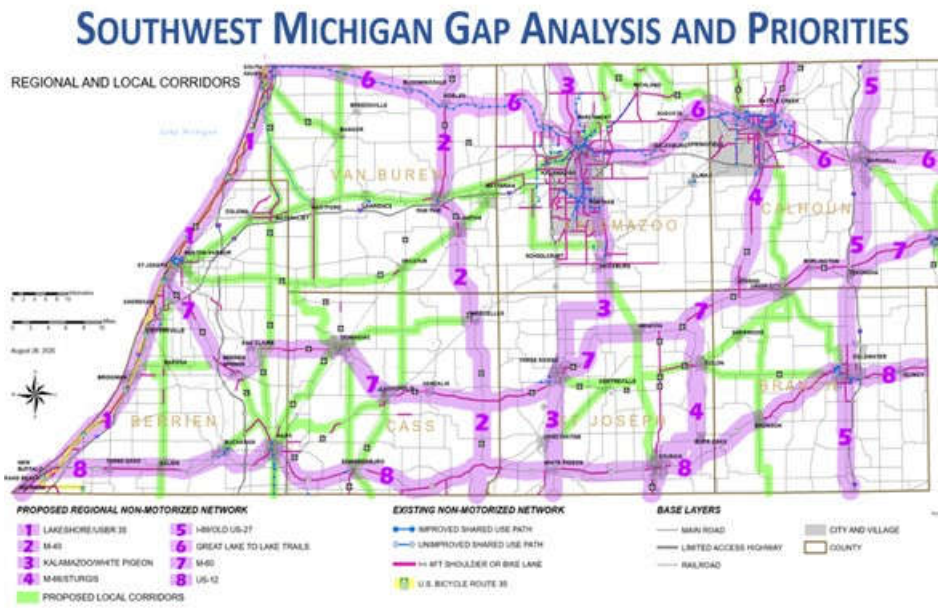
For Twin Cities Transportation Area (TCATA) routes and any planned future routes, a network of sidewalks and bike lanes or shared use paths could connect transit stops to neighborhoods and popular destinations and improve the efficiency of the fixed routes. Today the majority of the fixed route stops within the townships of Benton Charter and St. Joseph Charter require the bus to pull off the route onto private property to pick up passengers. This lack of infrastructure increases the routed length and time of the route.

The table below identifies corridors within the TwinCATS study area that exhibits strong indicators of need and opportunity for fixed route transit service. These indicators include population density, employment density, activity centers, demographic characteristics associated with transit dependency and a large volume of existing riders.

Corridor	Section	Jurisdiction	Responsible Agency	Status
Mall Drive	M-139 to Pipestone Ave	Benton Twp	Berrien County Road Department	2021 Road Diet/Wide Shoulder
Napier Ave	Miami Rd to Pipestone Ave	City of St Joseph, St Joseph Twp & Benton Twp	Berrien County Road Department	2021 Road Diet/Wide Shoulder
M-139	Britain Ave to Nickerson Ave	Benton Twp	MDOT	2023 Design Completed
Fair Ave	Britain Ave to Territorial Rd	Benton Twp & City of Benton Harbor	MDOT	2023 Design Completed
Martin Luther King Dr	Britain Ave to Territorial Rd	Benton Twp & City of Benton Harbor	MDOT	2023 Design Completed

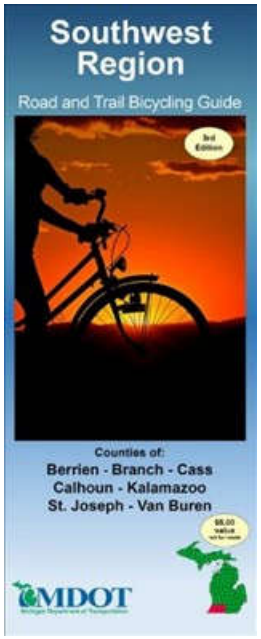


Poor "first and last mile" connections can be a barrier to accessing fixed route transit service within the jurisdictions of Benton Charter Township, and St. Joseph Charter Township.



Southwest Michigan Region Nonmotorized Transportation Plan 2020

The SWMPC, 2020 Southwest Michigan Nonmotorized Plan provides a region-wide vision for a connected system of off-road shared use paths and on-road facilities (paved shoulders/bike lanes). The planning process encouraged a coordinated planning effort among state, county, and local entities with over 200 participants. The Southwest Michigan plan is part of the state-wide initiative through the Michigan Department of Transportation (MDOT) to encourage partnerships to implement and operate nonmotorized facilities. In the TwinCATS area on-road network priorities are M-139/M-63 (Berrien Springs to St. Joseph), Napier Avenue (St Joseph to Lake Michigan College and Shawnee Road (Berrien Springs to Bridgman/Lake Michigan).



Southwest Region Road and Trail Bicycling Guide

The Southwest Region Road and Trail Bicycling Guide was completed in 2020. The guide maps wide-shoulders and trails across the region to promote opportunities for bicycling. By consulting with road departments, municipalities, and non-for-profits SWMPC was able to produce a map with the most up-to-date trail network in the region. MDOT and its partners have created a series of multi-county regional maps showing road surface type, traffic volume ranges, paved/unpaved shared-use paths with regional significance, recreational facilities, points of interest, and other facilities and amenities which help make cycling across Michigan an enjoyable tourism experience. There are updated regional maps for all regions in the State of Michigan.

The Friends of Berrien County Trails is a citizen-based non-profit striving to connect Berrien County with a network of trails (pedestrian, bicycle, and waterway) and encourage their use. In 2022 the group developed a county-wide trails plan. The trail facilities addressed in the plan include Shared Use Paths, Paved Shoulders/Bike Lanes, Sharrows, US Bike Routes, Water (paddling) Trails, Parks with Hiking Trails, Mountain Biking Trails, Cross Country Skiing Trails, and Equestrian Trails. This plan will help municipalities and trail organizations seek and secure resources and funding to advance a connected trail system for the county.

WALKER BEHAVIOR
63 % Desire to Walk More for Transportation Purposes

80% Walk Once a Week or More

Berrien County Trails Master Plan

BIKER BEHAVIOR
71 % Desire to Bike More for Transportation Purposes

44% Ride Once or More a Week

SURVEY RESULTS-2022

DISCUSSION OF RESULTS

The Master Plan included analysis of Berrien County using four maps to gain insights into stress, health, needs and demand. Key results in TwinCATS were that there is a density of trails, both existing and planned, in the St. Joseph/Benton Harbor communities. Increasing the accessibility of these trails and improving connectivity to shopping, employment and education centers can better serve populations with limited access to car transportation. In addition, The Red Arrow Linear Park and the IN/MI River Valley Trail offer opportunities to create high-value, regionally significant connections from the Marquette Greenway in New Buffalo to Van Buren County and the Kal-Haven Trail, as well as connections from St Joseph-Benton Harbor to Niles and into South Bend and Mishawaka in Indiana. The plan list opportunities for trail infrastructure along 112 road segments in TwinCATS and has summary maps for each municipality in Berrien County.

FRIENDS OF BERRIEN COUNTY TRAILS

Intercity Travel By Bike

The U.S. Bicycle Route System is a national network of regionally and nationally significant bicycling routes spanning multiple states. The purpose of the U.S. Bicycle Route (USBR) numbering system is to facilitate travel between states on routes identified as suitable for long-distance cycling. To date, over 13,000 miles of U.S. Bicycle Routes have been approved in 26 states and D.C. When complete, the USBRS will encompass 50,000 miles of routes and create new opportunities for cross-country travel, regional touring, and commuting by bicycle.

U.S. Bicycle Route 35 is a 500-mile route that runs from Indiana through Michigan to Sault Ste. Marie, Canada, following the Lake Michigan shoreline and through the eastern Upper Peninsula.

Who Are Touring Cyclists?

82% have a college education

58% make over $75,000 per year

8.1% are international tourists

52 years old is the average age

US Bike Route 35 traverses the coastline along US 12, Red Arrow Highway, on rural roads, Lake Shore Drive and M-63 for approximately 25 miles within the TwinCATS planning area. Much of the route, south of St. Joseph, takes advantage of less busy roads and north of St. Joseph on M-63, the route has wide shoulders.

STRATEGIES:

IMPROVING BICYCLE AND PEDESTRIAN TRANSPORTATION

Strategy	Guiding Principles Met
Build Connected Networks	✓ ✓ ✓ ✓ ✓

- Develop networks for non-motorized facilities along appropriate roadways.
- Improve integration of bicycle and pedestrian transportation with transit.
- Prioritize enhancement of pedestrian & bicycle travel in areas with a high potential for trips that can be accomplished by walking & biking.
- Research and improve links between shared use paths and on-road facilities and address key gaps in transportation trail systems.

Improve Safety	✓ ✓ ✓ ✓

- Improve education and training of the public regarding safe driving, walking, and biking.
- Use best practices to analyze bicycle and pedestrian crashes and identify effective countermeasures.
- Ensure maintenance of non-motorized facilities to provide safe access for pedestrians and cyclists.

Plan and Design for Everyone	✓ ✓ ✓ ✓

- Ensure design of non-motorized facilities is appropriate for the conditions by following best practices in ASHTO, NACTO, and FHWA design guides.
- Ensure facilities that work for users with different abilities, comfort levels, and experience.
- Ensure that road features, like rumble strips and chip seal, safely accommodate bicycle use.
- Leverage funding opportunities to improve bicycle and pedestrian networks.
- Adhere to the TwinCATS Complete Streets Policy in project selection.

Promote Walking and Biking	✓ ✓ ✓ ✓ ✓

- Promote current facilities where people can bike and walk
- Promote the bicycle amenities and services offered through local website, social media, etc.

FISCALLY CONSTRAINED ROAD & BRIDGE PROJECTS

FISCALLY CONSTRAINED ROAD & BRIDGE PROJECTS — Local Agency Projects

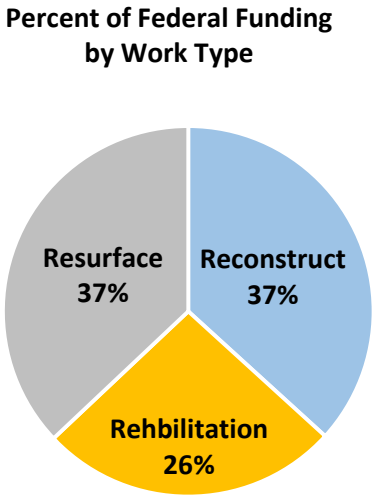
Fiscal Year	Responsible Agency	Project Name	Limits	Project Description	Federal Cost	Total Cost	Federal Fund Source	NHS	Performance Measures			
									Pavement	Bridge	Safety	Reliability
2023	Berrien CRD Benton Twp.	W. Napier Ave.	Plaza Dr. to Crystal Ave.	Mill & resurface	$256,000	$320,000	STBG	X	X			
2023	Berrien CRD Royalton Twp.	E. John Beers Rd.	Edison Rd. to M-139	Resurface	$224,000	$280,000	STBG		X			
2023	City of Bridgman	Lake St.	Church St. to Gast Rd.	Crush and shape.	$440,000	$551,000	STBG		X			
2023	Benton Harbor	Signal Upgrade	Pipestone St. & Market St.	Traffic signal replacement	$218,517	$293,515	CMAQ				X	X
2024	Berrien CRD St. Joseph Twp.	Lincoln Ave.	M-63 to Maiden Ln.	Mill & resurface	$241,500	$58,500	STBG		X			
2024	St. Joseph	Lake Blvd.	Hatch St. to Ship St.	Mill & resurface.	$636,000	$152,400	STBG		X		X	
2024	Benton Harbor	Pipestone Ave.	Empire Ave. to City Limits	Resurface	$170,500	$41,000	STBG		X		X	
2024	Berrien CRD	Signal Upgrades	13 intersections in the TwinCATS Area	Upgrade Traffic Signals	$159,894	$150,611	CMAQ	x			X	X
2024	Benton Harbor	Signal Upgrade	Empire Ave. and Colfax Ave.	Install a fully actuated traffic signal	$288,320	$72,080	CMAQ				X	X

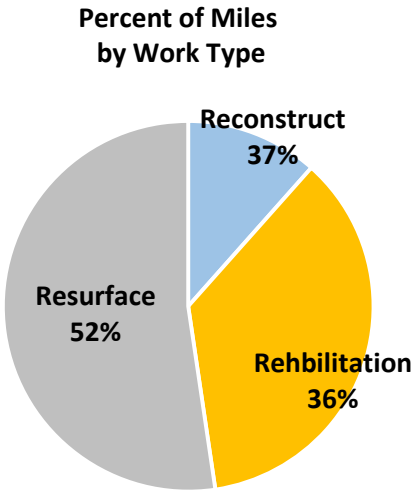
FISCALLY CONSTRAINED ROAD & BRIDGE PROJECTS — Local Agency Projects

Fiscal Year	Responsible Agency	Project Name	Limits	Project Description	Federal Cost	Total Cost	Federal Fund Source	NHS	Performance Measures			
									Pavement	Bridge	Safety	Reliability
2025	Benton Harbor	Colfax Ave.	Main St. to Market St.	Reconstruction with water & sewer	$673,000	$1,029,100	STBG		X		X	
2025	St. Joseph	Botham Ave.	South State St. to Niles Ave.	Reconstruction with water & sewer	$395,000	$606,500	STBG		X		X	
2025	Berrien CRD	Signal Upgrades - ACC	13 intersections in the TwinCATS Area	Upgrade Traffic Signals	$48,294	NA	CMAQ					
2026	Berrien CRD Lake Twp.	Red Arrow Hwy	Bridgman Limits to DC Cook	Mill & Resurface with road diet, guardrail, & non-motorized path	$640,000	$2,559,566	STBG		x		x	x
2026	Stevensville	John Beers Rd.	Red Arrow Highway to West Village Limit	Reconstruction	$448,000	$681,162	STBG					
2026	Berrien CRD Lincoln Twp.	W John Beers Rd.	S. Roosevelt Rd. to Demorrow Rd.	Construct 6 ft. sidewalks on both sides of the road	$400,000	$990,000	CMAQ				x	
2027-2050	Local Agencies	System Preservation	Repair federal aid road network		$37 Million	$46 Million	STBG		x		x	
2027-2050	Local Agencies	Air Quality	Non-motorized facilities, traffic flow improvements, and transit vehicle replacements		$26 Million	$39 Million	CMAQ				x	x

Summary of Outcomes from STBG Funded Local Road Projects 2023-2026

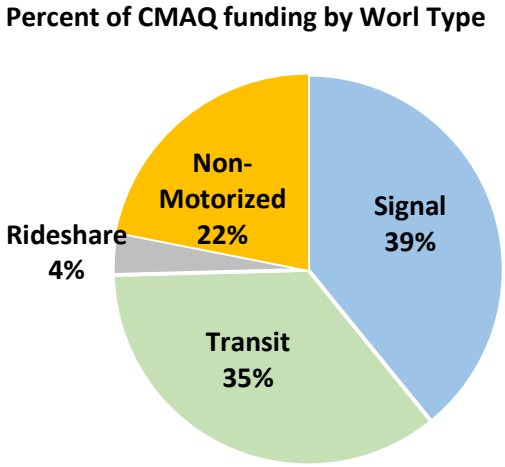
Primary Work Type	Projects	Miles	Federal Funding
Reconstruction	4	1.315	$1,956,000
Rehabilitation	1	2.047	$640,000
Resurface	5	3.415	$1,528,000
Total	10	6.777	$4,124,000





Summary of Outcomes from CMAQ Funded Projects 2023-2026

Primary Work Type	Projects	Federal Funding
Signal Replacements	3	$715,025
Transit	2	$648,000
Rideshare	4	$64,000
Non-Motorized Paths	1	$400,000
Total	10	$1,827,025



FISCALLY CONSTRAINED ROAD & BRIDGE PROJECTS — MDOT Projects

Fiscal Year	Project Name	Limits	Project Description	Phase	Federal Cost	Total Cost	NHS	Performance Measures			
								Pavement	Bridge	Safety	Reliability
2023	US-31 Bridge Maintenance	Under Napier Ave.	Healer Sealer, Joint Seal, Deck Sweep	PE	$20,463	$25,000	x		x		
2023	I-94 Bridge Maintenance	I94 over M-139 & I-9 over Nickerson Rd at I-94	Healer Sealer, Reseal Joints, Deck Sweep	PE	$21,600	$24,000	x		x		
2023	I-94 Bridge Maintenance	Under Napier Ave.	Epoxy Overlay Joint Seal, Paint Bearings, Deck	PE	$36,000	$40,000	x		x		
2023	I-94 Bridge Maintenance	Roslyn Rd over I-94	Healer Sealer, Reseal Joints	PE	$4,950	$5,500	x		x		
2023	Pavement Markings	All trunkline routes in TwinCATS	Longitudinal pavement markings	CON	$198,801	$220,890	x			x	
2023	Pavement Markings	All trunkline routes in TwinCATS	Special pavement markings	CON	$51,948	$57,720	x			x	
2023	Pavement Markings	All trunkline routes in TwinCATS	Pavement marking retroreflectivity readings	CON	$1,099	$1,221	x			x	
2023	I-94 Ramp Safety	I-94 @ Exit 16, 23, 27, 28	Wrong Way movement prevention at freeway ramps	CON	$147,134	$163,482	x			x	
2023	I-94 W Maintenance	East of I-196 to Bainbridge Twp. Line	Multiple-course asphalt resurface	CON	$3,672,000	$4,080,000	x	x		x	
2023	I-94 E ITS	I-94, I-196 Existing DMS	Install seventeen (17) CCTV cameras	CON	$32,884	$40,176	x				x
2023	M-139 Culvert Replacement	Over Big Meadow Drain Tributary	Culvert Replacement and Road Reconstruction	CON	$2,332,725	$2,850,000	x		x		
2024	Signal Upgrades	Six signals in the TwinCATS Area	Modernize signals to current standards	ROW	$10,000	$10,000				x	x
2024	Pavement Markings	I94BL @ Maiden Ln., M-63 @ Klock (Upton)	Modernizing signalized intersection to current standards	CON	$591,050	$591,050	x			x	

FISCALLY CONSTRAINED ROAD & BRIDGE PROJECTS — MDOT Projects

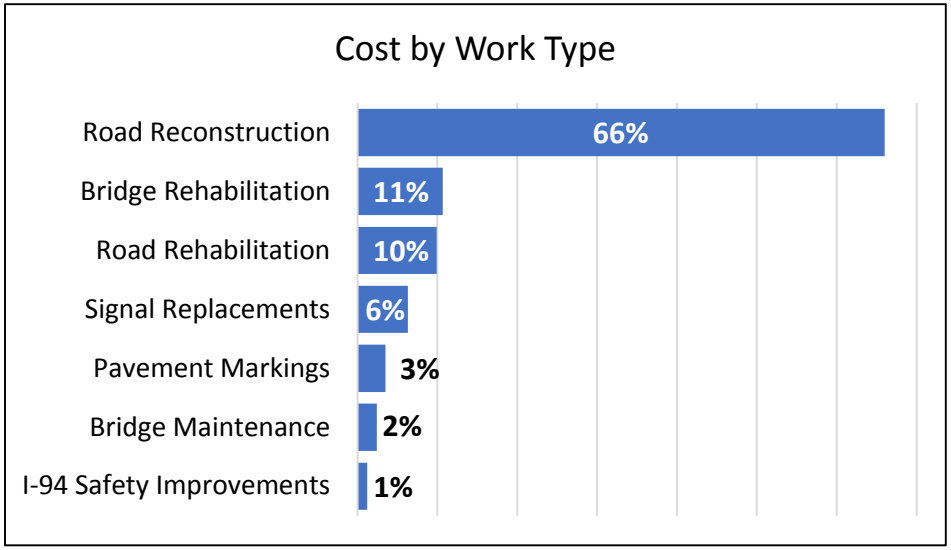
Fiscal Year	Project Name	Limits	Project Description	Phase	Federal Cost	Total Cost	NHS	Performance Measures			
								Pavement	Bridge	Safety	Reliability
2024	Pavement Markings	All trunkline routes in TwinCATS	Longitudinal pavement markings	CON	$226,274	$251,416	X			x	
2024	Pavement Markings	All trunkline routes in TwinCATS	Special pavement markings	CON	$39,461	$43,846	X			x	
2024	Pavement Markings	All trunkline routes in TwinCATS	Pavement marking retroreflectivity readings	CON	$1,099	$1,221	X			x	
2025	US-31 Bridge Maintenance	Under Napier Ave.	Healer Sealer, Joint Seal, Deck Sweep	CON	$110,497	$0	X		x		
2025	I-94 Bridge Maintenance	I94 over M-139 & I-9 over Nickerson Rd at I-94	Healer Sealer, Reseal Joints, Deck Sweep	CON	$220,050	$244,500	X		x		
2025	I-94 Bridge Maintenance	Under Napier Ave	Epoxy Overlay Joint Seal, Paint Bearings,	CON	$418,376	$464,862	X		x		
2025	I-94 Bridge Maintenance	Roslyn Rd (# 845) over I-94	Healer Sealer, Reseal Joints	CON	$48,137	$53,486	X		x		
2025	Pavement Markings	All trunkline routes in TwinCATS	Longitudinal pavement markings	CON	$211,289	$234,766	X			x	
2025	Pavement Markings	All trunkline routes in TwinCATS	Special pavement markings	CON	$31,968	$35,520	X			x	
2025	Pavement Markings	All trunkline routes in TwinCATS	Pavement marking retroreflectivity readings	CON	$1,099	$1,221	X			X	
2025	Pavement Markings	M-63, M-139	Installation of all-weather pavement markings and corrugations	PE	$28,875	$32,083	x			x	

FISCALLY CONSTRAINED ROAD & BRIDGE PROJECTS — MDOT Projects

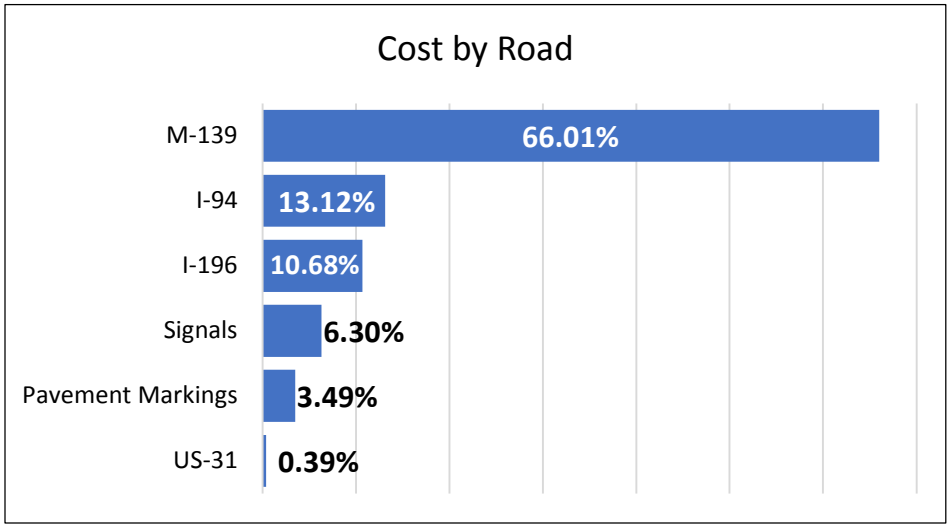
Fiscal Year	Project Name	Limits	Project Description	Phase	Federal Cost	Total Cost	NHS	Performance Measures			
								Pavement	Bridge	Safety	Reliability
2025	M-139 Reconstruction	0.44 miles south of I-94 to I-94 BL	Reconstruction	CON	$19,962,806	$24,389,501	X	x			
2025	I-94 Crash Investigation Sites	Design two crash investigation sites.	Construct crash investigation sites on I-94	PE	$30,403	$37,145	X			x	x
2026	I-196 Bridge Maintenance	Under Riverside Road and Central Avenue	Railing Replace, Epoxy Overlay, Deck Patching,	CON	$2,343,621	$2,604,025	X		x		
2026	Pavement Markings	M-63, M-139	Installation of all-weather pavement markings and corrugations	CON	$256,666	$285,184	X			x	
2026	Pavement Markings	All trunkline routes in TwinCATS	Longitudinal pavement markings	CON	$208,791	$231,990	X			x	
2026	Pavement Markings	All trunkline routes in TwinCATS	Special pavement markings	CON	$39,461	$43,846	X			x	
2026	Pavement Markings	All trunkline routes in TwinCATS	Pavement marking retroreflectivity readings	CON	$1,099	$1,221	X			x	
2026	I-196 Bridge Maintenance	Under Red Arrow Highway	Deep Overlay, Full Depth Patching, Railing Replacement, Beam Repair	CON	$1,623,914	$1,804,349	X		x		
2026	I-94 Crash Investigation Sites	Construct two crash investigation sites in Berrien county	Construct crash investigation sites on I-94 and ramp extension at Exit 66.	CON	$211,873	$258,855	X			x	x
2026	Signal Upgrades	Six signals in the TwinCATS Area	Modernize signals to current standards	CON	$2,000,043	$2,000,043				x	X
2027-2050	System Preservation	Various	Resurfacing, rehabilitation, reconstruction, and safety improvements	PE, ROW, CON	$444,578,292 Federal + State funding		x	x	x	x	x

MDOT Funding Summary 2023-2026

Work Type	Projects	Cost
Road Reconstruction	2	$27,239,501
Bridge Rehabilitation	2	$4,408,374
Road Rehabilitation	1	$4,080,000
Signal Replacements	2	$2,601,093
Pavement Markings	13	$1,442,145
Bridge Maintenance	4	$992,348
I-94 Safety Improvements	3	$499,658
Total	27	$41,263,119



Road	Projects	Cost
M-139	2	$27,239,501
I-94	7	$5,412,006
I-196	2	$4,408,374
Signal Replacements	2	$2,601,093
Pavement Markings	13	$1,442,145
US-31	1	$160,000
Total	27	$41,263,119



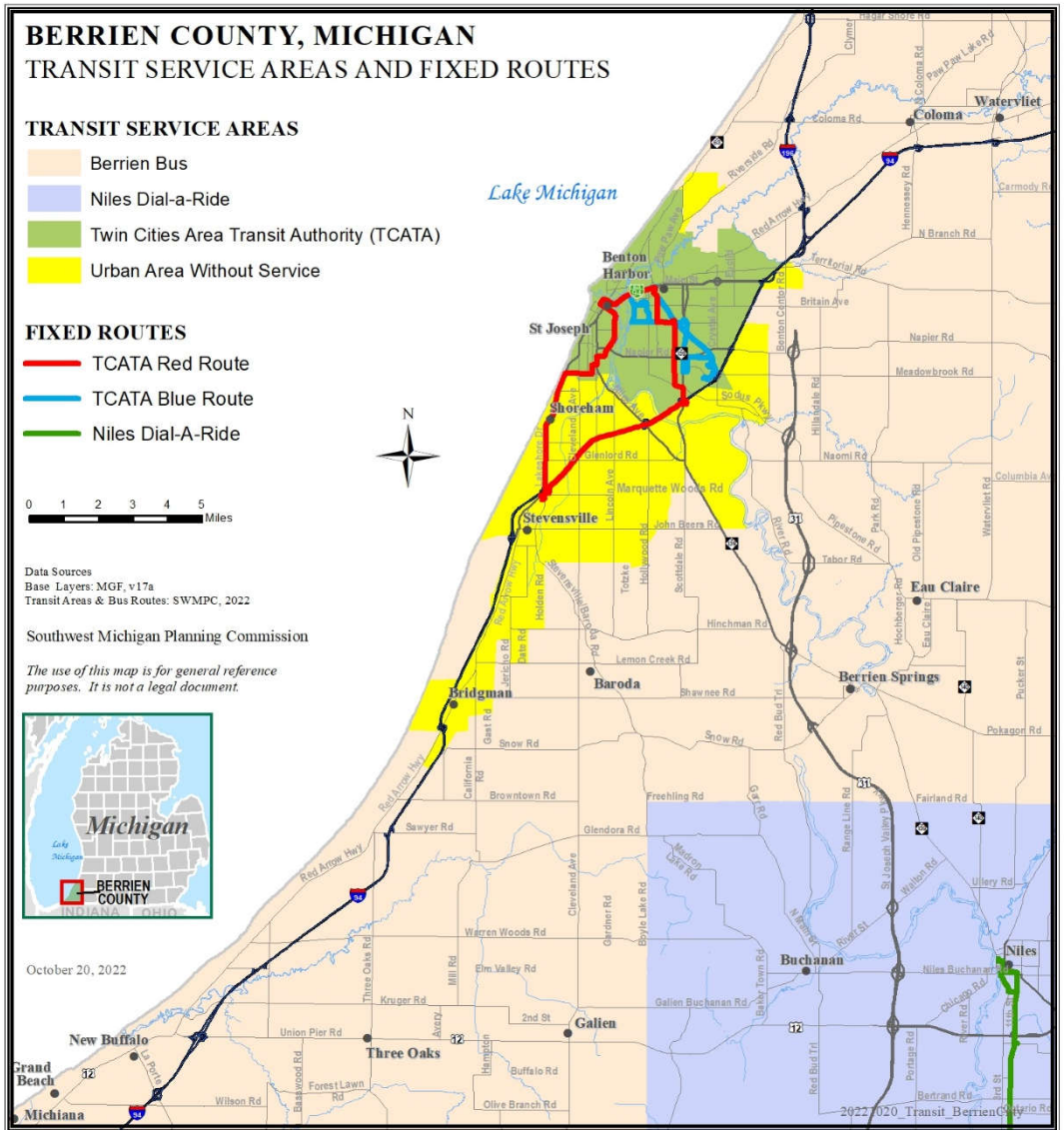
PUBLIC TRANSPORTATION

Countywide Overview

There are four independently operated public transit systems spread throughout Berrien County. Twin Cities Area Transportation Authority (TCATA) is the designated transit provider in the St. Joseph Benton Harbor Urbanized area. Berrien Bus is the designated rural provider for areas of the county not served by Niles Dial a Ride within the Niles Buchanan urbanized area. The three public transit agencies in Berrien County are largely organized around municipal and county boundaries. As a result, they are not always able to take people where they want and need to go.

A variety of public transit services are offered by the three providers including fixed route service, dial-a-ride service, 24-hour reservation, and contract service to schools and human service agencies. In 2021 the four systems provided approximately 149,700 passenger trips. Ridership dropped dramatically for all three systems beginning in 2020 due to Covid impacts.

There is a need for additional transit coverage and regional north/south linkages within the county and beyond. There are areas that have no services and others the service coverage, hours, and capacity are limited. Basic transportation to medical and social services for those unable to drive is critical to maintaining people in their communities, and improved services are needed to provide access to employment.



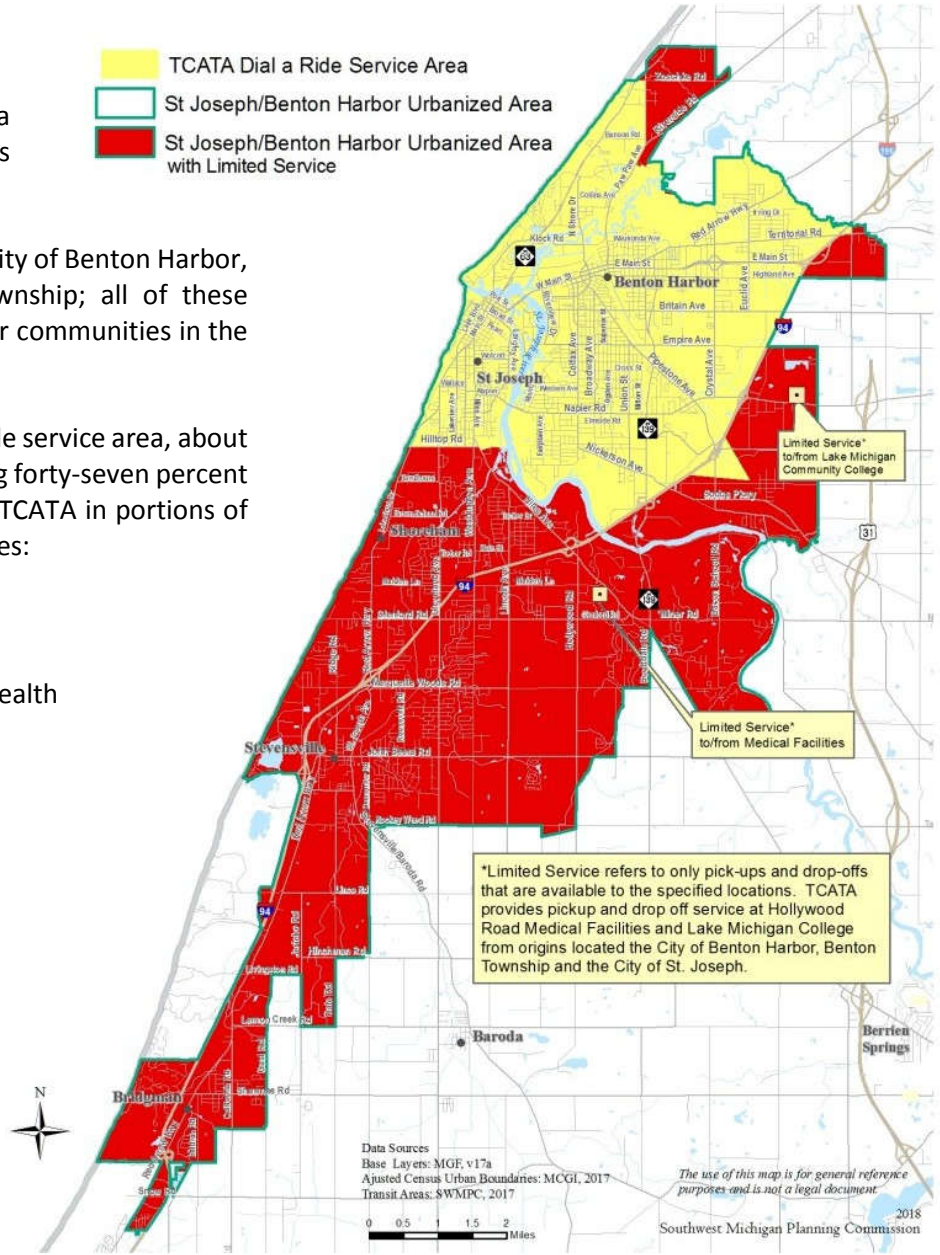
Twin Cities Area Transportation Authority

Twin Cities Area Transportation Authority (TCATA) is the designated public transit provider for people living in the Benton Harbor/Saint Joseph Urbanized Area (approximately 62,500 people). TCATA became an authority and began operations in 1975.

TCATA's original authority and service area consisted of the communities of the City of Benton Harbor, Benton Township, City of St. Joseph, St. Joseph Township, and Lincoln Township; all of these communities were members of the authority. Subsequent reductions of member communities in the authority reduced its membership to one community, the City of Benton Harbor.

Today, TCATA serves approximately 33,000 residents within a fourteen square mile service area, about fifty-three percent of the St. Joseph-Benton Harbor urbanized area. The remaining forty-seven percent of the St. Joseph-Benton Harbor Urbanized Area receives limited service from TCATA in portions of Royalton, St. Joseph Charter Township, and Lincoln Township. This service includes:

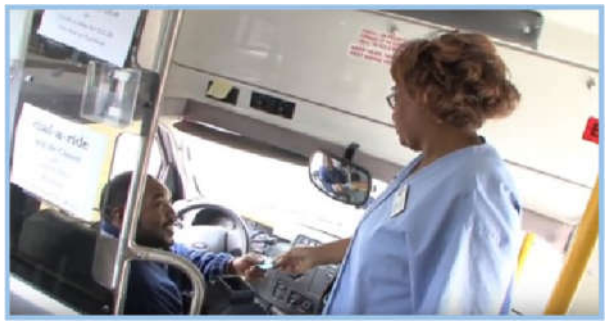
- Drop-off and pick-up service to medical facilities along Hollywood Road
- Fixed route service along Red Arrow Highway
- Drop-off and pick-up service at Lake Michigan College and Berrien County Health Department.



Area	Population within TCATA	Total Population of Municipality
Benton Township	11,714	14,374
Benton Harbor, City	9,103	9,103
St Joseph, City	7,655	7,856
St Joseph Township	3,018	9,993

Area	Population
TCATA	31,512
ACUB-Benton Harbor/St Joseph	62,579

Source: Census 2020



TCATA By The Numbers

TCATA service area population: **31,500**

Annual Riders: **106,741**

Dial a Ride Passengers: **85,326**

Fixed Route Passengers: **21,415**

Average Expense Per Passenger Mile: **$2.06**

Annual Fare Received, 11% of Operating Expense: **$178,856**

Annual Millage Received, 4.5% of Operating Expense: **$106,479**

Average Boarding Per Hour: **2**

TCATA Current Employees: **37**

2021 MDOT PTMS Data

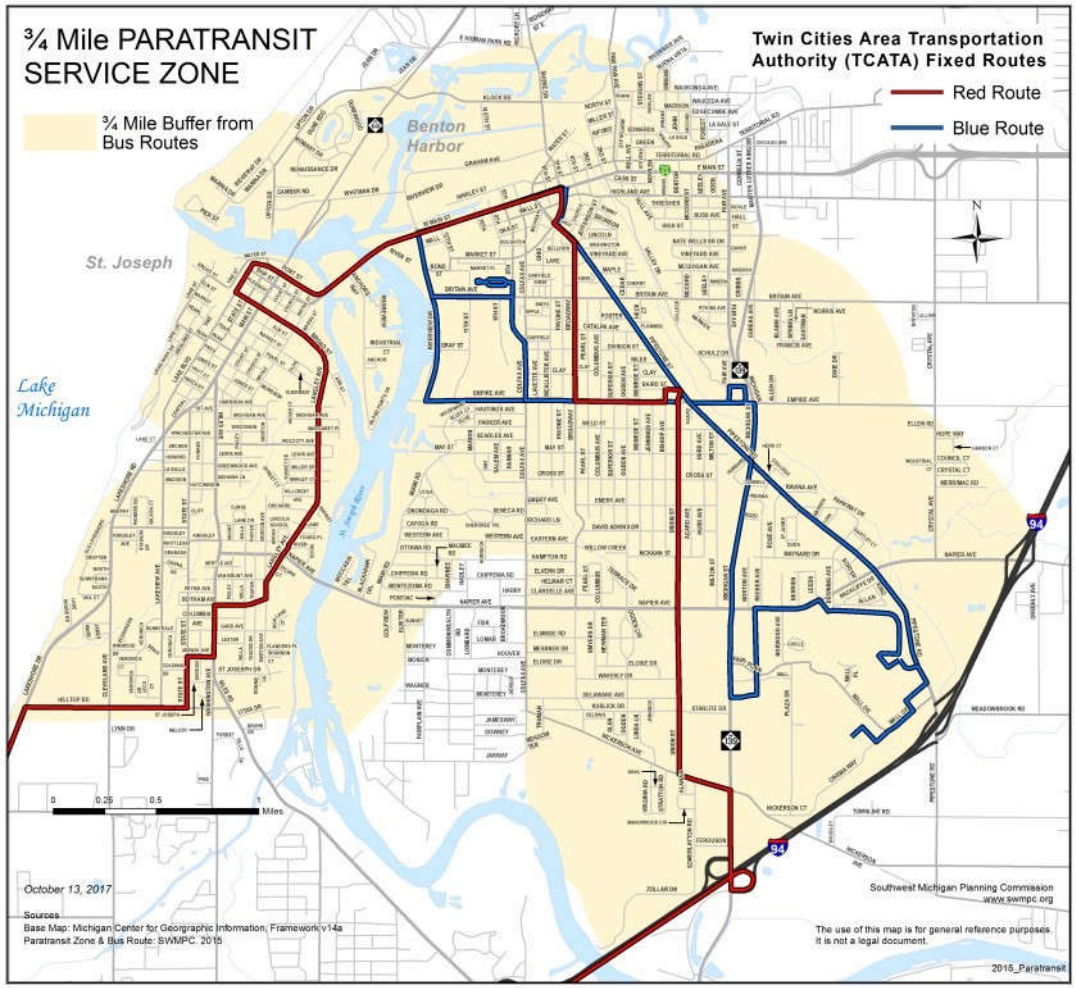
TCATA provides fixed route service along the Blue and Red Routes. This transit service runs along an established path at preset times.

Blue Route The Blue route operates Monday through Friday from 6:00 am – 10:00 pm and on Saturday from 8:00 am – 10:00 pm. This loop route originates at TCATA headquarters and provides service every 30 minutes to several housing developments, social service agencies, and retail locations.

Red Route The route operates Monday through Friday from 6:00 am – 10:00 pm and on Saturday from 8:00 am – 10:00 pm. This hourly one-way loop route originates in the City of Benton Harbor at Union, an area with higher than average poverty rates, unemployment, and no access to a vehicle. Along the route, there are several clusters of entry-level employment opportunities and life-sustaining services including Lakeland Hospital, Berrien County Courthouse, Michigan WORKS, and two large grocery stores. The Red route also offers an option to flex to locations along the route if the route is on schedule. Since its inception, the route was funded through a combination of federal and State funding. Beginning in 2014 the federal funding program was omitted and since that time it has been funded entirely with Michigan Comprehensive Transportation funding (CTF).

Complimentary ADA Paratransit Service

This paratransit service is required by the Americans with Disabilities Act and is provided for customers whose disability or health condition pre- vents them from using TCATA fixed route service for some or all of their travel. Only persons who are certified by TCATA are eligible to ride ADA Paratransit. Trips are provided at the same times and within the same geographic areas as fixed route

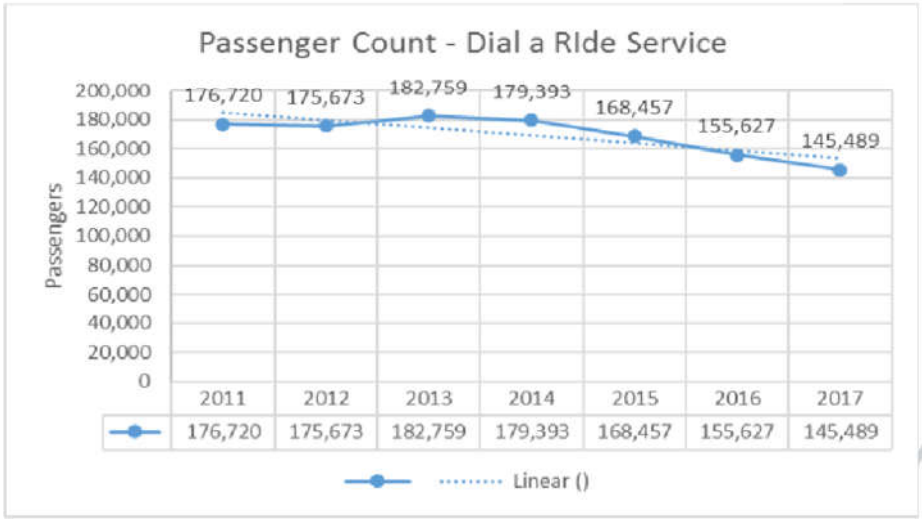


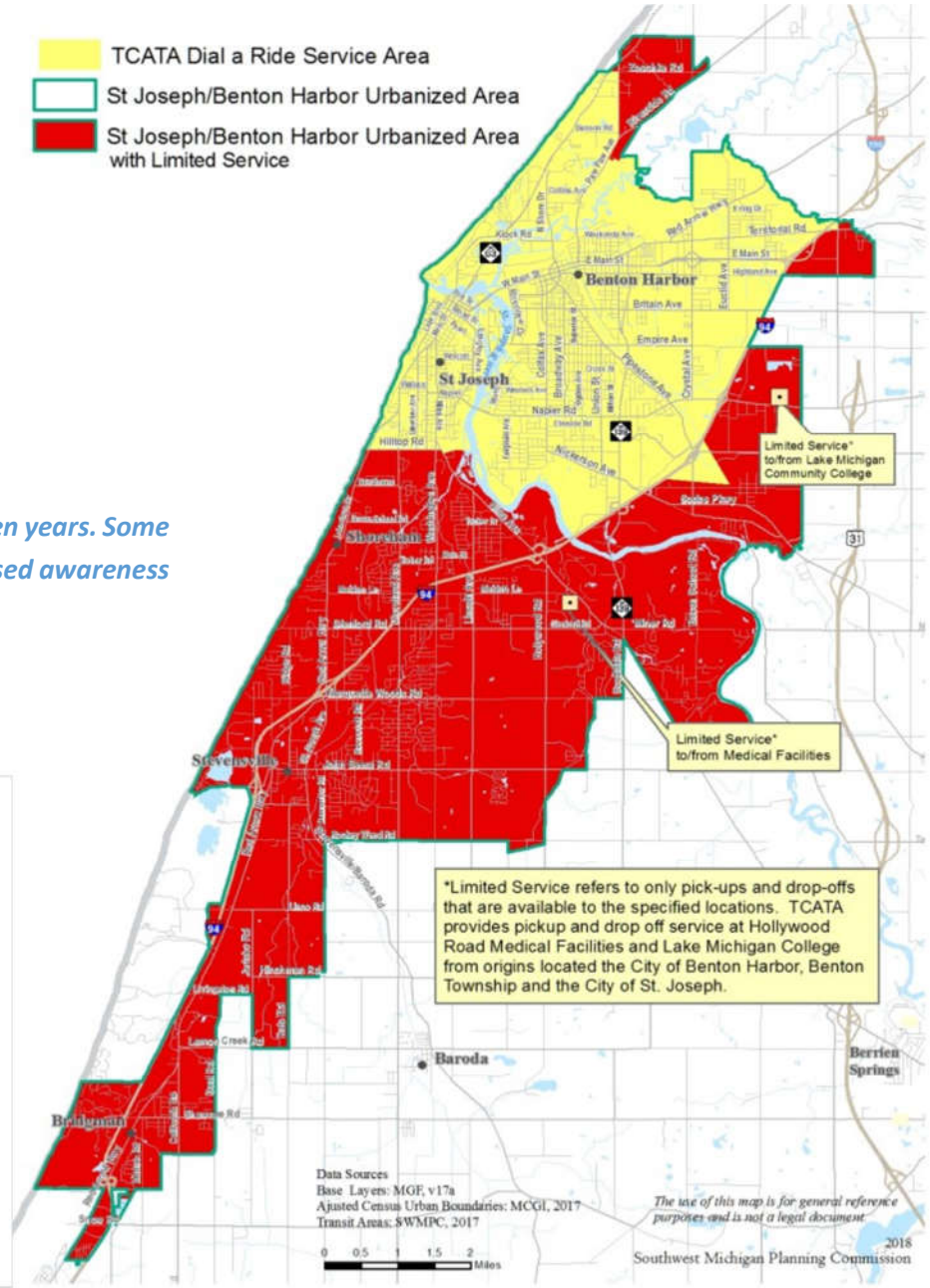
Service Area	Days	Span of Hours
PARATRANSIT SERVICE—BLUE ROUTE: Origins and destinations must be within 3/4 mile of Blue Route between the hours of 6:00 pm -10:00 pm	Monday - Friday	6:00 am - 10:00 pm
	Saturday	8:00 am – 10:00 pm
PARATRANSIT SERVICE—RED ROUTE: Origins and destinations must be within 3/4 mile of Red Route between the hours of 6:00 pm -10:00 pm	Monday - Friday	6:00 am - 10:00 pm
	Saturday	8:00 am – 10:00 pm

Dial A Ride Service

TCATA Dial A Ride offers reservation-based, shared-ride service within the northern portion of the St. Joseph Benton Harbor Urbanized Area. These areas include the City of Benton Harbor, the City of St. Joseph, Benton Charter Township, and a portion of St. Joseph Charter Township located in the 49022 zip code. There is also limited pickup and drop-off dial-a-ride service to Lake Michigan College and medical facilities along Hollywood Road and Niles Avenue in Royalton Township. Nearly 20% of TCATA's demand-response trips are to and from medical providers including InterCare, Corewell Health, and others

Dial a Ride service has experienced a decrease in ridership over the last seven years. Some of the decreases in ridership can be attributable to a campaign that increased awareness of the Red and Blue fixed route service.





Transit Reliance

More than half of the population (22,220) within the TCATA service area can be considered transit dependent. Transit-dependent populations are individuals considered to be dependent upon public transit based on income, age, or disability. Income along with other factors can prevent this population from driving/or owning a reliable automobile, thus leaving ridesharing, public transit, and other community transportation options as the only other motorized forms of transportation available.

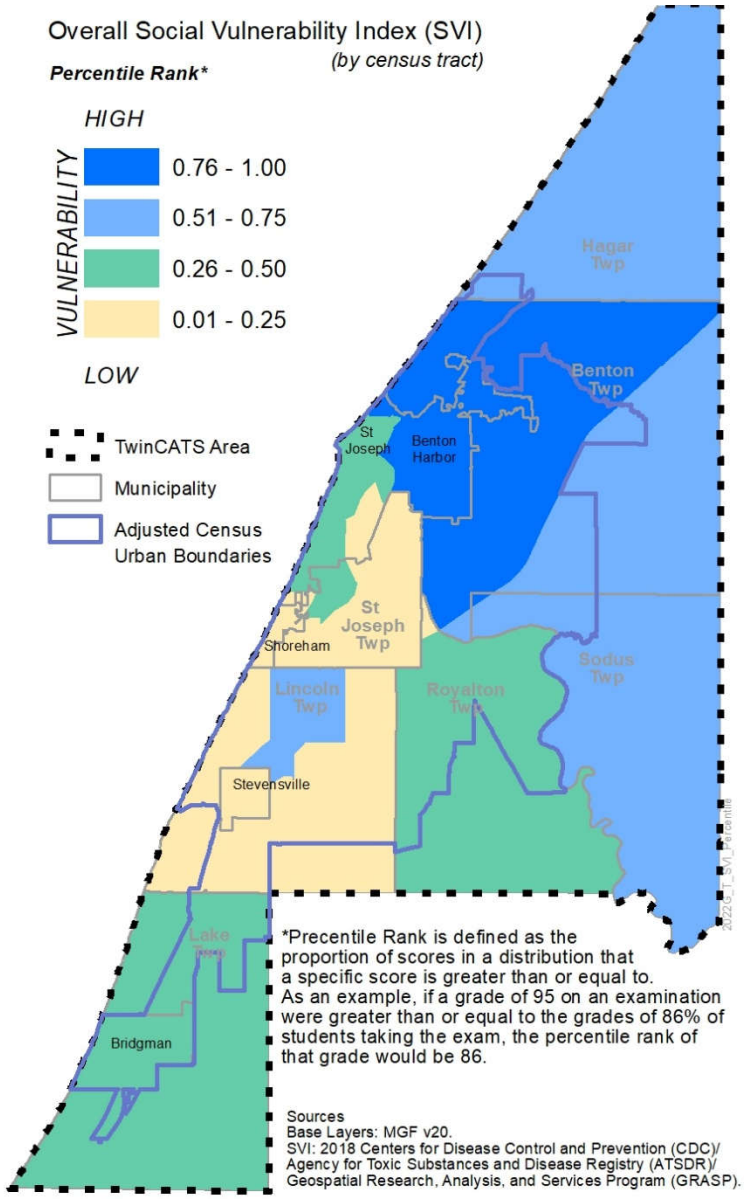
The Social Vulnerability Index

The City of Benton Harbor and portions of Benton Charter Township is in the 99-percentile ranking for extreme vulnerability because of income, disability, housing, and no vehicle.

The median household income in the City of Benton Harbor is very low at $21,947 in comparison to $59,234 in the State of Michigan. The income per capita in the City of Benton Harbor is only $15,629, which includes all adults and children and in Michigan, it is $32,854.

Poverty rates are a dismal 45% for the City of Benton Harbor and 38% for Benton Charter Township. These percentages are far higher than the state poverty rates at 14% and the City of St. Joseph at 9%.

Source: ACS 2020



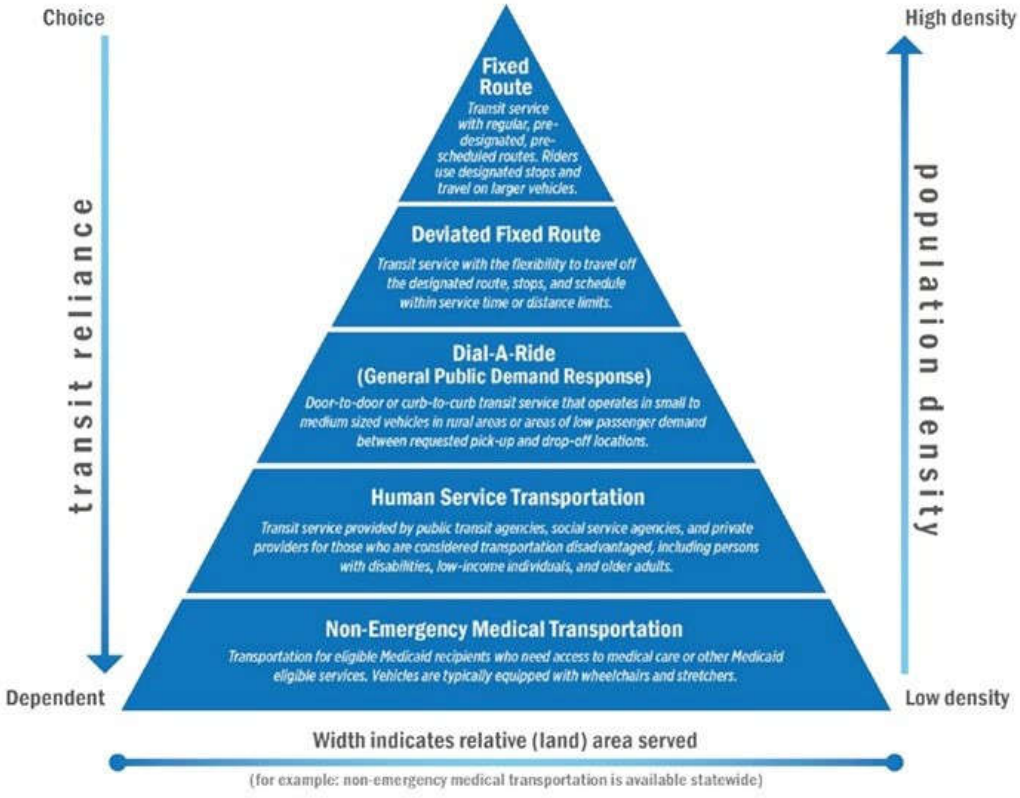
Connecting to Other Modes

TCATA fixed route service connects people to various modes of transportation where they can access out-of-county destinations.

FIXED ROUTE STOP	MODE
Red Route- Stop at Whitcomb in Downtown St. Joseph— Five-minute walk to the station	Amtrak
Red Route—Stop at I-94 and Red Arrow Hwy.	Park & Ride Lot
Red Route—Flex by request stop at MDOT Transit Center	Intercity Bus & Park & Ride Lot

PASSENGER TRANSPORTATION – Public Transit

Ultimately, transportation connects people to jobs, activities, and basic services like medical appointments and shopping. Every community has people who cannot reach jobs and basic services on their own. For the most part, these individuals use transportation services provided by other federal and state human and medical service programs, like Medicaid. These services are typically mandated by the federal government and are available statewide, but they are limited to trips to and from specific appointments and activities



National experience tells us that density and demographics also help determine the type of transit service that will work best in a particular region. There are a wide variety of transit services with different strengths and weaknesses. Each type of service is designed to address a community's transit need based on the type of community and riders

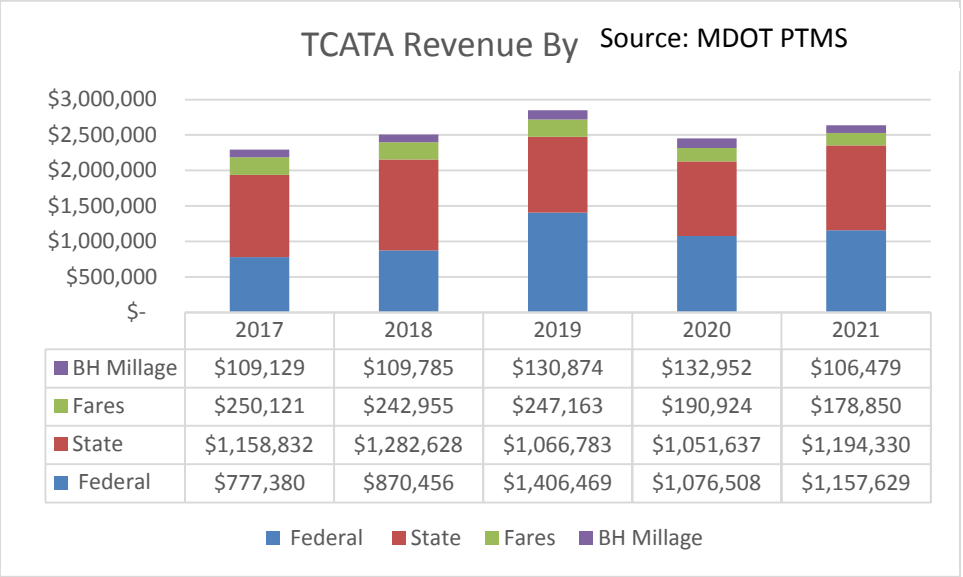
Key Issues, Trends & Opportunities

- Seniors and low income individuals rely more on public transportation, putting more pressure on transit systems to meet this growing demand.
- Health and human services are increasingly focused on serving people in their communities and encouraging people to stay in their homes. Implementing these programs requires a corresponding investment in transportation; this can be coordinated with public transportation services to re- duce duplication of service and effort.
- Residents living in the TwinCATS planning area need to travel across municipal and county boundaries to get to work but also for other rea- sons, such as shopping, school, and to access health care.
- The four public transit agencies in Berrien county are largely organized around municipal and county boundaries. As a result, they are not always able to take people where they want and need to go.

Key Issues & Uncertainties

REVENUE & COST MANAGEMENT
Sustaining a level of service while adapting to the uncertainties in future funding from state and federal funding sources
Managing fluctuations in taxable values and fares that Facilitate a sustainable source of match needed for federal funds.
Examining appropriate funding options needed to meet the transportation needs of the urbanized area.
Monitoring fuel volatility and cost trends to determine the best balance of new technology.

WORKFORCE DEVELOPMENT
Obtaining the skill sets needed to handle advancements in technologies associated with the operation and maintenance of transit vehicles and infrastructure.
Recruitment and retention of drivers with CDL.
Regulatory mandates such as physical examinations and drug tests that determine who is employable in safety-sensitive positions.



	2017	2018	2019	2020	2021
BH Millage	$109,129	$109,785	$130,874	$132,952	$106,479
Fares	$250,121	$242,955	$247,163	$190,924	$178,850
State	$1,158,832	$1,282,628	$1,066,783	$1,051,637	$1,194,330
Federal	$777,380	$870,456	$1,406,469	$1,076,508	$1,157,629

Public Transit Planning Initiatives

Countywide Service

The existing public transportation services in Berrien County are not adequately meeting the needs of residents and businesses. Previous studies, outreach
conducted for this project, and analysis of data and peer regions all indicated that the services currently provided by the four transit agencies in the County are too complicated, unaffordable for many, and don't sufficiently connect important destinations or operate during the hours needed. Much of Berrien County is
effectively not served at all by public transportation. The two largest urban areas – St. Joseph/Benton Harbor and Niles - are not directly connected by transit. There is currently no transit service provided on Sunday by any agency in Berrien County.

In 2017 a countywide public transit service planning effort began for improved transit in Berrien County. The goals of the plan were as follows:

- Make transit more convenient than it is today
- Connect people to more places than they can reach today
- Make transit easier to use than it is today
- Ensure the financial and long-term sustainability of all transit systems

In 2018 the Connect Berrien Transit Service Integration Plan was released, and it proposes a true countywide public transportation system that would not only use resources more efficiently but would also offer a simpler and more useful public transit countywide.

EXISTING SERVICE

- 91,000 residents (58%)
- 40,000 jobs (66%)

PROPOSED COUNTYWIDE SERVICE

- 157,000 residents (100%)
- 61,000 jobs (100%)
- Projected a 50% increase in ridership
- 99,000 residents (63%) and 42,000 jobs (69%) get service seven days per week

Smart and Connected Communities

The goal of the Smart and Connected Communities (S&CC) program is to accelerate the creation of the scientific and engineering foundations that will enable smart and connected communities to bring about new levels of economic opportunity and growth, safety and security, health and wellness, and overall quality of life. Three-year Smart and Connected Communities planning initiative headed by the University of Michigan in partnership with the City of Benton Harbor is designed to provide the community with the capacity to define and deploy mobility solutions that give Benton Harbor residents greater access to employment opportunities, education, and healthcare. The project has four major objectives:

- Define a cost-effective S&CC data collection strategy that can assess the performance of the Benton Harbor transit system, track the mobility patterns of residents, and acquire resident perceptions of their mobility.
- Mobility data will be used to calibrate analytical methods that predict resident demand for mobility services and the performance of these services given changes in user demand.
- A community-based decision-making framework is implemented based on scenario planning methods with S&CC data visualization predictive analytics used in the process to predict outcomes of considered scenarios.
- Interactively implement consensus solutions and assess their impact.
- The Twin Cities Area Transportation Authority will lead the implementation of the solutions developed.

This 1.4 million dollar project is being funded by the National Science Foundation and will conclude in 2023.

State of Good Repair

With an estimated 40 percent of buses and 25 percent of U.S. rail transit assets considered to be in marginal or poor condition, helping transit agencies maintain bus and rail systems in a state of good repair remains an FTA priority. TCATA has a wide variety of capital assets to maintain, including, but not limited to, buses and facilities. The agency must rehabilitate and replace its existing physical assets to keep them in a state of good repair (SGR) and provide a consistent level of service to its passengers. Absent adequate investment in existing assets, a transit agency may find its equipment becoming increasingly unreliable and difficult to maintain, and in extreme cases may suffer reductions in system reliability resulting in degraded transit service. Transit asset management provides a set of tools and approaches for helping transit agencies manage their physical assets and achieve SGR.

Asset Performance Measures—2019-2020 Targets

Performance Measure	Asset	Description	Base Data 2018	Target 2020	Data Source
Rolling stock in a state of good repair	25 Cutaway Buses 1 Passenger Van	Percent of rolling stock transit vehicles that have exceeded useful life	0% 0%	0% 0%	PTMS
Non-Revenue Vehicles in a state of good repair	2 Staff Cars 1 Wrecker	Percent of non-revenue vehicles that have exceeded useful life	100% 100%	0% 0%	PTMS
Facilities in a state of good repair	Administration Building	Percent of facilities within an asset class rated 3 or below on the FTA TERM scale.	0%	0%	PTMS

Public Transportation Safety

On, July 19, 2018, FTA announced the publication of the Public Transportation Agency Safety Plan (PTASP) final rule, which requires certain operators of public transportation systems to develop and certify an agency safety plan rooted in Safety Management System (SMS) principles and methods. On July 19, 2021, the Twin Cities Area Transportation Study agreed to set Public Transportation Safety Targets by supporting the targets contained in the Twin Cities Area Transportation Authority Public Transportation Agency Safety Plan, as updated on July 9, 2021. The PTASP rule applies to public transportation system operators who are recipients or sub-recipients of financial assistance under the Urbanized Area Formula Funding program (49 U.S.C. § 5307). All transit providers that receive Urbanized Area Formula funds must implement a safety plan.

SAFETY PERFORMANCE MEASURES

FATALITIES (total number of reportable fatalities and rate per total vehicle revenue miles by mode) Reducing the number of fatalities is a top priority for the entire Department of Transportation. As an industry, those involved must try to understand the factors involved in each fatality in order to prevent further occurrences.

INJURIES (total number of reportable8 injuries and rate per total vehicle revenue miles by mode) Many transit agencies have never had a fatality, and continued safe operation is exactly what is desired. However, injuries occur much more frequently and are due to a wide variety of circumstances. Analyzing the factors that relate to injuries is a significant step in developing actions to prevent them.

SAFETY EVENTS (total number of reportable events and rate per total vehicle revenue miles by mode) The safety events measure captures all reported safety events that occur during transit operations and the performance of regular supervisory or maintenance activities. A reduction in safety events will support efforts to reduce fatalities and injuries, as well as damages to transit assets.

SYSTEM RELIABILITY (**mean distance between major mechanical failures by mode) The** system reliability measure expresses the relationship between safety and asset condition. The rate of vehicle failures in service, defined as the mean distance between major mechanical failures, is measured as revenue miles operated divided by the number of major mechanical failures. This is a measure of how well a fleet of transit vehicles is maintained and operated. FTA recognizes the diversity of the transit industry, and that agencies have varied equipment types, with varied rates of performance, so this measure allows agencies to develop safety performance targets that are specific to their fleet type, age, operating characteristics, and mode of operation.

Service Mode	Fatalities	Fatalities per 100K VRM	Injuries	Injuries per 100K VRM	Safety Events	Safety Events per 100K VRM	System Reliability VRM/Failures
Demand Response	0	0	1	.3	9	2,74	54,600
Fixed Route	0	0	0	0	6	2.9	20,000

PASSENGER TRANSPORTATION – Public Transit Funding

FUNDING TYPE	DISTRIBUTION	ELIGIBLE PROJECTS
5307 – Urbanized Area Formula Grant <50,000	By formula to transit operators in census defined urbanized area based on population and transit service characteristics	• Capital Projects • Planning • Job Access & Reverse Commute Projects • Operations and Maintenance
5339 – Bus and Bus Facilities Program	By formula to transit operators based on population and service characteristics	• Replace, Rehabilitate, and Purchase Buses and Related Equipment. • Construct Bus Related Facilities
5311 – Formula Grant for Rural Systems >50,000	By formula to states, which administer the program	• Planning • Capital and Operating Assistance • Intercity Bus Program
5310 – Enhanced Mobility of Seniors and Individuals with Disabilities	By formula to states, which administer the program	**Capital and Operating to support:** • Mobility needs of seniors and people with disabilities when public transit is insufficient, inappropriate, or unavailable • Sub-allocation to private non-profit providers serving seniors and people with disabilities
State and Local Funding		
MI State Operating Assistance	Reimbursement of up to 50% of eligible operating expenses.	
MI State Transit Capital	Provides non-federal match for federal grants to local transit agencies	
Real Estate Property Tax – Millage	Assessed as a percentage of the market value of real property	
Transit Fare Revenue	Fares collected from transit system users that cover a portion of transit operations and maintenance costs	

Summary of Anticipated Federal & State Funding Program Transit Investments

Program	Description	2023-2030 Funding	2031-2040 Funding	2041-2050 Funding	2023-2050 Funding
Urban Area Transportation Program 5307	The Federal Transit Administration Urban Area Program is intended to provide planning, capital, and operation assistance to public transportation providers in urbanized areas. Funds are administered by the transit agency (TCATA) in coordination with the TwinCATS MPO	$9,421,239	$14,113,637	$17,373,862	$40,908,739
Bus and Bus Facilities Program 5339	The FTA program is intended to provide funding for the acquisition and rehabilitation of vehicles and the construction of transit-related facilities for customer service, administration, or fleet maintenance. Funds are administered by the transit agency (TCATA) in coordination with the TwinCATS MPO	$1,191,631	$1,785,142	$2,197,507	$5,174,280
Enhanced Mobility for Seniors/ADA-5310	The FTA program is intended to help expand transportation options for the elderly and individuals with disabilities. Discretionary Funds are administered and awarded by the State of Michigan Passenger Division in coordination with the transit agency (TCATA) and the TwinCATS MPO.	$513,162	$768,751	$946,331	$2,228,244
Comprehensive Transportation Fund (CTF)	The programs in this category provide funding for operating and capital support, training, and special projects to local bus operators that service the general public. Assistance also is provided to support transportation services focused on the needs of senior citizens and persons with disabilities, as well as the transportation-to-work needs of low-income individuals.	$9,307,612	$13,697,464	$16,534,156	$39,539,232

Dedicated Local Funding for Public Transit

Michigan has a long list of counties and communities that provide a dedicated source of local funding for public transit. Within the TwinCATS urbanized area, the only dedicated funding source comes from a millage in the City of Benton Harbor. The funding that is collected is the only reliable source of annual revenue that provides support to transit operations costs for TCATA. Until there is an additional form of reliable local revenue there will be limited opportunities to expand transit service within the TwinCATS urbanized area.

Local Funding Source	Description	2023-2030 Funding	2031-2040 Funding	2041-2050 Funding	2023-2050 Funding
Transit Millage	The City of Benton Harbor levies 0.2436 mills on all real and tangible personal property in the City of Benton Harbor for the exclusive purpose of financing the contractual obligation created by the contract between the City of Benton Harbor and the Twin Cities Area Transportation Authority for a period of 20 years beginning in 2008.	$1,042,442	$1,561,647	$1,922,385	$4,526,475
Passenger Fares	All income received directly from passengers, paid either in cash or through pre-paid tickets, passes, etc. It also includes revenue from contracts with human service agencies.	$1,963,828	$2,941,943	$3,621,527	$8,527,298

Local Revenue Projections

Because local funding amounts can vary from year-to-year the base funding amount was derived by using a five-year average of reported TCATA passenger fares and millage revenues collected between 2017-2021. A 1.7% increase was applied between 2021-2030 and a 1.9% increase from 2031-2050.

Data Source: MDOT Public Transportation Management System.

Passenger Rail

Amtrak provides passenger rail service via three Michigan service lines. All three lines have a western terminus in Chicago where passengers can change trains to get to any passenger rail station in the United States. The St. Joseph-Benton Harbor Amtrak Station serves the Pere Marquette line.

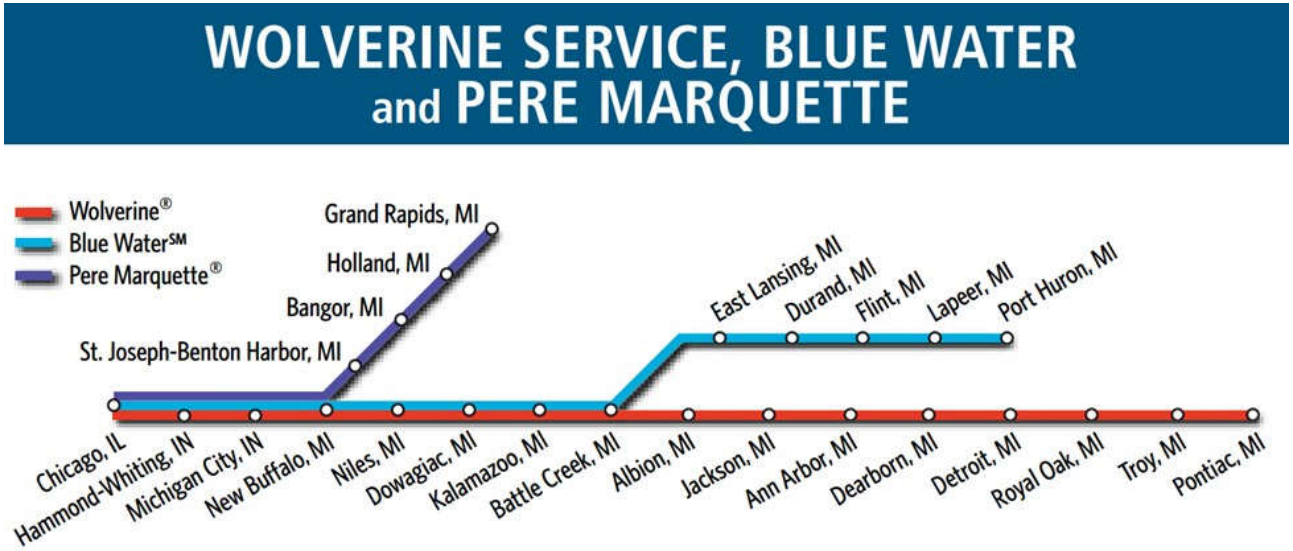
Pere Marquette: Amtrak's Pere Marquette service provides daily service between Chicago and Grand Rapids, The service is limited to one trip daily leaving Grand Rapids in the morning and returning home from Chicago in the evening.

Wolverine. Amtrak's Wolverine service is available to Benton Harbor-St. Joseph urbanized area residents who can travel to nearby communities with stations that serve that line, such as New Buffalo, Niles, Dowagiac, and Kalamazoo.

Blue Water. Amtrak's Blue Water service has the same stops between Chicago and Battle Creek as the Wolverine service (see below). Beyond Battle Creek, the Blue Water also serves East Lansing, Durand, Flint, Lapeer, and Port Huron.

Amtrak Thruway Bus
Connection. Amtrak Thruway Bus Connections are available at several train stations in Michigan and Chicago to offer additional destinations to passengers. See the Amtrak Michigan Services Schedule for additional information.

Commuter Rail
The closest interurban commuter rail service for the Twin Cities area is the South Shore Line, an electrically powered line operated by the Northern Indiana Commuter Transportation District, between Millennium Station in downtown Chicago and the South Bend Airport. The closest station is in Michigan City, IN. Residents and visitors can use this option as part of their travel plans to points west as far as downtown Chicago, connecting to Chicago's transit system: Chicago Transit Authority, Metra, and Pace.



Federal Railroad Administration "Metrics and Standards"

In November 2020 the Federal Railroad Administration "Metrics and Standards" rule was passed. The rule sets a minimum standard for Amtrak intercity passenger rail on-time performance: At least 80% of a train's riders must arrive on time- defined as no later than 15 minutes after the scheduled arrival time for any two consecutive quarters. The rule fulfills the intent of Congress to create a framework to help ensure that Amtrak customers arrive at their destination on time, and if they do not, the responsible parties are held accountable.

Large portions of the Wolverine and Blue Water services run on Amtrak and MDOT-owned tracks. Most of the Pere Marquette service runs on CSX-owned tracks and the remainder is owned by Norfolk Southern. Track owners get priority for their trains. Also, because Amtrak/MDOT does not own the tracks, they cannot invest in track and signal improvements which would allow for sections of the route to be upgraded to high-speed service (110 mph), like sections of the Wolverine and Blue Water. Poor on-time performance makes passenger rail service a less viable option for potential passengers. Without the ability to upgrade tracks, they cannot reduce travel time for passengers, which also reduces operating costs for the service and potentially ticket prices.

State-Supported: More than half of routes fail to meet standard

Route	Class I Host Railroad	Percentage of On-Time Customers	Meet the 80% standard?
Lincoln Service	CN, UP	79%	
Downeaster	(other hosts)	78%	
New York - Niagara Falls	CSX	78%	
Richmond/Nwprt News/Norfolk	CSX, NS	77%	
Piedmont	NS	76%	
Pere Marquette	CSX, NS	74%	Failed to meet standard
Illini/Saluki	CN	72%	
Missouri River Runner	UP	71%	
Heartland Flyer	BNSF	69%	
Pennsylvanian	NS	68%	
Carolinian	CSX, NS	67%	
Blue Water	NS, CN	66%	
Wolverine	NS, CN	59%	
Cascades	BNSF, UP	57%	

Note: the Adirondack is excluded as it did not operate in 2021.

Amtrak Ridership

For several years before 2020 rail ridership statewide had been steadily increasing. With a 16% statewide increase from 2009-2019. Ridership on the Pere Marquette peaked at 111,575 in 2008. In 2019, ridership on the Pere Marquette line decreased by 13.5%

Annual Ridership	*Wolverine* (Detroit-Chicago)	*Pere Marquette* (G.R.-Chi.)	*Blue Water* (P. Huron-Chicago)	Ridership Grand Total
2016	401,585	90,922	186,189	678,696
2017	474,751	94,276	186,156	755,183
2018	491,756	96,643	184,722	773,121
2019	495,034	96,382	179,070	770,486
2020	139,225	29,916	68,171	237,312
2021	219,629	65,531	120,074	405,234

Due to COVID there was a 70% drop in ridership from 2019 to 2020 with COVID recovery ridership increased in 2021, but it is too early to determine any long-term trends.

Corridor Station Activity

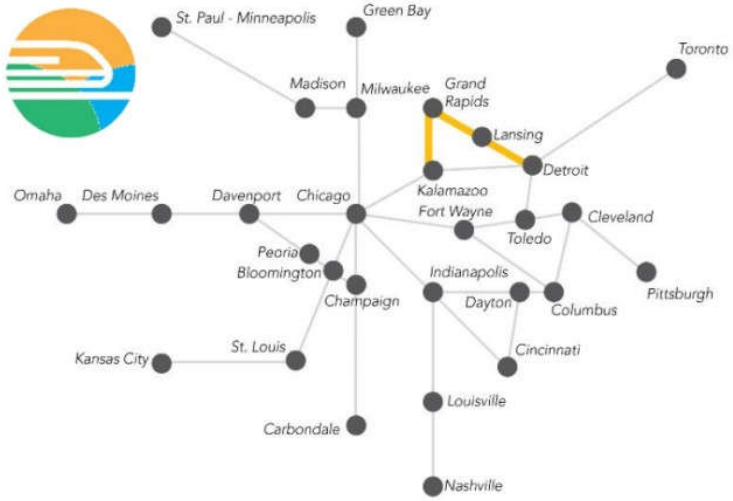
The table below shows that over the last five years boarding and deboarding activity decreased the most in Holland, with similar decreases at the Benton Harbor-St. Joseph and Bangor Stations. Yet, ridership in Grand Rapids increased. This indicates more riders take the full route from Grand Rapids to Chicago compared to shorter segments.

Pere Marquette Line Corridor Station Activity – Total Boarding and Deboarding by Station

	2018	2019	2020	2021	2022	5-yr. change
Chicago	93,493	95,845	46,863	51,742	86,625	-7.3%
Benton Harbor-St. Joseph	14,671	14,668	6,717	7,957	12,267	-16.4%
Bangor	4,180	4,584	2,015	2,470	3,502	-16.2%
Holland	36,348	37,292	17,525	17,554	29,965	-17.6%
Grand Rapids	39,975	40,593	21,236	25,025	42,978	7.5%
Total	**191,079**	**195,186**	**94,472**	**104,756**	**175,337**	-8.2%

Midwest Regional Rail Planning Study

The Federal Railroad Administration (FRA) is studying ways to improve the current Midwest passenger rail service into a high-performance, multi-state intercity passenger rail network through a planning initiative called the Midwest Regional Rail Planning Study (MRRP). The MRRP identifies several opportunities to improve overall service throughout the Midwest. Part of those improvements include adding new service to currently unconnected communities. In West Michigan, the MRRP contemplates changing the *Pere Marquette* service. Currently, the *Pere Marquette* runs to-from Chicago and Grand Rapids through Benton Harbor-St. Joseph, Bangor, and Holland. The proposed change would eliminate Amtrak passenger rail service in Benton Harbor-St. Joseph and Bangor in favor of a new *Pere Marquette* service that would run from Chicago to Kalamazoo, then Grand Rapids. The train could go from Grand Rapids to Holland. Or it could head to Lansing and onward to Ann Arbor and Detroit—this is called the Michigan Coast-to-Coast emerging service option (see map below). According to the MRRP, there are currently 200,000 riders on the corridor, but with the proposed change ridership could increase to 1.5 million. Under this plan Benton Harbor-St. Joseph would get Amtrak Thruway bus service to Niles, where people may board the train. Bangor would not have a rail or thruway connection.



Midwest Regional Rail Plan - Stakeholder Workshop #4
Presentation: Michigan Coast-to-Coast Emerging Service

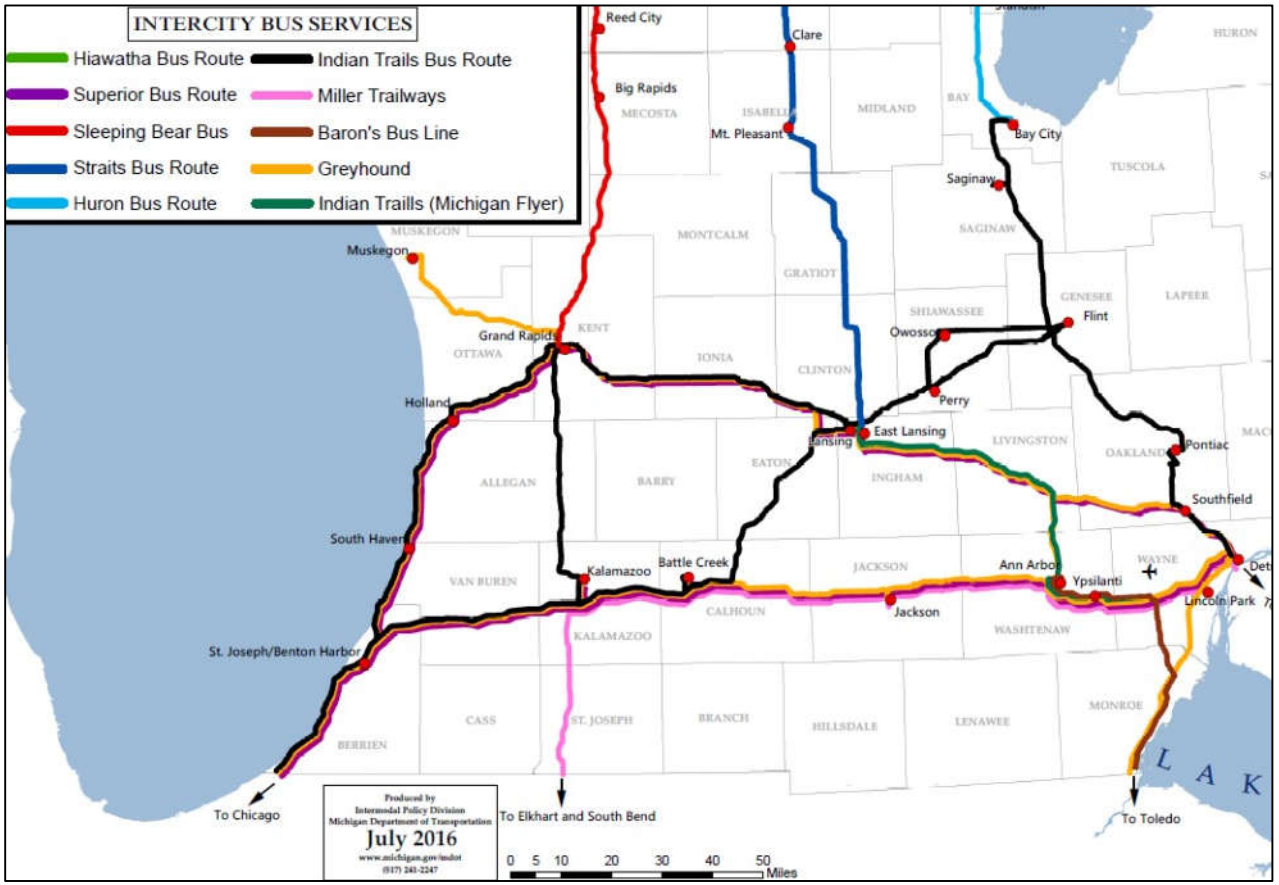
Westrain

Westrain is a coalition of stakeholders along the *Pere Marquette* Amtrak line (GVMC in Grand Rapids, Macatawa Area Coordinating Council in Holland, the City of Bangor, Cornerstone Chamber of Commerce, the Michigan Association of Rail Passengers, and the Southwest Michigan Planning Commission, together with Amtrak and the Michigan Department of Transportation Office of Rail) that promote passenger rail service in West Michigan, including improved Amtrak service and marketing for special events such as for the Senior PGA Tour in Benton Harbor. This coalition also discusses the changes to the *Pere Marquette* proposed in the MRRP, and they contemplate ways to counter this loss of service.

Intercity Bus

Intercity bus service provides scheduled service to cities over much longer distances than local transit agencies. Greyhound and Indian Trails carriers provide direct service from the Benton Harbor Transportation Center (BHTC) to various destinations that include Battle Creek, Kalamazoo, Holland, Grand Rapids, Elkhart, and Chicago (see map below) The BHTC, on M-139 at Nickerson Avenue, is an MDOT owned and operated facility. MDOT subsidizes intercity bus services such as Greyhound Indian Trails.

Subsidized bus service in Michigan has emerged in response to carrier service reductions. MDOT's Intercity Bus Service White Paper (2012) notes; "As carrier decisions are made, the Michigan Department of Transportation (MDOT) reviews the affected routes and determines whether to provide a subsidy for the service, based on the state's objective to maintain community access to the national intercity bus network, and subject to the availability of federal and state resources." Intercity bus passengers may arrive at or depart from the BHTC using the Twin Cities Area Transportation Authority Red Route by calling to request the bus to flex. The St. Joseph-Benton Harbor Amtrak Station is also served by Red Route, with a fixed route stop at Ship St./Lakeview Blvd. The BHTC does not have pedestrian or bicycle infrastructure that connects to it.



STRATEGIES:

IMPROVING PASSENGER TRANSPORTATION

Strategy	Guiding Principles Met
Improve Transit Facilities and Equipment	✓ ✓ ✓ ✓ ✓
Support fixed route stops with bicycle infrastructure and end-of-trip facilities, such as bicycle parking and onboard bicycle racks.	
Collaborate with the mall area developers to determine the best location for a future transit center.	
Extend/Create New Transportation Services	✓ ✓ ✓ ✓ ✓ ✓ ✓
Increase service coverage to places within the urbanized area, especially to destinations that provide employment or medical services.	
Increase service hours to support service sector employment trips.	
Continue to support increased rail service for large regional events and holidays (Thanksgiving, Christmas, PGA Events).	
Continue to be involved with Michigan Coast to Coast Emerging service option.	
Safety	✓ ✓ ✓ ✓
Ensure safety and security training is available for transit staff.	
Monitor operations to identify any safety risk mitigations that may be ineffective, inappropriate, or were not implemented as intended.	
Communicate safety and safety performance information throughout the organization.	
Funding	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
Foster public-private partnerships and partner with the municipalities within the urbanized area to actively increase local funding sources.	

FISCALLY CONSTRAINED PUBLIC TRANSIT PROJECTS

FISCALLY CONSTRAINED PUBLIC TRANSIT PROJECTS

Fiscal Year	Project Name	Federal Fund Source	Federal Cost	CTF	Local	Total Cost	Performance Measures: Transit Asset Management
2023	Transit Operating	5307	$1,101,551	$675,144	$426,407	$2,203,102	
2023	Storage building cover & backup generator	5307	$92,000	$23,000	$0	$115,000	X
2023	Office Equipment	5307	$28,000	$7,000	$0	$35,000	X
2023	reconstruct floor drains	5339	$32,058	$8,015	$0	$40,073	X
2023	Mobility Manager	5310	$60,000	$15,000	$0	$75,000	
2023	Replace 2 gasoline buses	CMAQ	$168,000	$42,000	$0	$210,000	X
2023	JARC Route	CTF only	$0	$386,000	$0	$386,000	
2024	Transit Operating	5307	$1,123,582	$688,647	$448,438	$2,260,667	
2024	Mobility Manager	5310	$60,000	$15,000	$0	$75,000	
2024	JARC Route	CTF only	$0	$386,000	$0	$386,000	
2025	Transit Operating	5307	$1,146,054	$702,420	$470,910	$2,319,383	
2025	Mobility Manager	5310	$60,000	$15,000	$0	$75,000	
2025	JARC Route	CTF only	$0	$386,000	$0	$386,000	
2025	Replace 2 propane buses with electric buses	CMAQ	$480,000	$120,000	$0	$600,000	X
2026	Transit Operating	5307	$1,168,975	$716,468	$493,831	$2,379,274	
2026	Mobility Manager	5310	$60,000	$15,000	$0	$75,000	
2026	JARC Route	CTF only	$0	$386,000	$0	$386,000	
2027-2050	Transit Operating	5307, CTF & Local	$36,375,360	$21,586,764	$13,633,754	$71,595,878	
2027-2050	Transit Capital	5307, 5339, 5310 & CTF	$4,600,882	$1,150,220	$5,751,102	$4,600,882	X

FREIGHT TRANSPORTATION

What is Freight?

"Any good, product, or raw material carried by a commercial means of transportation – including air, highway, rail, water, and pipeline"

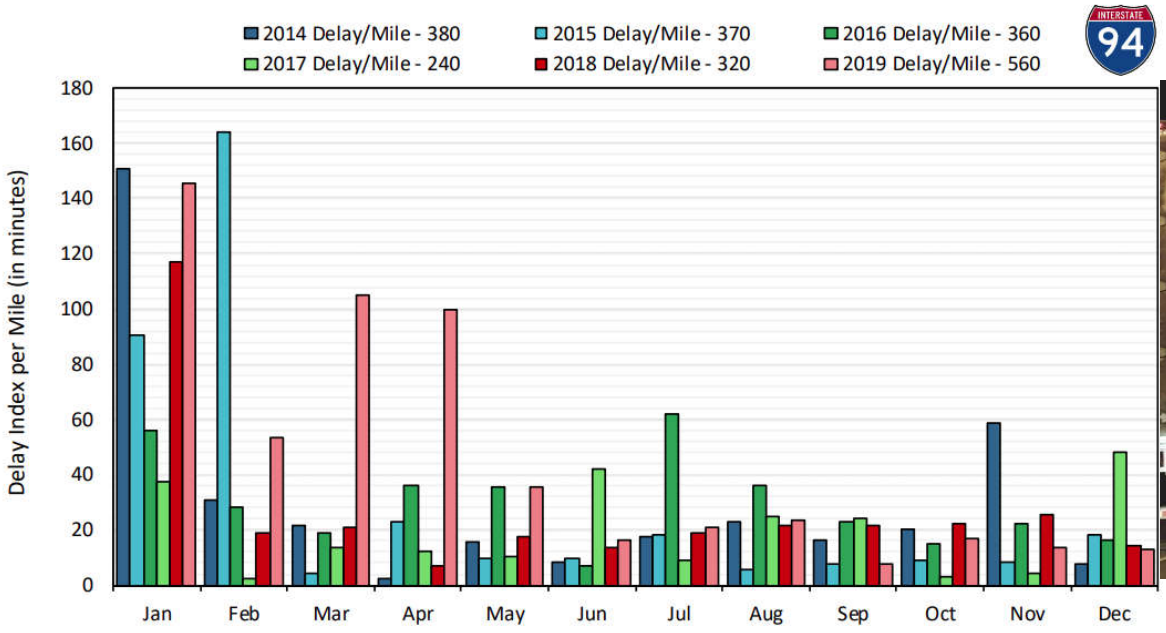
– Michigan Freight Plan

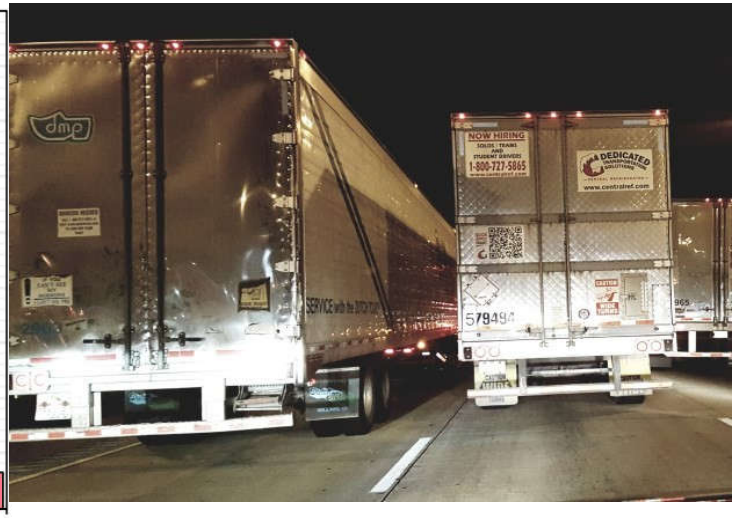
Corridors of Significance

In the TwinCATS area, I-94, I-196, and US-31 are the most significant corridors for freight, with I-94 being the most well used. The TwinCATS area also has a railroad network, commercial port, and an airport to move freight. Pipelines go through the area, but there are not any commercial access points, so they are not covered in this section.

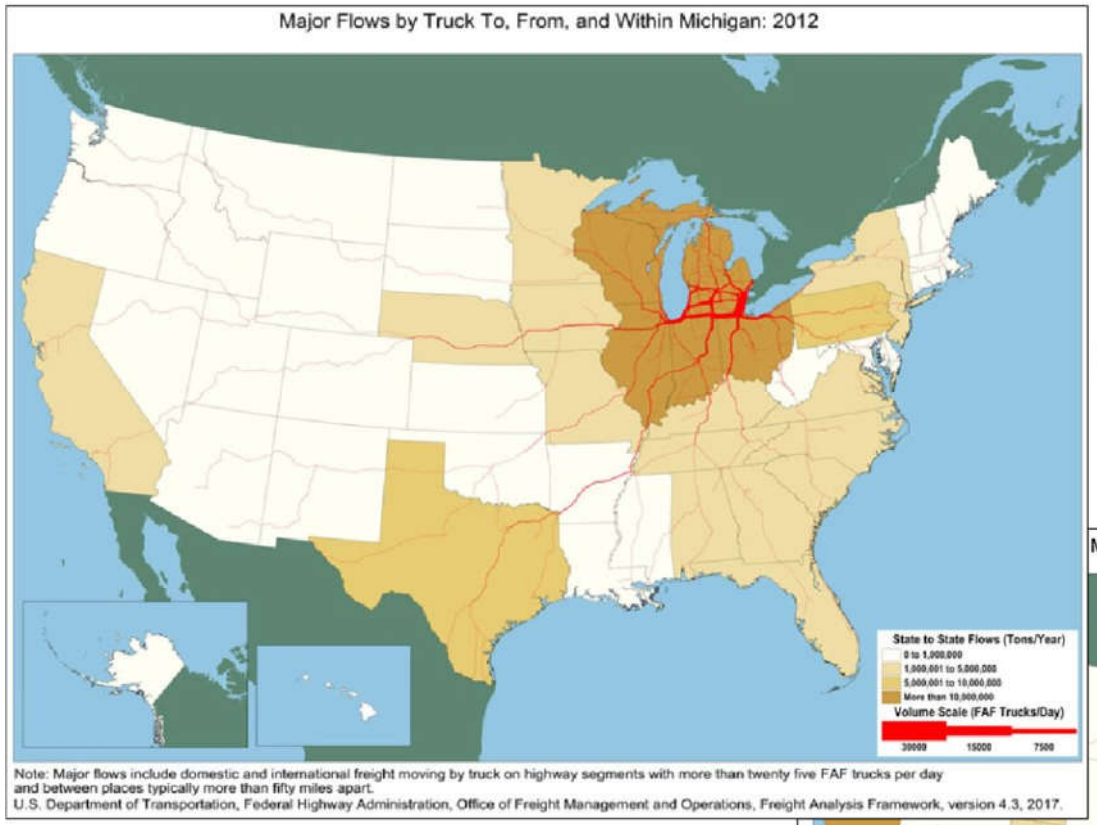
Interstate Congestion & Reliability

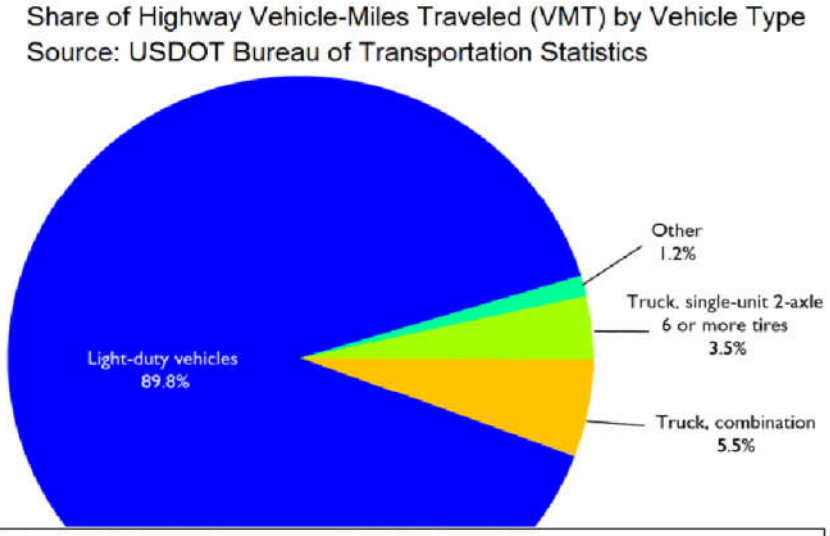
The MDOT 2019 Freeway Congestion & Reliability Report states that the in 2019 the user delay for the I-94 corridor in Berrien County was 560 minutes per mile. This is worse than in 2012 to 2016 five-year average of 334 minutes per mile. The graph below, from that report, shows how that user delay broken out by month. The high delay in 2019 appears to be caused mostly by the abnormally high delay in march and April 2019

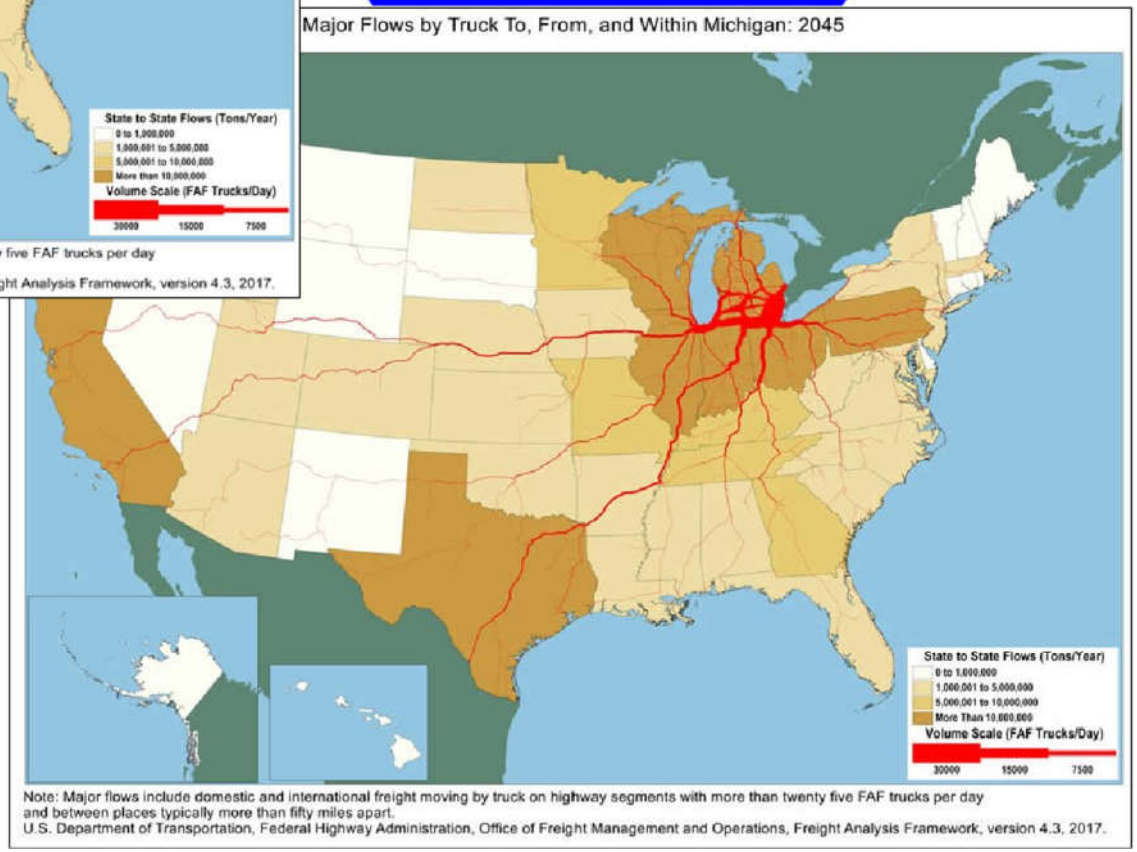




FRIEGHT TRANSPORTATION – Freight Overview





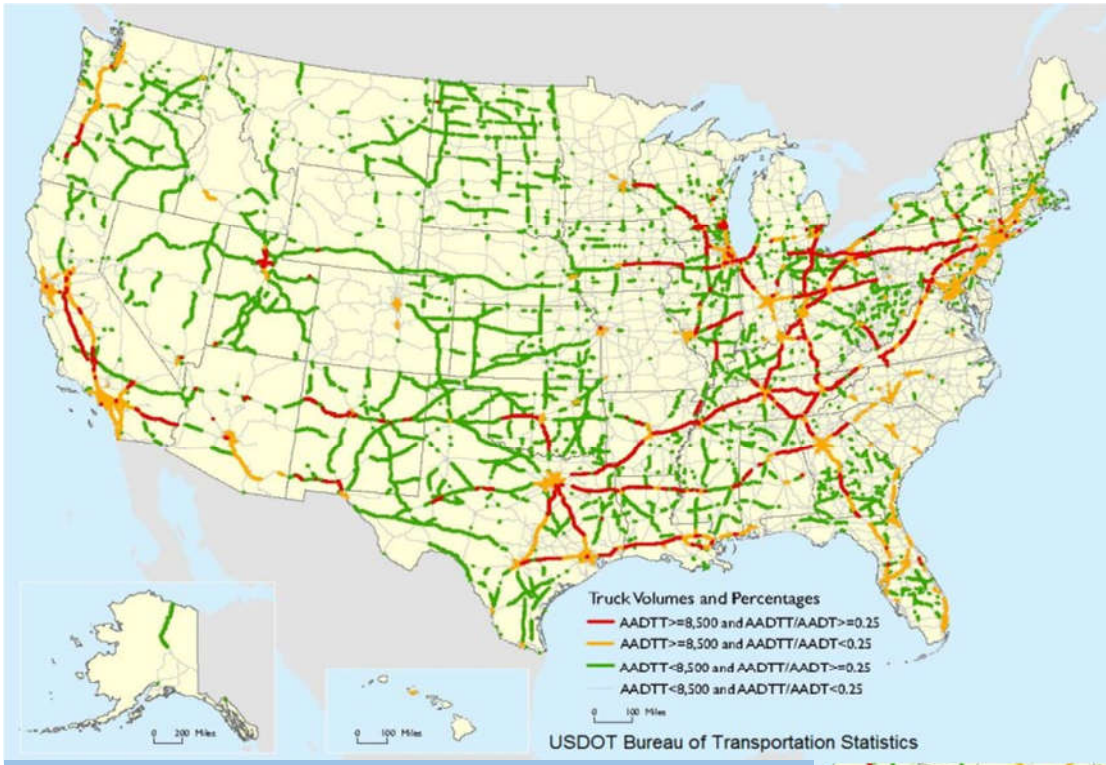


Freight Vehicle-Miles Traveled

Long-haul freight truck traffic on the National Highway System between 2012 and 2045 is projected to increase dramatically (per Bureau of Transportation Statistics), by:

58%

FRIEGHT TRANSPORTATION – Freight Overview



TwinCATS is located along NAFTA trade routes linking Canada, the U.S., and Mexico, which provides access to:

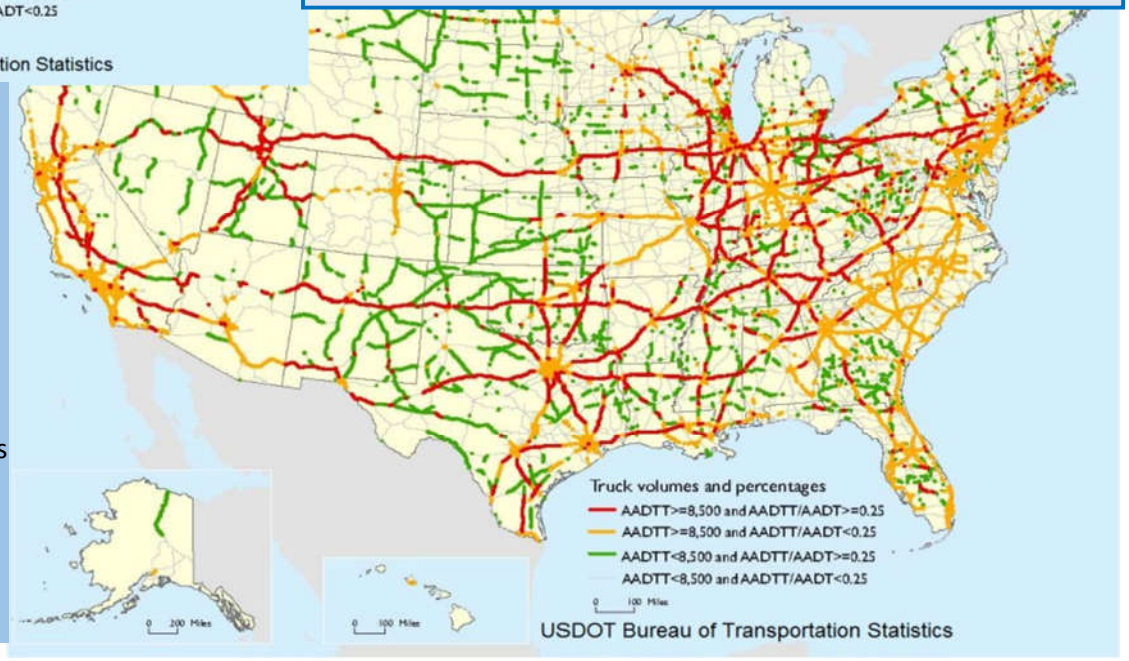
- ♦ 54% of the nation's manufacturers
- ♦ 48% of all national retail sales
- ♦ 54% of the nation's business payroll
- ♦ 65% of Canada's Gross National Product
- ♦ 37% of the U.S. population can be reached in one day by truck

- ◊ More than 78% of the U.S. population can be reached within two days by roadway
- ◊ More than 100 million people live within overnight delivery capability
- ◊ More than 105 million people live within a 500-mile radius and 221 million people live within 1,000 miles radius of the region's center

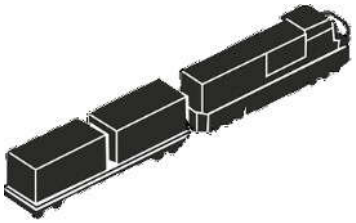
Bureau of Transportation Statistics:

Freight goods depend heavily on the Interstate System for delivery. Although only one-fourth of the miles traveled by all traffic is on the Interstate System, about one-half of combination-truck vehicle miles of travel are on interstate highways.

The number of National Highway System miles carrying large volumes and high percentages of trucks is projected to increase dramatically by 2045. Segments with more than 8,500 trucks per day and where at least every fourth vehicle is a truck is estimated to grow from 5,560 miles in 2012 to 13,480 in 2045, an increase of more than **140%**.



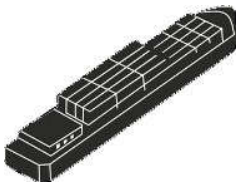
Freight Rail



CSX Transportation runs freight rail service through the Twin Cities, following the Pere Marquette line between Holland and Chicago. In Holland, the CSX line splits off into a route along the Lake Michigan coast and another that follows the Pere Marquette route to Grand Rapids and beyond (see map to right). Rail offers an economical and environmentally conscientious means to move freight. The table below shows inbound and outbound rail movements in Berrien County for 2014 (including the Amtrak line through the Niles area) (source: MDOT Office of Rail – IHS Transearch database). Pass-through tonnages, such as coal, are not shown here.

2014 Rail Movements — Berrien County		
Product	**Inbound Tons**	**Outbound Tons**
Rubber/Plastic Scrap		21,600
Primary Metal Products	8,800	
Fiber, Paper, or Pulpboard	12,080	

Twin Cities Harbor



The Twin Cities Harbor is a deep draft commercial harbor with over 5,300 feet of structures including piers and revetments and over 1.5 miles of maintained channel. The U.S. Army Corps of Engineers (USACE) Fact Sheet for the Twin Cities Harbor reported that 327,000 tons of material were shipped and received at the Twin Cities Harbor in 2020. The ten-year average between 2009 and 2020 was slightly higher with 341,000 tons

Commercial Harbor Importance

The USACE Fact Sheet identifies the transportation importance of the Harbor:

- Regionally significant receiving port on the Great Lakes
- Commodities received include limestone, sand, gravel, armor stone, cement, slag, salt, and petroleum products
- Project serves as an important Harbor of Refuge
- Harbor is home to the U.S. Coast Guard Station Saint Joseph

Harbor Freight Stakeholders

- Dock 63: In 2015, they handled $4.7M in road salt and $1.5M in limestone.
- LaFarge North America: Employs five people and supplies cement to over 30 ready-mix plants within southwestern Michigan and Indiana.
- Central Dock Company: In 2020 Reith Riley Construction purchased the Central Dock. The construction company is one of the largest asphalt companies and has locations in Indiana all the way to the Mackinac Bridge.

Twin Cities Harbor Dredging

The Twin Cities Harbor is usually dredged by the USACE. Until January 2017, Berrien County had been taking responsibility for locally coordinating this work. The City of Benton Harbor, City of St. Joseph, and St. Joseph Charter Township have been meeting to build a multi-jurisdictional framework to address harbor dredging and other issues.

Harbor Study

In 2015, a multi-jurisdictional group prepared Twin Cities Harbor A Study of Potential in Benton Harbor & St. Joseph MI to explore several issues facing the harbor. Infographics related to harbor freight are on the following pages, but the whole study is online:
http://www.swmpc.org/bhsjharbor.asp

Bulk commodities that pass through the harbor:

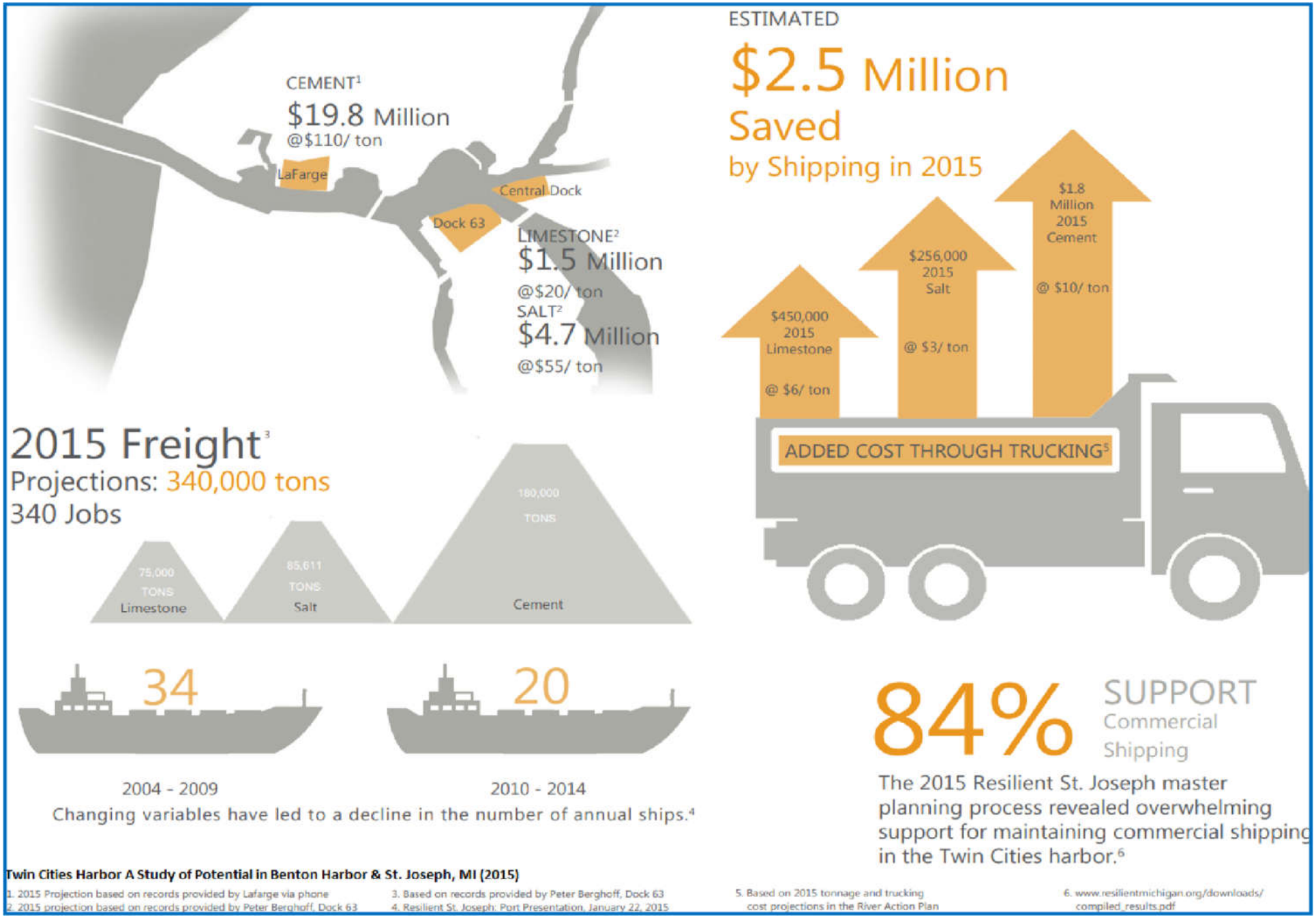
- **$840M** annually in business **revenue**
- **5,057** direct, indirect, & induced **jobs**
- **$251M** per year in personal **income**

Source: USACE Fact Sheet for the Twin Cities Harbor

Loss of between 4 and 5 feet of channel depth:

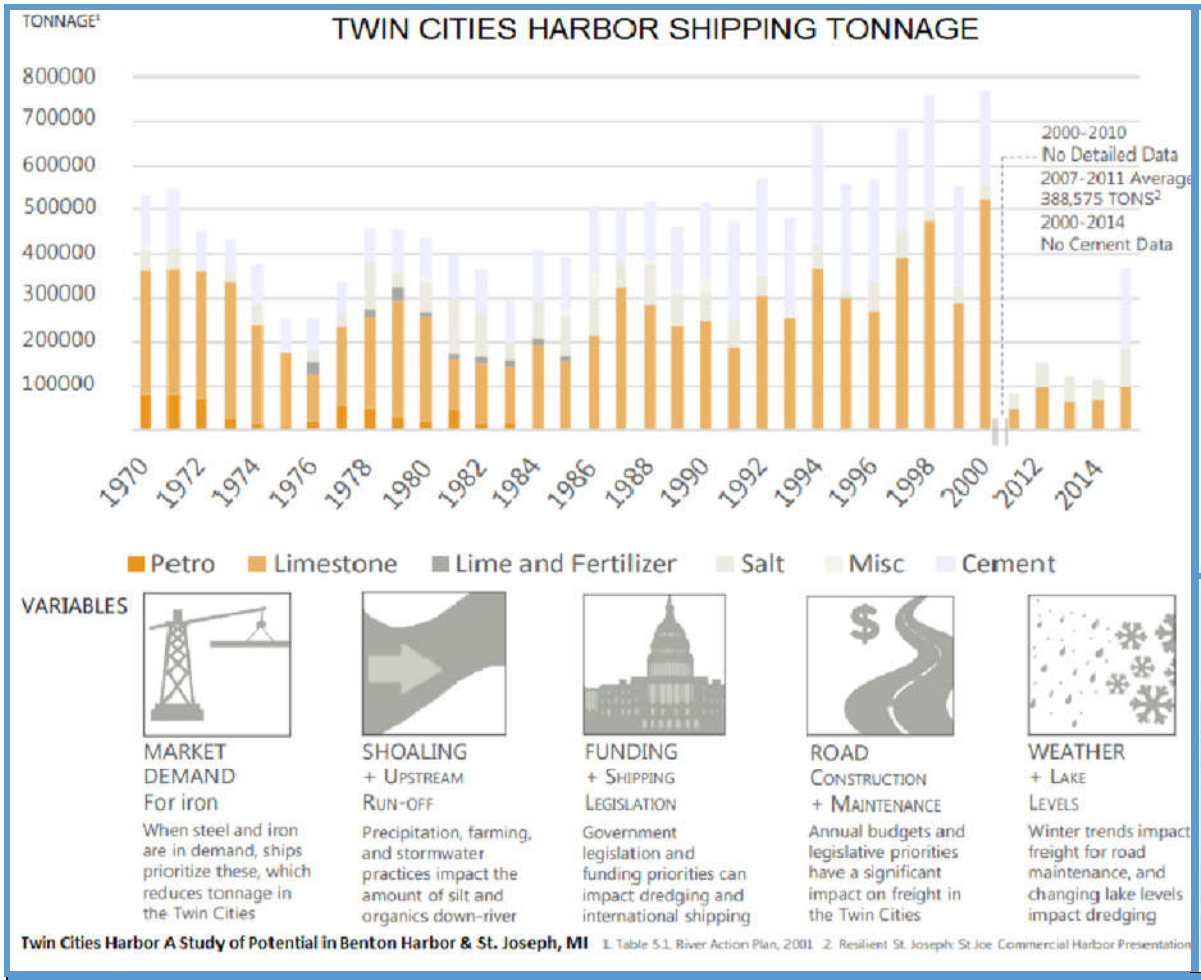
Results in increased transportation costs of between $525,000 - $757,000 annually

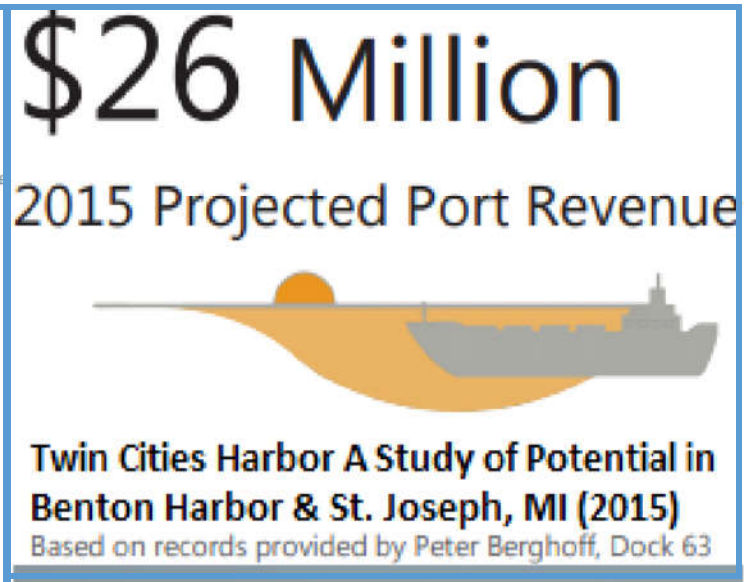
Source: 2022 USACE Fact Sheet for the Twin Cities Harbor

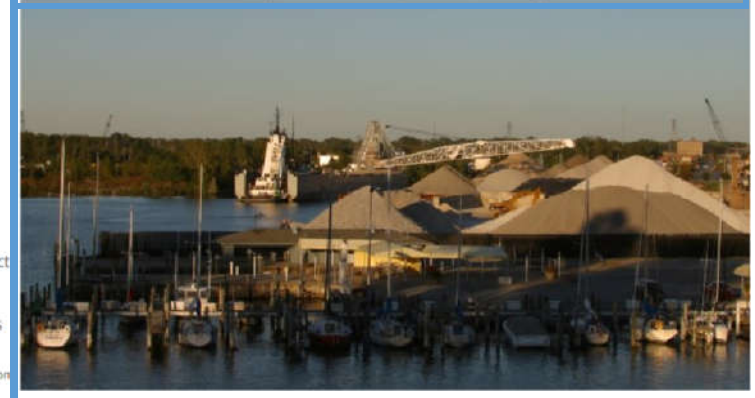


Twin Cities Harbor A Study of Potential in Benton Harbor & St. Joseph, MI (2015)

1. 2015 Projection based on records provided by Lafarge via phone
2. 2015 projection based on records provided by Peter Berghoff, Dock 63
3. Based on records provided by Peter Berghoff, Dock 63
4. Resilient St. Joseph: Port Presentation, January 22, 2015
5. Based on 2015 tonnage and trucking cost projections in the River Action Plan
6. www.resilientmichigan.org/downloads/compiled_results.pdf







U.S. Army Corps of Engineers Fiscal Year (FY) 2021, 2022, and 2022 St. Joseph Harbor, MI - Project Requirements and President's Budget ($1,000)						
Work Package	**FY21 Requirement**	**FY21 Appropriation**	**FY22 Requirement**	**FY22 Appropriation**	**FY23 Requirement**	**FY23 President's Budget**
Maintenance Dredging of Outer Harbor – Primary Work Package	$500	$0	$550	$550	$790	$790
Maintenance Dredging of Inner Harbor	$500	$500	$0	$0	$1100	$1100

FRIEGHT TRANSPORTATION – Strategies for Improving Freight Transportation

State Freight Priorities

The 2045 Michigan Transportation Plan goals particular for freight connected with national freight priorities, including:

- ***System Improvement:*** Modernize and enhance the transportation system to improve mobility and accessibility.
- ***Efficient and Effective Operations:*** Create and enlarge competitive advantage for Michigan supply chains through higher productivity and dependability in the state freight system, supporting economic growth and strengthening economic resilience.
- ***Safety and Security:*** Continue to improve transportation safety and ensure the security of the transportation system.
- ***Stewardship:*** Preserve transportation system investments, protect the environment, and utilize public resources in a responsible manner.

National Freight Priorities

The Fixing America's Surface Transportation (FAST) Act of 2015 governs surface transportation federal spending, thus setting national priorities. The Michigan Freight Plan summarized national freight goals (**emphasis added**):

- Improve the contribution of the freight transportation system to **economic efficiency**, **productivity**, and **competitiveness**.
- **Reduce congestion** on the freight transportation system.
- Improve the **safety**, **security**, and **resilience** of the freight transportation system.
- Improve the **state of good repair** of the freight transportation system.
- Use **advanced technology**, **performance management**, **innovation**, **competition** and **accountability** in operating and maintaining the freight transportation system.
- **Reduce adverse environmental and community impacts** of the freight transportation system.
- Improve the flexibility to support **multi-state corridor planning** and the creation of multi-state organizations to increase the ability of states to address multimodal freight connectivity; and
- Improve the **short- and long-distance movement of goods** that travel across rural areas between population centers, between rural areas and population centers, and from the nation's ports, airports, and gateways to the National Multimodal Freight Network.

Strategies for Improving Freight Transportation

Freight Committee. As shown in this section, freight is very important the area. A freight committee could be established to bring together freight stakeholders (air, highway, rail, marine, and pipeline) to review, analyze, and make recommendations on how best to assist the Twin Cities area with any freight issues the committee identifies.

Twin Cities Harbor. The City of Benton Harbor, City of St. Joseph, St. Joseph Charter Township, and other stakeholders could organize a multijurisdictional body that could focus on harbor related issues, including dredging and other issues identified by those communities for the new multijurisdictional body to work on.


SOUTHWEST
MICHIGAN
REGIONAL
AIRPORT
45th Anniversary
BALCHEN/POST
AWARD
FOR OUTSTANDING ACHIEVEMENT IN
AIRPORT SNOW AND ICE CONTROL
Honorable Mention
2020-2021
CIRRUS
AIRCRAFT

AVIATION

Air Freight

In Michigan there are 226 airports that are open for public use and serve the general aviation market, which is a critical element of the air transportation network.

The Southwest Michigan Regional Airport (KBEH) is the largest all weather, general aviation airport in Berrien, Cass, or Van Buren Counties.

Businesses rely on it to facilitate quick and efficient travel of personnel, minimize time away from work, provide dependable and flexible travel options to multiple destinations, and deliver goods on time. The airport supports a host of operations including, but not limited to:

- Agricultural
- Emergency and medical operations
- Firefighting
- Flight training
- Aerial photography
- Coast guard and other military operations
- Remote access
- Personal travel
- Business aviation
- Cargo

Southwest Michigan Regional Airport

AVIATION

The airport has regular charter operations delivering passengers, materials for critical just-in-time manufacturing and continuous utility operation. The latest economic impact estimate conducted by Michigan Department of Transportation office of Aeronautics showed the airport's contribution to the local economy to be over **$70 million per year**. The airport is continuously working to expand operations and capacity for both freight passenger service, though no plans are currently in the works to reestablish "Commercial Air Carrier Service"

The SWMRA is owned by the Cities of Benton Harbor and St. Joseph and is operated by the Southwest Michigan Regional Airport Authority, established in 1997. The airport authority is comprised of six municipalities: Cities of Benton Harbor and St. Joseph, St. Joseph Charter Township (including the Village of Shoreham), Lincoln Charter Township (including the Village of Stevensville), Royalton Township, and Benton Charter Township – all of which contribute a millage to support continued operation and growth.

Most of the airport revenue is derived from fuel sales, hangar leases and millage's from participating jurisdictions.

LONG TERM OBJECTIVES

- Building additional hangars to meet the ever-growing demand.
- Permanent solution for Snow Removal Equipment Building
- On field Charter Service
- Always networking and sharing potential for business aviation and how it has benefited our community
- Rehabilitate Taxiway Delta
- Acquire Rotary Snowplow
- Rehabilitate Airport Main Apron Parking
- Acquire Front end loader and new displacement plow

SHORT TERM OBJECTIVES

- Improve airport drainage,
- Taxiway Delta project bidding

Runway 10/28: 6005 feet long by 100 feet wide

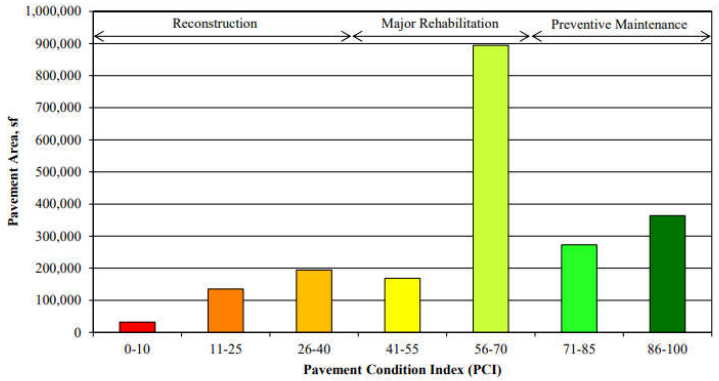
Runway 14/32: 3205 feet long by 60 feet wide

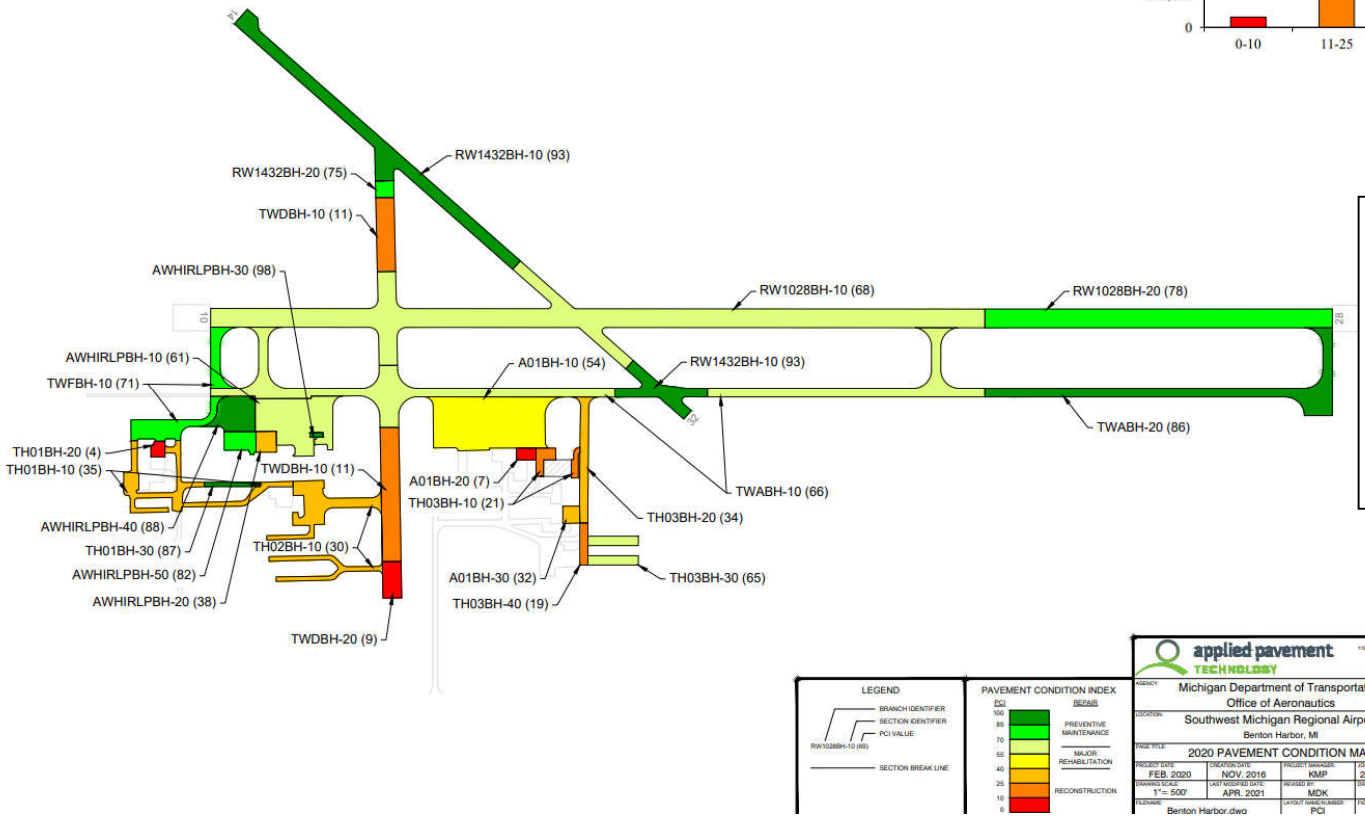
ACCOMPLISHMENTS

- Permanent Flight School
- Addition of 20 T-Hangars
- Self Service Fuel
- Runway Plow Vehicle
- Snow Broom Tow Vehicle

Southwest Michigan Airport Pavement Condition

The airport manages over 2 million square feet of pavement. A 5-year program was prepared with the goal of maintaining the pavements above established critical PCIs, based on the runway design category. During the analysis, major rehabilitation was recommended for pavements in the year they dropped below their critical PCI.





2020-2025
Approximately
$7.2 million is
needed to bring the pavement to good condition.

Southwest Michigan Regional Airport Condition Report-2020

Aviation and Tourism

One of Michigan's largest industries, tourism, is largely supported by aviation. On the shores of Lake Michigan, the St. Joseph Benton Harbor area is positioned as a prime area for vacationing tourists.

Berrien County Ranks # 8 Statewide in Traveler Spending

$403 Million

Annually

MEDC- 2014 The Economic Impact of Travel in Michigan

- Lodging – traveler spending in the accommodation sector. This includes food and other services provided by hotels and similar establishments.
- Food and Beverage – all traveler spending at restaurants and bars.
- Retail – traveler spending within all retail sectors within the Michigan economy.
- Recreation – traveler spending within the arts, entertainment, and recreation super sector.
- Transport – all forms of local transport services such as taxis, limos, trains, rental cars, and buses.

ENVIRONMENTAL REVIEW

Transportation and the Environment

It is broadly recognized that transportation networks can directly affect the natural environment and community resources of an area. Similarly, these same features can impact the maintenance and construction of the transportation system. SWMPC's role in this relationship is summarized as; the transportation planning process provides for actions and strategies that protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns. The mission of these objectives is to streamline transportation projects, by way of discussing potential impacts and providing basic guidelines for protecting these features early in the planning process. This also includes sharing information in consultation with applicable federal, state, and tribal land management, wildlife, and regulatory agencies.

To fulfill this mission a process was completed and outlined as;

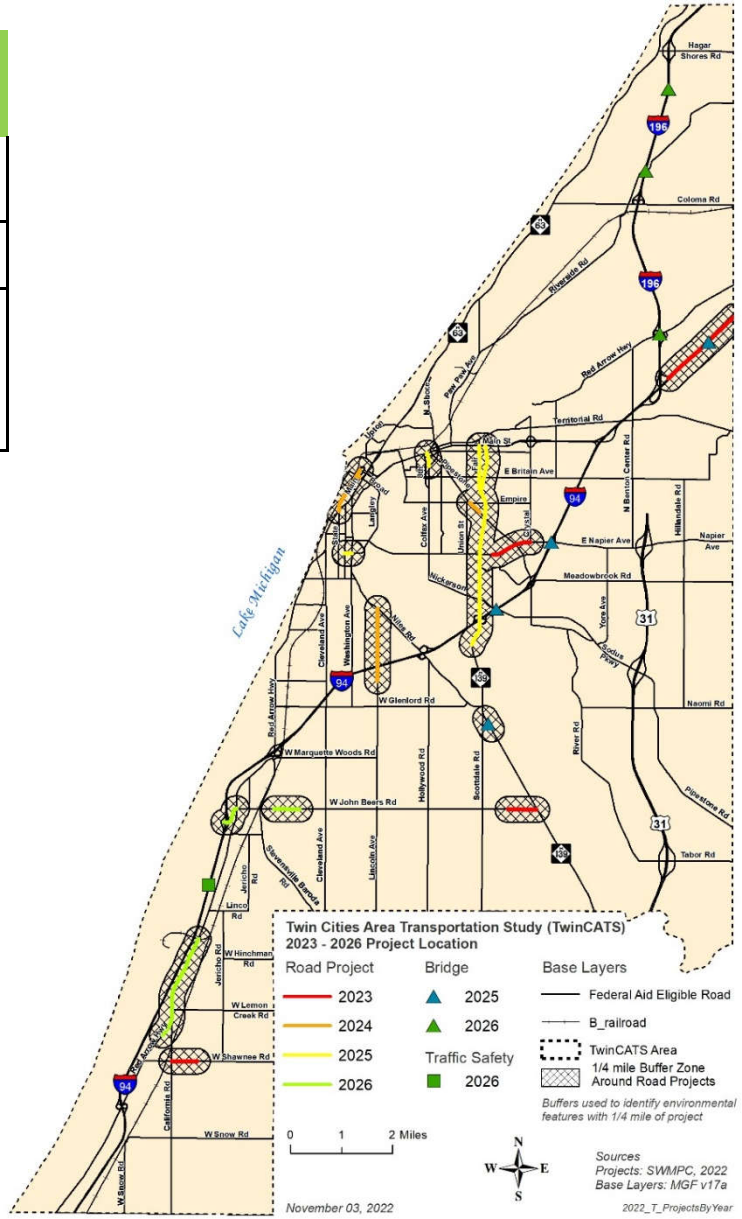
- Identify environmentally sensitive natural resources and significant community resources
- Analyze possible impacts on these environmental resources by examining the transportation projects using Geographical Information Systems (GIS)
- Presentation of GIS results: discussion, table, and maps
- Discussion of guidelines to review for threatened and endangered species
- Consultation list of relevant agencies
- Inclusion of the overall guidelines for planning, design, construction, and maintenance of transportation projects that represent good planning practice

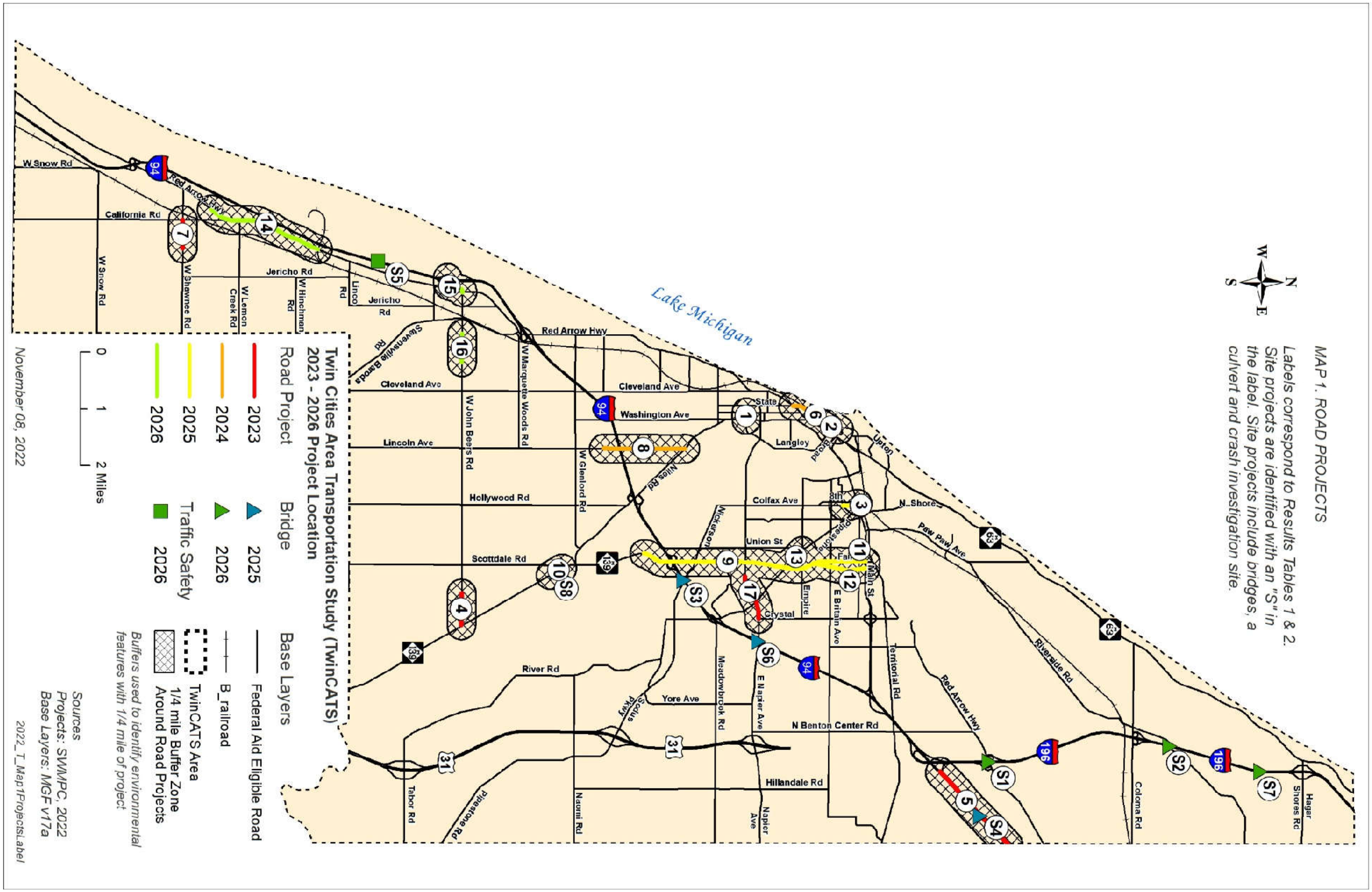
Identification of Sensitive Environmental Features and GIS Methodology

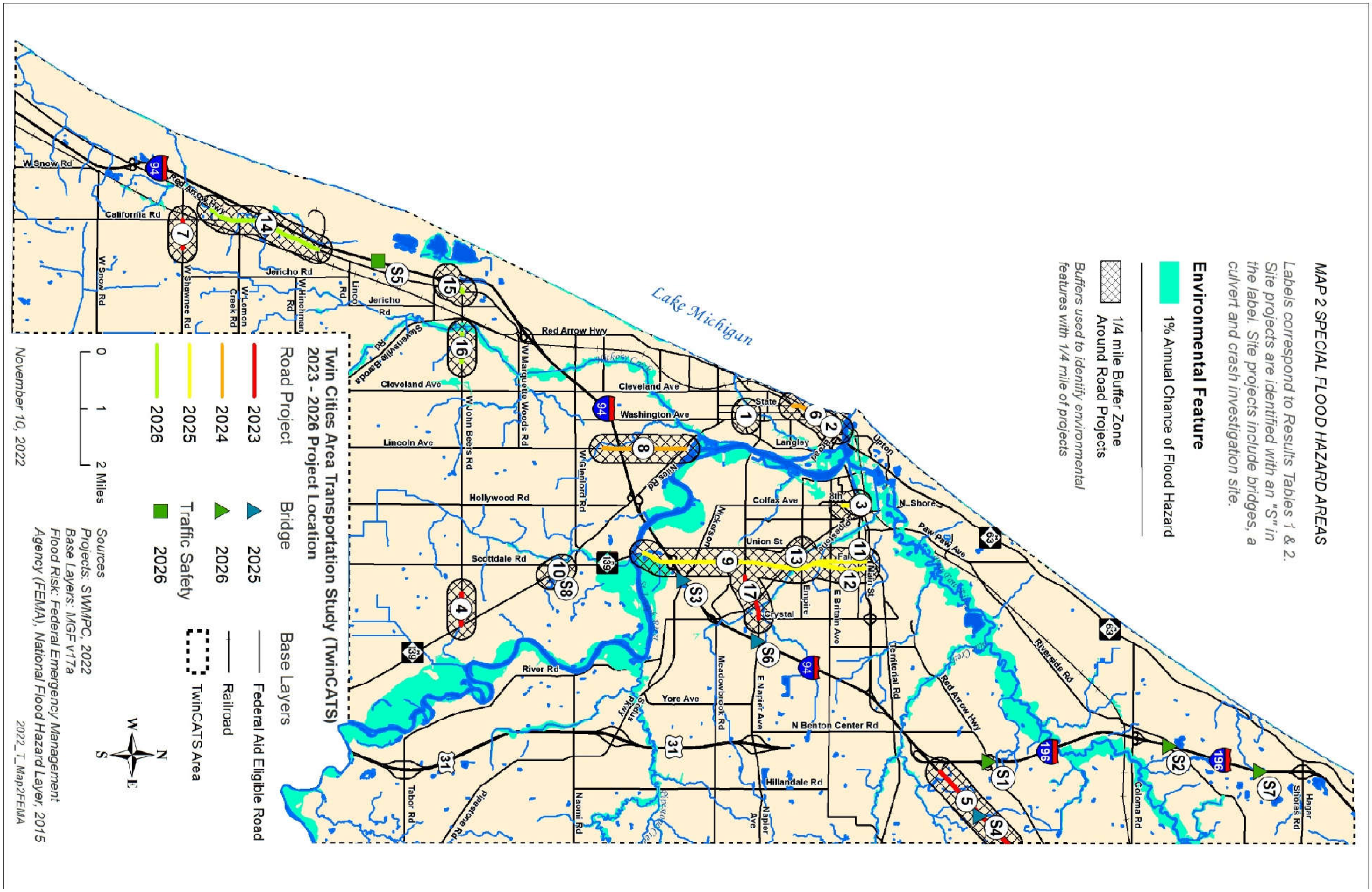
ENVIRONMENTAL FEATURES & SIGNIFICANT COMMUNITY RESOURCES - ANALYZED IN GIS	
Designated Critical Dunes *(no Impact)*	High-Risk Flood Areas
Lakes, Rivers, Streams & Drains	Farmland - Cropland
Wetlands	Community Resources: Hospitals, Schools, Libraries, and Municipal Centers
Recreational Areas: Parks, Trails, Preserves, and Athletic Facilities	

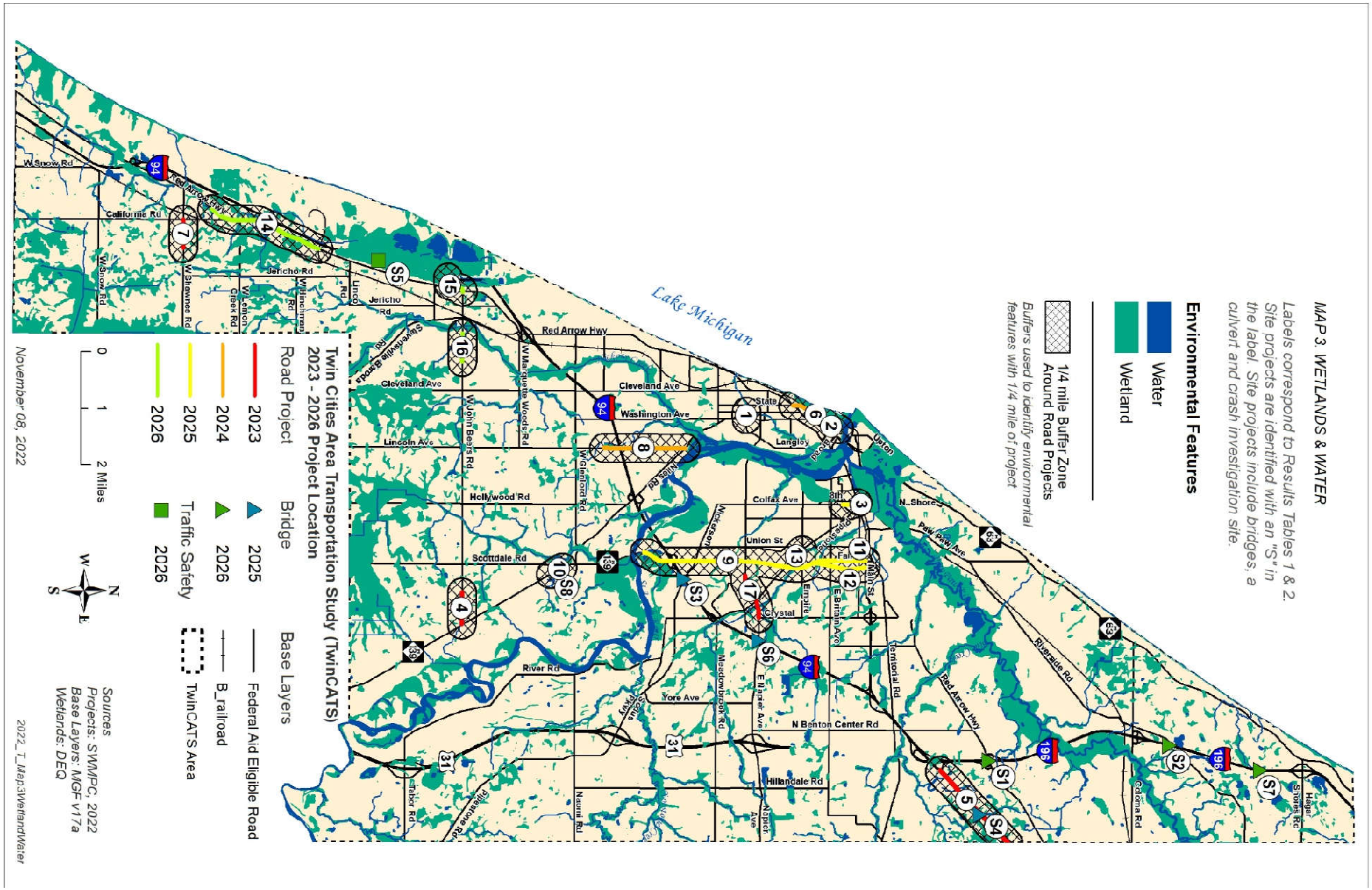
The list above was compiled with an awareness of invaluable natural resources and the community resources in TwinCATS, in addition to available data. A Geographic Information System (GIS) was used to analyze each transportation project in comparison to the features listed by creating a 1\4 mile buffer around each project and a 250-foot buffer around each work site, which includes bridges and a safety site. Features that fall within the buffer were identified and listed in the results in Tables 1 & 2, along with a discussion of the findings and selected maps. A preliminary review was done for the Critical Designated Dune areas, but no projects were near the protected regions, therefore it was omitted from the results.

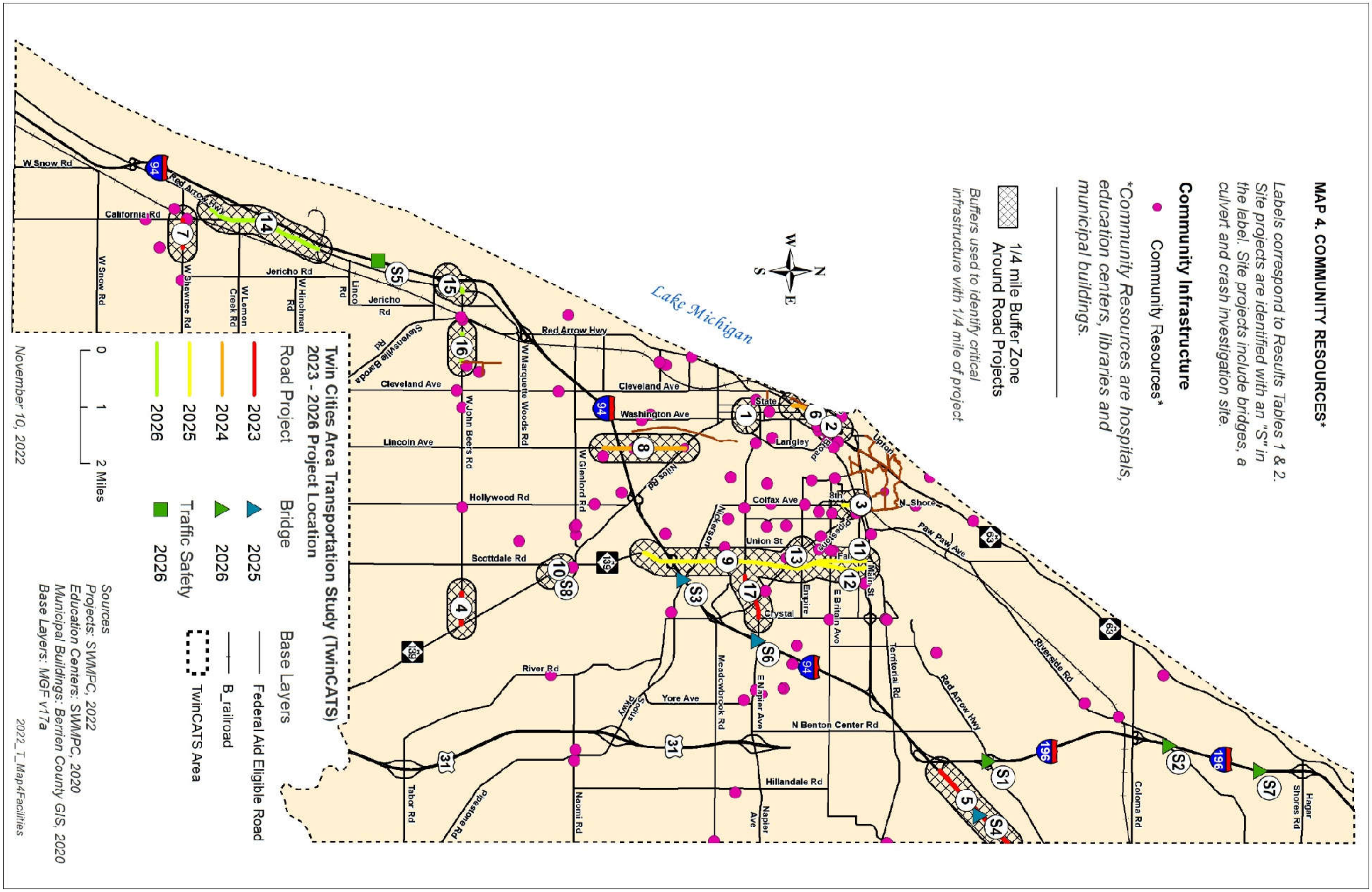
The source for this process is specified in "Integrating Environmental Issues in the Transportation Planning Process: Guidelines for Road and Transit Agencies, SEMCOG, January 2007".

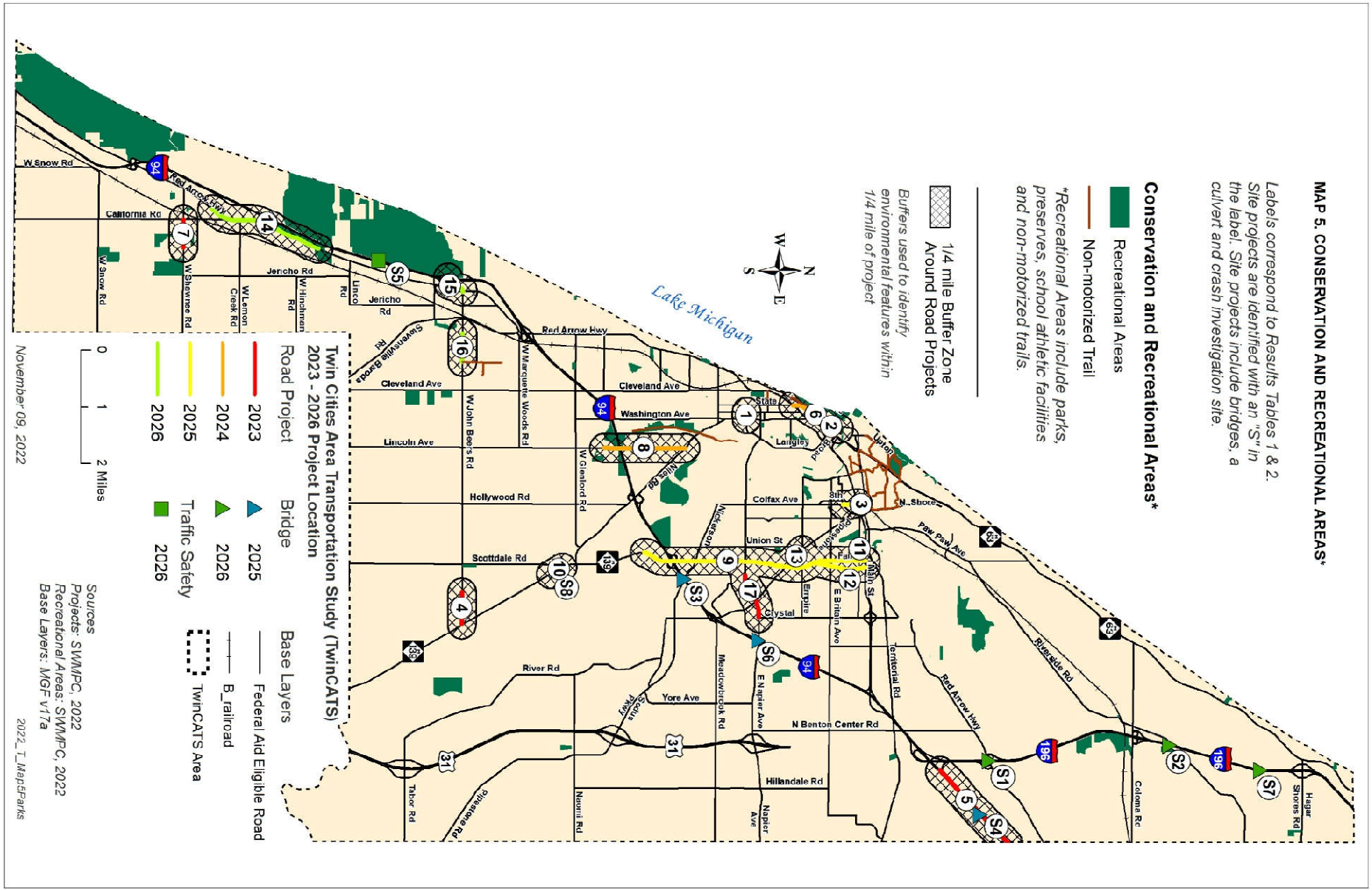



MAP 1. ROAD PROJECTS
Labels correspond to Results Tables 1 & 2. Site projects are identified with an "S" in the label. Site projects include bridges, a culvert and crash investigation site.
Lake Michigan
Twin Cities Area Transportation Study (TwinCATS)
2023 - 2026 Project Location
Road Project
2023
2024
2025
2026
Bridge
2025
2026
Traffic Safety
2026
Base Layers
Federal Aid Eligible Road
B_railroad
TwinCATS Area
1/4 mile Buffer Zone Around Road Projects
Buffers used to identify environmental features with 1/4 mile of project
0 1 2 Miles
November 08, 2022
Sources
Projects: SWMPC, 2022
Base Layers: MGF v17a
2022_T_MapIProjectsLabel


MAP 2 SPECIAL FLOOD HAZARD AREAS
Labels correspond to Results Tables 1 & 2. Site projects are identified with an "S" in the label. Site projects include bridges, a culvert and crash investigation site.
Environmental Feature
1% Annual Chance of Flood Hazard
1/4 mile Buffer Zone Around Road Projects
Buffers used to identify environmental features with 1/4 mile of projects
Twin Cities Area Transportation Study (TwinCATS)
2023 - 2026 Project Location
Road Project
2023
2024
2025
2026
Bridge
2025
2026
Traffic Safety
2026
Base Layers
Federal Aid Eligible Road
Railroad
TwinCATS Area
0
1
2 Miles
November 10, 2022
Sources
Projects: SWMPC, 2022
Base Layers: MGF v17a
Flood Risk: Federal Emergency Management Agency (FEMA), National Flood Hazard Layer, 2015
2022_T_Map2FEMA
Lake Michigan


MAP 3. WETLANDS & WATER
Labels correspond to Results Tables 1 & 2. Site projects are identified with an "S" in the label. Site projects include bridges, a culvert and crash investigation site.
Environmental Features
Water
Wetland
1/4 mile Buffer Zone Around Road Projects
Buffers used to identify environmental features with 1/4 mile of project
Lake Michigan
Twin Cities Area Transportation Study (TwinCATS)
2023 - 2026 Project Location
Road Project
2023
2024
2025
2026
Bridge
2025
2026
Traffic Safety
2026
Base Layers
Federal Aid Eligible Road
B_railroad
TwinCATS Area
0
1
2 Miles
November 08, 2022
Sources
Projects: SWMPC, 2022
Base Layers: MGF v17a
Wetlands: DEQ
2022_T_Map3WetlandWater


MAP 4. COMMUNITY RESOURCES*
Labels correspond to Results Tables 1 & 2. Site projects are identified with an "S" in the label. Site projects include bridges, a culvert and crash investigation site.
Community Infrastructure
Community Resources*
*Community Resources are hospitals, education centers, libraries and municipal buildings.
1/4 mile Buffer Zone Around Road Projects
Buffers used to identify critical infrastructure with 1/4 mile of project
Lake Michigan
Twin Cities Area Transportation Study (TwinCATS)
2023 - 2026 Project Location
Road Project
2023
2024
2025
2026
Bridge
2025
2026
Traffic Safety
2026
Base Layers
Federal Aid Eligible Road
B_railroad
TwinCATS Area
0 1 2 Miles
November 10, 2022
Sources
Projects: SWMPC, 2022
Education Centers: SWMPC, 2020
Municipal Buildings: Berrien County GIS, 2020
Base Layers: MGF v17a
2022_T_Map4Facilities


MAP 5. CONSERVATION AND RECREATIONAL AREAS*
Labels correspond to Results Tables 1 & 2. Site projects are identified with an "S" in the label. Site projects include bridges, a culvert and crash investigation site.
Conservation and Recreational Areas*
Recreational Areas
Non-motorized Trail
*Recreational Areas include parks, preserves, school athletic facilities and non-motorized trails.
1/4 mile Buffer Zone Around Road Projects
Buffers used to identify environmental features within 1/4 mile of project
Lake Michigan
Twin Cities Area Transportation Study (TwinCATS)
2023 - 2026 Project Location
Road Project
2023
2024
2025
2026
Bridge
2025
2026
Traffic Safety
2026
Base Layers
Federal Aid Eligible Road
B_railroad
TwinCATS Area
0
1
2 Miles
November 09, 2022
Sources
Projects: SWMPC, 2022
Recreational Areas: SWMPC, 2022
Base Layers: MGF v17a
2022_T_MapsParks

Environmental Review Results and Discussion

The goal of the environmental review 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 of projects. Though there are no improve and expand projects listed in the plan, there still will be a need to adhere to overall sound guidelines for planning, design, construction, and maintenance of transportation 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 the requirements of the National Environmental Policy Act (NEPA) process.

Project impacts on environmentally sensitive resources analyzed the likelihood of possible impacts from planned road projects. Using Geographic Information Systems (GIS), projects were mapped and buffered, representing a likely area of influence. Next, the specified project buffers intersected with environmentally sensitive resources. Where a project buffer and an environmentally sensitive resource intersect, impacts are considered possible and are listed in the Results Tables 1 & 2, followed by selected maps. It should be noted that no additional analysis of possible impacts was conducted. Simply because a project buffer intersects a wetland, for example, does not mean the wetland would be impacted. Nor does the absence of an intersection mean the wetland is not impacted. This screening analysis is simply designed to focus attention on possible areas of concern that should be evaluated in more detail at the project level.

SUMMARY OF RESULTS – Bridges and Crash Investigation Site (All projects shown in Map 1.)

FEATURE	**RESULTS - Features that fall within 250 ft. of the projects**
Map 2. Flood Zones	No projects are in areas of high risk for flooding
Map 3. Wetlands & Water	The culvert replacement and two bridge maintenance projects are near both water and wetlands. The crash investigation site is near a wetland.
Map 4. Community Resources	No projects are near community resources
Map 5. Parks & Recreational Areas	Bridge maintenance work on I-96 and Riverside is near Momany Dog Park in Hagar Township. The new traffic investigation site on I-94 is near Grand Mere State Park.
Farmland	The culvert replacement project on M-139 is near farmland

A few of the site projects are not near any of the environmental features or community resources used in the analyses (Table 1. Results). None of the projects are near Flood Risk Zone or Community Resources. One project is near farmland, the culvert replacement on M-139. Three projects are near water and wetlands. The project on I-94 and Roslyn is near an unnamed stream. The project on I-96 and Riverside is near an unnamed stream that empties into Lake Michigan. The culvert replacement is at the Big Meadow Drain. See the full results in Table 1 and find the project location in Map 1. It should be noted that the 250-foot buffer around the sites are not seen because of the scale of the maps.

TABLE 1. RESULTS – Bridges and Safety Site

Environmental features that are within a 250 feet buffer around sites.

MAP LABEL #	LOCATION	TYPE	YEAR	AGENCY	WATER	WETLANDS	FARM LAND	FLOOD RISK	COMMUNITY RESOURCES	PARKS & RECREATIONAL AREAS
S1	I-196 and Red Arrow Hwy	Bridge Maintenance	2026	MDOT						
S2	I-196 and Riverside	Bridge Maintenance	2026	MDOT						X
S3	I-94 and M-139	Bridge Maintenance	2025	MDOT						
S4	I-94 and Roslyn Rd	Bridge Maintenance	2025	MDOT	X	X				
S5	I-94 near Linco Rd	Crash Investigation Site	2026	MDOT		X				X
S6	I-96 and Napier Ave	Bridge Maintenance	2025	MDOT						
S7	I-96 and Riverside Rd	Bridge Maintenance	2026	MDOT	X	X				
S8	M-139 and Big Meadow Drain	Culvert Replacement	2025	MDOT	X	X	X			

SUMMARY OF RESULTS – Road Projects

Overall the environmental features that are within the buffered zone of the road projects are the water resources; lakes, rivers, streams, drains and wetlands. This is linked to the number of projects crossing or within areas that are at high risk of flooding which are low areas relative to the landscape. Any of the wetlands around a project area need special consideration through sound project management for their importance in providing flood water storage, sediment retention and wildlife habitat. Another feature that is near many projects are schools. This will need special consideration for traffic, pedestrians, and workers, especially within the school year. See the full results of the GIS analyses in Tables 1 & 2 along with the relevant maps

FEATURE	RESULTS - Road Projects within 1/4 mile of Features
MAP 2. Flood Zones (High Risk)	Many of the buffer zones around the projects are in a high-risk area for flooding, however, few roads cross the area of flooding. Usually, the Flood zone is at the end of the length of the project. The road project on M-139 does cross a flood zone near Empire and at the south end of the project.
MAP 3. Water & Wetlands	All road projects intersect within ¼ mile of water – drains, streams, lakes or rivers, and wetlands.
MAP 4. Community Resources	The most frequent community resource near road projects in schools. Administration buildings are the next most frequent community resource in the buffer zones. These buildings can also house police and fire stations.
MAP 5. Parks & Recreational Areas	The project is on West John Beers Road near the east side of Grand Mere State Park. The other work on John Beers Road is near a walking trail and two small parks. The work on the Northern part of M-139 is near two small city parks in Benton Harbor. Also, in Benton Harbor, the Colfax Avenue project is near City Center Park. The Lake Boulevard Road work is near many high-activity facilities in St. Joseph. The work on Lake Street near Bridgeman is close to Legion Park. The Lincoln Avenue projects on the south end are near two parks and a school athletic field.
Farmland	Five of the projects are near farmland, however many of these only have a small portion of farmland within the buffer. The I-94 project, where farmland is only in the north end of the buffer zone. The project on M-139/Marten Luther King Drive and the road work around the culvert replacement have around 25% of farmland in the buffer. The project at E. John Beers Road (near M-139) is all in farmland.

TABLE 2. **RESULTS – Road Projects within 1/4 mile of Features**

MAP LABEL #	LOCATION	TYPE	YEAR	AGENCY	WATER	WETLANDS	FARM LAND	FLOOD RISK	COMMUNITY RESOURCES	PARKS & RECREATIONAL AREAS
1	Botham Ave (State St to Niles Ave)	Reconstruction	2025	City of St. Joseph	**X**	**X**			**X**	**X**
2	Broad St (Lake St to State St)	Resurface	2024	City of St. Joseph	**X**	**X**			**X**	**X**
3	Colfax Ave (Main St to Market St)	Reconstruction	2025	City of Benton Harbor	**X**	**X**		**X**	**X**	**X**
4	E John Beers Rd (Eidson Rd to M-139)	Resurface	2023	BCRD	**X**	**X**	**X**	**X**		
5	I-94 (east of I-196 to Benton & Bainbridge Twp)	Resurface	2023	MDOT	**X**	**X**	**X**			**X**
5-2	I-94 (east of I-196 to Benton & Bainbridge Twp)	Resurface	2023	MDOT	**X**	**X**	**X**			**X**
6	Lake Blvd (Broad St & Lake Blvd)	Resurface	2024	City of St. Joseph	**X**	**X**		**X**	**X**	**X**
7	Lake St (Church St to Gast Rd)	Crush and Shape	2023	City of Bridgman	**X**	**X**			**X**	**X**
8	Lincoln Ave (M-63 to Maiden Ln)	Restore and rehabilitate	2024	BCRD	**X**	**X**		**X**	**X**	**X**
9	M-139	Reconstruction	2025	MDOT	**X**	**X**		**X**	**X**	
10	M-139 (Big Meadow Drain Tributary)	Culvert Replacement	2023	MDOT	**X**	**X**	**X**	**X**	**X**	
11	M-139 (Fair Ave)	Reconstruction	2025	MDOT	**X**	**X**		**X**	**X**	**X**
12	M-139 (Martin Luther King Dr)	Reconstruction	2025	MDOT	**X**	**X**	**X**	**X**	**X**	**X**
13	Pipestone St (Empire Ave to City Limits)	Resurface	2024	City of Benton Harbor	**X**	**X**		**X**	**X**	
14	Red Arrow Hwy (City Limits to DC Cook Entrance)	Restore and Rehabilitate & Nonmotorized Facility	2026	BCRD	**X**	**X**		**X**		
15	W John Beers Rd (Red Arrow Hwy to west Village Limit)	Reconstruction	2026	Village of Stevensville	**X**	**X**				
16	W John Beers Rd (Roosevelt Rd to Demarrow Rd)	Nonmotorized Facility	2026	BCRD	**X**	**X**		**X**	**X**	**X**
17	W Napier Ave (Plaza Dr to Crystal Ave)	Restore and Rehabilitate	2023	BCRD	**X**	**X**		**X**	**X**	

GUIDELINES: Review of the Threatened and Endangered Species Act

Federal listing as threatened or endangered by U.S. Fish and Wildlife Service

The species listed below as federal threatened or endangered for Berrien County are compiled from Information for Planning and Consulting (IPAC).

Species	Status	Habitat
Indiana Bat (*Myotis sodalis*)	**Endangered**	Summer habitat includes small to medium river and stream corridors with well-developed riparian woods; woodlots within 1 to 3 miles of small to medium rivers and streams; and upland forests. Caves and mines as hibernacula.
Northern Long-eared Bat *(Myotis septentrionalis)*	**Threatened**	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests during spring and summer.
Piping Plover (*Charadrius melodus*)	**Endangered**	Beaches along shorelines of the Great Lakes
Rufa Red Knot *(Calidris canutus rufa)*	**Threatened**	Only actions that occur along coastal areas during the Red Knot migratory window of MAY 1- SEPTEMBER 30
Eastern Massasauga (*Sistrurus catenatus*)	**Threatened**	Hibernates below the frost line in small burrows, tree roots, or rock crevasses - Close proximity and in a variety of wetlands
Copperbelly Water Snake *(Nerodia erythrogaster neglecta)*	**Threatened**	Shallow wetlands and forested uplands, moving between wetlands during an active
Mitcherll's Satyr Butterfly (*Neonympha mitchellii mitchellii*)	**Endangered**	Fens; wetlands characterized by calcareous soils which are fed by carbonate-rich water from seeps and springs
Pitcher's Thistle (*Cirsium pitcheri*)	**Threatened**	Stabilized dunes and blowout areas
Small Whorled Pogonia (*Isotria medeoloides*)	**Threatened**	Dry woodland; upland sites in mixed forests (second or third growth stage)

The development of naturalized areas has the potential to impact threatened and endangered species. Under Part 365 of Public Act 451 people are not allowed to take or harm any endangered or threatened fish, plants, or wildlife. Rules that apply are administered by the Michigan Department of Natural Resources: Michigan: Part 365 of the Natural Resources and Environmental Protection Act, Act 451 of the Michigan Public Acts of 1994, and the U.S. Fish & Wildlife Service Endangered Species Act of 1973.

Data sources are not readily available for threatened species, endangered species, or migratory birds. However, it is the recognition of habitat that is of importance. Berrien County and the TwinCATS area are home to many unique natural communities. Berrien County has 20 unique natural communities identified by the Michigan Natural Features Inventory (MNFI) which maintains a database of occurrences of exemplary natural communities, rare plants, and rare animals found in Michigan. By definition, a natural community does not fall under state and federal regulations, however many of these natural communities are wetlands and dune ecosystems that are protected by regulations

GUIDELINES: Review of the Threatened and Endangered Species Act

TOOLS: "Local Agency Threatened and Endangered Species Review Process, Updated 2020"

To navigate the process of review for threatened or endangered species the Michigan Department of Transportation (MDOT) has prepared guidelines for transportation agencies.

WHAT'S IN THE REPORT?:

⇒ Identify threatened and endangered species in your area through an online search

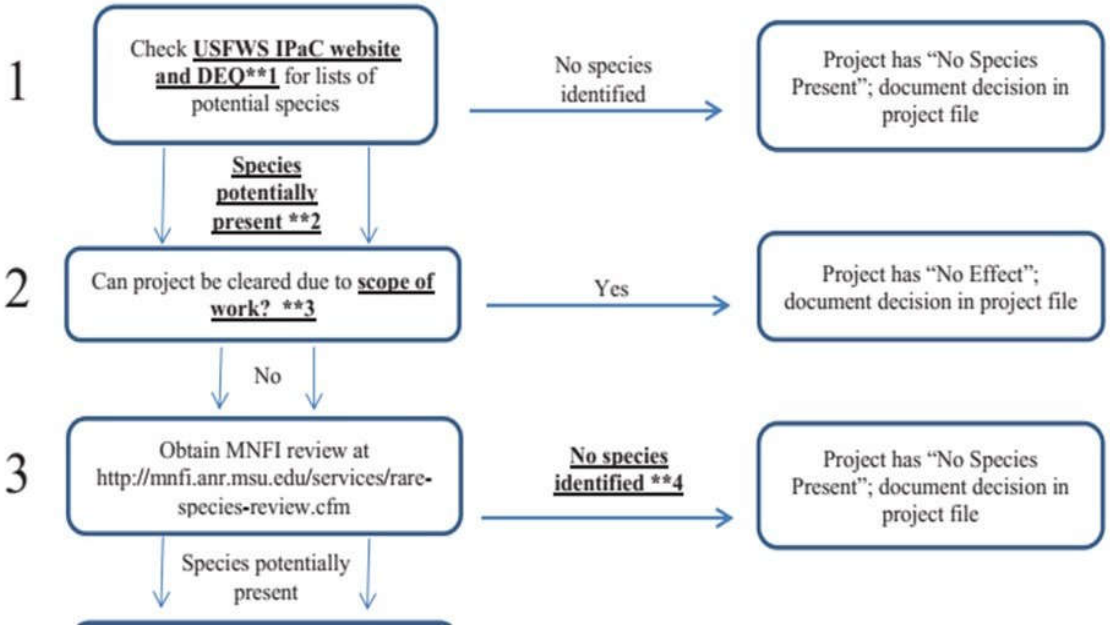
⇒ Guidelines for tree removal and bridge work in bat habitat

⇒ Fact sheet about the Eastern Mississauga Rattlesnake that must be read by contractors

⇒ Guidelines for "activity specific" best management practices

⇒ List of exempt work types that will not need further investigation

As an example, below are the first 3 steps (of a 13-step process) from the report



MUST-READ

Local agencies must follow this process for all projects that utilize federal or state funding

https://www.michigan.gov/documents/mdot/Local_Agency_Threatened_and_Endangered_Species_Review_Process_011818_611752_7.pdf

Overall Guidelines for Planning, Design, Construction, and Maintenance of Transportation Projects

Source: Integrating Environmental Issues in the Transportation Planning Process: Guidelines for Road and Transit Agencies, January 2007. SEMCOG

Regardless of the type of project or the resources that may be impacted, the following guidelines should be considered during the planning, design, construction, and maintenance of transportation projects. They represent good planning practice and will help ensure a blending of sound construction techniques with desired environmental protection goals.

Planning and Design Guidelines

Employ context-sensitive solutions (CSS) principles from the earliest point possible in project development. CSS is an approach to transportation design

that considers the total context within which a transportation improvement will exist. It is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic, and environmental resources while maintaining safety and mobility. Essential to CSS is the involvement of the public, community officials, and others affected by the project early and often.

Identify the area of potential impact related to the transportation project, including the immediate project area, anticipated borrow/fill areas, haul roads, prep sites, and other contractor areas, as well as other related project development areas.

Conduct an inventory to determine if any environmentally sensitive resources could be impacted by the project. (Note: Data conducive to the regional analysis defined in this report were not available for endangered/threatened species, archeological sites, and contaminated sites. However, additional information on how to obtain these data can be found under the “More Information” section below.)

Determine if a County Hazard Mitigation Plan exists and if impacted resources are addressed in the plan; if so, coordinate with hazard mitigation planners and remain consistent with the plan. (A County Hazard Mitigation Plan is required for a county to be eligible for federal Hazard Mitigation Grant funds. The Michigan State Police Management and Homeland Security Division is working to establish a plan in every Michigan county. The plans are designed to protect communities from hazards and to plan to reduce future hazards, including to the natural environment.)

Conduct a pre-construction meeting with local community officials, contractors, and subcontractors to discuss environmental protection. Communicate agreed-upon preservation goals to everyone working on the project. Discuss with the local community any special requirements (e.g., ordinances, site plan review).

If possible, avoid impacts to environmental resources by limiting the project scope or redesigning the project (e.g., alignment, design speed, retaining walls, cross-section narrowing, etc.).

Where impacts cannot be avoided, mitigate them as much as possible. Where required, coordinate the evaluation of possible impacts, exploration of alternatives, and development of mitigation strategies with appropriate federal, state, and local authorities.

Integrate stormwater management into the design of the site. If appropriate, utilize low-impact development practices that infiltrate stormwater into the ground (e.g., swales, rain gardens, native plantings).

Construction and Maintenance Guidelines (Part 1)

Insert special requirements addressing the sensitivity of environmental resources into plans, specifications, and estimates provided to construction contractors. Note the kinds of activities that are not allowed in sensitive areas (e.g., stockpiling, clearing, construction equipment, etc.).

Confine construction and staging areas to the smallest necessary and clearly mark area boundaries. Confine all construction activity and storage of materials to designated areas.

Use the least obtrusive construction techniques and materials.

Install construction flagging or fencing around environmental resources to prevent encroachment.

Minimize and, where possible, avoid site disturbance. As appropriate:

- Protect existing vegetation and sensitive habitat
- Implement erosion and sediment control
- Protect water quality
- Protect cultural resources
- Minimize noise and vibrations; and
- Provide for solid waste disposal and worksite sanitation.

Sequence construction activities to always minimize land disturbance, but especially during the rainy or winter season for natural resource protection and during the high-use season for resources open to the public.

When utilizing heavy equipment, pay close attention to the potential of uncovering archeological remains.

Before site disturbance occurs, implement erosion control best management practices to capture sediments and control runoff.

- Minimize the extent and duration of exposed bare ground to prevent erosion.
- Establish permanent vegetative cover immediately after grading is complete.
- Do not stockpile materials within sensitive areas.
- Employ erosion control techniques.
- Prevent tracking of sediment onto paved surfaces.

Construction and Maintenance Guidelines (part 2)

Incorporate stormwater management into the construction phase.

- Prevent the direct runoff of water containing sediment into waterways. All runoff from the work area should drain through sedimentation control devices before entering a water body.
- During and after construction activities, sweep the streets to reduce sediment entering the storm drainage system.
- Block or add best management practices to storm drains in areas where construction debris, sediment, or runoff could pollute waterways.

Do not dispose of spoiled material in or near natural or cultural resources.

Properly handle, store, and dispose of hazardous materials (e.g., paint, solvents, epoxy) and utilize less hazardous materials when possible. Implement spill control and clean-up practices for leaks and spills of fuel, oil, or hazardous materials. Utilize dry cleanup methods (e.g., absorbents) if possible. Never allow a spill to enter the storm drain system or waterways.

Keep equipment in good working condition and free of leaks. Avoid equipment maintenance or fueling near sensitive areas. If mobile fueling is required, keep a spill kit on the fueling truck.

Avoid hosing down construction equipment at the site, unless the water is contained and does not get into the storm drain system or waterways. Identify

and implement salt management techniques to reduce the impacts of salt on area waterways.

Utilize integrated pest management techniques if using pesticides during maintenance operations.

Conduct on-site monitoring during and immediately after construction to ensure environmental resources are protected as planned.

Source: Integrating Environmental Issues in the Transportation Planning Process: Guidelines for Road and Transit Agencies, January 2007. SEMCOG

Sources

AASHTO Center for Environmental Excellence. Environmental Stewardship Practices, Procedures, and Policies for Highway Construction and Maintenance. www.environment.transportation.org/environmental_issues/construct_maint_prac/compendium/manual/.

Michigan Department of Natural Resources Endangered Species Assessment

Michigan Office of the State Archeologist: Michigan Historical Center, Department of History, Arts and Libraries Michigan

Department of Environmental Quality, Remediation and Redevelopment Division

Environmental Consultation

As part of the guidelines directed in CFR 450.324(f)(10), the MPO must develop a discussion in consultation with applicable federal, state, and tribal land management, wildlife, and regulatory agencies. This process is meant to improve the depth of the analyses, by including professionals in varying disciplines to be considered in the project development, also to considering the needs of consulting agencies, and eliminating or minimizing conflicts with other agencies' programs.

A list of contacts was compiled to include local, regional, state, and federal organizations that have expertise in environmental issues and regulations. Agencies were contacted via email using the following process:

- A letter explaining the transportation planning consultation and their role in the process
- A draft of the 2045 LRP which includes maps of proposed projects on how they can provide their input

Agency Name	Area of Experience
Abonmarche	Environmental
Andrews University Architecture Program	Landscape Design
Berrien County Conservation District	Conservation
Berrien County Department of Human Services	Health
Berrien County Drain Commissioner	Environmental
Berrien County Historical Association	Historic Preservation
Berrien County Park Department	Conservation
Berrien County Road Department	Road Design
U.S. Fish and Wildlife Service	Environmental–federal
Lakeland Hospital	Health
MDOT– Air Quality	Environmental—Air Quality

Agency Name	Area of Experience
MDOT Non motorized Transportation	Transportation Planning
Michigan Department of Environmental Quality (MDEQ)	Environmental–State
Michigan Department of Natural Resources (MDNR)	Environmental–State
Michigan Department of Agriculture and Rural Development (MDARD)	Environmental–State
Pokagon Band of Potawatomi Indians	Tribal Planning
Sarrett Nature Center	Conservation
Southwest Michigan Land Conservancy	Conservation
Southwest Michigan Regional Airport	Aviation
State Historic Preservation Organization (SHPO)	Historic Preservation
Two Rivers Coalition	Conservation
Wightman and Associates	Environmental

SUPPORTING DOCUMENTS

TwinCATS Policy Committee Membership	
Local Government	
City of Benton Harbor	Tim Drews
City of Bridgman	Juan Ganum
City of St. Joseph	John Hodgson
Village of Shoreham	Mike Allard
Village of Stevensville	Kacey Dominguez
Benton Charter Township	Richard Royall
Hagar Township	Vacant
Lake Charter Township	Gloria Payne
Lincoln Charter Township	Richard Stauffer
Royalton Township	Steve Tilly
St. Joseph Charter Township	Denise Cook
Sodus Township	David Chandler
County	
Board of Commissioners	Ray Bell
Planning Commission	Eric Lester
Regional	
Twin Cities Area Transportation Authority	Angel Crayton
Southwest Michigan Regional Airport	Vince DesJardins
Cornerstone Alliance	Sue Wyman
State	
MDOT Bureau of Transportation Planning	Jim Sturdevant
MDOT Southwest Region	Josh Grab
MDOT Coloma TSC	Jonathon Smith
Non Voting	
Federal Highway Administration	Andy Pickard
Federal Transit Administration	Cecilia Crenshaw
NIRPC	Scott Weber

TwinCATS Technical Advisory Committee Membership	
Local Government	
City of Benton Harbor	Tim Drews
City of Bridgman	Juan Ganum
City of St. Joseph	Tim Zebell
Village of Shoreham	Mike Allard
Village of Stevensville	Tim Drews**
Benton Charter Township	**Vacant**
Hagar Township	Deborah Kavanaugh
Lake Charter Township	Gloria Payne
Lincoln Charter Township	Terrie Smith
Royalton Township	Steve Tilly
St. Joseph Charter Township	Roger Seely
Sodus Township	David Chandler
County	
Berrien County Road Department	Kevin Stack
Berrien County Road Department	Kevin Stack
Regional	
Twin Cities Area Transportation Authority	Angel Crayton
Southwest Michigan Regional Airport	Vince DesJardins
Cornerstone Alliance	Sue Wyman
Disability Network	Cindy Gray
MDOT Bureau of Transportation Planning	
MDOT Bureau of Transportation Planning	Jim Sturdevant
MDOT Southwest Region	Josh Grab
MDOT Coloma TSC	Jonathon Smith
Non Voting	
Federal Highway Administration	Andy Pickard
Federal Transit Administration	Cecilia Crenshaw
MDOT, Urban Travel Analysis	Katie Beck
NIRPC	Scott Weber

Performance Measures Background

A key feature of the Infrastructure Investment and Jobs Act (IIJA) is the continuation of the performance and outcome-based program originally introduced through the Moving Ahead for Progress in the 21st Century (MAP-21) Act. The objective of this performance-based program is for states and MPOs to invest resources in projects that collectively will make progress toward the achievement of the national transportation goals.

- **Safety**: To achieve a reduction in fatalities and serious injuries on all public roads.
- **Infrastructure Condition**: To maintain highway infrastructure assets in a state of good repair.
- **Congestion Reduction**: To achieve a reduction in congestion on the National Highway System.
- **System Reliability**: To improve the efficiency of the surface transportation system.
- **Freight Movement and Economic Vitality**: To improve freight networks, 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 environment.
- **Reduced Project Delivery Delays**: To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion by eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

Performance measures must be directly related 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."* Under MAP-21, U.S. DOT established performance measures and state DOTs then developed performance targets in consultation with MPOs. State investments must make progress toward these performance targets, and MPOs must incorporate these performance measures and targets into their Transportation Improvement Programs (TIPs) and Long Range Transportation Plans.

Performance Areas	Notice of Proposed Rule Making	Final Rule Published	Final Rule Effective	MPO Action to Date
Safety	March 11, 2014	March 15, 2016	April 14, 2016	MPO supports the MDOT's targets
Transit Asset Management	September 30, 2015	July 26, 2016	October 1, 2016	MPO supports TCATA's targets.
Pavement and Bridge	January 5, 2015	January 18, 2017	May 20, 2017	MPO supports MDOT's targets
System Performance	April 22, 2016	January 18, 2017	May 20, 2017	MPO supports MDOT's targets
Public Transportation Agency Safety Plan	February 5, 2016	July 19, 2018	July 19, 2019	MPO supports TCATA's targets.

Safety Performance

The Highway Safety Improvement Program's final rule (23 CFR Part 490) requires States to annually set targets for five safety performance measures. MDOT coordinated the establishment of the safety targets with the 14 MPOs in Michigan through monthly Target Coordination meetings and through discussions at various meetings of the Michigan Transportation Planning Association (MTPA). MDOT officially adopted the 2023 state safety targets in the Highway Improvement Program annual report dated August 31, 2022. On October 17, 2022, TwinCATS adopted MDOT'S 2023 Safety targets.

Performance Measure	Description	TwinCATS DATA		Statewide Data		2021 State Target	2021 prediction met?	2023 State Target
		2015-2019	2017-2021	2015-2019	2017-2021			
Number of fatalities.	The number of fatalities due to a vehicular crash.	8.8	9.8	1004.4	1041.8	968.6	No	1015.6
Fatalities per 100 million vehicle miles traveled (VMT).	The rate of serious injuries based on the total miles driven in the area.	0.855	0.957	0.998	1.071	0.982	No	1.136
Number of serious injuries.	The number of serious injuries due to a vehicular crash.	48.8	53.0	5,559.6	5,5742.2	5,533.6	No	5,909.2
Serious injuries per 100 million vehicle miles traveled (VMT).	The rate of serious injuries based on the total miles driven in the area.	4.703	5.212	5.52	5.878	5.609	No	6.058
Non-motorized fatalities, serious injuries.	The number of pedestrians and bicyclists seriously injured or killed due to a vehicular crash.	6.6	7.4	768.8	752.0	771.2	Yes	743.4

This data is calculated using the 5-year rolling average of fatalities & serious injuries distributed annually by MDOT

Safety Performance Measures Role in the LRTP Process

Applications to use the TwinCATS STBG funding were scored on all performance criteria including safety. Applicants were asked to identify each safety countermeasure their project would provide based on the MDOT crash reduction factor (CRF) list included in the statewide HSIP allocation. Points were awarded based on the number of countermeasures a project will provide. Every local road agency project includes at least one safety improvement, with some projects including several countermeasures. Examples of safety improvements funding in 2023-20-26 include a road diet, signal timing improvements, improved signage, added guardrail, and improvements to pavement marking durability.

Pavement Condition

Federal rules require MDOT to establish targets for pavement condition measures (Percent Good and Percent Poor) on the Interstate and Non-Interstate National Highway System (NHS). These targets are required for two- and four-year intervals for each measure, with eight targets in total. For the Interstate measures, there will be no two-year targets for the first (2018-2021) performance period per 23 CFR Part 490, therefore, there will only be six targets in the first period.

The rule requires states to measure, monitor, and set targets based on a composite index of pavement condition measures (PCM). The four metrics to be used are International Roughness Index (IRI), Cracking Percent, and Rutting/Faulting as reported by states to the FHWA's Highway Performance Monitoring System (HPMS). All four metrics will be used to determine the condition for Interstate. If all three metrics on a segment are "good," then a pavement is rated in good condition. If two or more metrics are "poor," it is to be considered in poor condition. Only IRI will be used to determine non-Interstate conditions for the 2018-2024 performance period, after which it will use PCM. Cracking Percent and IRI are to be reported on all pavement types. Rutting is to be reported only on asphalt pavements, as with faulting on jointed concrete pavements.

Pavement Condition Targets apply to the NHS, which includes the Interstate and Non-Interstate NHS. The Non- Interstate portion of the system is comprised of trunkline (MDOT or state-owned) and non-trunkline (local government-owned) roads. Local agencies own 19 percent of the NHS in Michigan, while MDOT maintains ownership of approximately 81 percent. On January 11, 2021, the TwinCATS Technical and Policy Committees voted to support the Michigan Department of Transportation individual adjusted four-year pavement condition and bridge condition targets.

Performance Measure	Base Data - 2017		2 yr. mid-cycle status - 2019		4 yr. targets -2021
	TwinCATS	State	TwinCATS	State	
Percentage of pavement on the Interstate System in good condition.	34.7%	56.8%	49.5%	63.1%	47.8%
Percentage of pavement on the Interstate System in poor condition.	8.2%	5.2%	10.7%	4.9%	10.0%
Percentage of pavement on the non-Interstate National Highway System in good condition.	39.6%	49.7%	32.8%	48.3%	43.7%
Percentage of pavement on the non-Interstate National Highway System in poor condition.	25.2%	18.6%	29.8%	19.2%	24.6%

Bridge Condition

Federal law, outlined in the National Bridge Inspection Standards (NBIS), defines a bridge as a structure carrying traffic with a span greater than 20 feet and requires that all bridges be inspected every two years to monitor and report condition ratings. The FHWA requires that for each applicable bridge, the performance measures for determining conditions be based on the minimum values for the substructure, superstructure, deck, and culverts. The FHWA further requires counting this condition by the respective deck area of each bridge and expressing condition totals as a percentage of the total deck area of bridges in a state. Condition ratings are based on a 0-9 scale (0 being poor, 9 being good) and assigned for each culvert, or the deck, superstructure, and substructure of each bridge. These ratings are recorded in the National Bridge Inventory (NBI) database. Condition ratings are an important tool for transportation asset management, as they are used to identify preventative maintenance needs, and to determine rehabilitation and replacement projects that require funding.

Performance Measure	Description	Base Data - 2017		2 yr. mid-cycle status - 2020		4 yr. targets	Data Source
		TwinCATS	State	TwinCATS	State		
Percentage of National Highway System (NHS) bridge deck area in good condition.	The percentage of bridges on the NHS that are considered in good condition.	17.5%	32.7%	2.9%	27.0%	23.0%	National Bridge Inventory
Percentage of National Highway System (NHS) bridge deck area in poor condition.	The percentage of bridges on the NHS that are considered in poor condition.	11.3%	9.8%	2.2%	7.0%	8.0%	National Bridge Inventory

Pavement and Bridge Condition Measures Role in the LRTP Process

Pavement performance target achievement is aided through annual PASER data collection, reporting results, and the dissemination of the data in the form of easy-to-read maps and graphs. TwinCATS works closely with local road agencies on pavement performance monitoring. The adoption of asset management planning is a significant factor in project scoring. This has resulted in a greater focus on longer-term fixes such as. reconstruction or heavy rehabilitations which are expected to last far longer than spending the same amount on multiple cheaper projects. Bridge preservation is also a key concern in the TwinCATS region, with nearly every bridge in poor condition being funded for repairs.

Travel Time Reliability

Federal rules require states to measure, monitor, and set goals based on a composite index of travel time reliability metrics. Travel time reliability measures how consistent the travel time is from one point to another, from one day to the next. To determine reliability, data on travel time is examined to see how it varies over time. Travel time for each discrete segment of the NHS is placed in order from the shortest time (fastest speed), which is the 1st percentile speed, to the longest time (slowest speed), which is the 100th percentile speed. Three performance measures are examined to compare the "normal" travel time, (defined as the 50th percentile travel time) on a segment, with either the 80th percentile or the 95th percentile travel time to determine the overall reliability. If the difference between the normal travel time and the longer travel time (80th or 95th percentile time) is greater than 50 percent, then the segment is unreliable.

To help understand this concept and how travel time reliability is applied, consider the following highly simplified hypothetical example. Suppose an individual's normal travel time from home to work is 20 minutes. The 80th percentile is defined as one out of every five days, or approximately once a work week. If in a typical week, it takes this individual 30 minutes or longer to travel to work (one or more times), then the route would be designated as unreliable. The truck travel time measure uses the 95th percentile, which is one out of every twenty days. On January 11, 2021, the TwinCATS Technical and Policy Committees voted to reaffirm support for the Michigan Department of Transportation's individual four-year system performance targets.

Performance Measure	Base Data - 2017		State Target 2021	Data Source
	SWMPC*	State		
Percentage of the person-miles traveled on the Interstate that are reliable.	NA	85%	75%	INRIX/NPMRDS
Percentage of the person-miles traveled on the non-Interstate NHS that are reliable.	94.3%	86.10%	70%	INRIX/NPMRDS
Truck Travel Time Reliability (TTTR) Index	1.11	1.38	1.75	INRIX/NPMRDS

*Combines both NATS & TwinCATS planning areas

Travel Time Reliability Role in the Planning Process

The TwinCATS area already meets the state's 2021 Travel Time Reliability targets. TwinCATS will continue to use travel demand models to predict if changes in population and travel patterns may lead to future reliability concerns.

Transit State of Good Repair

Effective on October 1, 2016, the final rule requires that all recipients of federal financial assistance under 49 USC Chapter 53, who own, operate, or manage public transportation capital assets, must develop and implement Transit Asset Management (TAM) plan. A TAM plan must include an asset inventory, condition assessments of inventoried assets, a decision-support tool, and a prioritized list of investments to improve the "State of Good Repair" (SGR) levels of their capital assets. The final rule (49 CFR 625) also established SGR standards and four associated SGR performance measures; required coordination of the performance targets with the state DOTs and MPOs; and called for the reporting of asset inventories, conditions, and performance measures through the National Transit Database. The FTA implemented the TAM requirements using a two-tiered approach, in order to reduce associated resource obligations for agencies operating smaller fleets:

The Twin Cities Area Transportation Authority (TCATA) is the designated transit operator for the Benton Harbor-St. Joseph Urbanized area. Based on its fleet size which is less than 100 vehicles in revenue service during peak -time TCATA is classified as a Tier II operator. The final SGR performance measures that all Tier II Locally Operated Transit Services are required to adopt are:

- Equipment (Non-revenue vehicles) – % of non-revenue vehicles that have met or exceeded their useful life benchmark
- Rolling Stock (Revenue Vehicles) – % of revenue vehicles that have met/exceeded their useful life benchmark
- Facilities – % of facilities with a rating below 3.0 on the FTA Transit Economic Requirements Model (TERM) scale

TwinCATS has worked with the Capital Area Transportation Authority (CATA) to report State of Good Repair Targets to the Federal Transit Administration. TwinCATS adopted and supports the targets set by CATA as outlined below.

Performance Measure	Description	Asset	Base Data - 2018	Target 2020	Data Source
Rolling stock in a state of good repair	Percent of rolling stock transit vehicles that have exceeded useful life	25 Cutaway Buses 1 Passenger Van	0% 0%	0% 0%	PTMS
Non-Revenue Vehicles in a state of good repair	Percent of non-revenue vehicles that have exceeded useful life	2 Staff Cars 1 Wrecker	100% 100%	0% 0%	PTMS
Facilities in a state of good repair	Percent of facilities within an asset class rated 3 or below on the FTA TERM scale.	Administration Building	0%	0%	PTMS

PTMS = Public Transit Management System

Transit Safety

On July 19, 2018, the FTA published the Public Transportation Agency Safety Plan (PTASP) Final Rule, which requires FTA Section 5307 recipients and certain operators of rail systems to develop safety plans in accordance with 49 USC 5329. The PTASP rule became effective on July 19, 2019. the Twin Cities Area Transportation Authority (TCATA), as an FTA 5307 recipient, published an update to their Public Transportation Agency Safety Plan, on July 9, 2021, which includes measures for:

Fatalities
Total number of reportable fatalities
Rate of reportable fatalities per total vehicle revenue miles

Injuries
Total number of reportable injuries
Rate of reportable injuries per total revenue miles

Safety Events
Total number of reported safety events
Rate of reportable safety events per total vehicle miles traveled.

System Reliability
Average miles buses travel between major mechanical failures

On July 19, 2021, TwinCATS agreed to set the MPOs Public Transportation Safety Targets by supporting the targets contained in the TCATA safety plan.

Service Mode	Fatalities	Fatalities per 100K VRM	Injuries	Injuries per 100K VRM	Safety Events	Safety Events per 100K VRM	System Reliability VRM/Failures
Demand Response	0	0	1	.3	9	2,74	54,600
Fixed Route	0	0	0	0	6	2.9	20,000

Transit Performance Measures Role in the LRTP Process

During discussions regarding future transit efforts, TwiNCATS will refer to, and measure progress towards each of these performance measure targets. These targets will be used to help TCATA determine its priorities for funding.

Safety Targets – 2023

Performance Measure	TwinCATS DATA		Statewide Data		2021 State Target	2021 prediction met?	2023 State Target
	2015-2019	2017-2021	2015-2019	2017-2021			
Number of fatalities.	8.8	9.8	1004.4	1041.8	968.6	No	1015.6
Fatalities per 100 million vehicle miles traveled (VMT).	0.855	0.957	0.998	1.071	0.982	No	1.136
Number of serious injuries.	48.8	53.0	5,559.6	5,5742.2	5,533.6	No	5,909.2
Serious injuries per 100 million vehicle miles traveled (VMT).	4.703	5.212	5.52	5.878	5.609	No	6.058
Non-motorized fatalities, serious injuries.	6.6	7.4	768.8	752.0	771.2	Yes	743.4

Pavement Condition Targets – 2021

Performance Measure	Base Data - 2017		2 yr. mid-cycle status - 2019		4 yr. targets - 2021	Data Source
	TwinCATS	State	TwinCATS	State		
Percentage of pavement on the Interstate System in good condition.	34.7%	56.8%	49.5%	63.1%	47.8%	MDOT – International Roughness Index
Percentage of pavement on the Interstate System in poor condition.	8.2%	5.2%	10.7%	4.9%	10.0%	MDOT – International Roughness Index
Percentage of pavement on the non-Interstate National Highway System in good condition.	39.6%	49.7%	32.8%	48.3%	43.7%	MDOT – International Roughness Index
Percentage of pavement on the non-Interstate National Highway System in poor condition.	25.2%	18.6%	29.8%	19.2%	24.6%	MDOT – International Roughness Index

Bridge Condition Targets – 2021

Performance Measure	Base Data - 2017		2 yr. mid-cycle status - 2020		4 yr. targets	Data Source
	TwinCATS	State	TwinCATS	State		
Percentage of National Highway System (NHS) bridge deck area in good condition.	17.5%	32.7%	2.9%	27.0%	23.0%	National Bridge Inventory
Percentage of National Highway System (NHS) bridge deck area in poor condition.	11.3%	9.8%	2.2%	7.0%	8.0%	National Bridge Inventory

Travel Time Reliability – 2020

Performance Measure	Base Data - 2017 SWMPC*	Base Data - 2017 State	State Target 2021	Data Source
Percentage of the person-miles traveled on the Interstate that are reliable.	NA	85%	75%	INRIX/NPMRDS
Percentage of the person-miles traveled on the non-Interstate NHS that are reliable.	94.3%	86.10%	70%	INRIX/NPMRDS
Truck Travel Time Reliability (TTTR) Index	1.11	1.38	1.75	INRIX/NPMRDS

Transit State of Good Repair –2020

Performance Measure	Description	Asset	Base Data - 2018	Target 2020	Data Source
Rolling stock in a state of good repair	Percent of rolling stock transit vehicles that have exceeded useful life	25 Cutaway Buses 1 Passenger Van	0% 0%	0% 0%	PTMS
Non-Revenue Vehicles in a state of good repair	Percent of non-revenue vehicles that have exceeded useful life	2 Staff Cars 1 Wrecker	100% 100%	0% 0%	PTMS
Facilities in a state of good repair	Percent of facilities within an asset class rated 3 or below on the FTA TERM scale.	Administration Building	0%	0%	PTMS

Transit Safety – 2021

Service Mode	Fatalities	Fatalities per 100K VRM	Injuries	Injuries per 100K VRM	Safety Events	Safety Events per 100K VRM	System Reliability VRM/Failures
Demand Response	0	0	1	.3	9	2,74	54,600
Fixed Route	0	0	0	0	6	2.9	20,000

TwinCATS Project Selection Process Background

TwinCATS requires agencies to submit a project application who are requesting Surface Transportation Program (STP). TwinCATS updated the application in 2016 and again in 2018 to meet the MAP-21 and current FAST Act guidance for performance-based planning. The updated application is a way to ensure projects are addressing Long Range Transportation goals, are outcome-based, and meet the federal funding policies.

- Safety
- Preservation
- Multi-Modal Connectivity
- Project Coordination
- Project Readiness
- Reliability
- State of Good Repair

Call for Projects –SWMPC staff initiates calls for projects based on the State of Michigan's Transportation Improvement Program (TIP) and/or Regional Transportation Plan (RTP) schedules. SWMPC staff creates an information packet for the Call for Projects. This packet is distributed to all member municipalities, road and transit agencies.

Prioritizing Projects – SWMPC provides a ranking and total project score for each local project to the Project Selection Committee (PCS) for TIP development. A draft of projects and scores is distributed prior to the PSC to facilitate discussion. The project selection committee will
recommend projects to the Technical Advisory Committee, which will then recommend projects to the Policy Committee. The project prioritization application/system serves as a guiding document in project selection, and project selection is only made only after a debate in an open, public process.

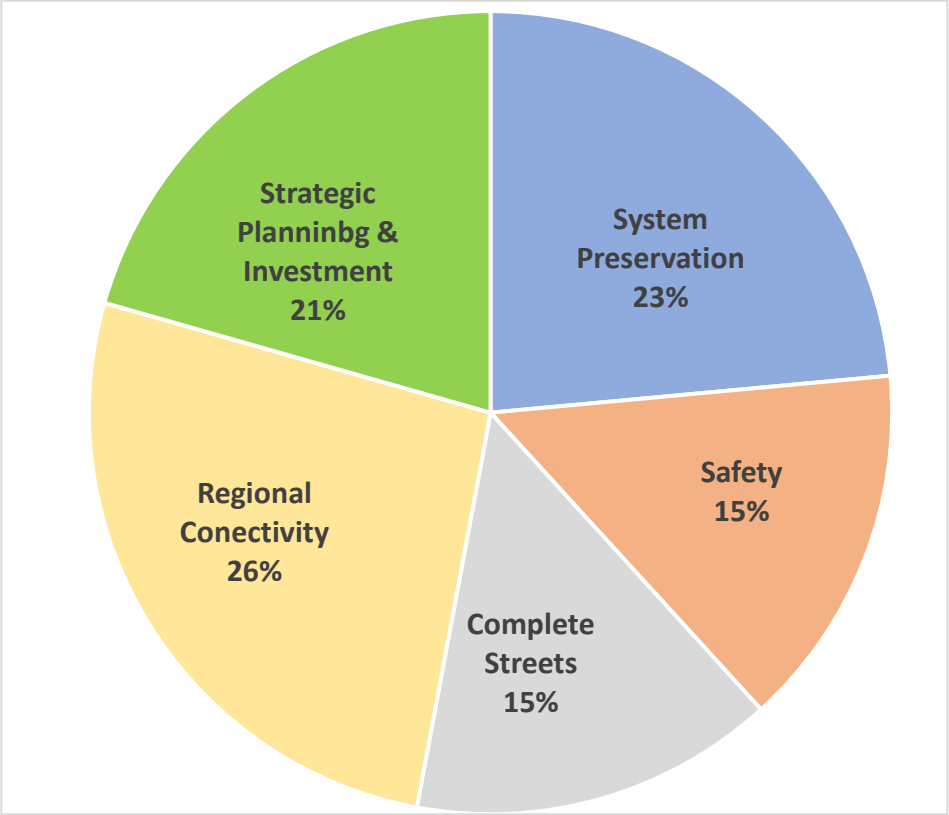
TwinCATS Road Project Prioritization System for the 2023-2026 Transportation Improvement Program

TwinCATS Road Project Prioritization Process
Approved July 19, 2021

The following pages present a methodology to score projects submitted for consideration for TwinCATS' allocation of Surface Transportation Program (STP) dollars for the 2023-2026 Transportation Improvement Program (TIP).

This project prioritization system serves as a guiding document in project selection, but project selection will be made only after a debate in an open and public process. A project selection subcommittee will recommend projects to the Technical Advisory Committee, which will then recommend projects to the TwinCATS Policy Committee. During the initial project selection process. The public will have an opportunity to inform project selection at each stage of the process. The ultimate authority for project selection still lies with the TwinCATS Policy Committee.

Each of these scoring categories corresponds to the relevant section on the TIP Application.



System Preservation (8 points possible total)

PASER Rating (5 points possible)

5 points if the most recent PASER rating is 2-3 and the project was applied for previously when the PASER was 4 or higher

3 points if the most recent PASER is 2-3 and this is the first application for this project.

3 point is the most recent PASER is 4

1 point if the most recent PASER is 5-6

0 Point if the most recent PASER is 7-10

Project Category per MDOT's "Guidelines for Geometrics on Local Agency Project" (3 points possible)

3 points if the project follows the MDOT 4R guidelines

2 points if the project follows the MDOT 3R guidelines

1 point if the project follows the MDOT Preventative Maintenance guidelines

Safety (5 points total possible)

Safety Countermeasures (3 points possible)

1 point per traffic safety countermeasure included in the project, up to 3 points maximum

Addressing High Crash Location (2 points possible)

2 point if the project address crashes on a road segment that is 20% higher than the MPO median

1 point if the project address crashes on a road segment that is within 20% of the MPO median

0 points if all road segments in the project are below 20% of the PO medium

Complete Streets (5 points possible total)

Pedestrian and Cycling Facilities (3 Points)

1 point if the road currently has facilities to accommodate pedestrians or cyclists and the project will not improve conditions further

2 points if the road currently has facilities to accommodate pedestrians or cyclists and the project will add additional facilities

3 points if the project add pedestrian or bicycle facilities where none existed previously

Improving Non-motorized Connectivity (2 points)

Any added pedestrian or bicycle facilities connect to existing bicycle and pedestrian facilities or those that can reasonably expect to be completed during 2023-2026, thus improving regional connectivity.

Regional Connectivity (9 Points total possible)

Traffic Volume (5 points possible)

5 points if ADT is more than 10,000 vehicles per day

4 points if ADT is between 5,000 and 9,999 vehicles per day

3 points if ADT is between 2,000 and 4,999 vehicles per day

Functional Classification (3 points possible)

3 points if project is located on a Principal Arterial

2 points if project is located on a Minor Arterial

1 point if project is located on a Major Collector

Fixed Route Transit (1 point possible)

1 point if a fixed route transit uses the road.

Strategic Planning & Investment (7 points possible)

Asset Management (3 points possible)

Using the Asset Management Readiness Scale:

1 point if the projects is listed in an asset management plan for roads/stormwater

1 point if there is an asset management plan covering other utilities along the limits of the project

1 point if staff at the agency have asset management training

Local Planning Document (1 point possible)

1 point if the project is identified in another local planning document other than an asset management plan such as a master plan or a parks and recreation plan.

Project Continuity (1 point possible)

1 point if the project continues resurfacing, reconstruction, or Preventative Maintenance on a segment of roadway adjacent to a segment with a PASER of 7 or higher.

Additional local match (2 points possible)

1 point if the agency contributes 24-40% of the estimated construction costs

2 points if the agency contributes 40%+ of the estimated construction costs

Coordination with sewer and water projects (No Points)

If there are known water or sewer issues, the project **must** coordinate utility and road fixes.

Cross-Jurisdictional Coordination (No Points)

The project crosses jurisdictional boundaries (i.e. city to township) and it is arranged in such a way as to be bid as a single project.

Project Readiness (No Points)

If the project requires relocation of utilities, purchase of ROW, environmental sensitivity, or railroad crossing permits, these items must be addressed in the application and indicated on the project schedule.

Consultation

"The Secretary shall encourage each metropolitan planning organization to consult with officials responsible for other types of planning activities that are affected by transportation in the area (including State and local planned growth, economic development, tourism, natural disaster risk reduction, environmental protection, airport operations, and freight movements) or to coordinate its planning process, to the maximum extent practicable, with such planning activities." – 23 USC 134(g)

The Consultation Process is a separate but complementary process to the public participation process. The process is meant to ensure that the long-range plan compliments and does not conflict with the other planning efforts undertaken within the TwinCATS planning area. By consulting with agencies during the development of this plan, these groups can compare project lists and maps with other natural resource inventories. The MPO will be able to compare the draft LRP to any documents received and adjust as necessary to achieve greater compatibility. A consultation was done among agencies responsible for the following:

Economic Growth and Development
Environmental Protection & Conservation
Freight Movement
Land
Management
Natural
Resources
Historical Preservation
Health and Human Services
Intercity Travel (Bus, Train)

The consulted agencies can either be directly responsible for providing services, regulatory agencies, or advocacy agencies. Agencies that were requested for consultation received the following:

- A letter explaining the transportation planning consultation process according to IIJA and FAST ACT legislation
- A draft of the 2050 Long Range Plan
- An explanation of their critical role in the process and how they can provide input to the plan

CONSULTATION LIST OF CONTACTS

2023 -2026 TwinCATS Consultation List	
Andrews University- Architecture Program	MDOT Non-Motorized Transportation
Area Agency on Aging Region IV	MDOT Office of Passenger Rail
Be Healthy Berrien Partnership	MDOT Passenger Division
Benton Harbor Area Schools	Michigan Economic Development Corporation
Berrien County Conservation District	Michigan Department of Environmental Quality
Berrien County Department of Human Services	Michigan Department of Natural Resources
Berrien County Historical Association	Benton Harbor & St. Joseph Authorities
Berrien County Parks	Pokagon Band of Potawatomi Indians
Bridgman Schools	Sarrett Nature Center
Cornerstone Alliance	Southwest Michigan Land Conservancy
Countryside Academy	Southwest Michigan Regional Airport
Cycle Re-Cycle	St. Joseph Area Schools
Department of the Interior- Fish and Wildlife Service	Sustainable Business Forum
Disability Network Southwest Michigan	Two Rivers Coalition
Federal Aviation Administration; Michigan Division	Wightman and Associates- Architecture
Friends of the St. Joseph River	Area Senior Centers: Benton Harbor, St. Joseph and River Valley
Kinexus (Michigan Works!)	
Lake Michigan College- Napier Campus	
Corehealth Hospital	
Lakeshore School District	

December 30, 2022
Southwest Michigan Planning Commission
376 W. Main St. Suite 130, Benton Harbor, MI 49022
RE: TwinCATS 2050 Long Range Transportation Plan

The West Michigan Sustainable Business Forum congratulates Southwest Michigan Planning Commission and the TwinCATS committees on the completion of Principles in Motion 2050. We are thankful for the continued leadership of SMPC and its collaborators. This updated plan is a good step toward fostering our shared goal of a local transportation system that serves the needs of its people and businesses while protecting natural resources and advancing social and economic equity. The West Michigan Sustainable Business Forum promotes business practices that advance climate leadership, social justice, and the creation of a circular economy. The organization has done business as Michigan's Great Southwest Sustainable Business Forum in the TwinCATS region since 2010.

This plan builds on and enhances the 2018 plan. Over the past five years SMPC and its local partners have advanced meaningful outcomes rooted in its goals, despite the challenges of the pandemic and the high-water crisis. We are hopeful to see how continued investments in infrastructure and capacity likely to be funded through state or federal support will further improve local transportation.

Principles in Motion 2050 will provide a useful basis for future funding and investment. It recognizes a need to prepare for climate change, to ensure that poverty and race are not barriers to transportation equity, to influence a reduction of vehicle miles traveled, and to support environmental co-benefits of transportation investments, such as green stormwater infrastructure.

We further applaud the recognition of electric vehicles and decarbonization as an emerging trend. However, it is our opinion that the plan does not fully capture the magnitude and certainty that this will transition will occur in the next decade, let alone by 2050.

- General Motors will have an all-electric model lineup by 2035.
- Honda aims for all its sales to be zero-emissions electrified vehicles by 2040.
- Ford expects half of its sales to be EVs by 2030.
- The Mi Healthy Climate Plan set a goal to support two million electric vehicles on Michigan roads by 2030.

We would encourage the committees to consider the profound changes this will have on local transportation, and the impacts to local economies and communities that will be woven into vehicle electrification. This will be broader than charging infrastructure. Removing the need to fill gas tanks may have a similarly profound impact to the way digital technology has reshaped mundane tasks over the past generation. And in a similar way, it will almost certainly create yet another divide between our under-resourced communities and their more affluent neighbors.

Sincerely,

Daniel Schoonmaker, Executive Director
West Michigan Sustainable Business Forum • Michigan Sustainable Business Forum
P.O. Box 68696 • Grand Rapids, MI 49516 • 616.422.7963
wmsbf.org • misbf.org

SUPPORTING DOCUMENTS – Consultation Process

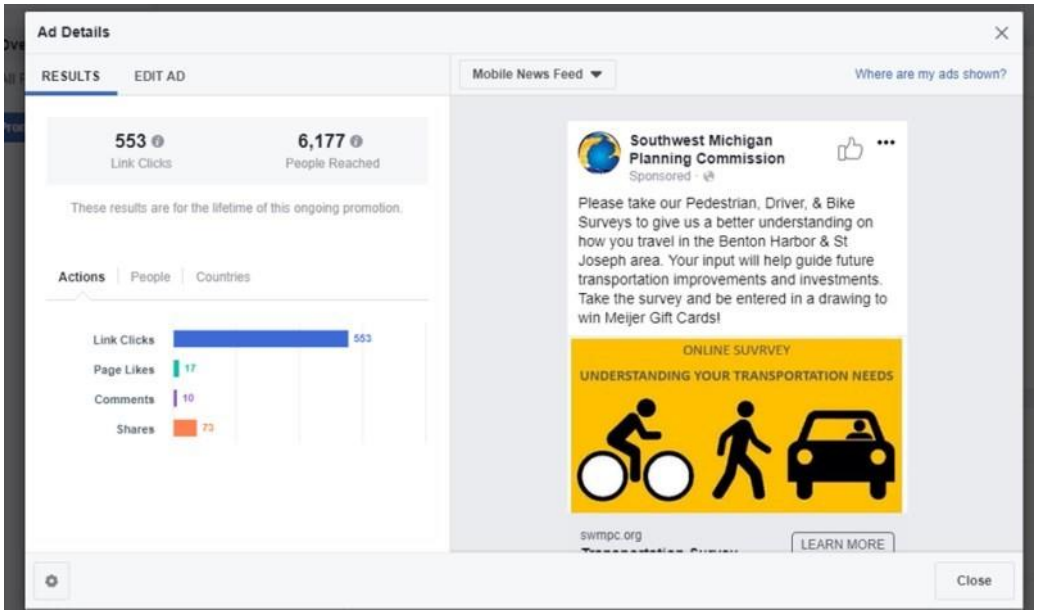
The “2050 Long Range Transportation Plan” represents a very astute evaluation of current data in the context area while also providing attainable and needed solutions in the short term. Including the needed Complete Streets and implementing more Non-motorized connections to other locals is noted and welcomed.

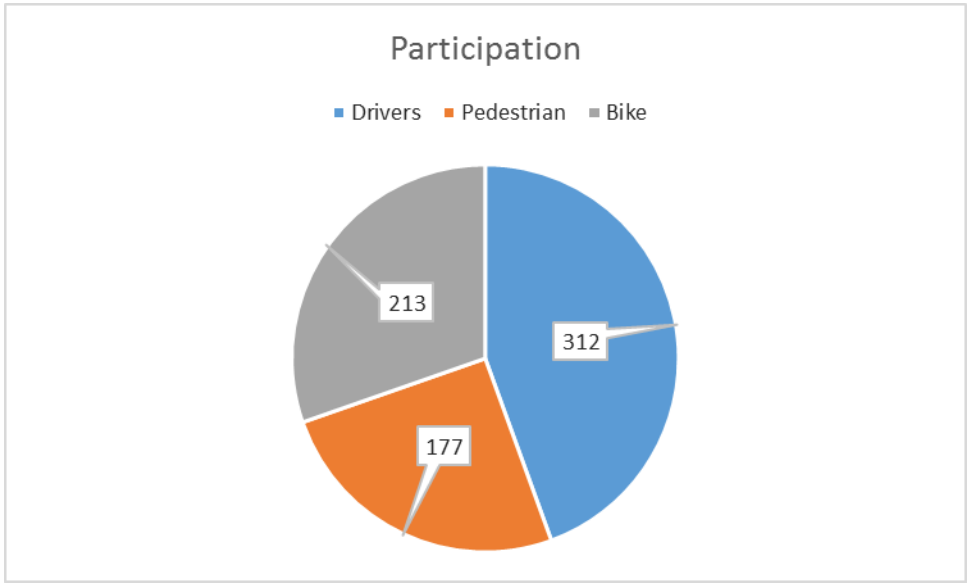
Nonetheless, a further enhanced degree of such initiatives near Berrien Springs would be encouraged. Please keep us updated on further planning and how we may continue participating.

Lionel L.W. Johnson AIA, AICP, NCIDQ, RIBA, ASID, NCARB, LEED BD+C, CNU-A Chairman - School of Architecture & Interior Design Graduate Program Director Associate Professor of Professional Practice Andrews University lionel@andrews.edu Email 404-552-2149 Mobile www.andrews.edu/said “Seek Knowledge. Affirm Faith. Change the World.”

Transportation Survey

In April and May of 2017 the MPO posted three surveys—passenger vehicle, bicycle and pedestrian on the SWMPC website and was also promoted on Facebook. Anyone who lives, works, attends school or conducts business in the TwinCATS planning area was encouraged to complete one or many surveys. While the surveys were not statistically significant, they provide significant information regarding the way people travel throughout the area. In total, over 700 surveys were collected.





Safety Sidewalk Snow Removal I think the city should enforce the clearing of snow ordinances in the winter. Just like they enforce lawn cutting in summer. Snow and ice are much more dangerous and inconvenient than tall grass.
Crosswalks Safety Sidewalk As a tourism destination, this must become a pedestrian and bicycle friendly community for long-term economic and social health. It's absurd that cyclists can't safely ride the lakeshore roads. Small or non-existent shoulders make a fun, positive, healthy activity that draws people in, impossibly dangerous. Crossing Main Street in St. Joe as a pedestrian is terrifying. Accessing basic services in Berrien county without a car is nearly impossible. Dial a ride is not a viable solution for someone who maintains full time employment. Nobody has time to wait for transportation to arrive by the door for an hour, both ways, listening for the driver to honk. It's undignified and inefficient. These are the things that keep people down and trapped in the cycle of poverty.
Crosswalks I still encounter a lot of curbs at crosswalks throughout town, as well as uneven sidewalks. I feel that city sidewalk maintenance should be the responsibility of the city and NOT the homeowner
Education Enforcement Drivers appear to not understand who has right if way at intersections Pedestrians often cross in unsafe areas such as across four lanes in the middle of the block
Crosswalks Safety The cross section of glenlord and Cleveland needs a roundabout and crosswalks it is completely unsafe.
Sidewalk Sidewalks
Trails Connected hiking trails
Education Enforcement Safety Currently not safe because of the cars, their speed, and distracted driving.
Crosswalks Education Enforcement My main request is more prominently marked pedestrian zones in the street. Drivers rarely stop at stop signs, so having a more visibly designated space for pedestrians can promote safety.
Off Road Trail Trails Long distance nature trails are few and far between e.g. 5+ miles
This area is not pedestrian friendly unless you are downtown st joseph along the bluff.
Safety I would just like to have a safe place to walk from my home on Windsor Road
Portland OR stores have umbrellas in open stands for shoppers to use in one place, shop, and leave in another store when done...no purchase or returns. Could work for rain or shade parasols.
Sidewalk I would walk to the grocery store and even to work if there were sidewalks available
Crosswalks Safety Sidewalk Walking anywhere is difficult because of the lack of sidewalks, crosswalks, and excessive speeds by motorists.
Sidewalk Napier Avenue needs a sidewalk.
Safety Sidewalk township sidewalks are well used, hopefully more will be built on major streets to continue safe routes
Lighting Paw paw ave has no street lights
Off Road Trail Sidewalks or path along niles to river view park would be awesome!
Education Enforcement Safety speed limits are too high & are not enforced
Education Enforcement No one knows sidewalk curtesy-single file if others are trying to pass
Sidewalk Kids walking to school in the morning walk in the street where there are no sidewalks. Very difficult to see them.

Walking trails along the bluff on red arrow and lakeshore drive in st joe would add to the beauty of the popular parks/lookouts...especially near hilltop.
Off Road Trail For exercise purposes what the area really need is a soft surface trail, lit up, not too far from down town. Running on concrete is not good.
Sidewalk Sidewalks would be nice to have.
Sidewalk Having sidewalks that run from townships into the cities would be safer, more attractive, and would allow more commuters access to routes.
Education Enforcement Safety Sidewalk There is heavy pedestrian traffic within neighborhoods (e.g., near SJHS, near Lincoln school, the historic district), but the busy boundary roads of Lakeshore Drive, Niles, Main and Langley are really difficult to cross with few crosswalks. Traffic always exceeds speed limits on those roads; pedestrians rarely get the right of way. Maybe motorists simply don't know the rules, suggesting some education is in order. St. Joe is very walkable distance-wise, and it's why I live here. I love to walk downtown from my SJHS-area location. But I have to plan carefully because of limited road-crossing options.
Sidewalk Increasing the number of sidewalks in St. Joseph Township should be a major priority for our community to promote physical activity, especially the stretch in Cleveland currently without sidewalks. Adding them in would create a network of sidewalks from Lakeshore High School to St Joseph high school and beyond.
Snow Removal We live at 2320, the house to our south never shovels or maintains her house/yard.
Sidewalk fix all the side walks so people can walk,and ride bikes on.
I live in the City of St Joseph with sidewalks. Walking in St Joseph is another thing on main roads. Cleveland avenue has the widest shoulder but Niles Avenue isn't great nor is Washington or Lincoln Avenues
Thanks for anything you can do!
n/a
Education Enforcement Speed limit on Washington Ave is 50 mph. Too fast for the amount of subdivisions and people using the road
Safety Sidewalk Please consider making Napier one lane each way with a turning lane in the middle. This will provide room to add desperately needed sidewalks. Traffic at times will have to move a little more slowly but it is a relatively short run of road and the time lost would be small. The safety benefit would be enormous.
Benches around city to rest

Education Enforcement Lighting Sidewalk It sucks! Let's get some walking groups going let's encourage people to walk instead of drive by implementing more sidewalks, streetlights, and just encouraging people to walk. Education.
Safety Sidewalk I would prefer walking to the store, but don't because it is unsafe.
Sidewalk Snow Removal We own a large lot on Napier Ave. I wish we had sidewalks, Though I only am concerned as to who is going to keep them clean in the winter time and who is going to pay to put them in? Being this is really a county/township issue I feel the county and township should pay to put in and maintain them. Being on Napier and the amount of snow in the winter it is too much to ask the taxpayers to pay MORE even more taxes and keep them clean. And IF the Township and County have already used up their right of ways (which by the way it has in many cases) are they going to pay for the land taken away from the property owners?????
Safety Sidewalk Lack of sidewalks in area makes walking dangerous, particularly on hills and curves.
Snow Removal Residents and businesses should be fined for failing to remove snow and/or piling it up on sidewalks. I have lived in several midwestern cities where a fine is standard practice and getting around in the winter is not the problem it is here.
Thank you for seeking to improve the community's access to safe walking routes!
Sidewalk I'm very pleased with the availability of sidewalks where I walk.
Sidewalk Sidewalks and walking in the Saint Joseph area is very pleasant. I love having so many options for parks.
Off Road Trail It would be great to have a pedestrian/bike trail connecting the area. St Joe/Benton Harbor/Berrien Springs/Baroda.
Off Road Trail I am so excited for the pedestrian bridge that will be built to cross over the Paw Paw River at Harbor Village/ Central Docks!
Education Enforcement Safety Drivers need to be more careful of runners and walkers
A good signage to parks and what is in the park would be helpful
In my neighborhood, South State Street in the City of St. Joseph, many peoples' landscaping (trees, bushes, etc) are grown over the sidewalks, which makes in difficult to pass. The city needs to do a better job of enforcing the ordinance that sidewalks need to be cleared by homeowners. Snow removal is a huge issue as well.
None
Sidewalks near schools where there are none should be an absolute priority. Do not have kids, but I am always very concerned when I see kids walking to school on the side of the road.
Our area really isn't pedestrian friendly at all. It doesn't feel like was taken into consideration when building. There are no sidewalks anywhere near us. Thank you
My biggest problem is runners not using the sidewalks and running in the road.

Bike Network Connectivity Safety As a tourism destination, this must become a pedestrian and bicycle friendly community for long-term economic and social health. It's absurd that cyclists can't safely ride the lakeshore roads. Small or non-existent shoulders make a fun, positive, healthy activity that draws people in, impossibly dangerous. Crossing Main Street in St. Joe as a pedestrian is terrifying. Accessing basic services in Berrien county without a car is nearly impossible. Dial a ride is not a viable solution for someone who maintains full time employment. Nobody has time to wait for transportation to arrive by the door for an hour, both ways, listening for the driver to honk. It's undignified and inefficient. These are the things that keep people down and trapped in the cycle of poverty.
Love the new pavement on M 140.
Would love to see bike trail extended South of lions park and north of harbor shores...
Bikes need to be registered and pay road taxes if ridden on any public road they can help pay for infrastructure upkeep including roads and bike trails
Safety Need better way for bicycles to cross the St. Joseph river at Bicentennial, Blossom Land, and Napier Avenue bridges.
Education Enforcement We need more education regarding bicycles having the same rules as cars (riding on the right, etc,) and that bicyclists should not ride on sidewalks
Safety There is no safe passage for cyclists or pedestrians in this area.
Existing bike routes need more space for bikes and better pavement. Bikers and drivers need education on rules of the road
Bike Network Connectivity This could be a huge advantage for tourism if we have a bike lane extending from new Buffalo up saint Joseph along red arrow highway. It's a huge missed opportunity that we can continue to advance small businesses in the area
Bike Network Connectivity Southwest Michigan is in need of a quality bike train system. It would help tourism and the residents would make good use of it.
ANY bike lane improvements are welcome. You need to work on a system similar to the TART trails in Traverse City. Integrated bus/trail connections.
You take your life in your own hands if you ride before 7 pm on any roadways.
Red Arrow Hwy is sooo dangerous.
Poor road conditions, little to no shoulder to ride on, and distracted drivers make cycling more dangerous in this town/county. The safest route out of town is M63 north. Commuting by bike outside city limits is more challenging due to poor road conditions and lack of bike lanes or adequate shoulder to ride. Ideally, a community would have bike paths like the Howard path that would cover longer distances to provide safe recreational and commuter bike use. Have to travel to South Haven to access real bike trails.
On Road Bike Lanes This is a very difficult area for Biking! No bike Lanes. Rural roads no shoulders. Go look at Milwaukee.
I would like to see some access by foot or bike from one end of Niles ave. To Niles road to the highway but particularly up the hill by eagle point harbor. I would also like to see a trail along the river from eagle point harbor to the downtown area of st Joe.
Thank you for asking
More street lights or a different type of light bulbs. And caution lights.
Bike Parking More bike parking please! And I'd love to have bicycle delivery from local restaurants.

More people (specifically families) would bike to downtown st joe and Stevensville if it was an option. Currently it is not. We would love to bike from the Cleveland/Maiden Lane area to visit either downtown with our kids. Trips to the farmers market or weekend lunch or even the beach. My husband would bike to work in st joe. That is not possible to do safely with the current "bike path/lane." Instead we pack our bikes up and drive to van buren state park. We then ride their new trail into downtown south haven to play and eat. Many other families do the same. We would LOVE to do that in our own town.

Safety Separated Bike Facilities Commuting bike paths are needed. And in some areas for SAFETY concerns the paths should be separated and/or elevated from the road. Hilltop down the hill to the Marina is a great example. Pedestrian traffic is halted in that area for safety concerns.

Separated Bike Facilities Please please please add more bike trails that are not on a busy road. People drive recklessly (particularly tourists!)

All new roads need to have a paved bike lane to the right of the fog line. Bike lanes and intersections need to be swept a few times throughout the spring and summer.

Bike Network Connectivity This is a beautiful area. We should be able to ride from all over this part of the state to connecting towns.

St. Joseph is one of the least bike-friendly cities in which I've lived, which is tragic given the local athletic events, such as the Steelman, that occur here. Huge opportunity for improvement and appealing to tourists who want to tour the area (and wine country) via bike. Be certain there are maps in all visitor centers and in the city hall.

I am excited to see all of the efforts being made to create a bikeable southwest michigan.

Locally shoulders are very narrow, travel over i94 and Napier bridges are even worse. No shoulder at all. The existing bike lanes in St Joseph are very narrow and on heavily travelled roads, not to mention cross street traffic. Distracted drivers also present a HUGE issue.

n/a

Would love to see a recreational trail along Hickory Creek between Stevensville and St Joseph to allow isolated travel by foot or bike. There are sections that are open but not a contiguous paved path. I'm sure there are other examples of isolated paths that would be helpful. I grew up in Ohio and most all roads had a substantial paved shoulder which made biking safe and easy. Since moving to Berrien County I've pretty much given up riding due to poor roads and unsafe conditions.

if off road biking at all parks you listed is permitted it needs to be advertised more!!

Current information regarding the public trail areas associated with the Harbor Shores development are impossible to find.

SUPPORTING DOCUMENTS – Public Outreach Survey: Cyclist Comments

Bike Parking Safety I constantly hear people complain about lack of parking. With limited space in attraction areas (beaches, downtown SJ), the way to pack more people in is by multi-mode transit. If possible, my preference is toward barricaded/protected/separated bike lanes. These are the safest option and attract more types of riders.
Safety St Joe is a beach town, summer vacation destination. Embracing the outdoors should be OUR GOAL!!! ...yet it is incredibly challenging to feel safe on the road. I have barely ridden since moving here. ...and I certainly can't take my kids anywhere. Lakeshore rd is a nightmare. It would be awesome to ride our bikes down to the beach or to kilwins for an ice cream in the summer, but i don't trust that my kids woukd be safe. Lakeshore rd has the highest speed limits within city limits. People die at lakeshore and Hilltop. It's impossible to cross AND to ride on. Please help!!!!
Education Enforcement On Road Bike Lanes Road Surface More and Improved bike lanes on the street, paved/ fixing potholes, citing aggressive drivers
We live downtown and prefer to ride bikes in the summer to events and dining to avoid parking. However, the lack of bike racks makes it difficult.
Education Enforcement Safety General knowledge of drivers passing a bike is not very good.
There is often dangerous debris in the streets. I bike in the wine trail area. It could use better signage and slower speeds.
Road Surface I am a road cyclist and our roads are in terrible shape.
We are in need of roads with bike lanes and trails to get through town or back and forth from SJ to Stevensville, etc. It is not safe for teenagers to ride their bikes to work due to traffic and drivers that are not paying attention
drivers need to learn better driving habits to avoid bicycles and pedestrians, maybe PR campaign
On Road Bike Lanes Napier Ave from St. Joseph through B.H. has no sidewalks or bike lanes. Lane diets could be performed and striped with bike lanes concurrent with road re-surfacing projects. Our roads are lacking in design for multi-modal transportation.
Education Enforcement Better police enforcement of the bike laws from vehicles driving
On Road Bike Lanes Safety so many of my colleagues at Whirlpool would ride to work if there were safer bike lanes with a barrier (tall curb) between them and traffic.
Bikers do not follow rules of road--driving lane, traffic signals
You need to understand that many drivers do not recognize that cyclists have any rights to the road. I have been sworn at, had objects thrown at me, and been run off the road by drivers who feel I am in their way. Very, very sad and dangerous.
It is a major oversight not to connect st joe to south county lakeshore parks and beaches with a bike path! I'm thinking of the kind of trail that connects napannee and goshen indiana, which is a major attraction there--and we have much more to offer tourists than they do.
N/A
Don't feel comfortable on local streets like Red Arrow, Hilltop Main St in Benton Harbor too much traffic moving too fast Enjoy riding but would ride more if felt better about routes I need to take
Would be great to have another top notch mountain bike trail in the area. Current two choices are 1) Andrew's U, and 2) Fort Custer
Motorists are terrible-riding too close, too fast passing too close

Chip-sealing roads has made our area even worse for cyclists. The shoulder of the road stays in a loose gravel state and forces cyclists to ride in the lane of traffic where the chip is compacted..PLEEAASE STOP WITH THE CHIP-SEALING! Also, I think bike lanes or trails in the "Wine Country" of Berrien County would be very benificial for the area. I see cyclists at the wineries, and on the roads in between them all the time. It's only a matter of time before a cyclist gets flattened by a boozed up wine taster.
Somehow we need better education of drivers of the rights of cyclists. Many drivers think the roads are for cars only.
Overall people are friendly.
There are far too few roads with wide shoulders and/or clear bike lanes. Biking on some of these roads is dangerous with almost no shoulder and often in poor condition. It would also be good to have new trail sections added that would build contiguous trails sections between Stevensville - Saint Joseph - South Haven, etc. Grand Rapids is a model city with respect to biking/walking trails. Given the level of tourism around Berrien County, improvement of these outdoor facilities should be a priority in the larger planning process.
Bike friendly areas attract visitors which is specially important in a town that has large tourism.
We need Bike specific trails not roads.
Roads need larger shoulders that are marked for bike use. Michigan needs a 3+ foot rule! Crack down on texting and driving.
We need more bike lanes!
Bike use for recreation and general transportation has been steadily increasing over the last 10 years but bike lanes and information on bike laws and safety have not. This needs to be improved for the safety of everyone.
It would be nice if you could extend the Hickory Creek Rail trail all the way north to downtown St. Joe, as well as crossing I-94 and continuing down the powerline to the south. There are pathways connecting to Lincoln Ave and Maiden Lane soccer complex already. I think opening up the pathway where the sewer line follows along Hickory Creek from Stevensville to Cleveland Avenue to bikes would provide another excellent alternative.
We need bike lanes!
Advocate for it! More bike lanes! “Bike to work day”
On my morning commute it is rare to see a car diver that isn't on their device or speeding! I count 80-90% are operating dangerously. Needs enforcement! Make it a county statute not just a state law. Maintain roads and the right three feet of roads in all seasons, potholes and snow are deadly to bikes and pedestrians, cars just get dinged up; cyclists and walkers die!
n/a
We need wider, smoother, and more well-protected bike lanes just about everywhere, and more signage to remind drivers to give bikes space! I feel unsafe using almost all existing street routes, but do it anyway because I feel that it’s important. I often ride with my young child in a bike seat behind me (to school, stores, library, farmers market, and beaches) and cars still do not give us enough space.
I'm excited that we're being asked for feedback ... more trails (mainly off-street paved and unpaved) will cause more people to use bikes and transportation and exercise.
Thank you for soliciting the community's feedback on this important topic!
I’m surprised how bike unfriendly our community is. It seems so cost effective to promote biking in our community in regards to health benefits and cost benefits.

I would love to see greater biking initiatives and a commitment for more bike trails/riding.
As a St. Joseph resident, I am bounded on 3 sides by rivers. There are 4 ways to get across: 63, bicentennial bridge, Napier, 139. Cycling is not safe or convenient on any of these routes.
Public awareness is in need. People still believe that cyclists do not belong on the road.
I have several incidents were people refused to give me right away on edge of road and brushed my shoulder with their mirrors, then proceeded to pull over in front of me and exit their vehicle to yell and curse at me. It is very frightening for anyone (i carry pepper spray with me as my only recourse)...
Heavy gravel treatments, winter sand treatments leave dangerous debris along side of road dangerous for narrow tires. Pot holes also very dangerous.
I'm more interested in moving about Benton Harbor, Saint Joe, and Stevensville safely and efficiently than specific roads are used to accomplish that. Vehicles are the largest variable to the communities physical safety, health, and irritation on roadways. Creating a safe, healthy, and more relaxing avenue to experience our community on commute or leisure can be accomplished via increased cycle infrastructure.
More bicycling available between Baroda and Bridgman or Stevensville.
There are very few real "trail systems" in this area that are longer than a few miles and benefit cyclists. This area would benefit from a longer system- like the White Pine trail or Kent trails in Grand Rapids. There also needs to be more education of drivers- I have bicycled a lot of places and I am nearly run off the road way too often in this area- something that doesn't happen in Kalamazoo or Grand Rapids. I feel safest riding my bike at 6am when traffic is light and I have bright lights and reflective clothing- this isn't right. People texting while driving also scares me!
There are very few bike trails and lanes in the Saint Joseph Area. People driving seem very ignorant about how to respect bicyclers and there is no accountability if they are acting maliciously or carelessly.
Who are our local bicycle advocates. I work very hard to encourage cycling. I support Bicycle related nonprofits. I also participate in a number of cycling groups or clubs. It would be great to have a hub for other cyclists.
N/a
I feel we are behind the times when it comes to providing safe bicycling options in and between our communities.
People need to keep cars out of bike lanes.
SWMI has the lowest density of trails in all of Michigan. New and/or improved trail systems will attract more visitors while maintaining current residents.
The problem is that the main arteries are not wide enough or there are choke points such as bridges over 94 and there is no bicycle lane.
The city of St. Joseph is not bike friendly at all. It is very unsafe to ride any where in the town on the street. No dedicated bike lanes, no bike signs, no bike racks. It's impossible to commute or ride bike on road without taking a huge risk of getting hit. Check out Boulder, CO and see what they have done for bikes on the streets. They get it. People want to ride bikes for health, costs, and enjoyment and can't.
I think signage or other indicators to tell drivers to share the road with cyclists is needed to make them more aware that they need to share the road.

This area has the potential to be a destination for both tourists and locals but lags way behind surrounding areas.
I would love bike lanes on all roads
Cyclists of all levels use the streets of Southwest Michigan. There are many biking events which draw people to the streets. However, many streets are not bike friendly - little to no designated bike lanes, shoulders with gravel or potholes which contribute to accidents.
Would really like to see an extended, paved, multi use trail that could be used for cycling, walking, etc. There are beautiful trails like this in many other communities that are great for exercise and even draw tourism to the community. My husband and I are road bikers and have a young son who we pull in a trailer behind our bike - we are not able to do that much because I don't feel very safe having him in areas where there is a lot of traffic.
There's little to no consideration being given to biking as routine transportation in the whole SJ/BH area. I would love to ride my bike to work, but I'm scared to death of trying it on these roads.
Bike facility improvements should be coupled with increased driver and cyclist education so both parties understand traffic laws related to cyclists. Also, drivers need to become more aware of need to check for cyclists since they are not accustomed to sharing the road with them.

Poor Roadway Surface The pot holes are terrible. I actively avoid trying to drive near them. Benton Harbor Napier road and M-39 are the worst. In town along Lakeshore is also bad. I have bent 2 rims and lost 2 tires due to the damage from the streets. I am a careful driver but this is terrible.
The closest grocery stores are in Stevensville, so that is a bit of a distance. Aldi is one of my favorite stores and it's even further away.
Poor Roadway Surface Road conditions are horrendous—I think a dried creekbed would be smoother than some of the main thoroughfares.
Thank you
Public Transit We need public transpo such as busing in downtown SJ area also connecting towns along the lake
Public Transit A few coworkers use dial a ride to come to work and either arrive very early or are late. It doesn't seem reliable. I also see people waiting at meijer for rides, sometimes waiting long enough for me to complete my entire shopping order.
I have nothing further to say
Parking Our area has on occasions during the year tight parking. We don't want to go overboard on how much parking we require or provide. We do however need to optimize the space we have for parking and establish and enforce rules to share that parking. It is not appropriate to provide all day municipal parking for anyone. Workers for the large employers in our area need to walk a ways from their parking spot to their work location. People that work in an area that is provided municipal parking can also walk a ways from all day parking areas.
Enforcement Several speed limits seem way too restrictive, and it appears few drivers obey them....
Parking In-town summer parking is difficult.
Poor Roadway Surface Fix the pot holes
Poor Roadway Surface Road conditions are terrible.
I don't know if it's free
Ped/Car Conflicts Public Transit As a tourism destination, this must become a pedestrian and bicycle friendly community fornlong-term economic and social health. It's absurd that cyclists can't safely ride the lakeshore roads. Small or non-existent shoulders make a fun, positive, healthy activity that draws people in, impossibly dangerous. Crossing Main Street in St. Joe as a pedestrian is terrifying. Accessing basic services in Berrien county without a car is nearly impossible. Dial a ride is not a viable solution for someone who maintains full time employment. Nobody has time to wait for transportation to arrive by the door for an hour, both ways, listening for the driver to honk. These are the things that keep people down and feed the cycle of poverty.
Public Transit I think busses would be helpful for the area. They would help traffic congestion downtown SJ in the summer & could help teenagers /adults get to work who don't have access to a car.
Poor Roadway Surface Fix the Damn roads
Nothing to add
Snow removal from road would likely end up on the sidewalk. Sidewalk maintenance would be essential to getting people out of the street where the cars are.

Public Transit The bus use question was funny, given that there is no public bus service here. It's a huge miss. Generally, driving in St. Joe and the surrounding area is easy, though speeding is an issue, especially on Hilltop, Niles/M-63, and Lakeshore/Main. Parking downtown is an issue during summer festivals, which may hurt local merchants. Related: I also know from St. Joe and regional friends of color that they are pulled over by St. Joe police at very high rates vs. white drivers. Please consider studying the data and making the results public. If it's perception, then we can address the historical reasons. If it's reality, then let's address the bias. But the belief is keeping many great people away because they fear driving here. At a basic, business level, we need their dollars. At a community level, we need their participation and diversity. This has to be addressed honestly and transparently.

N/a

Poor Roadway Surface The roads are the worst that I've seen the last 18 years I've been here. Even after they raised the gas tax and fees. Every where you go there are big chunks missing especially in Benton Harbor.

Public Transit I have never lived in an area that didn't have reliable public transportation, until moving to Berrien County in 2008. The 2 options for public transportation are not reliable, nor affordable for daily transportation. It is sad, especially for those without reliable transportation.

Public Transit Older persons like myself would use the bus if our rural area was served by smaller ones that were regularly scheduled. We do not feel wanted or welcomed as passengers and sometimes feel as if the bus is for city residents only.

Public Transit I would like to drive less, but it is hard to rely on buses in this area

Public Transit I needed a ride home from the city of Benton Harbor, about three miles hade to wait over an hour for Dial-A-Ride they never came it was a weekday morning.

Ped/Bike Safety With all of the negative attn on driving and texting. I think safe sidewalks and biking areas would be great.

Poor Roadway Surface Public Transit Dial a ride is so slow. I've had to wait for 2 hours for them to pick me up. The section of Empire between M139 and Pipestone is so bad. I have to drive 5 mph to go over it.

Public Transit Lack of sidewalks forces pedestrians and bicyclists into the street creating hazards for both drivers and those in the streets. Dial--Ride is unreliable, causing people to walk

All good now.

Public Transit There are way too many individual vehicles driving pased/to the exact same place. A bus or train system would be invaluable in our area. Particularly connecting Berrien Springs, Baroda, Stevensville and in to St Joe and BH.

Please, no more traffic circles!

Ped/Car Conflicts Public Transit Often I see people running in the road when there are sidewalks (not snow covered) which causes me to slow because of oncoming traffic and an inability to move around the pedestrian in the roadway

SUPPORTING DOCUMENTS – Public Outreach Survey: Driver Comments

Poor Roadway Surface Horrible pavement conditions, traffic light with no left turn arrow at busy intersections, traffic light no longer needed such as Wall St in Benton Harbor and Maiden Lane in Stevensville all contribute to driving delays and cost. Synchronized traffic lights on Red Arrow/Lakeshore and other main roads would alleviate commuting delays in morning and afternoon.
Public Transit The frequency and routes are most important for passenger vehicles
Public Transit Still not sure point of Survey. our existing roads/streets are horrible. I hate driving anywhere locally and I choose to go out of town and avoid our streets (what's left of them). Ridiculous. Fix them before spending money on additional stuff.
Ped/Bike Safety Poor Roadway Surface The only concern I have is bicycles on the road. Need their own trail but before that, fix the roads we have now.
Parking .
Public Transit Travel to the BH area for errands, the lake and on my way to other towns. I may soon be working in the mall area. Roads are poor and in need of work. If I resided in the area, I could see where a regular bus service (not dial -a-ride) could be essential in allowing people to break transportation barriers that keep them from working and accessing needed services in a timely manner.
Ped/Bike Safety Scary to worry about cyclists on Red Arrow & other areas with no designated bike lane.
Public Transit The waiting time is horrible!
Poor Roadway Surface Fix the roads
Parking Poor Roadway Surface Berrien county roads are rated 2nd worst roads in the state. Surrounding county roads are considerably better despite a lower tax base. Something is wrong here. .
Poor Roadway Surface Our roads are terrible. Vote Pot for Potholes!
Parking Parking and people walking in roadways are major issues.
It's a small semi-urban area in the northern United States, bikes are good for recreation but have a limited appeal for commuting, and it doesn't have population density to support busing. Hard to get away from cars.
Public Transit Public transport is non existent in Berrien County. Not sure you are going to convince us farmers that getting on a bus is going to work, but there is no reason why this should not become common practice in the more suburban areas.
Thank you
Enforcement Drive to fast.
Enforcement Far too many drivers are distracted by using their phones or vaping machines while driving.
Enforcement Teach people to use the sidewalks where there are sidewalks. Teach how to walk and ride a bike with traffic. And than enforce it. Very bad in BH.
Enforcement A lot of people need A refresher on the rules of engagement
Just more convenient for me to drive
More sidewalks!!! Everywhere. No new subdivisions without them! Mass transit although traffic is not bad... But when I was 16 we would race on I-96 and no cars went by.. No traffic at a for 15 to 30 minutes at a timd Point being that the future will be much different than u think

Public Transit We need an actual bus system. So many people would use it and invest in the passes.
Parking Parking facilities
Public Transit Im unsure if it services bridgman
Ped/Bike Safety Bike lanes or routes would be nice!
Lighting and sidewalks would make it easier for me to allow our kids to ride to school. It's dark and the road has a curve making it harder for less attentive drivers to see someone riding on the side of the road.
None
Public Transit I live in a small town and can walk or ride my bike every where I need to go so I wouldn't need a bus but there are handicap and elderly that have difficulty walking and could use a bus or affordable public transportation.
Public Transit I would say the roads are quite bad with respect to other towns cities. Riding a bike on these roads is very dangerous, cars swerving pot holes into a bikes usable space.
Public Transit I was fortunate and always had a car or a family member with a car, but I know people who would sit at the Walmart and wait for a bus for hours, so more frequent buses and phone application with approximate time of arrival, something that might help people who do take public transportation.
Ped/Car Conflicts It would be great to have non-driving options.
Bike lanes would be great on main roads like Napier ave and M139. so many people ride bikes on these main streets and its scary especially if it's not daylight out.
Enforcement Public Transit .
Enforcement Ped/Bike Safety Too many drivers ignore traffic signals--STOP signs, speed limits, red lights.
Ped/Bike Safety I would ride my bike daily if there was a good bike path from st joe to stevensville
Public Transit There's a bus that runs in this area besides dial a ride? Never seen them and I've lived in the area for years...
Enforcement Something needs to be done about texting and driving. I can honestly say this is more of a problem than drinking and driving because there are 100 times more people doing it.
We need additional ways to get across the river, especially into the South St. Joe area.
Enforcement Ped/Bike Safety Bicyclists are dangerous on our roads. No helmets. Do not abide by stop signs. And often not a safe distance away from traffic.
Parking Need Safer sidewalks and bike lanes on Napier and Niles Ave
Poor Roadway Surface They just need up keep of all the roads in the area
Poor Roadway Surface The roads in this area are in terrible condition. Moved here from Wisconsin. Embarrassed to have friends and family visit.

I moved out of St Joseph recently because it has become too tourist focused and caters to seasonal tourists that don't pay the extremely high taxes. More consideration is needed to keep the actual residents loyal. More long time residents have become very unhappy with St Joseph. Makes me sad to leave but it is only a tourist town with a great school system. Our kids are grown now and Employment opportunities are very limited and when you add rude Chicago people to the mix half of the year it becomes down right unbearable. Sad to have left my hometown but it just isn't the quaint homey town it used to be.
Poor Roadway Surface fix the roads.....Napier and Langley Aves. Should both be torn up and redone completely. We live on Napier in St. Joseph Township and there is such a dip in the road right by our property line that one day one of these trucks is going to go right thru the road. When a truck goes over it or house shakes and you can here the thump of the carriage of the vehicle!!!!
Poor Roadway Surface Road maintenance issues
N/a
Poor Roadway Surface City of Benton harbor roads are horrible this time of year
Enforcement Drivers need to SLOW down in residential neighborhoods and watch for children playing, pedestrians walking dogs or kids riding bikes! SLOW DOWN!!
Please improve of City Saint Joseph. For most of the things we commute to either South Bend or Michigan City and we end up paying taxes there
I have some issues with walking very far. Using my own vehicle is the best option for me. Transportation right at my own door!
Parking Parking in the summer can be a challenge with the influx from vacationers and tourists. Improving parking infrastructure or cycling availability seem to be two basic options.
Public Transit Questions 10 and 12 give no option but a preconceived notion that I would want some form of bus transportation in an expanded fashion. Survey participants are forced to answer one of these to reply.
Poor Roadway Surface Roads are bad
Public Transit I would love public transit like the Rapid in Grand Rapids. A bus system that ran every 5-10 minutes.
Public Transit There are buses in the area???
Public Transit Need more access to reliable community transit for those who ar elow income or havie a hard time keeping a reliable car.
Parking May want to consider special parking for hybrid or efficiency vehicles.
Public Transit Long public transit times due to poor service on fixed routes makes driving a preferred mode. Exceptionally bad street conditions are hazardous in our whole region.
Public Transit I have never used Berrien Bus or any other area transportation, actually do not know much about it.
Public Transit My age makes it difficult to walk or bike for errands especially if I'm carrying packages or groceries. My church is 11 miles away. I see many people at our Food Pantry walking or biking unsafe roads to carry their food home.
Ped/Car Conflicts Biking on roads here seems unsafe, drivers not used to sharing.
At the intersections of Cleveland and Glenlord as well as Cleveland and Marquette Woods, there is often a lot of congestion. Stop lights would be far more practical than a 4 way stop

Berrien County Trails Master Plan - 2022

The Berrien County Trails Master Plan process provided a great opportunity for residents and stakeholders to share their thoughts on the use and development of trails in Berrien County. The success of this planning effort depends on engaging the community.

2,000 responses to the online survey and 100% participation from each Berrien County municipality on the municipal survey.

Four open houses to participate in the master planning process. At these open houses, the public was asked to assist with the development of trail project priorities and additional recommendations.

Tuesday, August 2, 2022, **Niles - Buchanan YMCA**, 905 North Front St, Niles

Wednesday, August 3, 2022, **Coloma Public Library**, 151 W Center St, Coloma

Tuesday, August 9, 2022, **New Buffalo Senior High School, Commons Area,** 1112 E Clay St, New Buffalo

Wednesday, August 10, 2022, **Southwest Michigan Planning Commission**, 376 W. Main Street, Benton Harbor

PUBLIC ENGAGEMENT PROCESS

Robust community engagement was an important element of the planning process. A variety of activities solicited participation from community residents, visitors, municipal officials and identified stakeholders. These varied approaches ensured that a full representation of the community residents, issues, and needs were integrated into the process. To generate awareness of the planning process, the Friends of Berrien County Trails added a page to their website with ongoing updated information about the Trails Master Plan. Berrientrails.org/bcmasterplan.asp included the purpose, process, participation opportunities, maps, key findings and recommendations.

Specific public engagement activities that were undertaken included the following:

- Implementation of an Online Community Survey;
- Distribution of Municipal Assessment;
- Facilitation of Community Open Houses; and
- Completion of a Youth and Young Adult Engagement Activity

The Municipal Assessment and Community Survey were completed as a part of the existing conditions phase of the planning process. These activities were designed to ensure the planning team included relevant information related to active recreation and transportation facilities, plans, and policies, along with a current understanding of resident behaviors, perceptions, and values related to biking and walking in Berrien County.

The community open houses were designed and implemented to capture input and feedback on the results of the plan analysis and proposed recommendations. Finally, a selection of youth and young adults were engaged to communicate their perspectives related to the values and issues of the local trails system through a unique photo-voice project.

PUBLIC ENGAGEMENT EVENTS

MUNICIPAL ASSESSMENT

A component of the public outreach process included the distribution of an assessment to each municipality in Berrien County. The assessment was delivered as an online survey tool. The primary intent of the survey was to collect information on how each municipality addresses active recreation and transportation, trails planning, and implementation. Communities were asked to provide all relevant plans, policies, or ordinances (if any) that specifically address active recreation & transportation activities or priorities as a part of the assessment tool.

All 39 Berrien County municipalities completed at least a portion of the assessment. For many communities the response was limited to providing the names and contact information for trail champions and staff who share responsibilities for planning and implementation within their organization. This is a valuable win for the process, as understanding who is responsible and the limits of their available resources will provide insight into the communities' capacity for future engagement and investment in planning and implementation.

As part of the assessment process, municipalities were asked to provide plan or policy documents related to current and future active recreation and trail planning and investment. Eleven municipalities uploaded files into the shared drive, providing relevant excerpts from community master plans, park and recreation plans, and zoning ordinances. Communities who provided documents were fairly diverse in overall population and community size, with the cities of Niles and St. Joseph being the largest communities to provide planning documents. A cluster of Harbor Country municipalities provided planning documents. Overall, these plans incorporated the goals and recommendations included within the January 2010 Harbor Country Hike and Bike Plan.

Active recreation and transportation and trail planning values, policies, and goals are typically included as a part of the development of local community master plans and park & recreation master plans. Additionally, community parks & recreation master plans include more detailed information related to local community park-based trails.

COMMUNITY SURVEY

In addition to the municipal assessments a community survey was developed to capture resident input within five key areas:

- Bicycling Behaviors and Preferences;
- Walking Behaviors and Preferences;
- Use of Other Recreational Trail Types;
- Community Values Related to Trails; and
- Demographics.

The survey was launched in February 2022 and was live for a total of five weeks. The survey was distributed via email, social media posts, and promoted through multiple local media channels. 1,928 total responses were collected. Respondents included full- and part-time residents from every municipality in Berrien County, along with non-residents from neighboring counties in Michigan and Indiana.

The full results can be found on the Friends of Berrien County website or by using this link.

HIGHEST EDUCATION ATTAINMENT

	SURVEY RESPONDENTS	BERRIEN COUNTY
No High School Diploma	0.4%	9.7%
High School Graduate	4.9%	27.2%
Some College, No Degree	14.1%	25.4%
Associates Degree	8.4%	10.7%
Bachelors Degree or Higher	72.2%	27.0%

WHO TOOK THE SURVEY?

52
AVERAGE AGE OF RESPONDENTS
42.1 in Berrien County

Overall, respondents to the survey tended to be older than the general county population. Survey respondents tended to be highly educated, with over 70% having obtained a Bachelor's Degree or Post Graduate Degree. The high levels of academic achievement contributed to over 40% indicating that they earn over $100,000 annually. While the demographics of the survey respondents did not offer a full representation of the Berrien County population, the survey still provides a snapshot and baseline information for values and items that can be emphasized and compared to in future planning efforts.

Over 70% of survey respondents are employed, either full- or part-time, or are active students. An additional 20% of survey respondents indicated that they are retired. Factoring out survey respondents who work from home or don't work or attend school, nearly 75% reported that they live less than 12 miles from work or school. Over 80% drive alone as their primary mode of transportation for commuting, while almost 15% currently walk or bike.

In looking at the basic behaviors of the over 1,900 respondents who completed the survey, there were over 1,400 responses related to bicycling participation and over 1,600 responses related to walking participation.

COMMUNITY SURVEY

PARTICIPATION LEVELS ARE HIGH

To determine the level of activities among both bikers and walkers, the survey posed questions about how confident respondents feel in their experience levels of using various types of active recreation and transportation facilities, how often they participate in bicycling and walking activities, and how far they typically walk or ride. As indicated in the data to the right, survey respondents reported high levels of confidence and activity levels, and demonstrated a willingness to ride or walk up to 60 minutes or more.

Given the high percentage of respondents who live within about an hour's bicycle ride to either school or work, the fact that 30% of bicyclists ride more than 10 miles presents an opportunity to reduce the percentage of commuters who choose to drive alone if given safe and accessible alternative transportation options.

BIKER BEHAVIOR	WALKER BEHAVIOR
70% IDENTIFIED AS CASUAL OR EXPERIENCED RIDERS	**78%** IDENTIFIED AS CASUAL OR EXPERIENCED WALKERS
44% RIDE ONCE OR MORE A WEEK	**80%** WALK ONCE OR MORE A WEEK
60% RIDE MORE THAN 5 MILES PER TRIP	**60%** WALK MORE THAN 2 MILES PER TRIP

Harbor Shores Trails

COMMUNITY SURVEY

CYCLING & WALKING FOR TRANSPORTATION PURPOSES

While the primary purpose for most of the bicycle and walking trips is recreational in nature, almost a third of survey respondents indicated that they ride and walk for both transportation and recreation purposes.

Both bicyclists and walkers have expressed interest in making more non-recreational trips on trails; however, survey respondents say a lack of connectivity, comfort, and safety prevent them from doing so.

Traditionally, investments in the active recreation transportation infrastructure have been focused on facilities designed for those on the trails recreationally. That does track with the current primary demand generators. But, there is strong evidence that improvements that ultimately provide safe, comfortable access, and connectivity to community resources would result in higher levels of demand and use of these facilities, too.

> *"Bike lanes and paths to use a bike for transportation do practically not exist where I live."*
>
> – SURVEY RESPONDENT

TRANSPORTATION BIKER & WALKER – **Top Destinations**

30%
BIKE FOR RECREATIONAL AND TRANSPORTATION PURPOSES

30%
WALK FOR RECREATIONAL AND TRANSPORTATION PURPOSES

72%
DESIRE TO BIKE MORE FOR TRANSPORTATION PURPOSES

63%
DESIRE TO WALK MORE FOR TRANSPORTATION PURPOSES

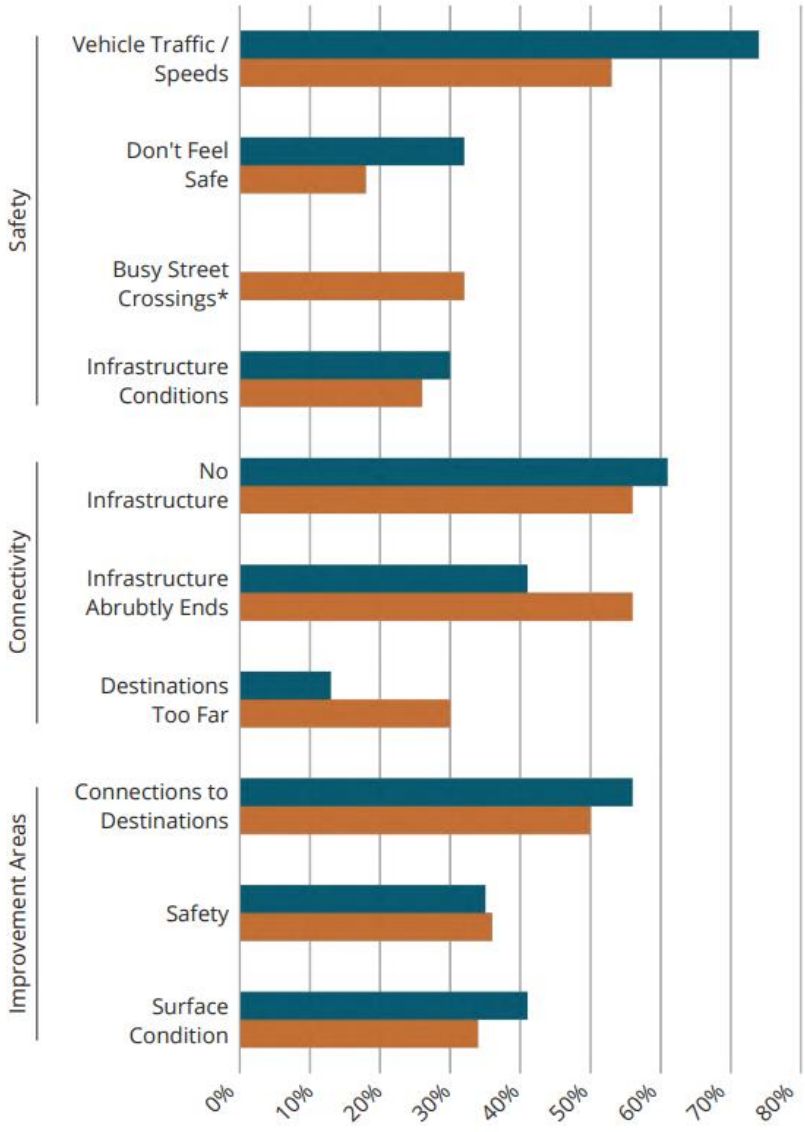
COMMUNITY SURVEY

CONNECTIVITY & SAFETY ARE SIGNIFICANT BARRIERS TO MORE USE

The factors noted as being the primary barriers to increased use of the active recreation & transportation facilities fall into two main categories – connectivity and safety. Safety concerns were largely driven by vehicle traffic levels and speed and poor conditions of road and trail surfaces. Connectivity factors were related to the lack of trails and bike paths, no connections available to desired destinations, and facilities that abruptly end. These same themes of connectivity, safety and surface conditions were highlighted when respondents were asked what elements were most in need of improvements.

> *"Safe walking along the roads is important to me. Connecting sidewalks to be able to get from one place to another."*
>
> – SURVEY RESPONDENT

BARRIERS TO MORE USE



LEGEND

Biker

Walker

* This question was asked only on the walker survey and there was no similar question for bikers.

COMMUNITY OPEN HOUSES

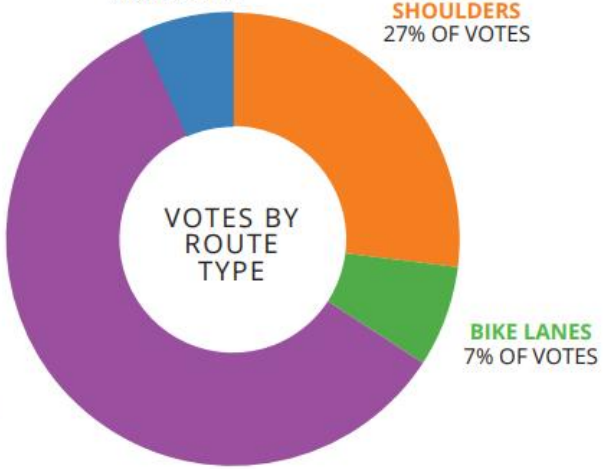
A series of Community Open Houses was the second significant community engagement component included as a part of the planning process. The Open Houses were facilitated after the completion of the Plan analysis activities and the development of the preliminary route recommendations proposed to be included in the Plan. The primary purpose of the Open Houses was to collect input and insights from community residents and trail users related to the routes being recommended for the Plan. In an effort to minimize the distance residents would have to travel to attend the Community Open Houses, locations were chosen in close proximity to key population centers and spread throughout 4 sections of the county. During the Open Houses, attendees were invited to participate in the following 4 separate activities:

- Activity 1 – Recommended Route Prioritization;
- Activity 2 – Identification of Issues and Opportunities;
- Activity 3 – Discussion of Water Trails, Park Based Trails and Equestrian Trails; and
- Activity 4 – Postcards from the Future.

ACTIVITY 1 – RECOMMENDED ROUTE PRIORITIZATION

The goal of this activity was to engage the community members in the development of priorities among the recommended routes. Large format maps showing the recommended routes were displayed, and participants were provided 5 votes to be used to identify routes they would most likely use or most strongly support being developed. Trail segments that make up portions of the Red Arrow Linear Park, the Indiana-Michigan River Valley Trail, and a proposed East-West corridor that connects Niles and New Buffalo received the highest levels of community support.

471
VOTES MADE IN ACTIVITY 1



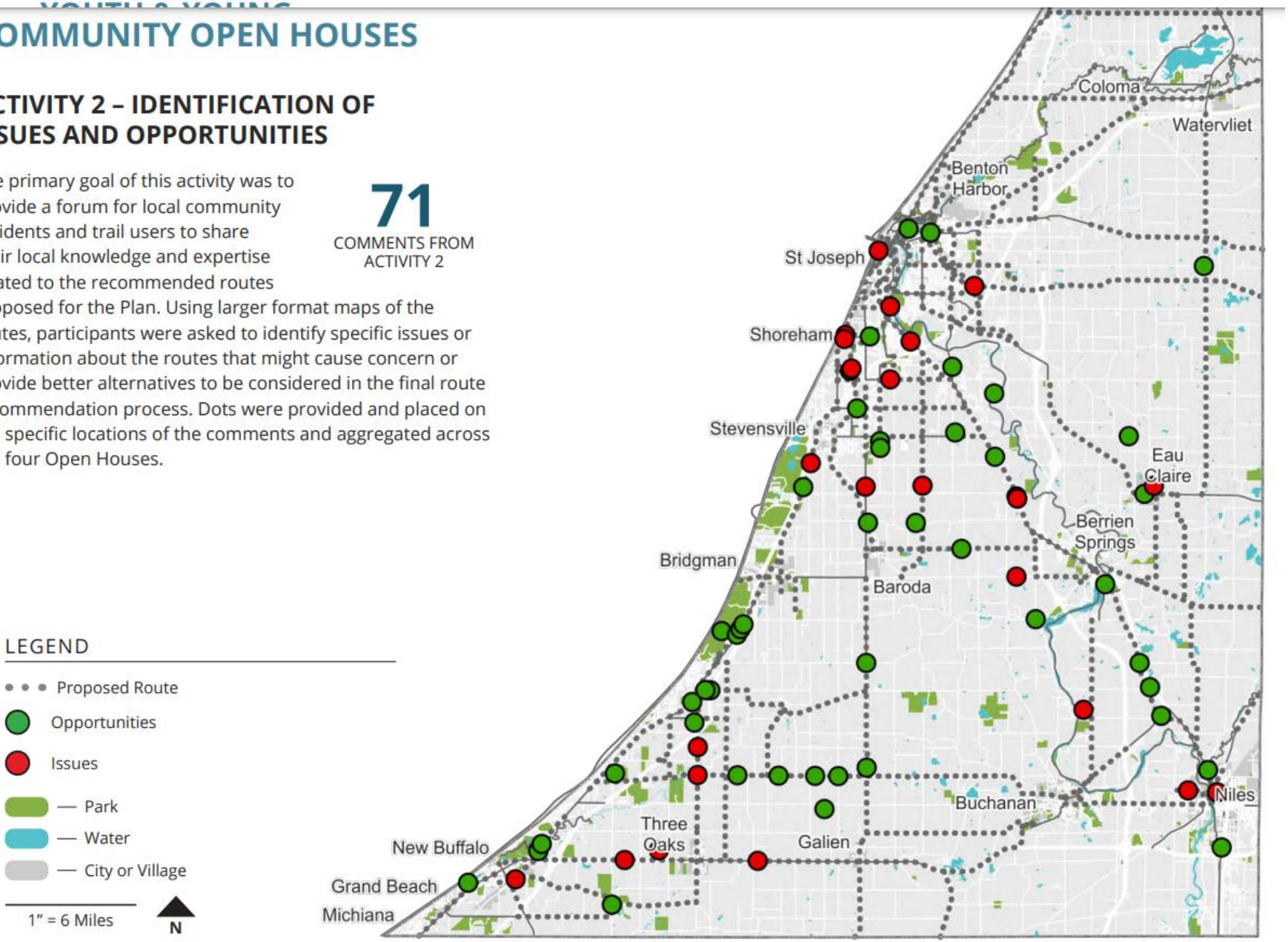
Community Open Houses

COMMUNITY OPEN HOUSES

ACTIVITY 2 – IDENTIFICATION OF ISSUES AND OPPORTUNITIES

The primary goal of this activity was to provide a forum for local community residents and trail users to share their local knowledge and expertise related to the recommended routes proposed for the Plan. Using larger format maps of the routes, participants were asked to identify specific issues or information about the routes that might cause concern or provide better alternatives to be considered in the final route recommendation process. Dots were provided and placed on the specific locations of the comments and aggregated across the four Open Houses.

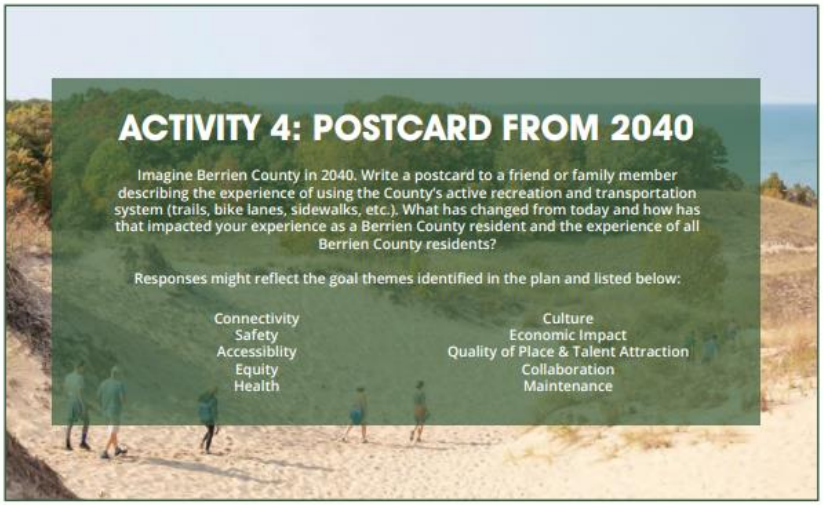
71
COMMENTS FROM ACTIVITY 2

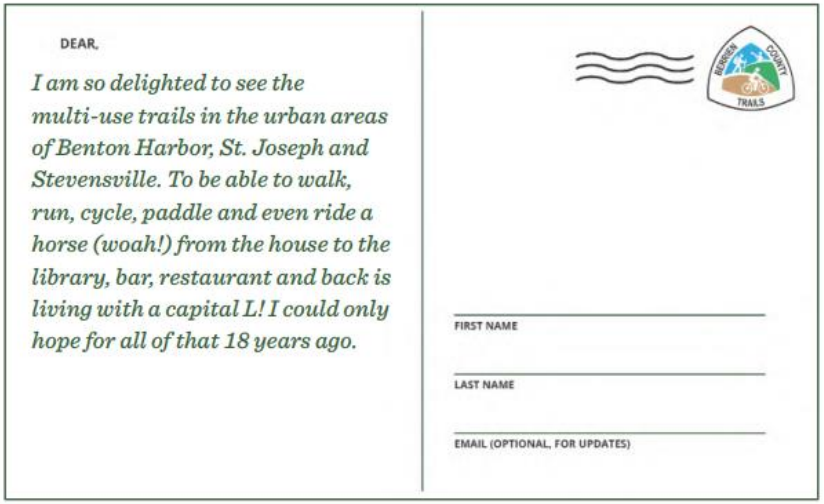


COMMUNITY OPEN HOUSES

ACTIVITY 4 – POSTCARDS FROM THE FUTURE

After completing the previous activities, Open House participants were asked to write a postcard from the future describing their experience using Berrien County Trails based. The primary intent of this activity was to collect information on the vision of community residents on the future state of active recreation and transportation systems in the county, and the role and impact of the planning process. Participants were encouraged to write an honest vision, whether positive or negative about the experience and associated community impacts.





YOUTH & YOUNG ADULT ENGAGEMENT

In order to represent youth voice in this assessment, we employed photovoice as a methodology. This process engages youth to answer questions through photography and narrative. Participants were asked to answer the following four questions:

- What is most important to you when walking or riding your bike?
- What type of places do you walk or bike to?
- When thinking about designating biking or walking trails for recreation, what features are important?
- Thinking about your community, what are some barriers to walking or riding a bike?

In total, seven students took part in this project, representing youth participating in programs in Benton Harbor, Benton Heights, and Niles. The narrative responses were then analyzed to identify the top themes. This processes revealed that the themes mentioned by the most students were safety, the condition of infrastructure, connection to amenities, and nature.

Photo in response to the question "Thinking about your community, what are some barriers to walking or riding a bike?"

SAFETY

Safety was mentioned by all seven participants as something that is most important to them for walking and biking or that the lack of safety features is a barrier that prevents them from walking or bike riding. Participants discussed the need for the separation of traffic from pedestrians and cyclists (e.g., safe pedestrian crossing and designated biking lanes) as well as the need for lighting for safe exercise and transportation. Lastly, they also discussed how the conditions of sidewalks and trails impact user safety, specifically how poor conditions can cause falls or other injuries.

Photo submitted when asked "What is most important to you when walking or riding your bike?"

"There is not a specific time for pedestrians to cross, nor a button to press to signal someone is there. I was uncomfortable and I am capable of crossing the street but others may not."

– PHOTOVOICE PARTICIPANT

YOUTH & YOUNG ADULT ENGAGEMENT

CONDITIONS

The second theme that participants discussed was infrastructure conditions, with six out of seven participants mentioning it as something that is important for walking and biking and also as a barrier. In addition to conditions impacting user safety, as previously mentioned, the conditions of sidewalks, amenities such as exercise equipment near trails, and lack of proper signage and crossing support were stated as concerns that can limit accessibility for the elderly, those in wheelchairs, and for individuals pushing strollers. Participants also discussed how sidewalk conditions can damage property (e.g., bikes).

"This photo shows the handicapped swing...I like this because it brings inclusivity to our park, but I also dislike it because of the condition it is in."

"For example if someone gets a new bike and...rides over a hole and messes their new bike up, I know how they would feel because I have been there before."

– PHOTOVOICE PARTICIPANT

CONNECTION & PROXIMITY

Five out of seven participants mentioned the importance of having trails in proximity to amenities or that connect to areas that they travel to. Amenities such as other opportunities for exercise (e.g., skate parks and exercise equipment) and places to gather (e.g., pavilions) were discussed, and the most frequently mentioned destinations for transportation via trails were local stores, work, and family.

Photo submitted when asked "What features are most important?", titled "Great Entertainment!"

"I wanted to share this picture because it is a great spot for people to gather, that not everyone knows about. Sometimes there are local bands that play such as during the Riverfest. It shows a feature I enjoy when going to the trail because it's something to watch or listen to while walking."

– PHOTOVOICE PARTICIPANT

Seven County Non-Motorized Plan-2019

Public Meeting Promotional Materials The following are examples of Facebook posts and press releases that were created to notify the public about nonmotorized summits that were held in all seven counties.

FOR IMMEDIATE RELEASE: January 11, 2019

Berrien County Non-Motorized Summit to Focus on Connectivity

The Southwest Michigan Planning Commission (SWMPC), the Best Practices Committee of The Strategic Leadership Council and Andrews University are hosting a Berrien County Non- Motorized Summit on Wednesday, February 6, 2019 from 7:00pm to 9:00pm. It will take place in the lobby of the Howard Performing Arts Center on the campus of Andrews University located at 4160 E. Campus Circle Drive, Berrien Springs, MI 49104.

This summit is open to the public and is free to attend. Refreshments will be provided. There will be a brief presentation on non-motorized facilities in Berrien County and then a work session to gather input on desired facilities and priorities to help develop a vision. Non-motorized facilities include trails or shared use paths, bike lanes and paved shoulders that connect communities.

This free event is funded by the Michigan Department of Transportation (MDOT) and is part of a larger effort to update the Southwest Michigan Non-Motorized Plan and Bicycling Guide for 7 counties (Berrien, Branch, Calhoun, Cass, Kalamazoo, St. Joseph and Van Buren).

Currently, major trail efforts in Berrien County include the following:

- Indiana Michigan River Valley, a 34 mile trail connecting Niles, Michigan to Mishawaka, Indiana. There is interest in expanding this trail to connect to Berrien Springs and ultimately to St. Joseph.
- Berrien County Linear Park is the Berrien County Parks Department effort to link existing county parks with a trail with the first priority along Red Arrow Highway from Bridgman to the Galien River County Park north of New Buffalo.
- Marquette Greenway will be a 58 mile trail connecting New Buffalo to Chicago. Southwest Michigan Planning Commission is working with the municipalities and Friends of Harbor Country Trails to develop a route from the Indiana state line to downtown New Buffalo.

Many communities in Berrien County have trail systems, such as St. Joseph City (John and Dede Howard Family Recreation Trail), Buchanan City (McCoy's Creek Trail) and Benton Harbor City (Harbor Shores trails).
There are also efforts to add bike lanes and paved shoulders on roads to accommodate pedestrians and bicyclists. Some major projects include Napier Avenue (Benton and St. Joseph Townships), Red Arrow Highway (Chikaming and New Buffalo Townships) and M-63 Highway (Hagar Township). Other activities such as adding bike racks, share the road signage and road markings will also make our communities more bike friendly.

SUPPORTING DOCUMENTS – Public Outreach: Comments Received

No public comments were received – exclude comments from agencies which responded through the consultation process *(see page 180)*

Process for Amending and Updating the TwinCATS Long Range Transportation Plan

Amendments to the Plan may occur either as part of the comprehensive update (every four years), annual TIP-related update, or at other times as needed. The comprehensive update is a federal mandate and consists of re-examining the basic assumptions behind the Plan and the resulting projects and strategies. Amendments to the Plan requiring a comprehensive update consist of reassessing:

· Land use, demographic, and economic forecasts.

· Projected traffic and travel deficiencies.

· Financial Analyses (Cost/Revenues);

· Regional (Air Quality) Emissions Analyses; and

· Other aspects of the vision and Plan. Amendments to the Plan requiring a comprehensive update would need to be adopted by TwinCATS Technical and Policy Committees and approved by the Southwest Michigan Planning Commission Board of Directors, after the opportunity for general public review and comment.

A comprehensive update is normally initiated by staff on a timetable that ensures the continuation of a 20-year horizon for the Plan and that meets the federal update timeframe requirements. On those other rare occasions when a comprehensive or major update might be requested by a road agency due to unforeseen changes to a major project or due to drastic and immediate changes in land uses/demographics/economics, staff would develop a timeline to conduct the update in a timely manner.

The following outlines the anticipated process for Plan amendments:

· Receive a formal request for a Plan amendment.

· Provide a detailed project profile.

· Determine if additional revenues are available to cover the project or modified project.

· Submit justification for the amendment. SWMPC staff would then finalize the project evaluation, review the appropriateness of the proposed amendment, review the financial constraints, conduct the air quality conformity analysis, and make a recommendation for the TwinCATS Policy Committee and SWMPC board action.

RESOLUTION APPROVING
THE TWIN CITIES AREA TRANSPORTATION STUDY
2050 LONG RANGE TRANSPORTATION PLAN

Whereas, the Southwest Michigan Planning Commission (SWMPC) is the designated Metropolitan Planning Organization for the Benton Harbor – St. Joseph Federal Aid Urban Area; and

Whereas, the SWMPC has designated the Twin Cities Area Transportation Study (TwinCATS) Technical Advisory and Policy Committees as the committees responsible for developing the Long Range Transportation Plan, the Transportation Improvement Program and all other transportation-related planning activities for the designated metropolitan planning area; and

Whereas, the TwinCATS 2050 Long Range Transportation Plan has been developed pursuant to provisions of the Infrastructure Investment & Jobs Act (IIJA)

Whereas, the TwinCATS Long Range Transportation Plan identifies transportation facilities and activities that should function as an integrated metropolitan transportation system in conformity with the Michigan Department of Transportation and the Federal Highway Administration; and

Whereas, the TwinCATS Long Range Transportation Plan was analyzed for fiscal constraint of proposed projects and activities over a 27-year planning horizon, was developed through a process that included input from citizens, public agencies and other interested parties, and has demonstrated conformity with the State Implementation Plan for Air Quality; and

Whereas, the TwinCATS Long Range Transportation Plan has identified goals, objectives, policies, recommendations, strategies, and activities consistent with the goals and objectives of the Michigan Department of Transportation.

Now therefore be it resolved, the Twin Cities Area Transportation Study Policy Committee approves the 2050 Twin Cities Area Transportation Study Long Range Plan and submits it to the Southwest Michigan Planning Commission for approval.

This action is taken pursuant to rules and regulations of the Federal Highway Administration and the Michigan Department of Transportation by a vote of the Twin Cities Area Transportation Study, this the 17th day of January 2023.

RESOLVED ON THIS SEVENTEENTH DAY OF JANUARY 2023.

Richard Stauffer 1/17/2023

Richard Stauffer, Policy Chair — Date

RESOLUTION 2023-1
RESOLUTION APPROVING THE TWIN CITIES AREA TRANSPORTATION STUDY 2050 LONG RANGE TRANSPORTATION PLAN

Whereas, the Southwest Michigan Planning Commission (SWMPC) is the designated Metropolitan Planning Organization for the Benton Harbor – St. Joseph Federal Aid Urban Area; and

Whereas, the SWMPC has designated the Twin Cities Area Transportation Study (TwinCATS) Technical Advisory and Policy Committees as the committees responsible for developing the Long Range Transportation Plan, the Transportation Improvement Program and all other transportation-related planning activities for the designated metropolitan planning area; and

Whereas, the TwinCATS 2050 Long Range Transportation Plan has been developed pursuant to provisions of the Infrastructure Investment & Jobs Act (IIJA)

Whereas, the TwinCATS Long Range Transportation Plan identifies transportation facilities and activities that should function as an integrated metropolitan transportation system in conformity with the Michigan Department of Transportation and the Federal Highway Administration; and

Whereas, the TwinCATS Long Range Transportation Plan was analyzed for fiscal constraint of proposed projects and activities over a 27-year planning horizon, was developed through a process that included input from citizens, public agencies and other interested parties, and has demonstrated conformity with the State Implementation Plan for Air Quality; and

Whereas, the TwinCATS Long Range Transportation Plan has identified goals, objectives, policies, recommendations, strategies, and activities consistent with the goals and objectives of the Michigan Department of Transportation.

Whereas, the TwinCATS Policy Committee adopted the Long Range Transportation Plan on January 17, 2023 meeting and submitted it to the Southwest Michigan Planning Commission for approval.

Now therefore be it resolved, the Southwest Michigan Planning Commission board approves the 2050 Twin Cities Area Transportation Study Long Range Plan.

This action is taken pursuant to rules and regulations of the Federal Highway Administration and the Michigan Department of Transportation by vote of the Southwest Michigan Planning Commission, this the 18th day of January 2023.

RESOLVED ON THIS EIGHTEENTH DAY OF JANUARY 2023.

Roseann Marchetti — 18 January 2023

Roseann Marchetti, Chair — Date

1/18/2023

Kristen Gundersen, Alternate Secretary — Date

RESOLUTION 2023-2
RESOLUTION TO SUPPORT THE FINDINGS OF AIR QUALITY CONFORMITY ANALYSIS FOR THE BERRIEN COUNTY, MICHIGAN 2015 OZONE NAAQS NONATTAINMENT AREA

WHEREAS, on August 3, 2018, United States Environmental Protection Agency (EPA) designated Berrien County as a Nonattainment Area for the 2015 8-hour ozone National Ambient Air Quality Standards (NAAQS); and

WHEREAS, The Southwest Michigan Planning Commission Board is the designated regional planning agency for Berrien County; and

WHEREAS, United States Environmental Protection Agency's (EPA) transportation conformity rules establish the criteria and procedures for determining whether Metropolitan Long Range Transportation Plans (LRTP), Transportation Improvement programs (TIPS), and federally supported highway and transit projects conform to the State Implementation Plan (SIP) (40 CFR Parts 51.390 and 93 subpart A); and

WHEREAS, transportation projects proposed for 2023-2050 in Berrien County, as contained within the Twin Cities Area Transportation Study (TwinCATS) 2023-2050 LRTP, and Niles-Buchanan-Cass Area Transportation Study (NATS) 2045 LRTP and the State Transportation Improvement Program (STIP), were analyzed in accordance with 40 CFR 51 for air quality conformity; and

WHEREAS; the results of the Air Quality Conformity Analysis for the Berrien County, Michigan 2015 Ozone NAAQS Nonattainment Area, published by MDOT on January 3, 2023, show that VOC and NOx emissions for Berrien County are currently below the maximum levels allowed by the County's emissions budget and are forecasted to remain below the allowed levels through 2050, thereby demonstrating conformity;

NOW THEREFORE BE IT RESOLVED, the Southwest Michigan Planning Commission accepts the results of the Air Quality Conformity Analysis for the Berrien County, Michigan 2015 Ozone NAAQS Nonattainment Area.

THE FOREGOING RESOLUTION WAS ADOPTED PURSUANT TO RULES AND REGULATIONS OF THE FEDERAL HIGHWAY ADMINISTRATION AND THE MICHIGAN DEPARTMENT OF TRANSPORTATION BY A VOTE OF THE SOUTHWEST MICHIGAN PLANNING COMMISSION ON JANUARY 18, 2023

RESOLVED ON THIS EIGHTEENTH DAY OF JANUARY 2023.

Roseann Marchetti — 18 January 2023

Roseann Marchetti, Chair — Date

1/10/2023

Kristen Gundersen, Alternate Secretary — Date