

Niles-Buchanan-Cass Area Transportation Study



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COMMENT

Making Connections 2050 LONG RANGE TRANSPORTATION PLAN

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COMMENT



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2023

Southwest Michigan Planning Commission

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BACKGROUND

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 Niles-Buchanan urbanized area. The SWMPC relies on this committee of the Niles-Buchanan-Cass Area Transportation Study (NATS) to provide local, state, and federal input toward the development of essential MPO work products

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

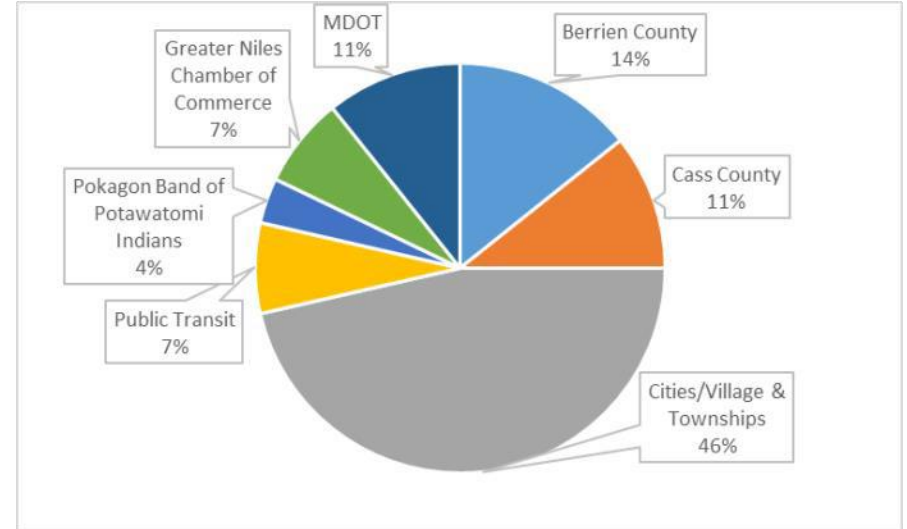
1. The Technical Advisory Committee is comprised of planners, engineers, transit operators, and local units of government. This committee provides technical assistance to SWMPC staff and makes recommendations to the Policy Committee on potential actions.
2. The Policy Committee is comprised of representatives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



NATS Policy Committee

NATS Policy Committee is organized to conform with federal requirements for an MPO. NATS Policy Committee is composed of 21 voting members from member communities, transportation departments 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.

NATS 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 NATS Committee for various federally required plans and documents that include:

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

Metropolitan Area Boundaries

The Niles-Buchanan-Cass Area Transportation Study (NATS) planning area is a region that spans across the Michigan portions of the South Bend Urbanized Area and the Elkhart Urbanized Area. Encompassing approximately 230 square miles, this area comprises various townships, cities and villages within portions of Berrien and Cass Counties. The communities within the NATS planning area benefit from their close proximity to Indiana cities such as South Bend, Mishawaka, and Elkhart, which significantly shape their population and economic landscapes.



2050 Long Range Transportation Plan

The development and adoption of a Long Range Transportation Plan is a requirement imposed by the U.S. Department of Transportation in order to qualify for federal funding under the Infrastructure Investment Jobs Act (IIJA). The IIJA, which was enacted in 2021, serves as the latest federal legislation that establishes funding programs for all surface transportation modes.

To meet the federal standards, the Long Range Transportation Plan must encompass a minimum of a 20-year projection and include all municipalities within the designated urbanized planning area. It should also consider and account for various modes of transportation to ensure comprehensive coverage.

The plan must address the ten planning factors, thereby ensuring its alignment with national goals for transportation planning. In essence, the Long Range Transportation Plan serves as the primary transportation vision for urbanized areas, similar to how a master plan provides a land use vision for a community.

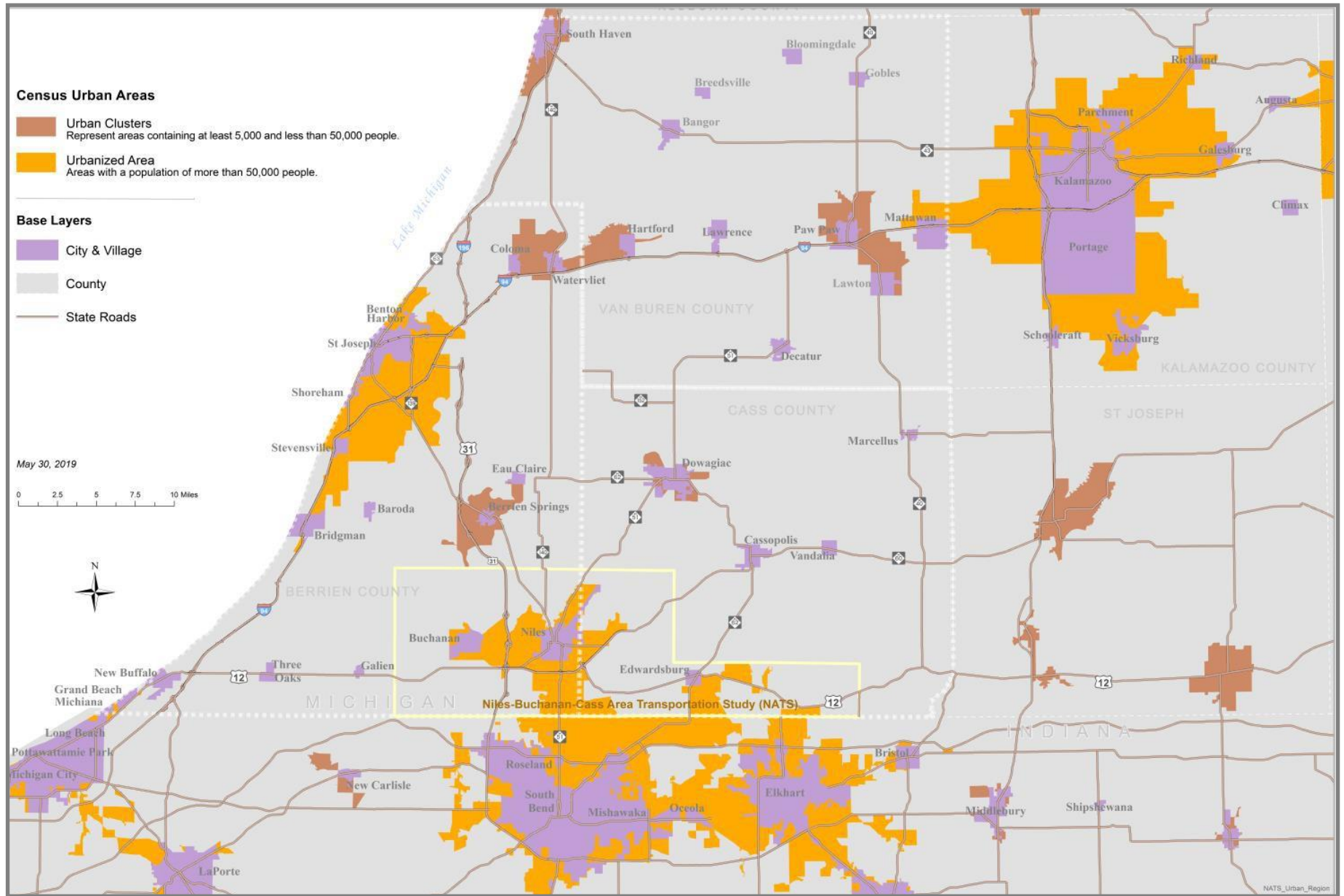
NATS 2050 Long Range Transportation Plan Vision



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.

FAST Act Planning Factors

- Support the economic vitality of the metropolitan area, 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.
- Enhance travel and tourism.
- 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.



REGIONAL CONTEXT

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.

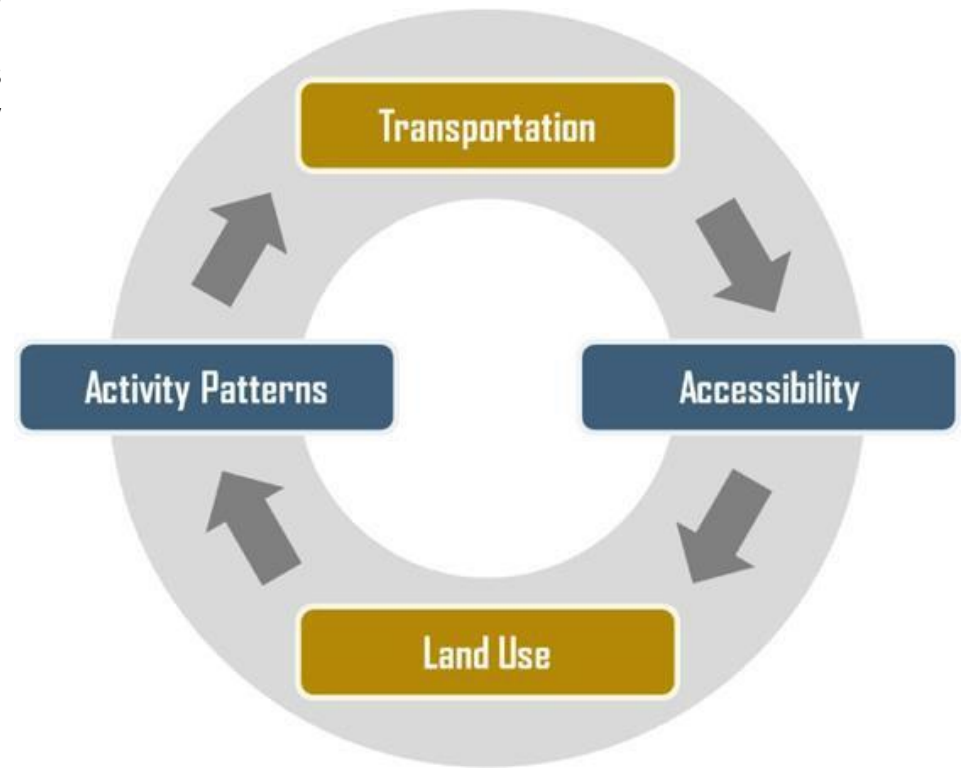
The Importance of Transportation as Part of Local Land Use

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 2023 Berrien County Master Plan, residential areas dominate in the NATS Area which is in the Southeast portion of the County, 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 NATS Long Range Plan.

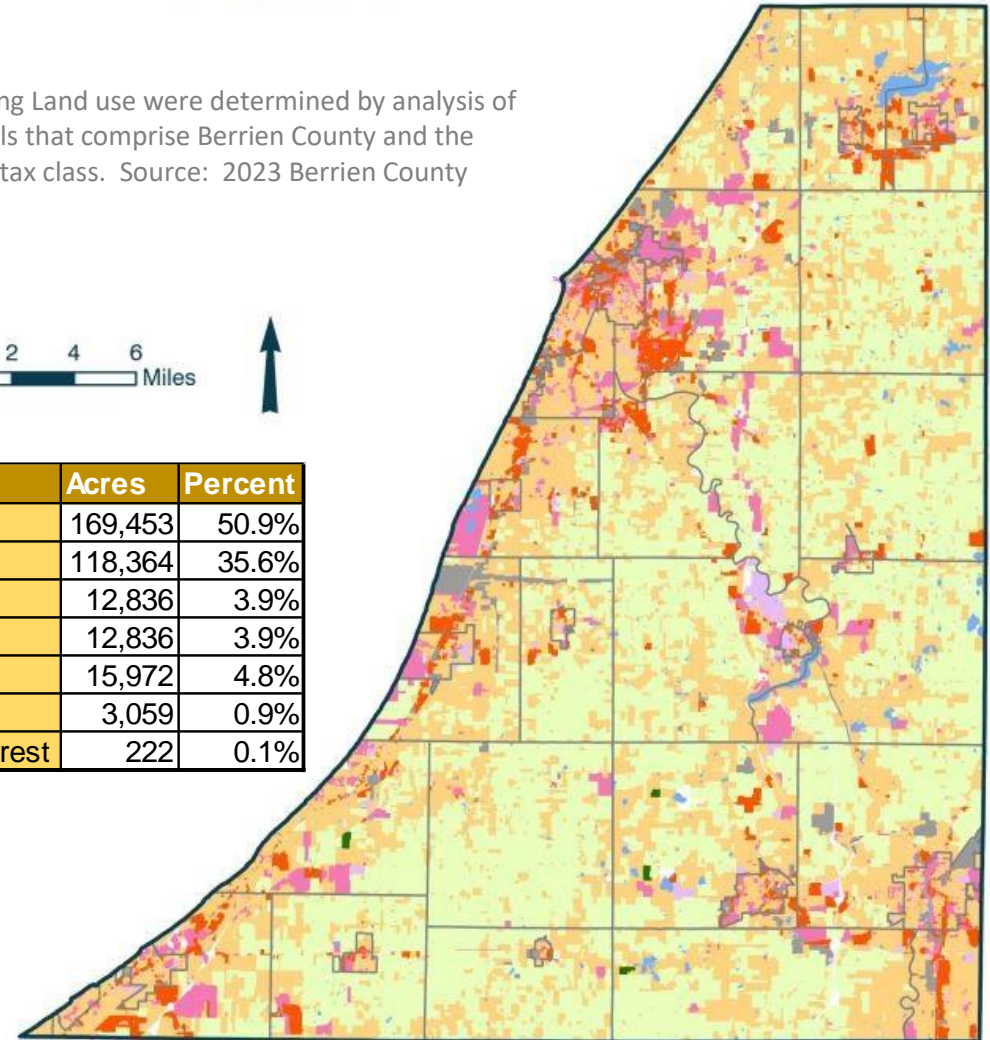
- ◇ **Maintain and provide efficiency in the current transportation system.**
- ◇ **Berrien County will work with SWMPC to implement The Southwest Region Nonmotorized Transportation Plan.**
- ◇ **Continue to support support projects, programs and studies that improve and provide public transportation.**

Existing Land Use

Existing Land use were determined by analysis of parcels that comprise Berrien County and the 2018 tax class. Source: 2023 Berrien County



Land Use	Acres	Percent
Agricultural	169,453	50.9%
Residential	118,364	35.6%
Industrial	12,836	3.9%
Commercial	12,836	3.9%
Public Property	15,972	4.8%
Institutional	3,059	0.9%
Commercial Forest	222	0.1%



Data Sources: Berrien County GIS



Cass County Master Plan

As shown on the Future Land Use map, from the 2014 Cass County Master Plan, rural residential and agricultural preservation areas dominate in the NATS area, with Edwardsburg area representing a primary urban growth area. A main goal of the Plan for transportation and mobility is to maintain and enhance a transportation and circulation system that responds to the county’s predominant rural character, the county’s regional and local needs, with emphasis on convenient, safe and efficient movement for all modes of travel including vehicular, pedestrian, and other non-motorized travel.

CASS COUNTY FUTURE LAND USE MAP 1

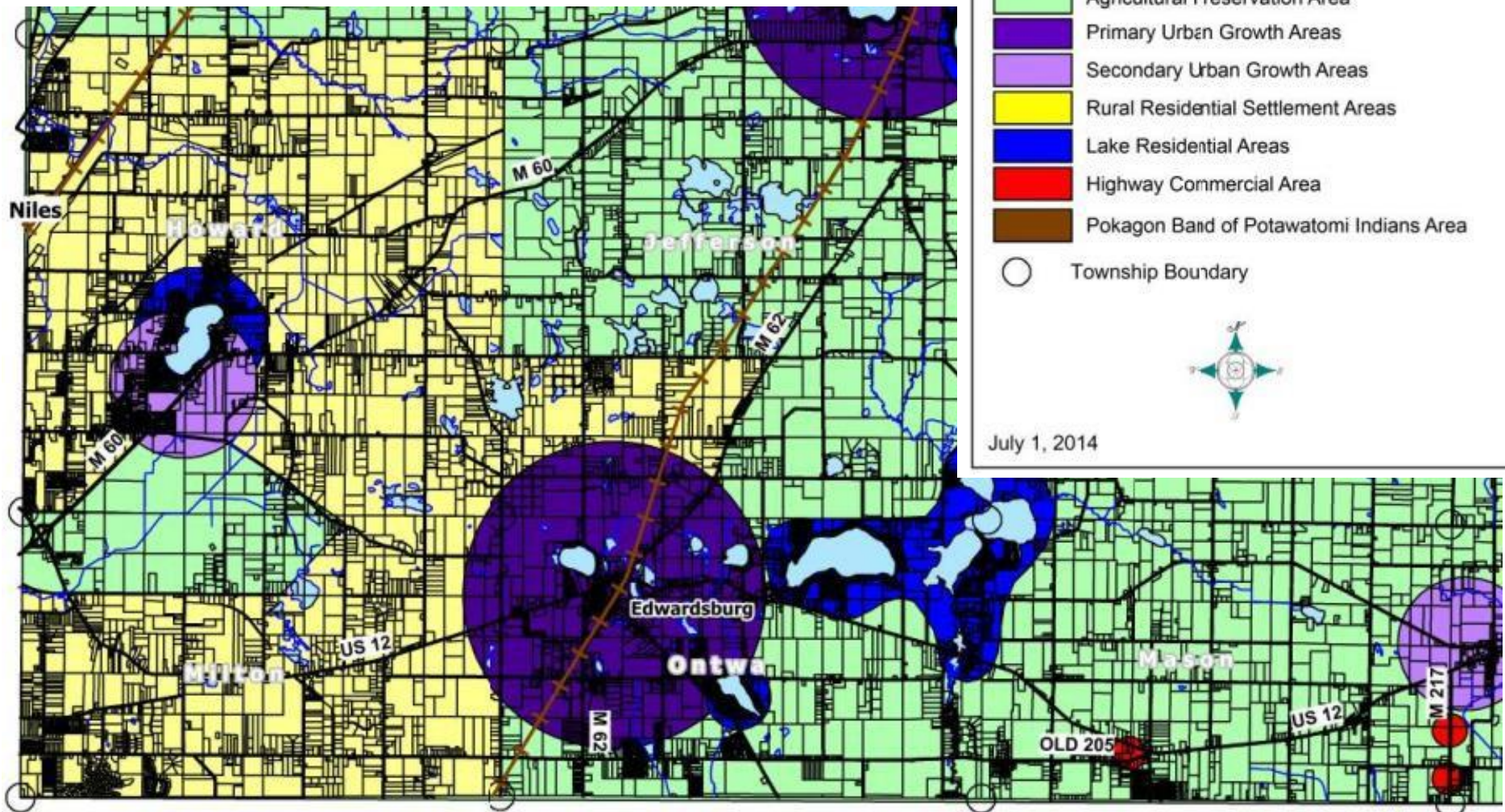
Cass County Master Plan

FUTURE LAND USE LEGEND

-  Agricultural Preservation Area
-  Primary Urban Growth Areas
-  Secondary Urban Growth Areas
-  Rural Residential Settlement Areas
-  Lake Residential Areas
-  Highway Commercial Area
-  Pokagon Band of Potawatomi Indians Area
-  Township Boundary

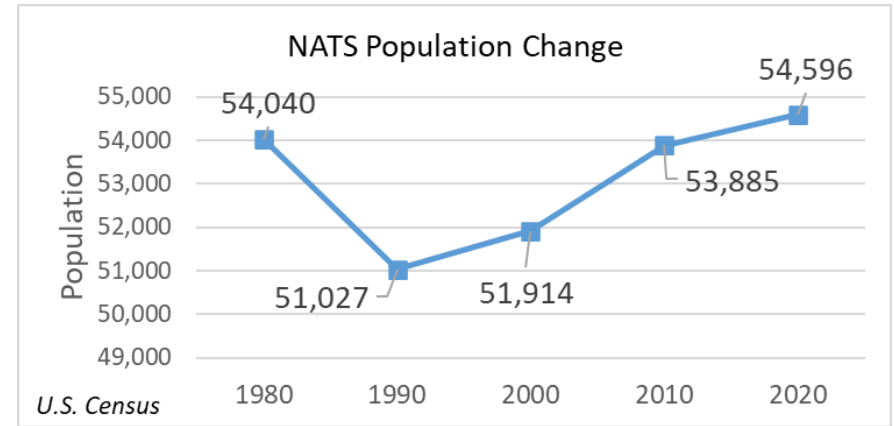


July 1, 2014

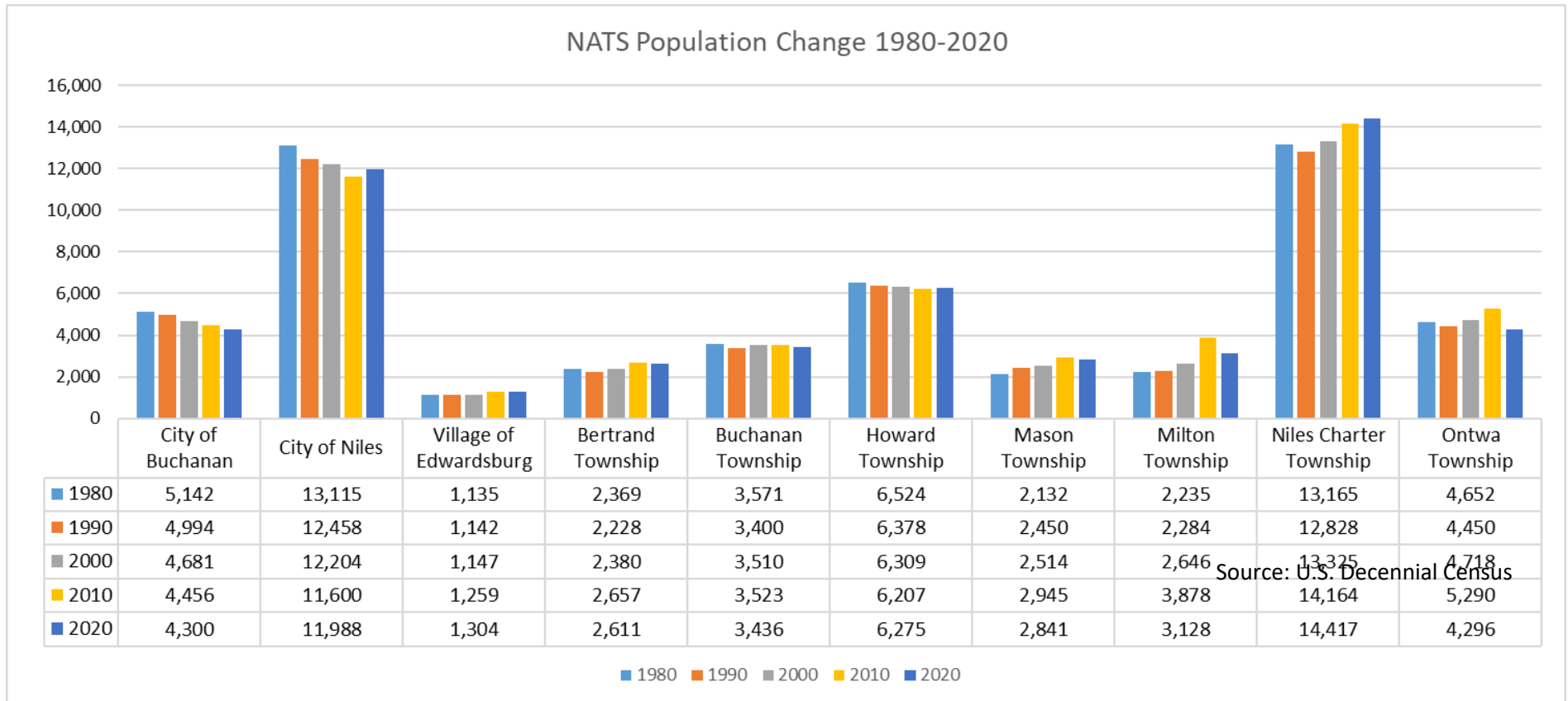


Population

Since 1980, the population of NATS has increased 1 percent, at 54,596 according to the 2020 U.S. Census. This net increase of 1,836 was largely driven by an increase of population in the townships as well as a slight increase in the Village of Edwardsburg. City populations declined during this time, 1980-2020. Overall, the population remains relatively stable, with the City of Niles and Niles Township representing 30% of the total population in NATS.



Source (Charts below and above): U.S. Census Bureau



Source: U.S. Decennial Census

Population Shift

Comparing 1980 to 2020, the total population has been stable in NATS, however, there has been a shift in population numbers between townships, villages and cities.

City populations have decreased while most Townships have increased populations. The City of Buchanan decrease 19 percent, losing 842 people. The City of Niles lost 10 percent, losing 1,127 people.

The largest proportional increase in population has occurred in Mason Township, which has grown 24%. The greatest percentage decrease in population has occurred in the City of Buchanan which lost about 19%.

Jurisdiction	1980	2020	Percent Change
City of Buchanan	5,142	4,300	-18.9%
City of Niles	13,115	11,988	-9.7%
Village of Edwardsburg	1,135	1,304	13.4%
Bertrand Township	2,369	2,611	9.1%
Buchanan Township	3,571	3,436	-3.8%
Howard Township	6,524	6,275	-4.0%
Mason Township	2,132	2,841	24.1%
Milton Township	2,235	3,128	23.0%
Niles Charter Township	13,165	14,417	8.8%
Ontwa Township	4,652	4,296	-6.7%
NATS TOTAL	54,040	54,596	1.0%

Source: U.S. Decennial Census

NATS AREA:

Townships
+18.5%

Villages
+13.7%

Cities
-8.9%

Jurisdiction	Population Forecast			
	2015	2025	2035	2045
Cities				
City of Buchanan	4,382	4,324	4,329	4,283
City of Niles	11,358	11,224	11,266	11,177
Townships				
Bertrand Township	2,668	2,682	2,738	2,761
Buchanan Township	3,457	3,475	3,550	3,582
Howard Township	6,359	6,337	6,465	6,540
Mason Township	3,113	3,185	3,337	3,456
Milton Township	4,301	4,546	4,900	5,220
Niles Charter Township	13,900	14,152	14,624	14,919
Ontwa Township	6,866	6,837	6,970	7,046
NATS	56,404	56,762	58,179	58,984

Note: No forecast data specific to the Village of Edwardsburg was provided, rather it is included in the forecast numbers for Ontwa Township.
Source: MDOT

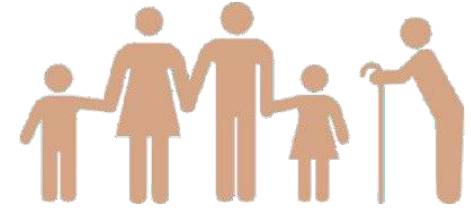


Population forecasts for 2015-2045 for the NATS region show the continuation of current trends: growth in townships and decrease in cities for a net increase in population.

Generations

The Millennials and Boomers are the two largest age cohorts alive today nationwide. Millennials have surpassed Baby Boomers as the nation’s largest living adult generation, according to population estimates from the U.S. Census Bureau. As of July 1, 2019.

The Millennial generation continues to grow as young immigrants expand its ranks. Baby Boomers are aging and their numbers shrinking in size as the number of deaths among them exceeds the number of older immigrants arriving in the country.



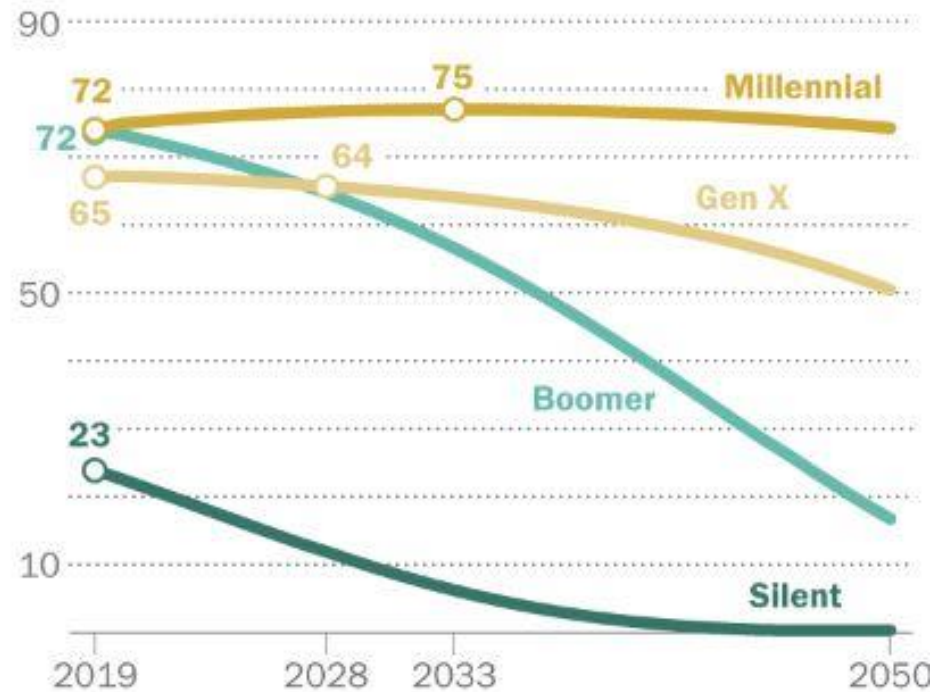
Generations* NATS	Percent
Silent/Greatest (born before 1943)	5%
Baby Boomers (1944-1963)	22%
Gen X (1962-1978)	20%
Millennials (1979-1993)	17%
Generation Z (1994-2013)	25%
Generation Alpha (2014-2025)	10%

*Generations: Adaptation to available data in age classes
 Source: U.S. Census ACS 5-year 2017-2021

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.

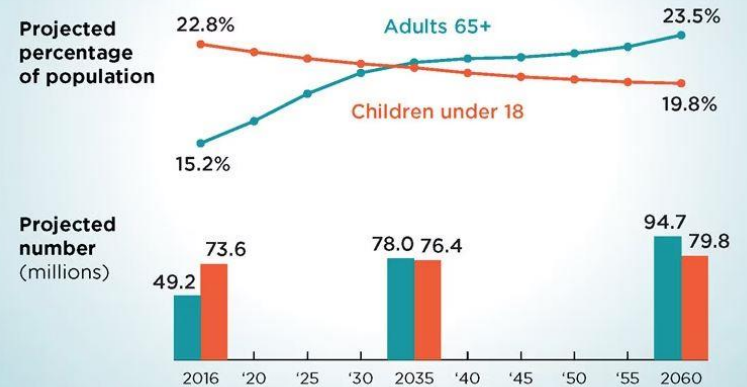
Projected population by generation

In millions



Note: Millennials refer to the population ages 23-38 as of 2019
 Source: Pew Research Center

For the First Time in U.S. History Older Adults Are Projected to Outnumber Children by 2035



Note: 2016 data are estimates not projections.

Aging Population

Aging in place requires a combination of good design in the home and connections to good social, health and transportation services.

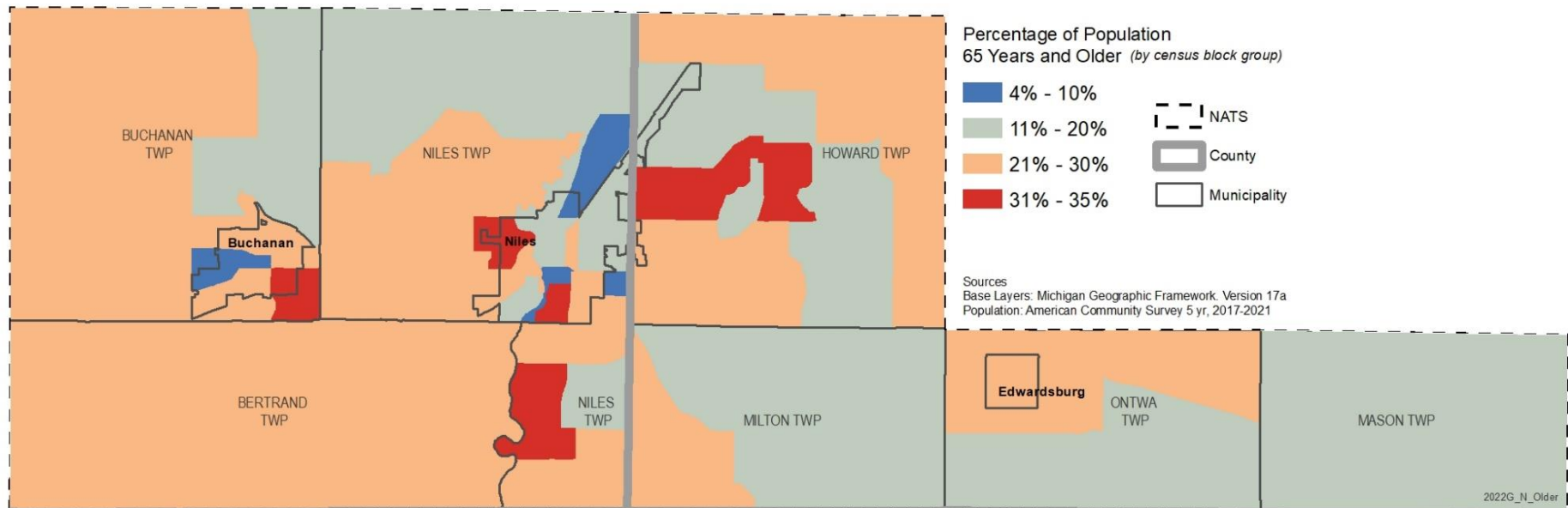
Many communities will face challenges in meeting the mobility needs of at least some seniors in the near future and that the interrelation of housing location and mobility choices will play a big role.

Jurisdiction	Total Population	Population 65 and Over	Percent 65 Years and Over
Bertrand Township	2,605	550	21%
Buchanan City	4,286	751	18%
Buchanan Township	3,430	809	24%
Niles City	11,929	2,033	17%
Niles Township	14,314	2,950	21%
Howard Township	6,288	1,384	22%
Mason Township	2,862	462	16%
Milton Township	3,235	524	16%
Ontwa Township	6,868	1,333	19%

Source: U.S. Census ACS 5-year 2017-2021

Percent of Population over 65

NATS: 20% Michigan: 17% United States: 16%



Households

The number of households and their size is an indicator of how the population is distributed over the NATS area. Overall, the number of households by jurisdiction remained relatively steady between 2015 and 2020. The most significant gain was in the Ontwa Township with the addition of 304 households whereas the City of Buchanan saw the largest decline of 312 households. Most jurisdictions have a larger percentage of 2-person households. In general, a quarter of households have more than four persons or more.



Largest Increase
Ontwa Township
+304 Households

Largest Decline
City of Buchanan
-312 Households

Jurisdiction	Year	Number of Households	1-Person	2-Person	3-Person	4+ Person
Cities						
City of Buchanan	2015	2,027	45.0%	23.1%	15.6%	16.3%
	2020	1,715	26.4%	42.8%	13.8%	17.0%
City of Niles	2015	4,567	36.1%	32.7%	9.6%	21.3%
	2020	4,743	35.0%	34.4%	11.7%	18.9%
Townships						
Bertrand Township	2015	1,016	18.2%	41.2%	18.5%	22.0%
	2020	1,121	18.3%	44.7%	17.8%	19.3%
Buchanan Township	2015	1,295	23.0%	37.6%	16.4%	23.0%
	2020	1,429	29.0%	38.1%	12.1%	20.8%
Niles Township	2015	5,276	25.1%	36.4%	16.1%	22.4%
	2020	5,475	26.2%	44.2%	14.2%	15.5%
Howard Township	2015	2,524	21.1%	45.7%	21.0%	12.2%
	2020	2,390	21.4%	45.3%	11.1%	22.2%
Mason Township	2015	997	23.1%	33.4%	11.0%	32.5%
	2020	1,112	22.5%	37.4%	11.2%	28.9%
Milton Township	2015	1,449	18.4%	46.7%	15.9%	18.0%
	2020	1,438	11.8%	33.5%	18.9%	32.7%
Ontwa Township	2015	2,477	23.7%	41.2%	13.7%	21.3%
	2020	2,781	27.0%	43.9%	10.5%	18.5%

Source: U.S. Census ACS 5-year 2017-2021

Housing Preferences

In 2020, housing preferences underwent notable changes as a result of various factors, including the COVID-19 pandemic, evolving lifestyle trends and environmental concerns. There are some key aspects that characterized housing preferences during that time and that seem to be holding:

- **Home Office Spaces:** With remote work more prevalent there was a growing demand for dedicated home office space.
- **Suburban and Rural Migration:** The desire for more space, lower population density, and a closer connection to nature.
- **Walkability and Proximity to Amenities:** The desire for walkable neighborhoods and proximity to essential amenities
- **Aging-in-Place and Universal Design:** With an aging population, there will likely be a greater emphasis on housing options that accommodate accessibility and aging-in-place.

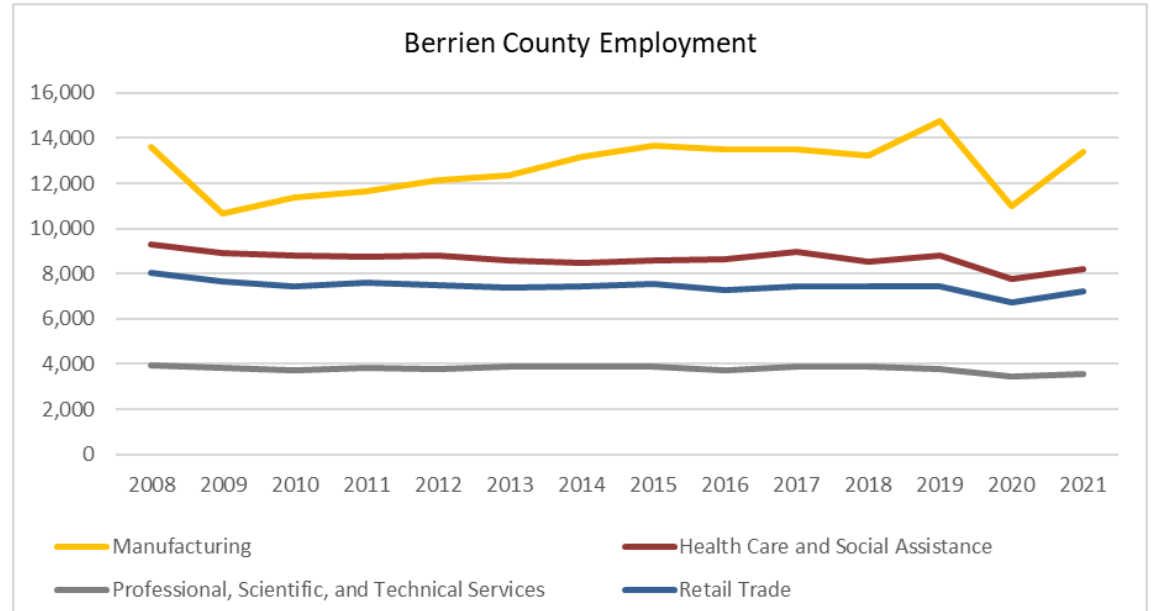
Employment

For transportation planning purposes, it is helpful to anticipate large changes in the employer/employment market.

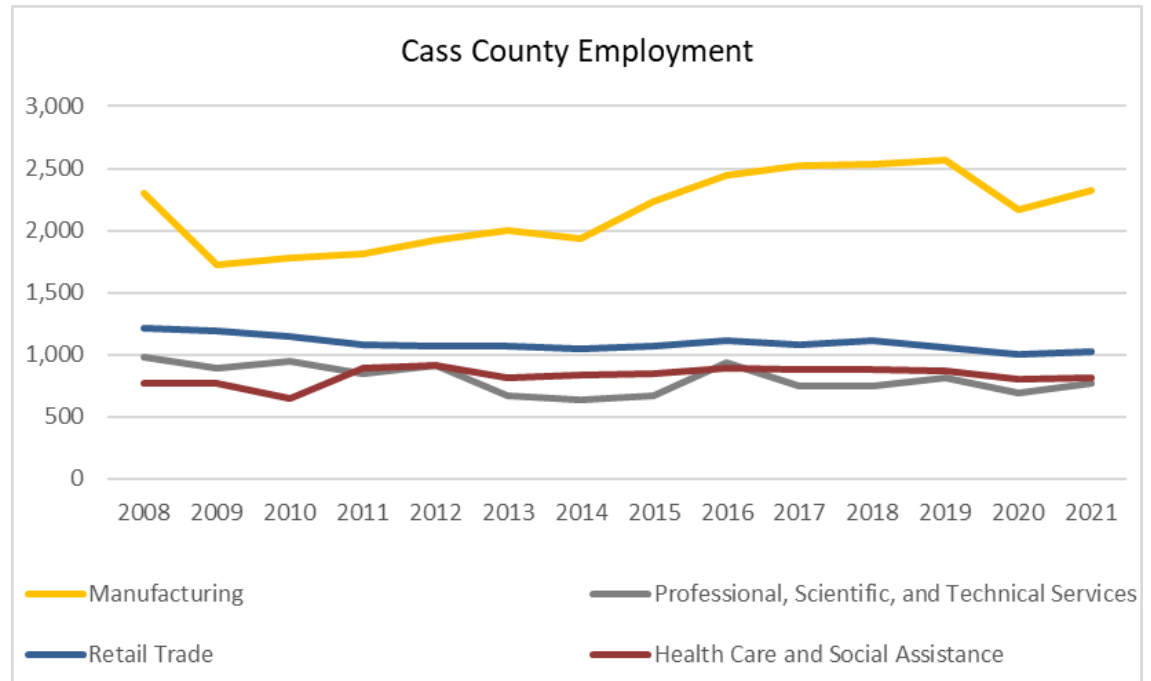
For example, a strong retail market requires a somewhat different capacity in a transportation network than that of a strong manufacturing economy. All-season roads are likely of greater importance on a continuing basis to manufacturers than retailers are.

Employment trends in retail trade, professional, science, and technical services, health care and social assistance, and manufacturing from 2008 through 2021 are seen in tables to the left.

The impact of the Great Recession in 2008 can be seen with a decrease in manufacturing. The impact of the pandemic in 2020 also affected manufacturing along with the other employment sectors with a sharp decrease in jobs. Although after the initial lock-down strategies taken by the State during the pandemic, employment strongly increases.



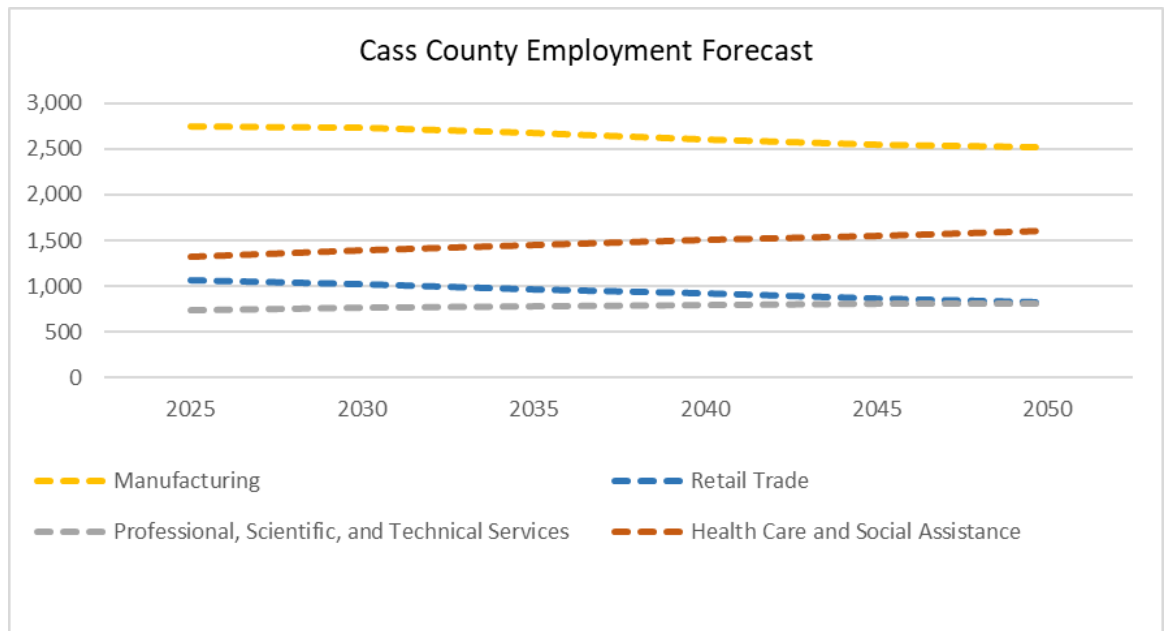
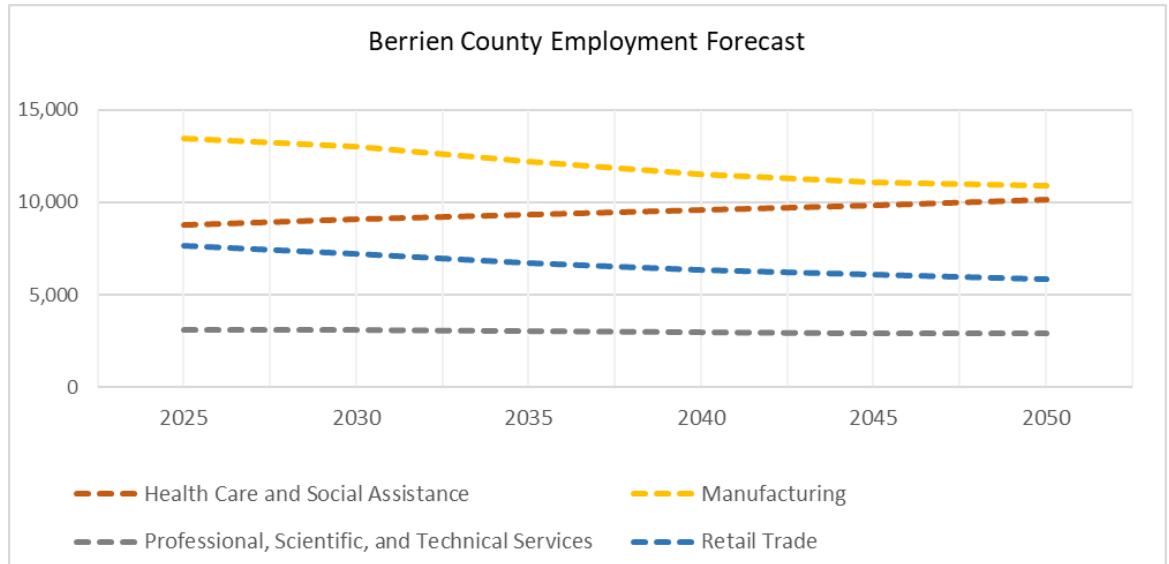
IMPLAN 2021



Employment Forecast

According to forecasts, there is a consistent upward trend in employment within the health care and social assistance sector in Berrien County and Cass County. Moreover, both counties are witnessing a decline in the manufacturing sector.

In both counties, there is an anticipated growth in employment within professional, science, and technical services as well as health care and social assistance sectors. Conversely, a decline in employment is projected for the retail trade and manufacturing sectors.



Commuting to Work

Based on the American Community Survey (ACS), the majority of workers in the NATS area (81%) commute to work by driving alone. In contrast, only 1.8% of workers in the same area utilize active transportation methods like walking, biking, or taking transit. This percentage is lower than the state average for Michigan, which stands at 3.7%.

However, due to the impact of the pandemic, a notable shift has occurred, with an increasing number of people opting to work from home.

Geography	Drove Alone	Carpool	Public Transportation	Walk	Bicycle	Motorcycle or Other	Worked From Home
Bertrand Township	80.9%	8.8%	0.0%	0.4%	0.0%	1.6%	8.2%
Buchanan City	90.4%	4.1%	0.0%	1.9%	0.0%	0.7%	2.9%
Buchanan Township	66.4%	11.4%	2.2%	1.6%	0.0%	2.8%	15.5%
Niles City	85.3%	6.9%	0.5%	2.0%	0.3%	1.0%	4.0%
Niles Township	85.4%	9.9%	0.0%	0.9%	0.2%	1.0%	2.7%
Howard Township	75.2%	13.9%	0.8%	0.0%	0.0%	0.8%	9.3%
Mason Township	74.0%	15.1%	1.3%	0.9%	0.0%	0.0%	8.7%
Milton Township	89.4%	4.6%	0.0%	0.4%	0.0%	0.0%	5.6%
Ontwa Township	85.3%	7.0%	0.0%	2.7%	0.0%	1.1%	4.0%
NATS (average)	81.4%	9.1%	0.5%	1.2%	0.1%	1.0%	6.8%
Michigan	78.8%	8.3%	1.2%	2.1%	0.4%	0.9%	8.3%
United States	73.2%	8.6%	4.2%	2.5%	0.5%	1.4%	9.7%



Highest rate of commuting by walking
Ontwa Twp. 2.7%



Highest rate of commuting by automobile
City of Buchanan 90%

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

Average Commute Time 2019-2021

NATS: 23 minutes

Michigan: 24 minutes

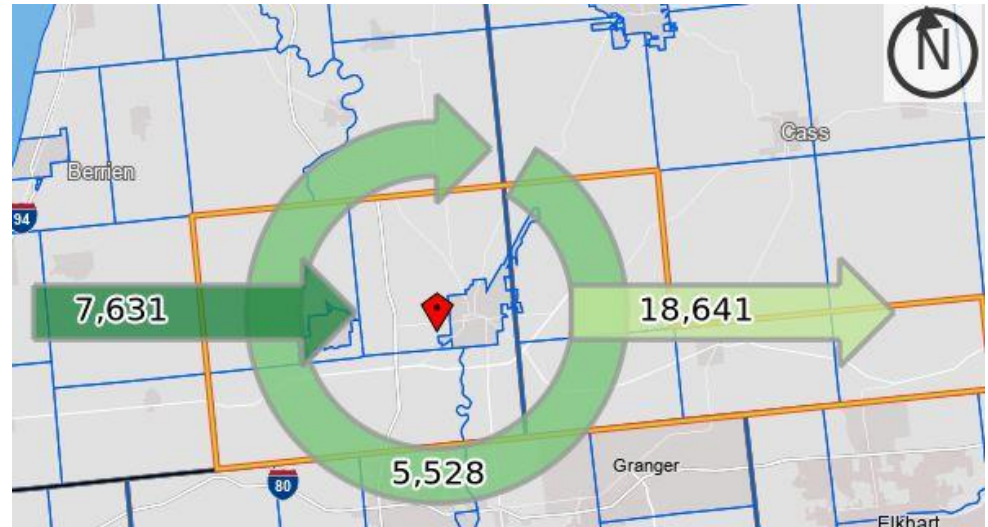
United States: 27 minutes



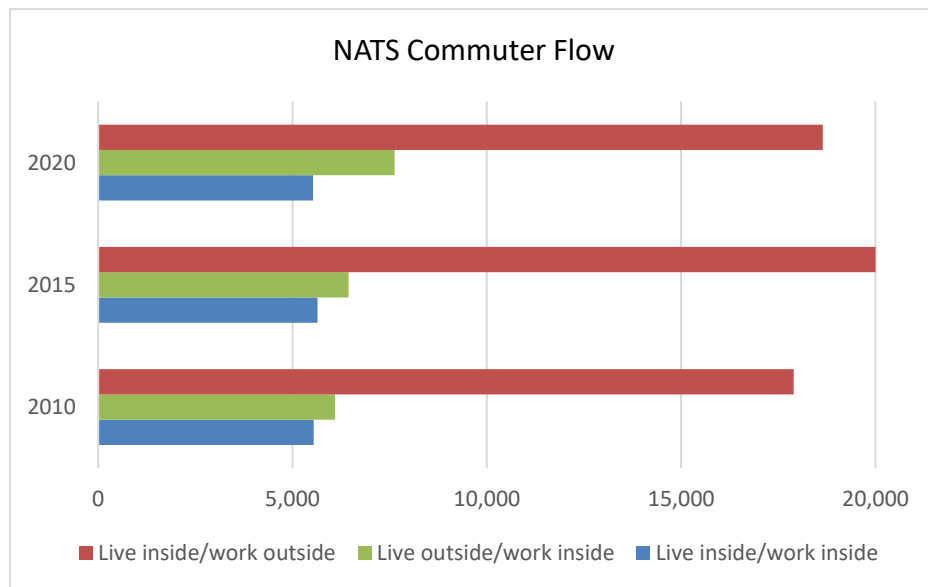
Commuting within NATS

The Longitudinal Employer-Household Dynamics Origin-Destination Employment data (LEHD) from the U.S. Census Bureau provides insights into the commuting patterns of workers in the NATS area. Analysis over the past 15 years reveals that a significant portion of NATS residents commute outside the area for work. In 2020, approximately 77% of workers living in NATS commuted to work outside the area, while the remaining 23% both lived and worked within the NATS area.

The chart below illustrates that this commuting dynamic in NATS has remained relatively stable, with a larger number of individuals commuting from outside the area to work and then returning to their residences outside NATS.



2020 U.S. Census Bureau’s Longitudinal Employer-Household Dynamics Origin-Destination data



5,528 commuters LIVE and WORK in NATS.

7,631 commuters ENTER NATS for work.

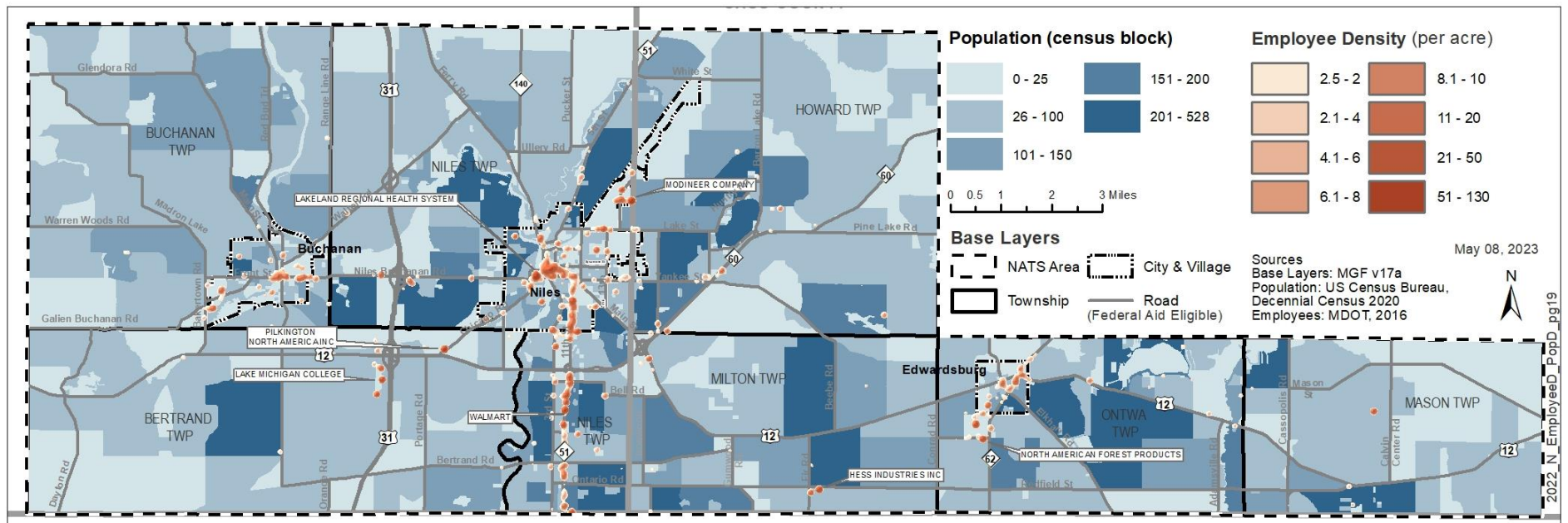
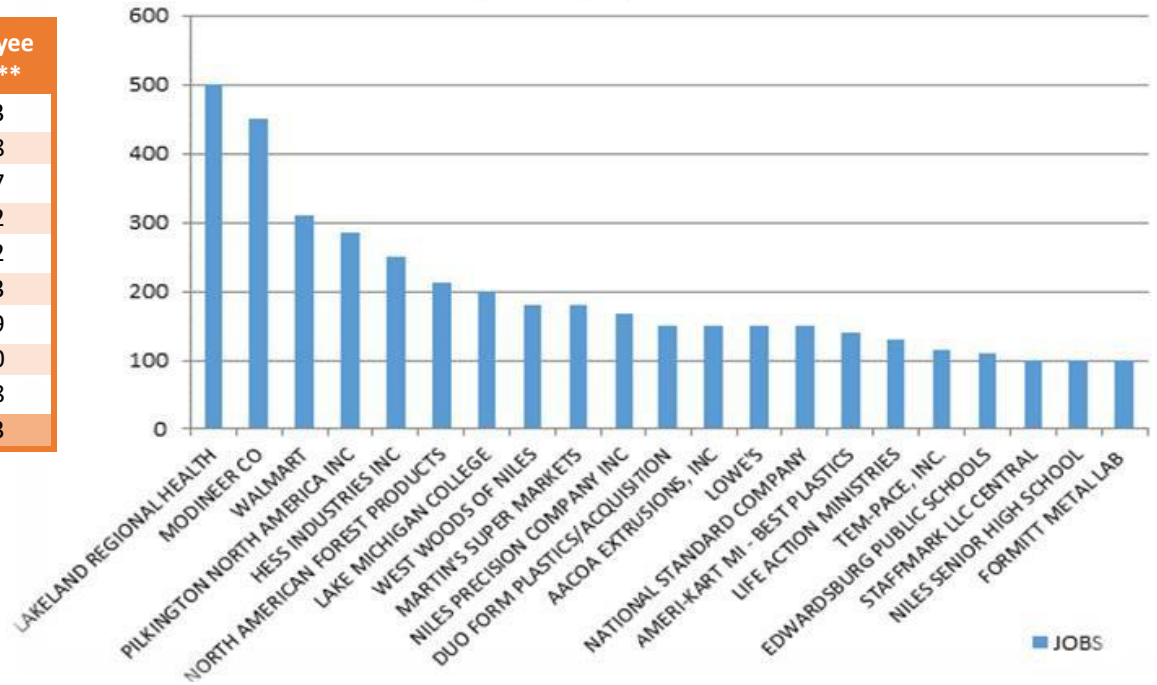
18,641 commuters LIVE in NATS and WORK outside the County.

Employment & Population Density

	Employees	Total Pop.	Pop. 15-64 years old	Employee Ratio**
City of Buchanan	1,579	4,382	2,952	0.53
City of Niles	4,227	11,358	7,252	0.58
Bertrand Twp	615	2,668	1,661	0.37
Buchanan Twp	233	3,457	2,025	0.12
Howard Twp	491	6,359	4,136	0.12
Mason Twp	250	3,113	1,947	0.13
Milton Twp	252	4,301	2,854	0.09
Niles Ch. Twp	2,662	13,900	8,784	0.30
Ontwa Twp	1,672	6,866	4,407	0.38
NATS Totals	11,981	56,404	36,018	0.33

**Number of employees compared to working age population. A value of 1 means equal number of jobs to working age population. A value below one means more residents than jobs.

Top 20 Employers & Number of Jobs



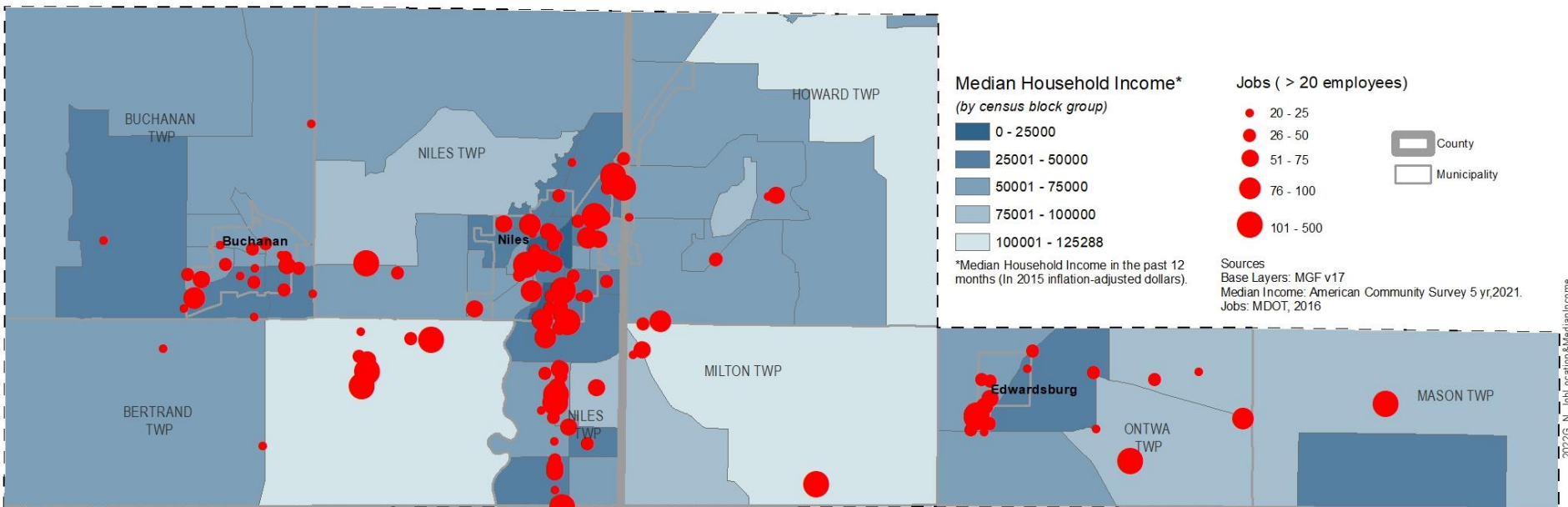
Employment Density & Median Household Income

Median household income plays a crucial role in determining the transportation options available to residents in a region. Typically, lower household incomes are associated with reduced vehicle ownership, leading to a higher dependence on alternative modes of transportation, such as public transit, to access employment opportunities.

Understanding the relationship between median household income and transportation options is crucial for urban planners, policymakers, and transit agencies. It highlights the need to prioritize affordable and efficient public transportation systems, ensuring that residents with lower incomes have equitable access to employment opportunities, educational institutions, healthcare facilities, and other vital services.

MEDIAN HOUSEHOLD INCOME
 Michigan: \$49,576 United States: \$53,889

Jurisdiction	2015-Median Household Income	2021-Median Household Income
Bertrand Township	\$66,087	\$85,703
Buchanan City	\$41,339	\$50,671
Buchanan Township	\$61,685	\$59,052
Niles City	\$33,651	\$41,306
Niles Township	\$43,334	\$54,854
Howard Township	\$49,512	\$67,928
Mason Township	\$47,474	\$62,649
Milton Township	\$53,474	\$113,398
Ontwa Township	\$50,399	\$61,184
Berrien County	\$44,993	\$55,893
Cass County	\$46,570	\$60,725
Michigan	\$49,576	\$63,202
United States	\$53,889	\$69,021



Potential Future Impacts

CHANGING TRAVEL PREFERENCES

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

Younger people are also prioritizing access to entertainment without needing to drive. They want to go out without worrying about finding parking or remaining sober.

Likewise older generations are expressing a greater desire to age in place. They hope to remain active longer with the ability to walk from their homes. They also want to remain independent even after they may be unable to drive safely.



E-COMMERCE

The recent trends in E-commerce are expected to continue, causing major impacts for transportation planning. The purchase of goods online has had dramatic impacts on shopping stores and created a greater emphasis on freight and trucking movement.

The increase in delivery trucks has wide ranging impacts on the transportation system, including the local road system. The impacts include safety issues, traffic congestion, pavement preservation, and more demand for short-term parking and drop-off zones.

E-commerce logistic centers also attract commuting trips from a larger number of employees working multiple shifts, often outside traditional transit service areas/times. The transportation system will need to adapt to support this shift.



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. Massive storms pose risks to travel safety and cause major delays. Climate change requires mitigation but also adaptation to the changing local conditions



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. Telework has also led to a increase of the already large divide between blue collar workers who have to commute to stores, factories, and other work site and the white collar workers who are able to commuting far less.



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

Battery powered EVs are expected to replace gasoline & diesel vehicles over the coming years.



A major barrier to quicker EV adoption is range anxiety. The initial priority is to ensure that interstates have areas where EVs can charge quickly (DC fast chargers). More affordable and accessible charging infrastructure is also still needed for residents and local travelers.

EVs pose several challenges for the transportation system. Among these are how to replace the gas tax for road funding. While EVs do not have tailpipe emissions, producing electricity from fossil fuels does. Policy makers need to ensure EVs don't simply outsource pollution to disadvantaged areas.

AUTONOMOUS VEHICLES

AVs relates to technologies from driver assistance to fully driverless vehicles. Many features are already incorporated in new vehicles, while full AVs will likely play a significant role by 2040 after more testing is completed.



AVs will greatly impact safety, as machines don't have the same failing as human drivers. Other impacts will be on traffic congestion as some travel like trucks could be moved to off-peak times or travel in "platoons". AVs can also reduce congestion with smoother merging, braking and other 'hidden' factor to congestion.

Transit system vehicles operating without drivers would provide flexibility in service and address staffing shortfalls.

MOBILITY ON DEMAND

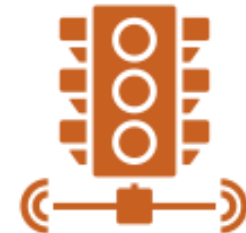
The growth of on-demand transportation (e.g. Uber/Lyft) has already begun to change how people get around.



Such options may reduce the need for car ownership by giving riders the flexibility of car travel without the need to own or drive a vehicle themselves. Among the affect are on how much parking is needed in urban areas. But they can also increase congestion as drivers travel with empty seat while on route to pick up passengers.

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.





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.



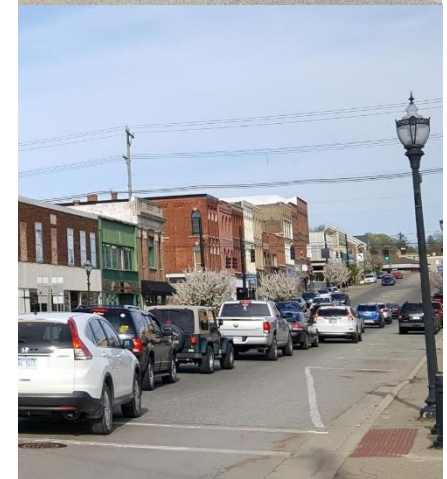
Equity

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 serves as a vital catalyst for fostering economic opportunity. It seamlessly connects suppliers with producers, businesses with workers and customers, and individuals with employment centers, education, and essential services.

A cutting-edge transportation system is an indispensable asset for ensuring our region's future prosperity. To sustain a thriving economy and enhance our quality of life, it is imperative that residents can traverse our region swiftly and effortlessly, granting them access to a diverse range of job opportunities and vibrant communities to call home. Simultaneously, businesses should be able to rely on prompt and efficient delivery of their goods.

By continually improving our transportation infrastructure, we empower businesses to thrive by reducing logistical hurdles and ensuring timely transportation of their products. This, in turn, stimulates economic growth, attracts investments, and creates employment opportunities. Moreover, a well-connected transportation network enhances the overall livability of our region by reducing commuting times, alleviating congestion, and enabling individuals to access vital resources and services efficiently.

Proximity to major markets of Chicago, Indianapolis, Detroit (90 miles to Chicago, 165 miles to Indianapolis, 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 U.S. 12, U.S. 31, M-60, M-51, and M-140, making connection to Interstate 80/90 and I-94 quick and easy.
- 44 million people are within in a five-hour radius.
- 40 million people can be reached overnight via over-the-road transport.



Distribution and Logistics Cluster

Michigan’s Great Southwest’s proximity to major thoroughfares and strategic positioning between Chicago, Indianapolis and Detroit, make it a natural fit for focusing on the targeted industry of logistics and warehousing. The Southwest Michigan Warehouse & Distribution Center in

Niles, Michigan is a multi-client food grade distribution center with a transload and rail service via Norfolk Southern Rail. FedEx and UPS have dedicated terminals at the South Bend Regional Airport

Strategies

Strategies to Enhance Economic Opportunity

- Encourage the use of intelligent transportation technologies to improve corridor efficiency.
- 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	SWMC 2021 Baseline*	Statewide 2021 Baseline	2 yr. Targets – 2023 Statewide	4 yr. Targets – 2025 Statewide	Data Source
Percentage of the person-miles traveled on the Interstate that are reliable.	100%	97.10%	80.00%	80.00%	INRIX/ NPMRDS
Percentage of the person-miles traveled on the non-Interstate NHS that are reliable.	95.9%	94.40%	75.00%	75.00%	INRIX/ NPMRDS
Truck Travel Time Reliability (TTTR) Index (interstate only)	1.12	1.31	1.60	1.60	INRIX/ NPMRDS

*Due to the lack of Interstate in the NATS area, and difficulties in data collection, The reliability measures cover both the NATS & TwinCATS planning area





Environment

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

Air Quality

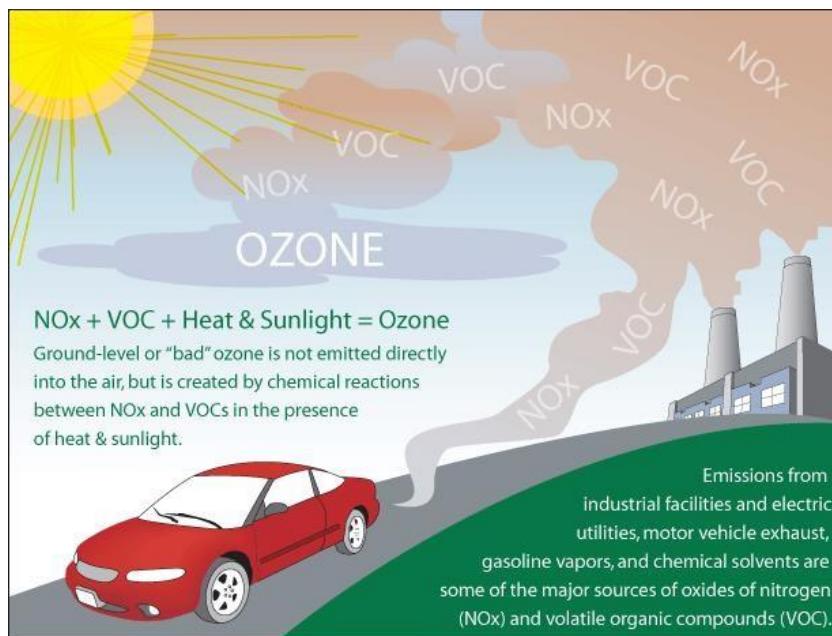
The Air Quality Clean Air Act requires the United States Environmental Protection Agency to set limits on how much of a particular pollutant can be in the air anywhere in the United States. National Ambient Air Quality Standards are the pollutant limits set by the Environmental Protection Agency; they 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 and Cass 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 and the Cass 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, referring 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 the NATS area, an invaluable natural resource is the water, shown on the map as a network of rivers, streams, and open water. The system network of water also includes wetlands which are found along these waterbodies including the St Joseph River running north through the Niles and a cluster of large lakes in Ontwa Township. Forest and areas of open space surrounds the cities,

Buchanan and Niles. Open space, refers to places that are developed, yet the landscape remains relatively natural, such as a golf course or park. Farmland dominates the NATS area at 52% of the land cover. The highest intensity of development are within the city and village limits with a distinct strip up M-51 from the Indiana border following the railroad tracks

north of the City of Niles, and a large industrial park in Edwardsburg. Other pockets of development follow US-12 between Buchanan and Niles.

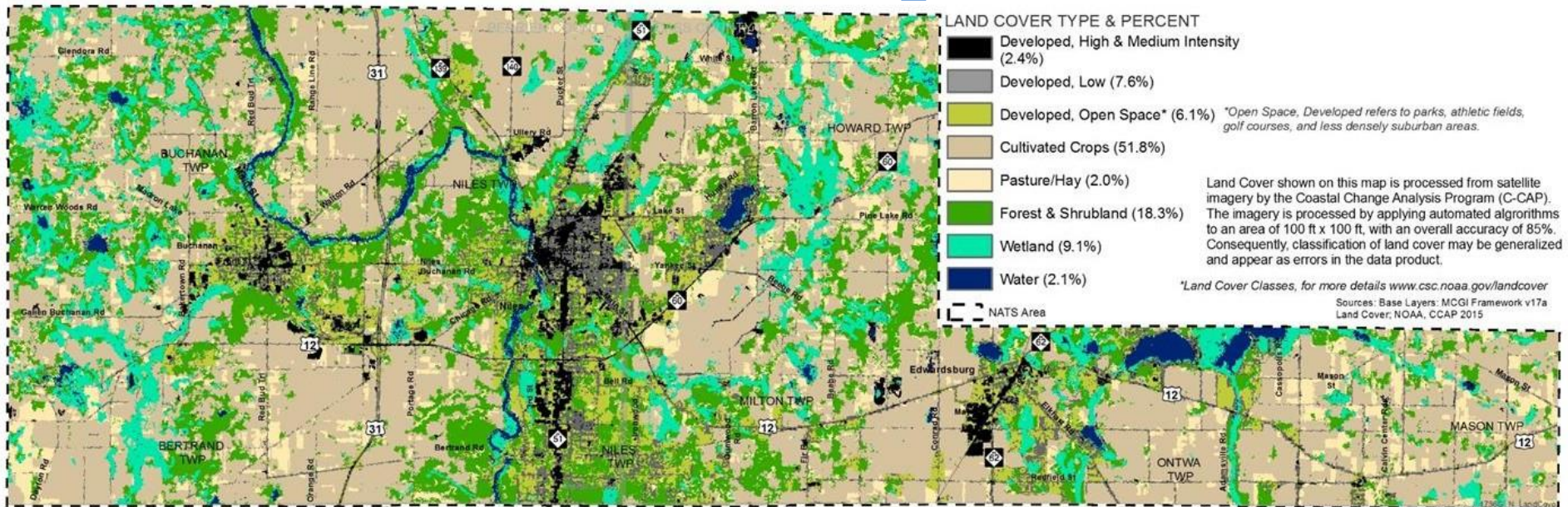
Overall, the major land cover in the NATS area is crops with clusters of development in the cities, village and along the transportation system.



LAND COVER – Developed, Wetlands, Crops
PHYSICAL AND BIOLOGICAL FEATURES

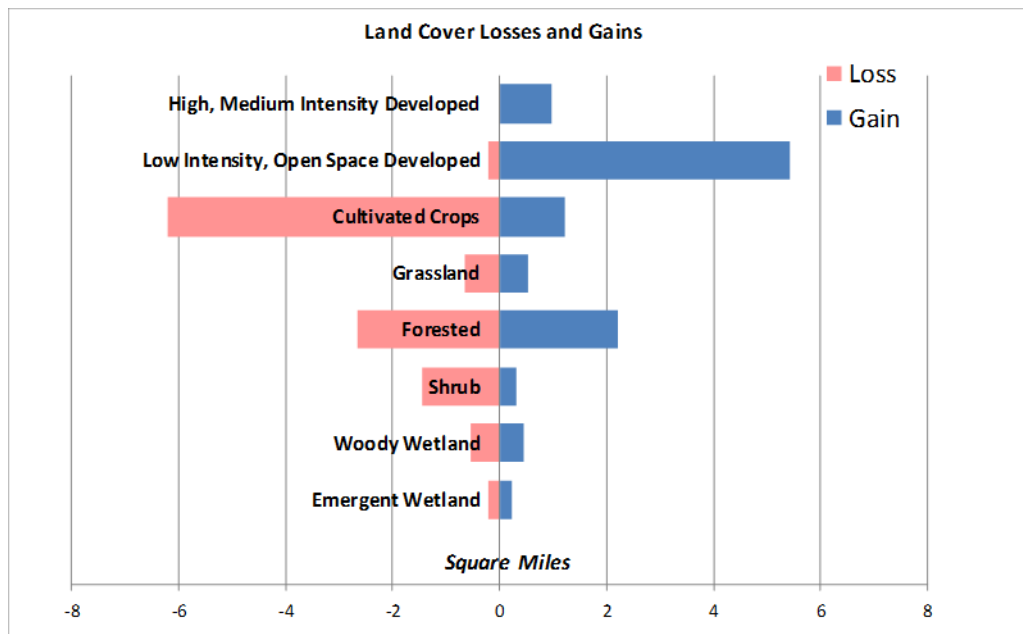


LAND USE – Residential, Commercial, Agriculture
HOW THE LAND IS USED



Land Cover Change 1975-2016

Overall, in the NATS area there has not been major changes in land cover especially in terms of number of square miles. Although, when considering land cover as a proportional change, high to medium density has grown the most, at 28%. Low density combined with Open Space grew by 22%, which occurred with the conversion a loss of Crop Land. There was a large loss of Shrub, at 26%, yet this is a natural event of Shrub changing to Forest.



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

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

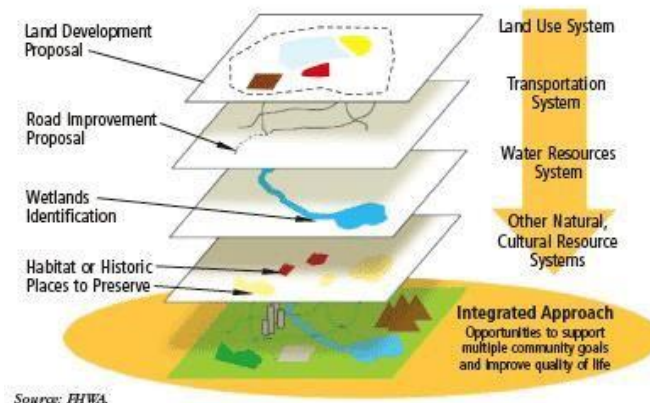
Trend: A common trend in the region is the loss of farmland (crops). This trend also occurred in the NATS area for 5 square miles. Cultivated Crops transformed into three other land covers, Low Intensity Density, Open Space and Forest.

Land Cover	1975	Loss	Gain	2015	Net Change	Percent Change
High, Medium Intensity Developed	3.43	-0.01	0.98	4.40	0.97	28.3%
Low Intensity, Open Space Developed	23.92	-0.22	5.44	29.14	5.22	21.8%
Cultivated Crops	115.47	-6.21	1.23	110.49	-4.98	-4.3%
Grassland	4.47	-0.66	0.54	4.35	-0.12	-2.6%
Forested	36.38	-2.65	2.20	35.94	-0.44	-1.2%
Shrub	4.35	-1.45	0.32	3.21	-1.14	-26.1%
Woody Wetland	17.91	-0.55	0.45	17.81	-0.10	-0.6%
Emergent Wetland	2.80	-0.21	0.22	2.81	0.01	0.4%



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 ridesharing 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)
- Ensure that new projects will not cause new air quality violations, worsen existing violations, or delay timely attainment of NAAQS by Continuing air quality conformity review for all transportation projects.

Performance Measure	Baseline Values 2021	2-yr. Target 2023	4 yr. Target 2025	Data Source
State Total Emission Reduction: PM2.5	1,527.49	595.00	1,191.00	FHWA/MDOT Emission Forms
State Total Emission Reduction: NOx	13,118.82	5,227.00	10,455.00	FHWA/MDOT Emission Forms
State Total Emission Reduction: VOC	5,246.55	2,295.00	4,590.00	FHWA/MDOT Emission Forms
Annual Hours of Peak Hour Excessive Delay Per Capita in the South Bend Urban Area	0.6 hours	2.0 hours	2.0 hours	NPMRDS/HPMS-AADT
Percent of Non-Single Occupancy Vehicle (Non-SOV) Travel in the South Bend Urban Area	20.6%	18.0%	18.0%	ACS Journey to Work Data



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:

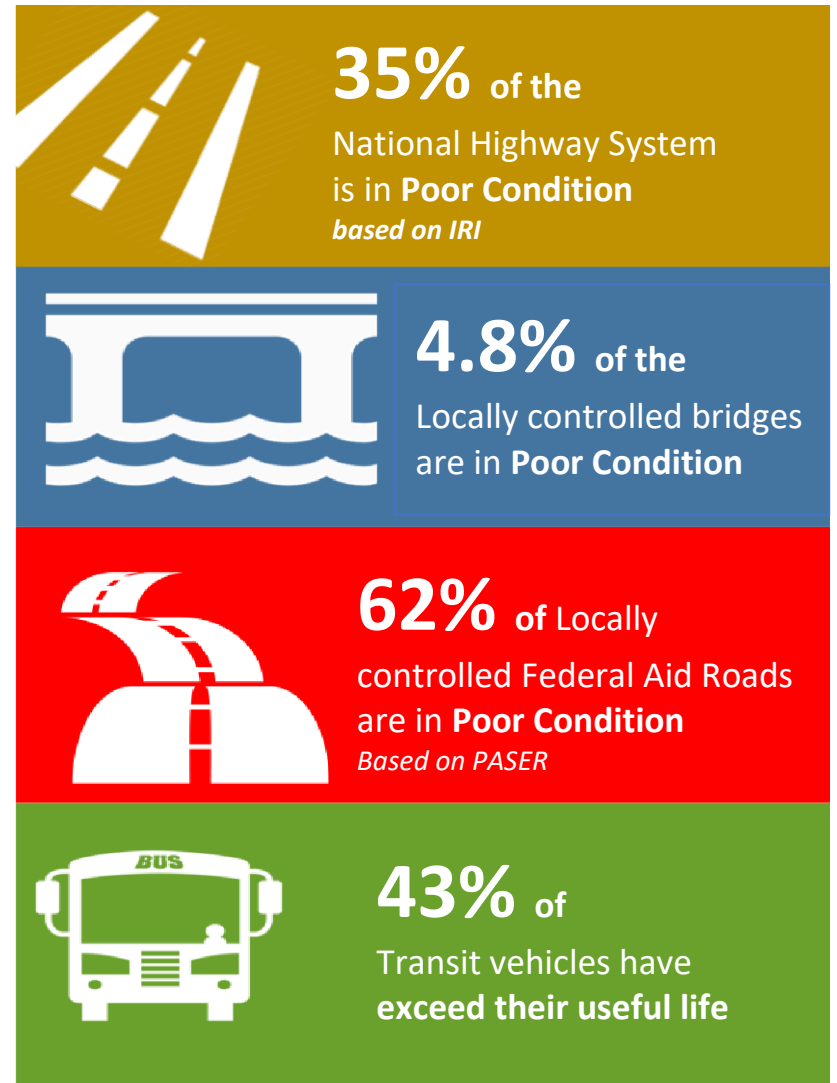
Systematic way of maintaining, upgrading, and operating physical assets cost-effectively

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.
- ⇒ Niles Dial a Ride public transit is actively assessing and building an inventory of assets including vehicles.
- ⇒ Some local communities have invested in a pavement management system to help them decide the type and timing of pavement management.

NATS Planning Area



Strategies to Ensure System Preservation	
<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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	NATS 2021 Baseline	Statewide 2021 Baseline	2 yr. Targets – 2023 Statewide	4 yr. Targets – 2025 Statewide
Percentage of pavement on the Interstate System in good condition.	NA	70.40%	59.20%	56.70%
Percentage of pavement on the Interstate System in poor condition.	NA	1.80%	5.00%	5.00%
Percentage of pavement on the non-Interstate National Highway System in good condition.	26.9%	41.60%	33.10%	33.10%
Percentage of pavement on the non-Interstate National Highway System in poor condition.	35.5%	8.90%	10.00%	10.00%

Performance Measure	Description	Asset	Base Data - 2019	Target 2020	Data Source
Rolling stock in a state of good repair	Percent of rolling stock transit vehicles that have exceeded useful life	6 Cutaway Buses	43% exceed ULB	29% exceed ULB	PTMS
Non-Revenue Vehicles in a state of good repair	Percent of non-revenue vehicles that have exceeded useful life	1 Truck with snow plow	100% exceed ULB	100% exceeds ULB	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/Maintenance Building	1 rated 3 on TERM scale.	0% rated below a 3.0 on the FTA TERM Scale	PTMS



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 enables 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.



A One-Stop Shop for Transportation Options

In 2010 the Southwest Michigan Planning Commission created and housed a Mobility Management program until 2018 when the Twin Cities Transportation Authority took over the 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 people to solve their transportation hurdles and outreach meetings at work sites was initiated to share transportation options in the area.

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.

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.

Perspectives

Accessibility can be viewed from various perspectives, such as a particular person, group, mode, location or activity. It is therefore important to specify the perspective being considered when evaluating accessibility.

Accessibility Ratings by Different Groups - 3 (most important) to 0 (unimportant)

Groups	Walking	Biking	Driving	Transit	Taxi	Air Travel
Adult Commuters	2	1	3	2	1	1
Business Travelers	2	0	3	2	3	3
College Students	3	3	2	2	0	1
People with Disabilities	3	2	1	3	2	2
People with Low Income	3	2	1	3	2	0
Children	3	3	2	1	0	1
Tourists	3	2	3	2	2	3
Freight Delivery	0	1	3	0	0	2



Tourists at the Niles Hunter Ice Festival



Commuters in Edwardsville



College students at Southwestern Michigan College—Niles Campus



Children in Buchanan

Transportation Modes and the Roles They Play

To be efficient and fair, a transportation system must be diverse or multimodal to serve diverse demands and allow travelers to choose the best option.

Mode	Non-Driver s	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 pavement is uneven, crossing times are too short or sidewalks are not continuous along a 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 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 Rte. Transit	Yes	Yes	Yes	Yes	Destinations and time limited	Short to medium distance trips along busy corridors.
Dial A Ride / Demand Response Transit	Yes	Yes	Yes	Yes	Can require up to 24 hour reservation. Wait times can vary depending number of requests for service. Higher cost than fixed route service.	Short to medium distance trips, last mile of service to connect to 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 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 CarShare/Uber	Yes	Limited	Varies	Yes	Requires convenient and affordable vehicle rental services. Requires enough drivers so service is responsive to requests. Requires use of smart phone. 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.	Suitable for people commuting in the same direction at the same time of day, towards a predetermined destination, best for shift work.
Motorcycle	No	Limited	No	Limited	Requires riding ability and motorcycle. High fixed costs. Seasonal use.	Travel by people who can ride and afford a motorcycle.
Telecommute	Yes	Varies	Varies	Limited	Requires equipment, technology & skill	Alternative to some types of trips.
Intercity Bus	Yes	Yes	Varies	Yes	Single stop in city, requires connection to fixed route transit, taxi service, walking	Long distance trips between cities.
Amtrak	Yes	Limited	Yes	Yes	Single stop in city, lower frequency of service, requires connection to 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 - NATS Current Conditions

A variety of safe, affordable, dependable and user-friendly travel options enables people of all ages to stay active and engaged in their communities.

Mode	State of Current Conditions	Available
Walking	Connected walking network is limited to the City of Niles and City of Buchanan. Walking after snowfall can be dangerous or impossible because of inadequate ice or snow removal. Outside the city limits, there is no connected walking network forcing people into streets.	24 hours/7days Seasonal
Wheelchair	Connected travel by wheelchair is limited to trips originating and terminating within the City of Niles and the City of Buchanan. Travel by wheelchair after snow is impossible because of inadequate or snow removal. Outside the city limits, there is no connected network forcing people into streets.	24 hours/7days Seasonal
Bicycle	Wide shoulders are available; however, there is very little connectivity for commuting by bike. Most bike lanes and shoulders are clear of snow when roadway is plowed. Chip seal preservation treatments can make bike lanes and wide shoulders dangerous for cyclists because of 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	Niles DAR provides one deviated fixed route that serves several housing developments and shopping destinations. Access to stops is limited because of the absence of sidewalks and bike lines – especially in the townships	Mon.-Fri. 10am – 5pm
Dial A Ride/ Demand Response	Within the NATS planning area there are three demand response public transit providers. Niles DAR provides service to the City of Niles, Niles Township and to the City of Buchanan and Buchanan Township. Cass County Public transit serves communities in Cass County, however service is limited to availability based on current contracts.	Mon.-Fri. 7am to 5pm Sat. 10am to 3pm
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	Requires driving ability and automobile/insurance. High fixed costs.	24 Hours/7 days
Car Rental	Within NATS planning area there is one rental car agency. Enterprise can be accessed from the flex route. Rates can be higher than 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. Inbound trips from South Bend to Niles are available, however trips from Niles are not available.	24 hours/7 days
Intercity Bus	There is no intercity bus terminal in the NATS planning area. Terminals are located in Benton Harbor and South Bend.	Varies
Amtrak	The <i>Wolverine</i> and <i>Blue Water</i> trains make stops in Niles and provide service to destinations between Chicago and Detroit.	3x per day

Michigan has the highest cost of ownership for a car in the nation.

The annual cost of car ownership in 2022 was \$10,728, up from 2021's yearly cost of \$9,666, according to AAA's Your Driving Costs study. In Michigan, the average yearly cost to own and operate a new vehicle in 2022 is \$12,017 – 12% higher than the national average.

Source: AAA 2022 Driving Costs Study



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.

PERFORMANCE MEASURE	DEFINITION	DESIRED TREND	BASELINE	DATA
Jobs accessible by public transit within the NATS planning area.	Percentage of jobs accessible by public transit within the NATS planning area.	Increase	In Dev.	LEHD Data
Miles of suitable sidewalks/multiuse paths on federal aid eligible roads within the NATS planning area.	Miles of suitable sidewalks/multiuse paths on federal aid eligible roads within the NATS 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 NATS 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 NATS planning area.	Increase	0 Vehicles	Roadsoft



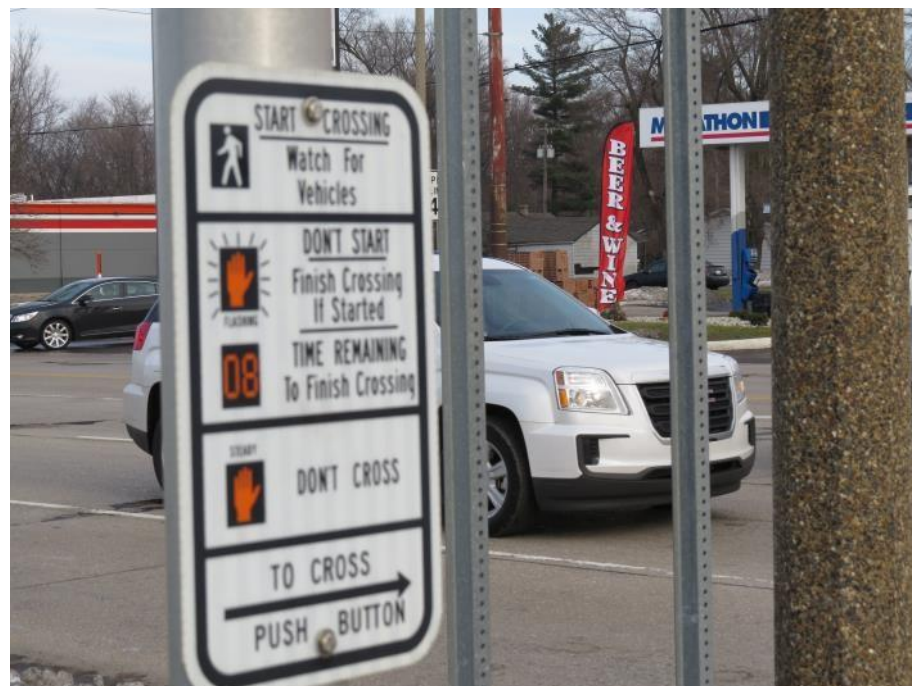
Designs and maintains transportation network to enhance the safety and security of all users.

The safety of motorists, bicyclists, and pedestrians is a top priority in transportation planning. Motor vehicle collisions result in premature deaths, 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 – NATS Planning Area 2012-2021

Year	Total Crashes	Fatalities	Serious Injuries
2012	1,377	9	21
2013	1,538	6	32
2014	1,457	10	26
2015	1,486	9	41
2016	1,518	12	42
2017	1,570	5	64
2018	1,484	12	42
2019	1,319	6	43
2020	1,616	15	43
2021	13,365	84	354



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.

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 allow 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 Age 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 are integral to highway safety improvement efforts. At the statewide level, implementation strategies are guided by three action teams:

- Distracted Driving
- Impaired Driving
- Occupant Protection



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 treat safety concerns in an efficient manner, 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

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.



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

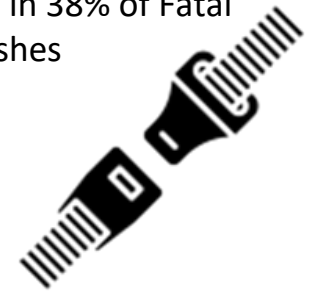
Distracted driving-related car crashes including those involving texting drivers increased approximately 27% from 1,888 to 2,394 in Michigan between 2016 and 2020. Tragically, fatal crashes involving distracted and texting drivers nearly doubled during that same 5-year period. Michigan’s Texting While 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 of NATS

48 % of Fatal Crashes Involved Drugs or Alcohol Use



No Seatbelt was in Use in 38% of Fatal Crashes



408 Crashes Involved Distracted Driving



Michigan Crash Facts NATS 2012-2021

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 NATS Planning Area

Pedestrians or Bicycles Were Involved in 14% of Fatal Crashes



14% of Fatal Crashes Involved a Driver 20 and Under



Drivers 65 and older were involved In 20% of Fatal Crashes



Michigan Crash Facts NATS 2012-2021

Pedestrian and Bicycle Crashes



21% of Serious and Fatal Pedestrian and bicyclist injuries occurred on 11th Street.

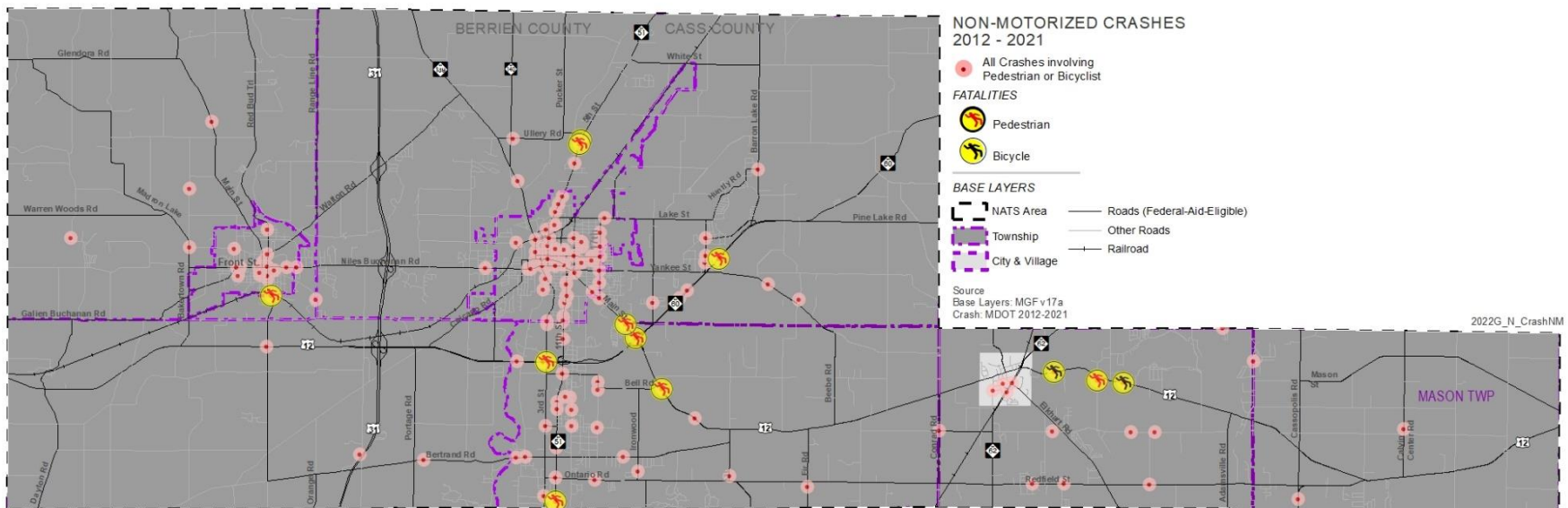
16% of crashes that involved a pedestrian or bicyclist resulted in a serious or fatal injury.

– 2012-2021 MI Crash Facts

High Pedestrian or Bicycle Crash Locations

2012-2021

Road Name	City/Twp.	Total Non-Motorized Crashes	Fatalities & Serious Injuries
Main St.	City of Niles	10	2
17th St.	City of Niles	7	0
5th St.	City of Niles	6	1
Broadway	City of Niles	6	0
11th/M-51	Niles Twp.	5	2
11th/M-51	City of Niles	4	1
Front St.	City of Buchanan	4	0
14th St.	City of Niles	3	1
3rd St.	City of Niles	3	0
3rd St.	Niles Twp.	3	0
Silverbrook Rd.	City of Niles	3	0
Sycamore	City of Niles	3	0
US-12	Milton Twp	2	2
Graver Lake Rd.	Ontwa Twp.	1	1
Red Bud Trail	Buchanan Twp.	1	1
US-12	Ontwa Twp.	1	1



Intersection Related Crashes

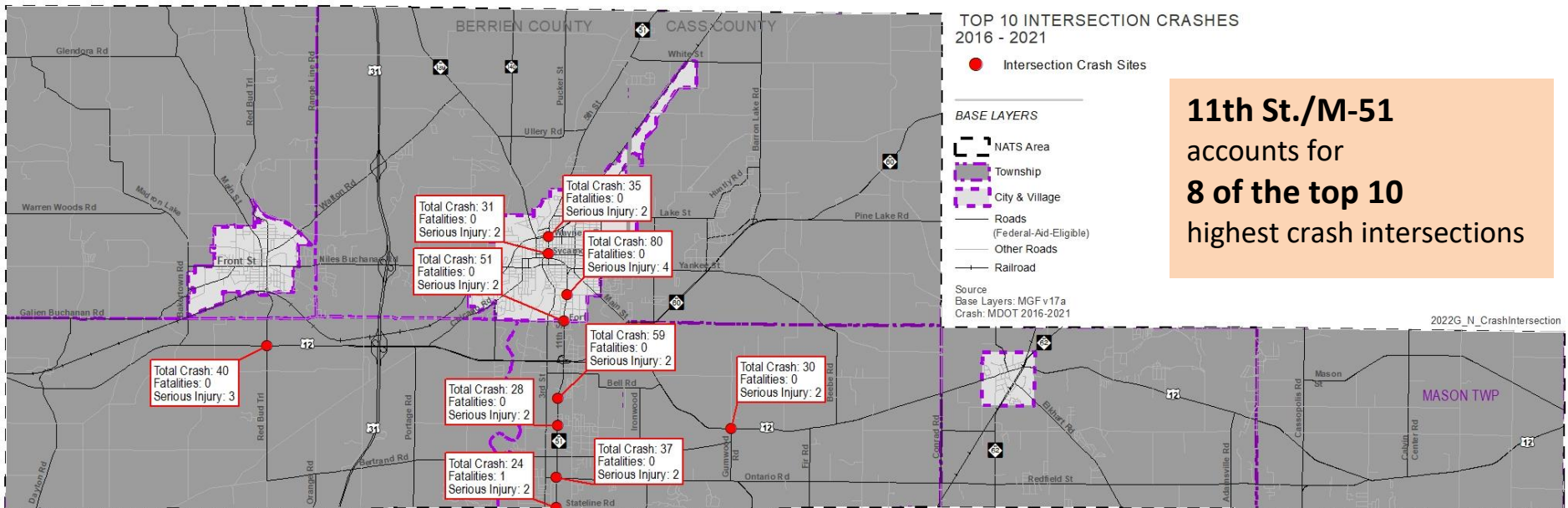
Within the NATS Area, a total of 3,176 crashes related to intersections occurred between 2016 and 2021, accounting for 35% of all crashes during that period. These intersection crashes resulted in 17 fatalities, representing 28% of all crash-related deaths, and 114 serious injuries, constituting 41% of all crash-induced severe injuries.

Intersections serve as significant "conflict points" due to the actions of drivers, such as turning or stopping, which often lead to rear-end collisions and turning-related accidents—two of the most prevalent crash types. Among the combined fatalities and serious injuries, "angle-straight" crashes, where one driver is turning or at an angle while the other is going straight, account for the second most perilous crash type in the NATS area, trailing only crashes involving a fixed object.

The identification and analysis of high-risk intersections across the state are prioritized for safety measures. At the local level, the SWMPC utilizes various software tools, including Safety Analyst and Roadsoft, to aid in the identification of intersections posing the greatest problems.

High Crash Locations 2016-2021

Intersection	Location	Total Crashes	Fatal Crashes	Serious Injury Crashes
S 11th St/Silverbrook St	City of Niles	80	0	4
US-12/Redbud Trl	Bertrand Twp	40	0	3
S 11th St/Stateline Rd	Niles Twp	24	1	2
S 11th St/Chestnut	Niles Twp	59	0	2
S 11th St/Fort St	Niles Twp	51	0	2
S 11th St/Ontario Rd	Niles Twp	37	0	2
N 5th St/Wayne Street	City of Niles	35	0	2
N 5th St/Sycamore St	City of Niles	31	0	2
US-12/Gumwood Rd	Milton Twp	30	0	2
S 11th St/Fulkerson Rd	Niles Twp	28	0	2



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 NATS 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, 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
		NATS	State		
Number of fatalities.	The number of fatalities due to a vehicular crash.	10	1041.8	1015.6	Michigan Crash Facts
Fatalities per 100 million vehicle miles traveled (VMT).	The rate of serious injuries based on the total miles driven in the area.	2.09	1.071	1.136	Michigan Crash Facts & HPMS
Number of serious injuries.	The number of serious injuries due to a vehicular crash.	46.8	5,5742.2	5,909.2	Michigan Crash Facts
Serious injuries per 100 million vehicle miles traveled (VMT).	The rate of serious injuries based on the total miles driven in the area.	9.64	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.	3.4	752.0	743.4	Michigan Crash Facts



Health

To plan and promote transportation systems that protects 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:

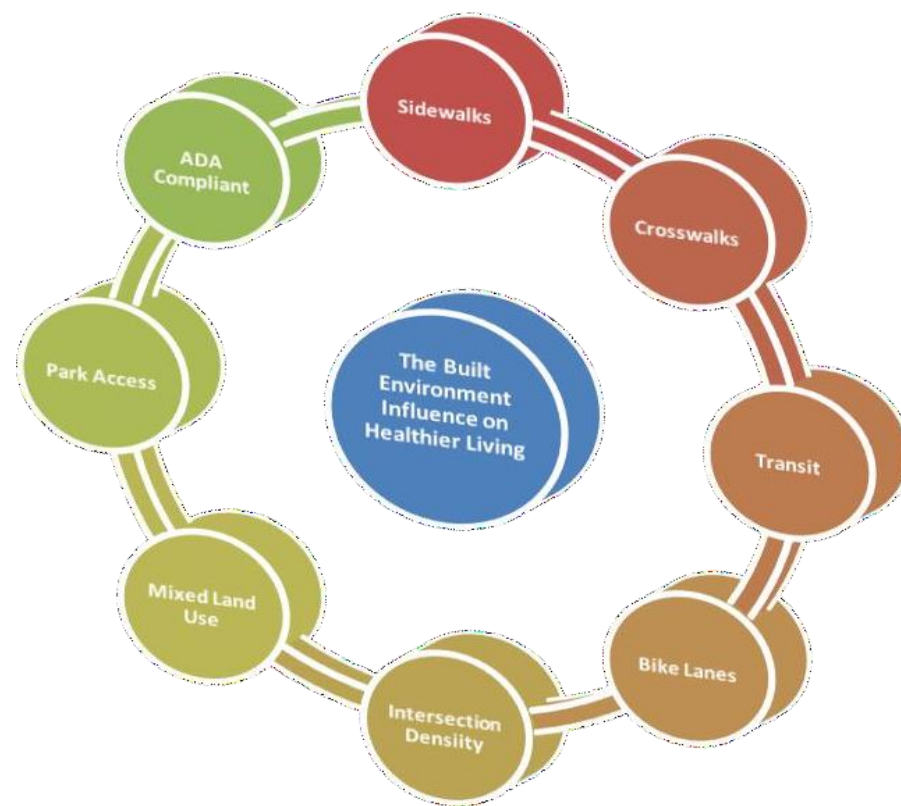
Active transportation — Transportation agencies and their partners can help people lead more active lifestyles by giving them options for getting to places they need to go without driving. They can also reduce the distance between destinations people travel to satisfy daily needs.

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.

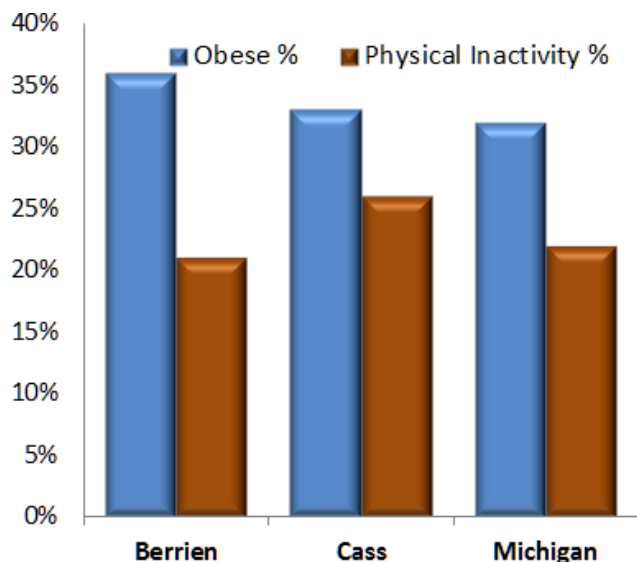
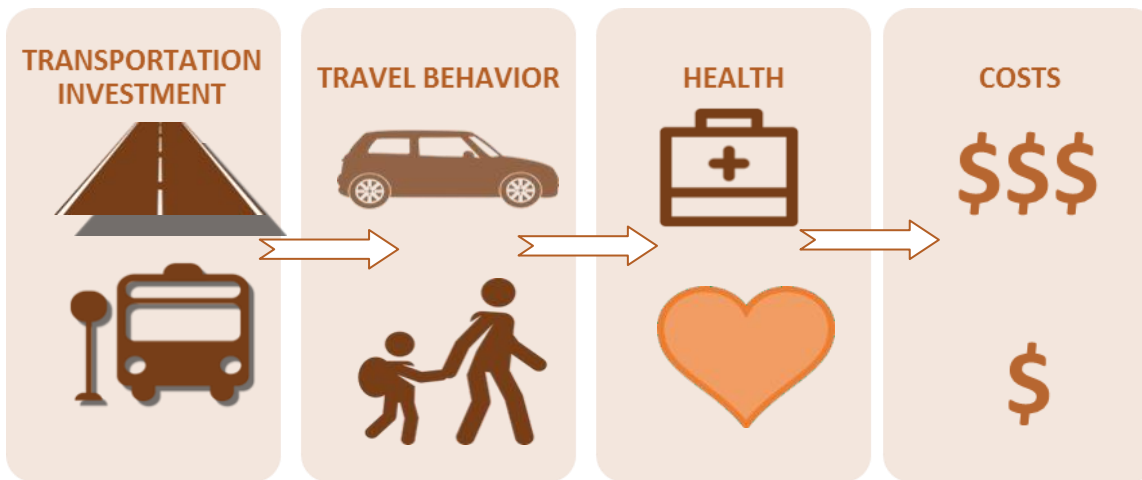
Equity — Negative health effects related to the transportation system often fall hardest on more vulnerable members of the community, such as low income residents, communities of color, children, and older adults.



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.



Source: County Health Rankings and Roadmaps, Robert Wood Johnson Foundation, 2018.

Cass and Berrien ranks poorly compared to the other 83 counties in Michigan state in regards to the physical environment; Berrien County is 67 and Cass County at 82. The Physical Environment is a composite formula by combining air and water quality in addition to housing problems, driving alone to work and long commutes.

PHYSICAL ENVIRONMENT	CASS COUNTY	BERRIEN COUNTY	MICHIGAN
Severe Housing Problems	13%	14%	16%
Driving alone to work	83%	82%	83%
Long Commute - driving alone	36%	20%	33%

Source: County Health Rankings and Roadmaps, Robert Wood Johnson Foundation, 2018.

The lack of physical activity among residents may be attributed to results found in the NATS Bike Survey (2014). Over 50% of respondents found lack of bike lanes, feeling unsafe, and the poor conditions of roads as a barrier to commuting by bicycle.



*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

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 as a place where important decisions are made that have long-term impacts on public health.

Transportation & Health Partnerships

The Healthy Berrien Consortium

The Healthy Berrien Consortium (HBC) is a network of key health care organizations and leaders formed to jointly undertake improving the health and well-being of Berrien County Residents. Organizations represented include YMCA of Southwest Michigan, Cass Family Clinic, Corewell Health, Riverwood Center (mental health services), Berrien County Health Department, Intercare Community Health Network, United Way of Southwest Michigan, Area Agency on Aging, PACE of Southwest Michigan and the SWMPC. They have a long history of driving change through resource allocation into areas where 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.

Healthy Berrien (BHB) was formed. The group is a collaborative between five organizations: the Berrien County Health Department, Corewell Health, 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 mobility.

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. The Strategic Leadership Council now has a membership list of over 150 leaders. Transportation issues fall within the Council as does a range of other health-related topics. On a monthly basis the SWMPC meets with leaders whose work intersects in public health.



Be Healthy Berrien

One of the most recent calls to action by the HBC was driven by 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. HBC recognized that focused action was necessary, in 2011 Be



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 NATS Transportation Survey

Challenges to Mobility & Access

- 24% of Americans living in poverty do not own an automobile.
- 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.
- 3.6 million or 15% Americans with travel-limiting disabilities do not leave their homes because they are disabled or housebound.
- Slightly over half of people age 18 to 64 with disabilities live in households with annual household incomes under \$25,000 versus 15 percent of people without disabilities.
- Children, older adults, and individuals with physical or cognitive disabilities may be unable to drive and are more reliant on non-motorized travel modes.

2009 and 2017 National Household Travel Survey

Social Vulnerability Index

The Social Vulnerability Index (SVI) was created for communities to identify populations at greater risks 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 in 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>

Overall Vulnerability	Socioeconomic Status	Below Poverty
		Unemployed
		Income
		No High School Diploma
	Household Composition & Disability	Aged 65 or Older
		Aged 17 or Younger
		Civilian with a Disability
		Single-Parent Households
	Minority Status & Language	Minority
		Speak English "Less than Well"
	Housing & Transportation	Multi-Unit Structures
		Mobile Homes
		Crowding
		No Vehicle
Group Quarters		

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). Only census tracts that have a flag are included in the table.

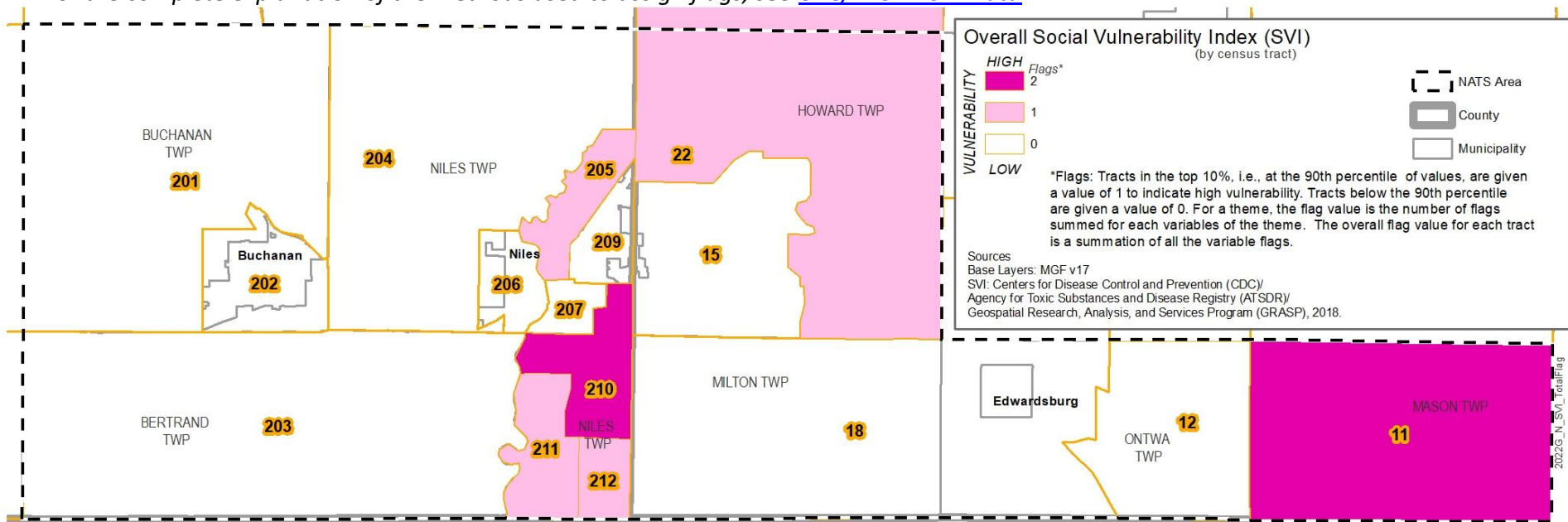
The census tract number in the table can be used to find the location on the map.

The flags that occur in the NATS area are in the Housing and Transportation Category.

Green: Socioeconomic
 Orange: Households & Disability
 Purple: Minority & Language
 Blue: Housing & Transportation

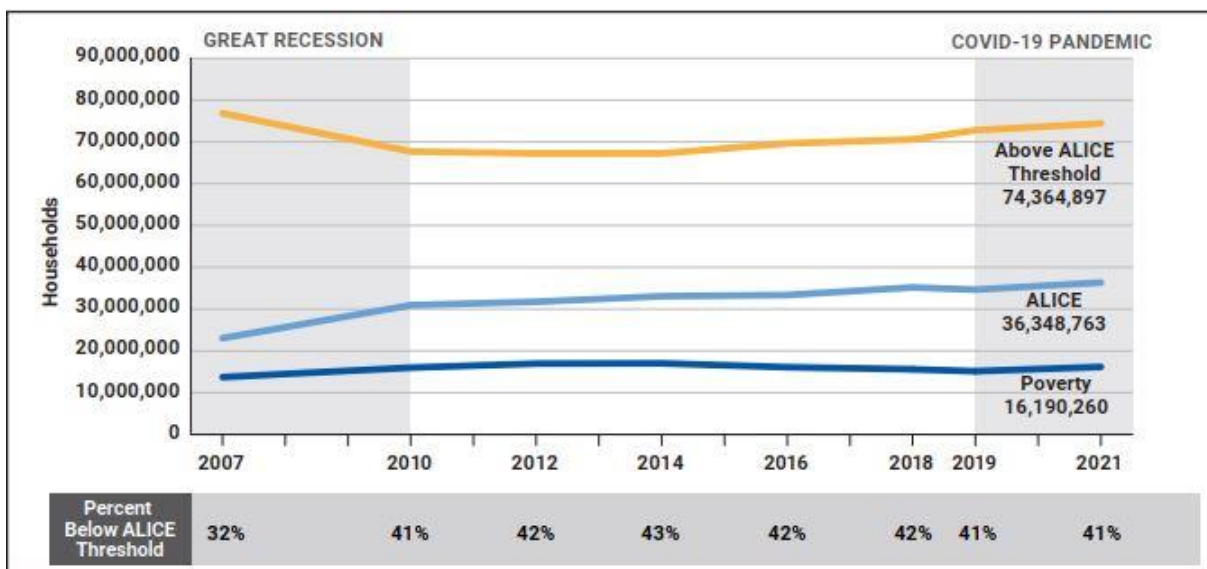
CENSUS TRACT #	205	210	211	212	11	22
BELOW POVERTY (>53%)						
UNEMPLOYED (>25%)						
INCOME (<\$12,000)						
NO HIGH SCHOOL DIPLOMA (>24%)						
AGE 65 OVER (>22.5%)						
AGE 17 & UNDER (>28%)						
DISABILITY						
SINGLE PARENT (>20%)*						
MINORITY (>90%)						
LESS ENGLISH (>3.2%)						
MULTI-UNIT (>24%)	1					
MOBILE HOME (>15%)		1		1	1	
CROWDING (>4%)*		1			1	1
NO VEHICLE (>24%)						
GROUP QUARTERS (>4.4%)*			1			
TOTAL FLAGS	1	2	1	1	2	1

For the complete explanation of the methods used to assign flags, see [CDC/ATSDR SVI Data](#)



Asset Limited, Income Constrained & Employed Populations

ALICE is an acronym for **Asset Limited, Income Constrained, Employed** – 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. From 2019 to 2021, the number of households experiencing financial hardship increased by 6%. In the midst of the COVID crosscurrents (job loss, a public health emergency, and high inflation, countered by rising wages and substantial pandemic assistance), the share of households below the Threshold remained flat, at 41%.



**In the City of Niles
54% of Households
Struggle to Afford
Basic Needs.**

In Michigan, ALICE households that earn more than the annual Federal Poverty Level of \$12,880 for a single adult and \$26,500 for a family of four, but less than the basic cost of living. Cost of living, single adult \$25,932 and for a family of four \$59,016.

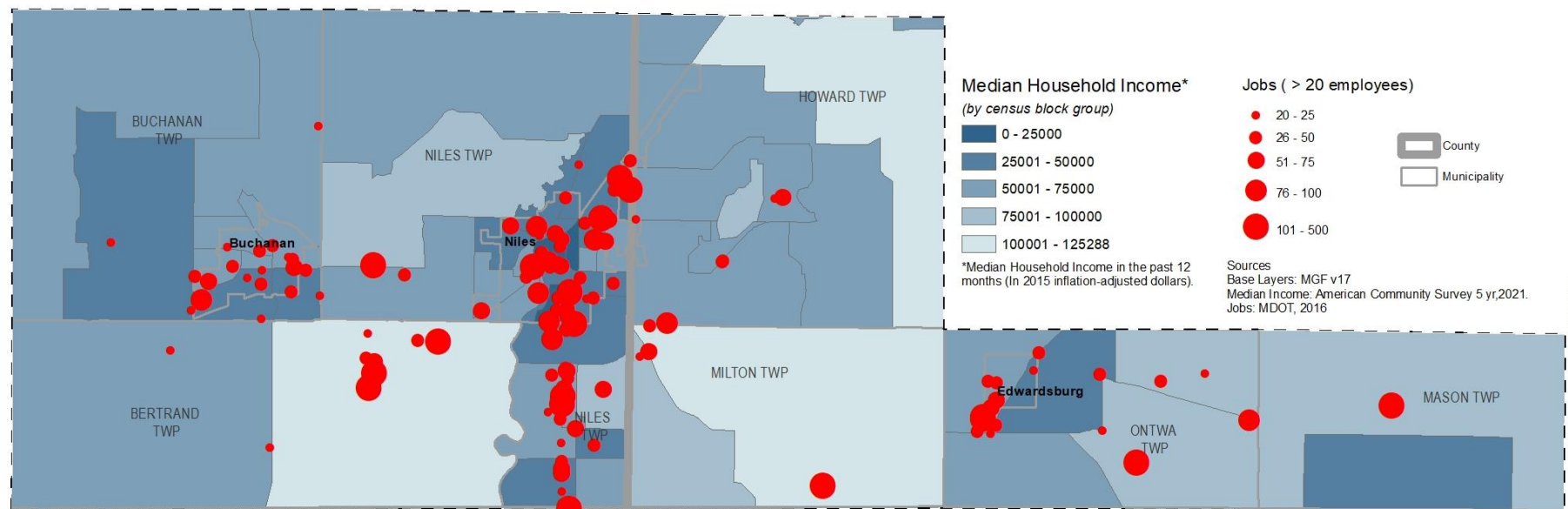
Sources: ALICE in crosscurrents 2021

Community	Households	Percent ALICE & Poverty
Bertrand Township	1,043	21%
City of Buchanan	1,747	47%
Buchanan Township	1,382	30%
City of Niles	5,065	54%
Niles Township	5,578	40%
Howard Township	2,302	34%
Mason Township	1,087	40%
Milton Township	1,157	16%
Ontwa Township	2,922	39%

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 NATS Planning Area. While transit access is generally good for travel within the communities of Niles and Buchanan, employment located outside of these areas 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 outside of Niles and Buchanan which does not receive regular public transit service.





Resiliency & Reliability

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



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 period of time, due to disaster or other cause, it can have devastating consequences.



Berrien County Hazard Mitigation Plan—2022

During the planning process for the 2022 Berrien County Hazard Mitigation Plan, hazards were identified and mitigation strategies and projects were 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 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 problem of infrastructure failure will never be completely eliminated, it can certainly be greatly diminished through proper planning, design, construction, and maintenance practices.

The list of mitigation projects and actions prioritized in the 2022 Berrien County Hazard Mitigation Plan is based upon the potential to reduce risk to life and property with an emphasis on new and existing infrastructure, ease of implementation, community and agency support, consistency with local jurisdictions' plans and capabilities, available funding, vulnerability, and total risk.



Resiliency & Reliability- *continued*



Cass County communities ranked SEVERE WEATHER and TRANSPORTATION ACCIDENTS in the top 5 hazards

Cass County Hazard Mitigation Plan—2018

Cass County ranked 24 hazards using a Hazard and Vulnerability Assessment Tool by collecting hazard information from Villages, Townships, City, schools, tribal and other community partners. The assessment tool relied on 3 criteria: occurrence, significance of impact and capabilities.

Ranked number 1 is thunderstorm hazard which includes tornado, severe wind, hail and lightning. Direct and indirect impacts can be great, from direct physical destruction to the population, structures, crops and street closures. Indirect impacts may be long term and costly for reconstruction or repair of damaged homes, buildings, roadways, in addition to the economics in the region.

Another important aspect of the plan identifies Transportation Accidents, ranked number 4. The plan identifies Cass County’s unique characteristics of close proximity to major cities of Detroit and Chicago which serves as a primary corridor for the transportation of goods by road and rail – goods that include hazardous materials. The geography also brings tourists. It is not difficult to recognize that the combination of large numbers of travelers, and large numbers of transport vehicles, can be a lethal combination and is a valid cause for concern. The plan addresses this concern by the need to enhance preparedness and ability to respond effectively to those incidents with a number of mitigation alternatives. Many of the alternatives directly reference improving routing and road design, rail intersection design and assess problem roadways.

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 and Cass County Sheriff Department serves as the Emergency Management Agency for the NATS 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 to 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 and Cass County Sheriff Department City/Township Police/Fire
Rail	Michigan State Police, Berrien and Cass County Sheriff Department City/Township Police/Fire
Public Transit	Michigan State Police, Berrien and Cass 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 NATS area includes:

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

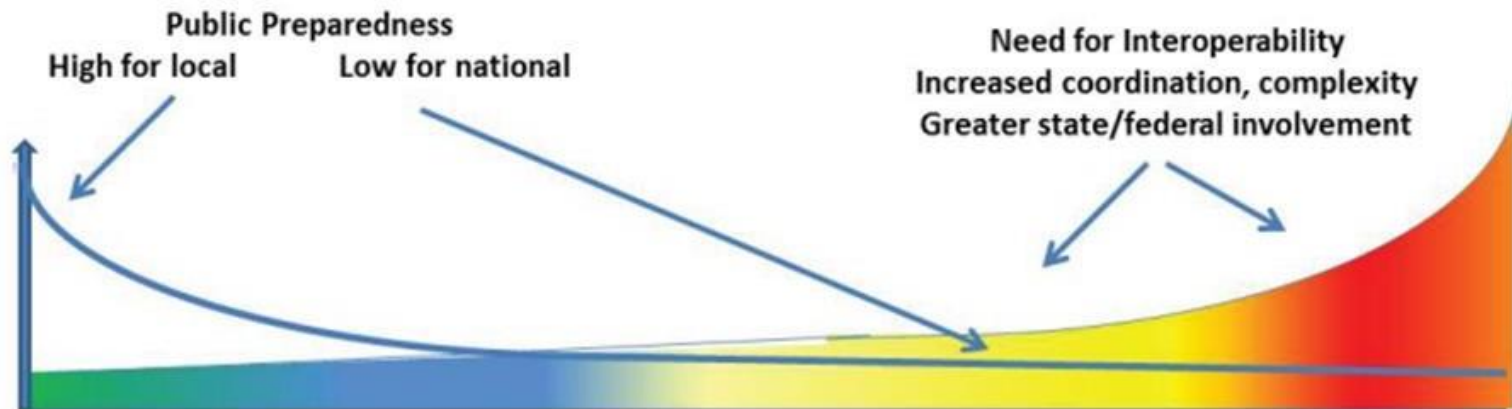
The Berrien County Emergency Management Division helps in coordinating the management of the incident, and our local emergency responders are responsible for executing the work that will resolve the incident. The Berrien County Emergency Management Division has incorporated the National Incident Management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

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 response if there are injuries; direct traffic around the incident; conduct accident investigation.	Michigan State Police Berrien and Cass 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 hospital.	Ontwa Ambulance, LifeCare Ambulance, Pride Care Ambulance, SEPSA Ambulance
Towing & Recovery	Removal of damaged vehicles and debris; incident scene clean-up.	R & B Towing, Clark's Towing & Recovery, Milan Towing
Transportation (DOT)	Secure the incident scene; establish traffic control around incident; provide motorist assistance; incident clearance; restore traffic flow after incident cleared.	Michigan State Police



Incident Management

INCIDENT SCALE/PUBLIC PREPAREDNESS/ INTERGOVERNMENTAL – MULTIJURISDICTIONAL INVOLVEMENT



Classification	LOCAL	REGIONAL	STATE	NATIONAL	
Examples	<ul style="list-style-type: none"> • Minor traffic incidents • Vehicle fires • Minor train/bus accidents • Accidents w/ injuries but no fatalities 	<ul style="list-style-type: none"> • Train derailment • Major bus/rail transit accidents • Major truck accidents • Multi-vehicle crashes • Hazmat spills • Injuries & fatalities 	<ul style="list-style-type: none"> • Train crashes • Airplane crashes • Hazmat incidents • Multi-vehicle accidents • Tunnel fires • Multiple injuries & fatalities 	<ul style="list-style-type: none"> • Port/airport incidents • Large building fire or explosion • Industrial incidents • Major tunnel/bridge closure 	<ul style="list-style-type: none"> • Terrorist attack/WMD • Floods, blizzards, tornadoes • Transportation infrastructure collapse • Extended power/ water outage • Riots • Mass casualties
Expected Duration	0-2 HOURS	2-24 HOURS	DAYS	WEEKS	

Source: Graphic courtesy of John Contestabile, formerly of the Maryland Department of Transportation. Graphic used with permission; previously published in *CIO Leadership for Public Safety Communications—Emerging Trends and Practices* (Shark 2012).

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.”

—2012 Berrien County Hazard Mitigation Plan





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 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



**Expected Revenue >
Programed Expenses**

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 is an indispensable component of Principles in Motion 2050, as it showcases the pathway to realizing the unified vision for the regional transportation system. Although the Long Range Transportation Plan does not serve as a programming document, it must adhere to FHWA regulations, which necessitate that the plan be "fiscally constrained." In other words, the plan should encompass strategies and projects that are realistically feasible within the confines of available funding. To achieve this, a comprehensive analysis of fiscal constraint was conducted for the entire duration of the plan, spanning from 2023 to 2050. This analysis entailed comparing the projected future revenue estimates with the identified projects, and the presence of sufficient funding to execute the plan effectively.

Following are descriptions of the primary funding sources utilized to forecast future funding targets. Although numerous additional State and Federal funding sources exist, this list exclusively encompasses those that the NATS area has successfully secured through direct apportionment or 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. MDOT allocates a portion of these 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 apportioned to MDOT who suballocated it to areas based on population. The STBG is split into subcategories based on where the funds can be used.

- **STBG – TMA:** Allocated to MPOs that contain an urban area with a population of 200,000+. The funds can be used anywhere in the NATS MPO boundary. Projects are programmed by the NATS Policy Committee using a competitive grant process.
- **STBG – Rural:** Allocated for use in rural areas. The funds are programmed by a Rural Task Force (RTF), a regional committee comprised of the county road agencies, rural cities and villages, and the rural transit providers. The rural areas within the NATS boundary but outside of the south Bend or Elkhart urban areas can use the STBG –Rural funds.

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. A portion of the TAP funds are awarded through a statewide competitive grant process. TMAs which includes NATS, are awarded a direct TAP allocation. The TAP funds are programmed in a similar manner as the STBG funding.

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 within a state and the relative costs of rehabilitating all highway bridges classified in fair condition within state.

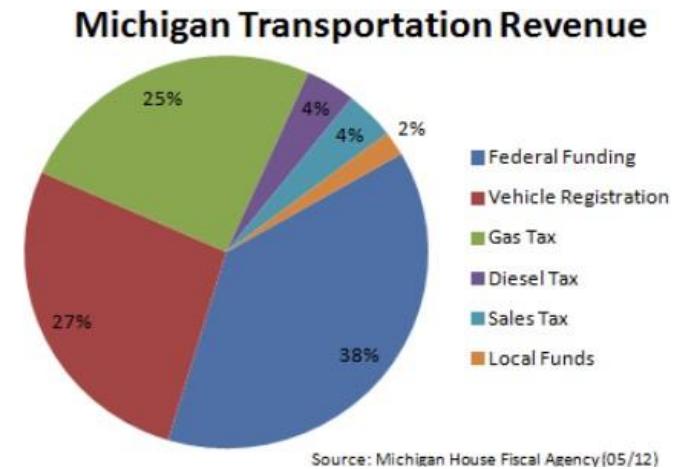
Congestion Mitigation and Air Quality Improvement Program (CMAQ): Funding for transportation projects and programs that reduce congestion and improve air quality to help meet the requirements of the Clean Air Act. CMAQ funds are allocated at a countywide level, with projects chosen at a countywide meeting.

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 NATS, and the NATS Policy Committee votes 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

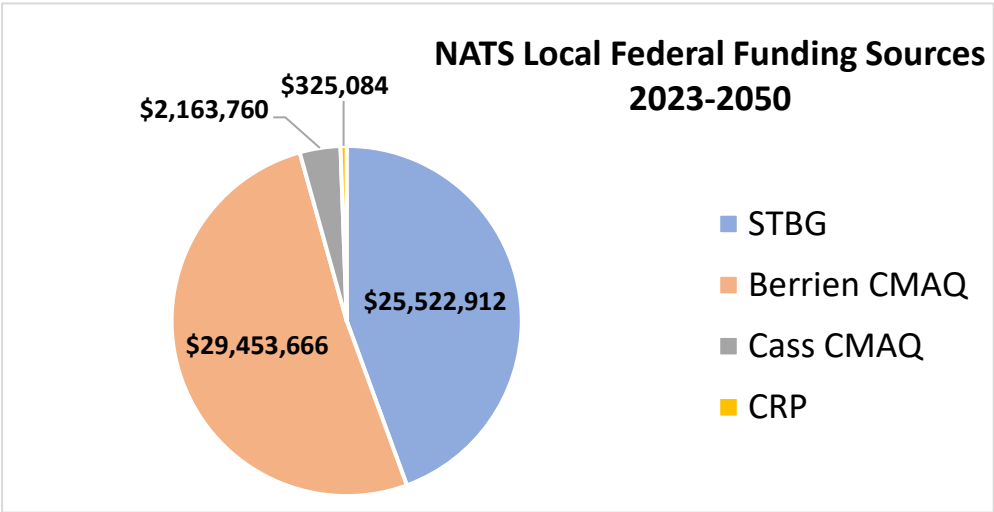
2020 Forward \$600 million

Making Connections >>>
**State and Federal Funds
 for Locally Controlled Roads**

FUTURE TRANSPORTATION FUNDING – Financial Forecasts

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.	\$6,545,592	\$8,598,321	\$10,378,999	\$25,522,912
Berrien County Congestion Mitigation & Air Quality	Flexible funding for projects and programs that will reduce on-road mobile source emissions	\$6,894,358	\$10,221,263	\$12,338,046	\$29,453,666
Cass County Congestion Mitigation & Air Quality	Flexible funding for projects and programs that will reduce on-road mobile source emissions	\$506,481	\$750,887	\$906,392	\$2,163,760
Federal Carbon Reduction Program	A new fund source from the IJA tasked with reducing carbon emissions from transportation	\$325,084	\$0	\$0	\$325,084

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

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.

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)	\$69,064,112	\$98,577,005	\$130,376,833	\$298,017,951



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 funds are distributed based on the formula prescribed in Michigan Public Act 51, and consequentially the funds are also referred to as Act 51 funding. Cities and villages maintain their own roads and directly receive Act 51 funds. Township roads are maintained by the county road department, and Act 51 does not allocate funds for any single township specifically. The Berrien County Road Department and Cass County Road Commission receive funds which can be used on public roads in any township with the County. This is more than sufficient to cover the local match for federal funds and any operations or maintenance required over the life of this plan.

Agency	Base Year Funding 2021
City of Buchanan	\$625,371
City of Niles	\$1,468,356
Village of Edwardsburg	\$149,337
Berrien County Road department	\$18,672,276
Cass County Road Commission	\$8,614,283



Michigan Transportation Fund (Act 51) Estimated Allocation to NATS Act 51 Agencies

	2023-2030	2031-204	2041-2050
Funding (in Millions of \$)	\$259,380,330	\$842,481,142	\$1,101,861,472

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 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 & Maintenance Cost & Revenue

MDOT estimated that its operations and maintenance costs were approximately \$13,319 per lane-mile in FY 2021. Based on this it is estimated that MDOT spent a total of \$3.03 million for O & M within the NATS Area in 2021. 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 assume that every lane-mile of federal aid road has an approximately equal cost for operations and maintenance. Within the NATS area, local road agencies are responsible for the operation and maintenance of 282 lane miles of federal-aid roads. Applying the \$13,319 per lane mile figure gives an estimated cost of \$3.75 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.

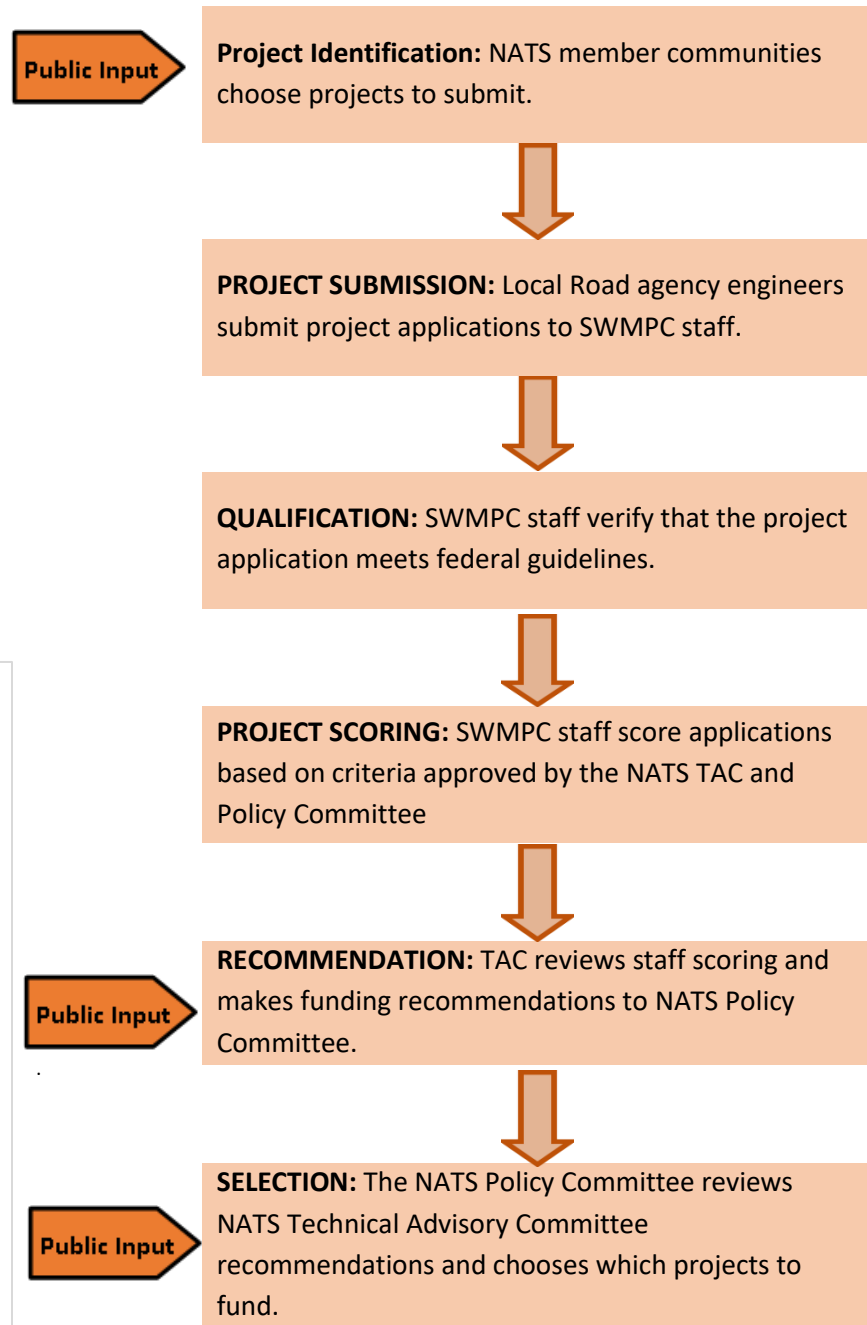
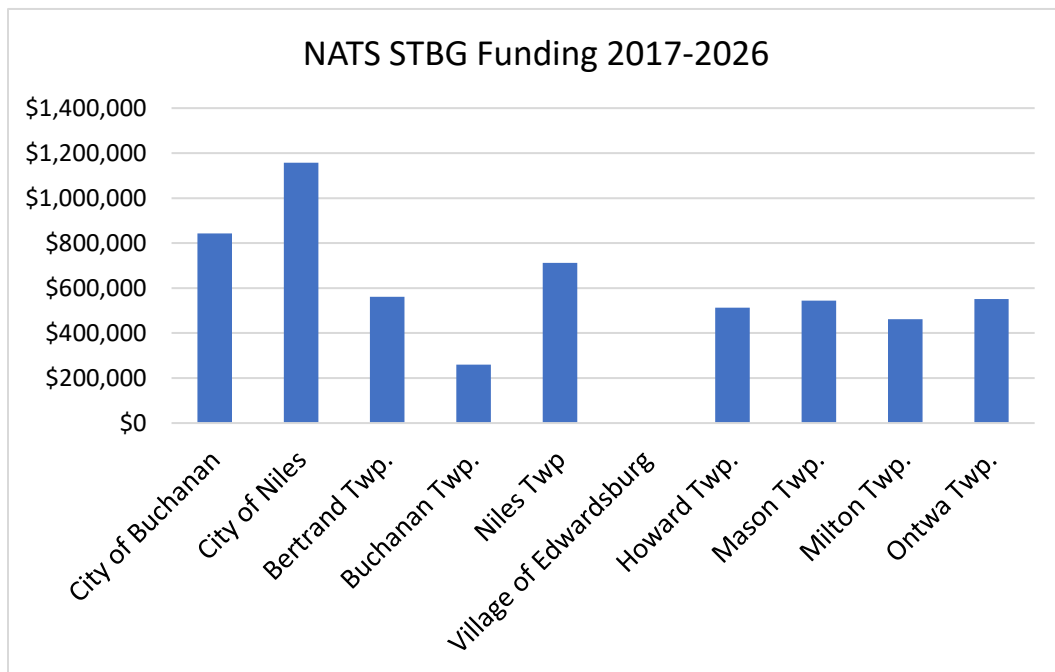
Operations and Maintenance Activities

- 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

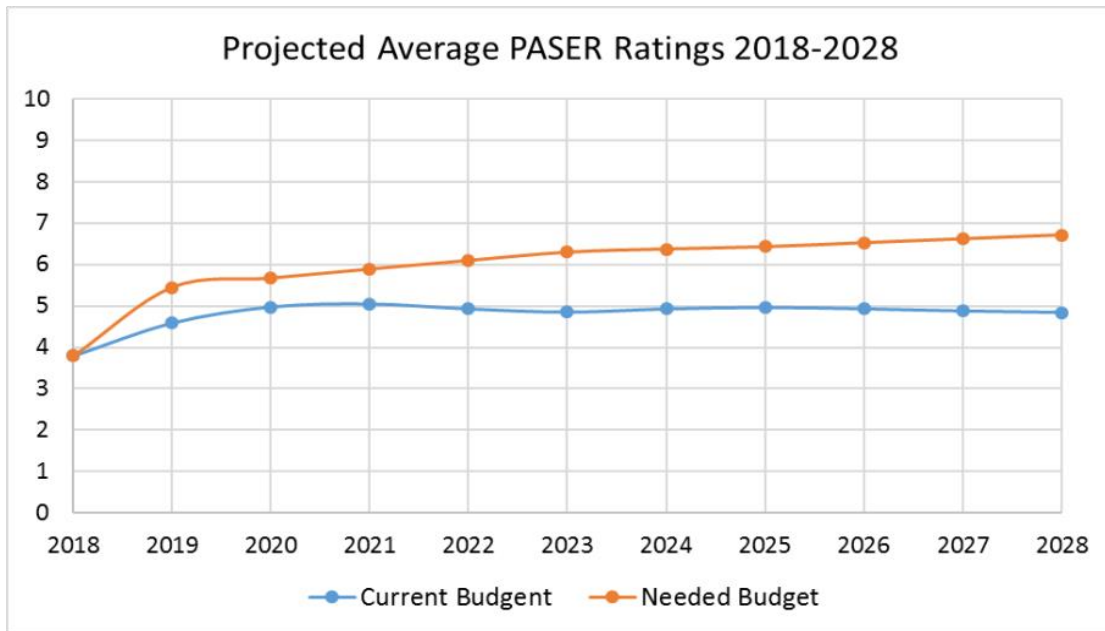
Operations and Maintenance Cost (millions of dollars)			
	2023-2030	2031-2040	2041-2050
MDOT Roads	\$32.98	\$39.22	\$47.34
Locally Controlled Federal Aid Roads	\$26.65	\$48.53	\$58.58
Total	\$59.63	\$87.75	\$105.92

Process for awarding the NATS 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 SWMPC Staff who score the project based on the criteria approved by the Policy Committee. These criteria include how the projects will help NATS 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, NATS 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 NATS Policy Committee.



Funding Required to Improve Pavement Condition



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 **\$700,000**

We need to invest an additional **\$1.2 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. **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 on Page 127.

Revenues and Expenditures

Funding Category	Revenue	Expenditures	Balance
2023-2030			
STBG	\$6,545,592	\$6,545,592	\$0
CMAQ / CRP	\$7,725,923	\$7,725,923	\$0
MTF	\$259,380,330	\$259,380,330	\$0
MDOT Preservation	\$69,064,112	\$69,064,112	\$0
Federal Transit Operating	\$1,522,381	\$1,522,381	\$0
Federal Transit Capital	\$1,282,906	\$1,282,906	\$0
State CTF	\$1,651,798	\$1,651,798	\$0
Local Transit Operating	\$1,551,415	\$1,551,415	\$0
2023-2030 Total	\$348,724,455	\$348,724,455	\$0
2031-2040			
STBG	\$8,598,321	\$8,598,321	\$0
CMAQ / CRP	\$10,972,149	\$10,972,149	\$0
MTF	\$381,714,756	\$381,714,756	\$0
MDOT Preservation	\$98,577,005	\$98,577,005	\$0
Federal Transit Operating	\$2,280,627	\$2,280,627	\$0
Federal Transit Capital	\$1,921,877	\$1,921,877	\$0
State CTF	\$2,430,853	\$2,430,853	\$0
Local Transit Operating	\$2,283,125	\$2,283,125	\$0
2031-2040 Total	\$508,778,714	\$508,778,714	\$0
2041-2050			
STBG	\$10,378,999	\$10,378,999	\$0
CMAQ / CRP	\$13,244,438	\$13,244,438	\$0
MTF	\$460,766,386	\$460,766,386	\$0
MDOT Preservation	\$130,376,833	\$130,376,833	\$0
Federal Transit Operating	\$2,807,448	\$2,807,448	\$0
Federal Transit Capital	\$2,365,827	\$2,365,827	\$0
State CTF	\$2,934,273	\$2,934,273	\$0
Local Transit Operating	\$2,755,952	\$2,755,952	\$0
2041-2050 Total	\$625,630,158	\$625,630,158	\$0
2023-2050 Total	\$1,483,133,327	\$1,483,133,327	\$0

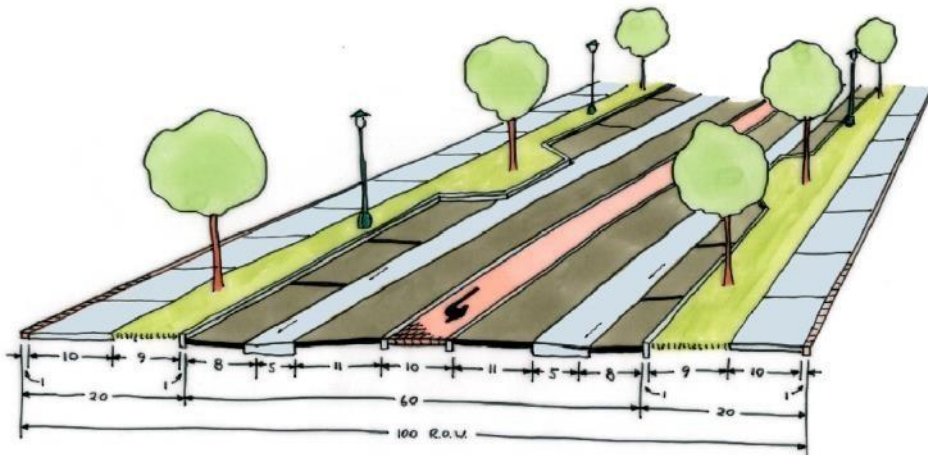


ROAD & BRIDGE NETWORK OVERVIEW



Within the NATS planning area, there are 692 miles of public roads. Road agencies in NATS, including cities, villages, Berrien County Road Department, and Cass County Road Commission are responsible for the maintenance of 585 miles of these roads. The other 107 miles are owned and maintained by MDOT, including US-12, US-31, and routes M-51, M-60, M-62, M-140, and Business M-60. One hundred thirty-six 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.

The network includes a variety of road types that serve various trip purposes. Local non-federal aid-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 are important regional roads and a vital network to the movement of people and goods across the state and nation.



NATS Planning Area Road Network:

108 Miles

MDOT Federal Aid Eligible Roads

136 Miles

Locally Controlled Federal Aid Eligible Roads

446 Miles

Locally Controlled Non-Federal Aid Eligible Roads

690 Miles Total

National Functional Classification

The National Functional Classification (NFC) is a vital system utilized by the Federal Highway Administration (FHWA) to categorize roads based on their function, traffic volume, and speed. The NFC plays a crucial role in establishing design standards for roads and serves as a determining factor for eligibility in accessing federal aid funding. The classification process involves close collaboration between various entities including the road agency, Metropolitan Planning Organization (MPO), State Department of Transportation (MDOT), and FHWA. The NFC encompasses seven distinct categories, further grouped into four major classifications.

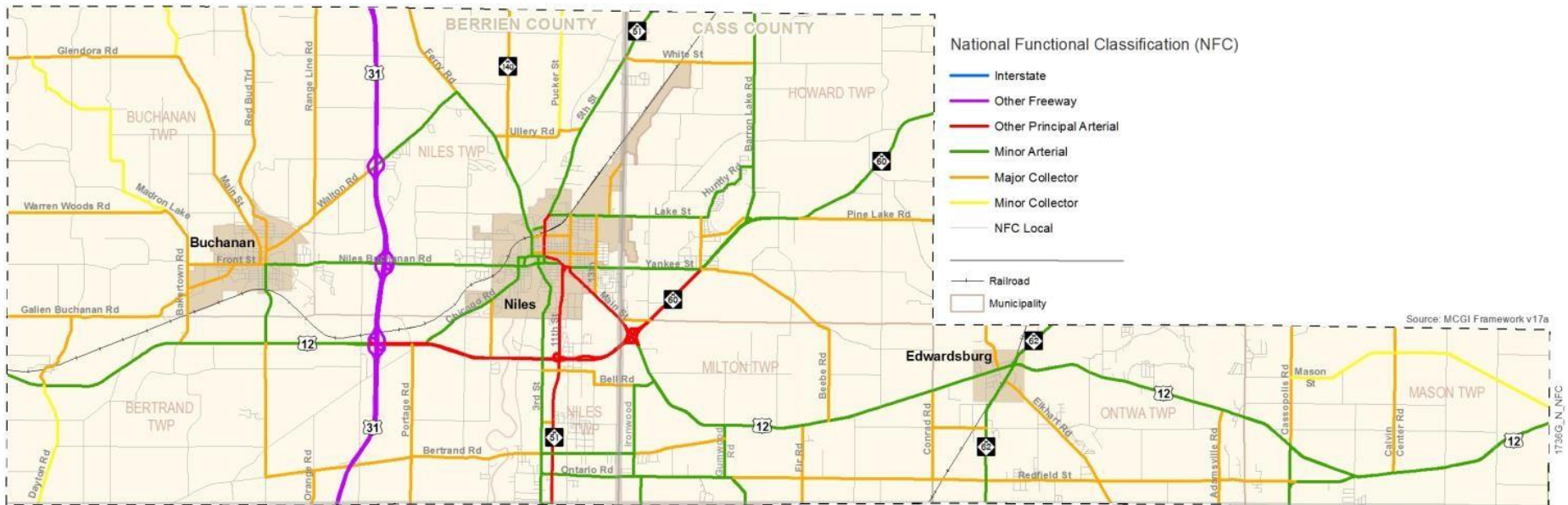


PRINCIPAL ARTERIALS

Interstate: High-speed divided highways that cover multiple states. While funded by the federal government, they are maintained by state DOTs. NATS does not have any Interstates.

Other Freeways & Expressways (OF&E): All other high-speed, limited access divided highways, which are not designated as an interstate. This includes 26 miles of US-31 and in NATS. In Michigan, all OF&E routes are maintained by MDOT.

Other Principal Arterial (OPA): These routes are typically designed for high volumes of through traffic or commercial traffic. Unlike freeways, OPA's often have direct access to adjacent properties. There are 26 miles of OPA in NATS. Of this MDOT Maintains US-12 from US-31 to M-60, M-60 from US-12 to Business M-60 (Yankee Street), M-51 from the state line to Lake Street, and one block of M-60BR (Ash Street) from M-51 to Main St. The only locally maintained OPA is Main Street from M-60BR to US-12 in the City of Niles.



National Functional Classification - cont.

Minor Arterials: A major thoroughfare, typically used for shorter trip distances and carrying less traffic than principal arterials.

Collectors

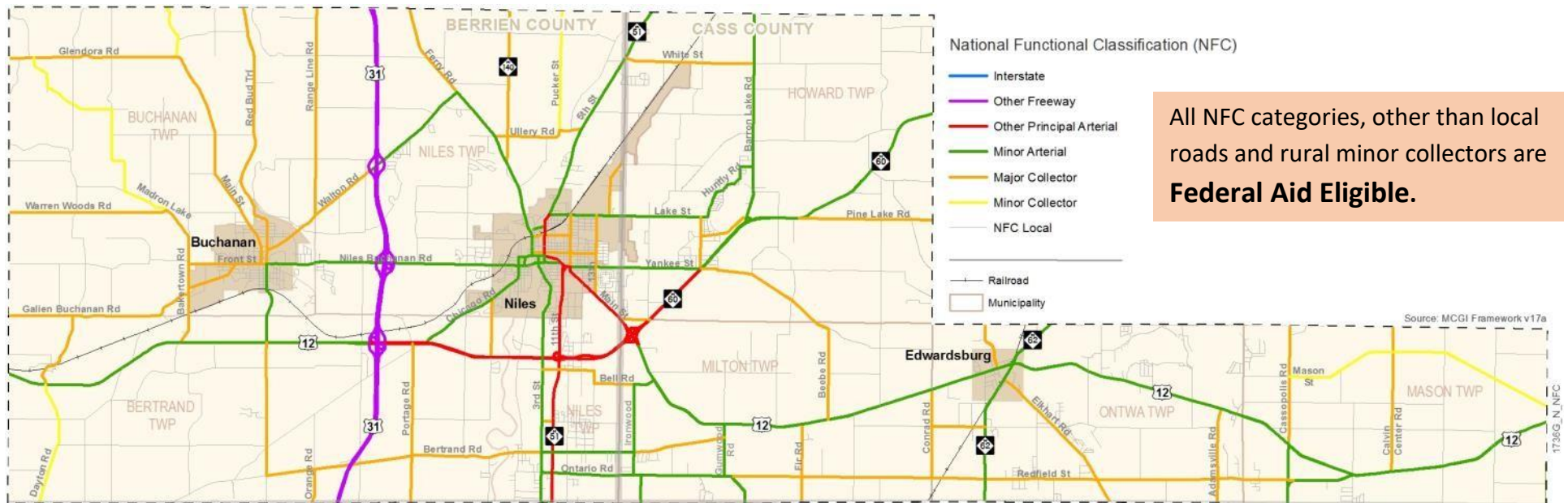
- **Major Collector:** These routes funnel traffic from local and minor collector routes to the arterials. These may directly serve schools, business districts, and important public functions.
- **Minor Collector:** Carries more through traffic than a local road but not as heavy as a major collector.
 - **Urban minor collectors** were created recently by the 2010 Highway Performance Monitoring System (HPMS) reassessment and have federal-aid eligibility — NATS: 2 mi.
 - **Rural minor collectors** are not federal-aid highways but do have limited STBG federal-aid eligibility—NATS: 17 mi.

Local Roads: Traveled by those accessing their property, rural roads, and residential neighborhood roads. This is the majority of public roads.

National Highway System (NHS)

The NHS is a category for the most vital roads for the nation’s economy, defense, and mobility. The NHS includes all Principle Arterials. In addition, the NHS can include roads that are connectors to major transportation hubs (ports, airports) and roads used to reach military bases and any other road considered necessary for national defense.

**NATS contains
52 Miles of NFC Roads**

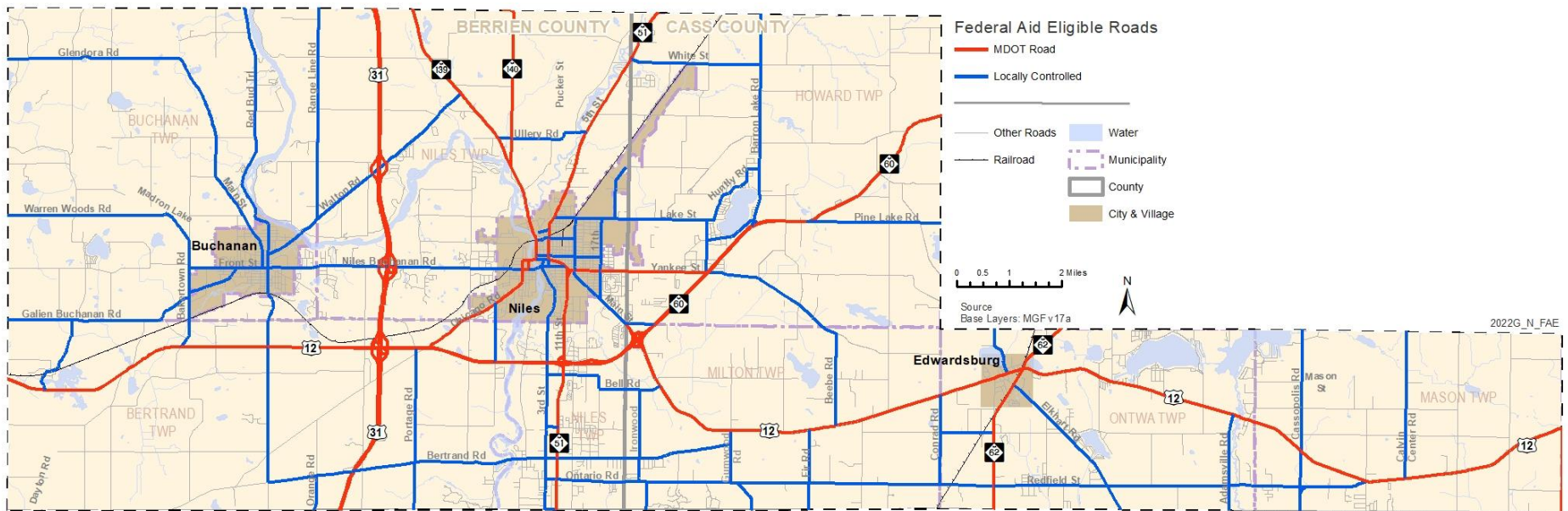
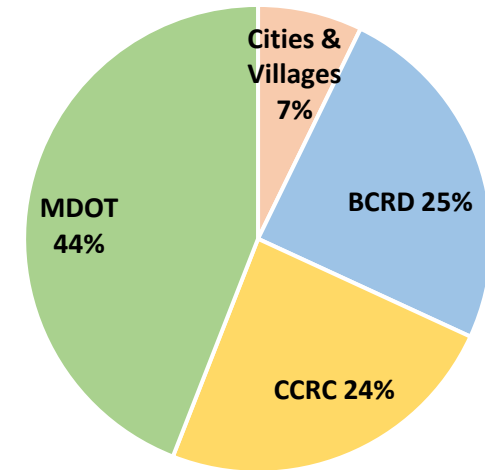


All NFC categories, other than local roads and rural minor collectors are **Federal Aid Eligible.**

Road Miles By Jurisdiction

Jurisdiction	Total Miles	Non-Federal Aid Eligible	Federal Aid Eligible		
			Total	Local	MDOT
City of Buchanan	28.7	22.6	6.1	6.1	0.0
City of Niles	71.6	54.8	16.7	10.7	6.1
Village of Edwardsburg	7.9	4.8	3.1	0.9	2.2
Bertrand Twp.	96.6	55.0	41.7	17.5	24.2
Buchanan Twp.	76.9	58.0	18.8	18.8	0.0
Howard Twp.	93.6	61.6	32.0	19.1	12.9
Mason Twp.	51.5	36.3	15.1	8.7	6.5
Milton Twp.	49.4	21.7	27.7	16.9	10.8
Niles Twp.	154.6	94.3	60.3	23.7	36.7
Ontwa Twp.	63.1	41.2	21.9	13.9	8.0
Berrien CRD	325.1	204.2	120.8	60.0	60.9
Cass CRC	164.9	68.2	96.7	58.6	38.2
NATS Total	598.1	354.6	243.5	136.2	107.3

Road Ownership by percent of total NATS Federal Aid Eligible Miles



Vehicle Miles Traveled

Vehicle Miles Traveled (VMT) measures the amount of travel for all vehicles in a geographic region over a given period. VMT is calculated by adding up all the miles driven by all the cars and trucks on all the roadways in a region. VMT is calculated based on traffic counts and travel models through the Highway Performance Monitoring System (HPMS). Currently, traffic on local roads is based solely on estimates because HPMS currently doesn't collect traffic counts on non-federal aid eligible roads.

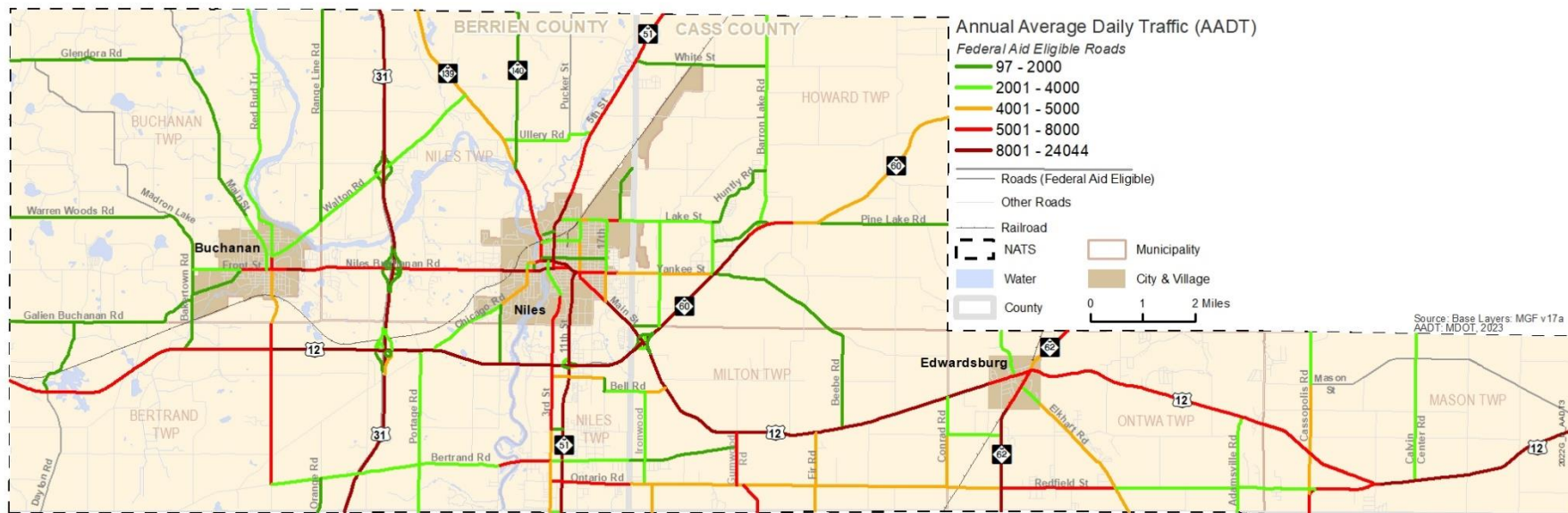
VMT helps us understand trends in vehicle use and congestion change over time. VMT is also used to calculate the environmental effect of the transportation system, such as deriving greenhouse gas emission estimates.

Annual average daily traffic (AADT) is the total volume of vehicle traffic on a highway or road for a year divided by 365 days. AADT is a useful and simple measurement of how busy a road is.

NATS 2021	Annual VMT	Average AADT
Other Freeways & Expressways (US-31)	63,042	2,425
Other Principal Arterials	79,270	3,049
Minor Arterial	204,237	2,295
Major Collector	89,919	890
Minor Collector	3,876	204
Local	58,451	135
Total	498,795	720



M-51 on the southside of Niles is the busiest road in the NATS planning area, followed by sections of US-12 and US-31.

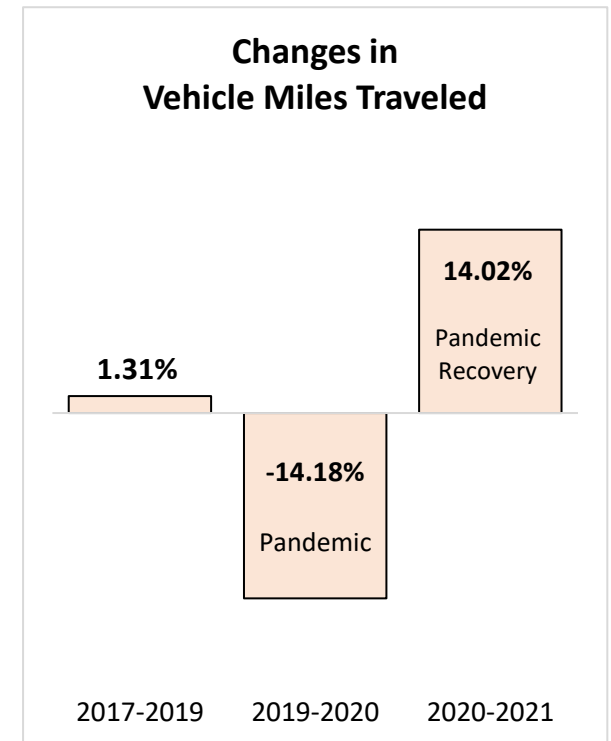


Vehicle Miles Traveled

The Vehicle Miles Traveled (VMT) in the NATS area had been growing slowly before 2020. Between 2017 and 2019, there was a modest increase of 1.31% in miles traveled. However, the year 2020 brought about a significant decline in VMT, plunging by 14.18% due to travel restrictions imposed as a response to the COVID-19 pandemic. During this period, US-31 experienced a travel reduction of approximately 10%, while other federally funded roads saw an average decrease of 15%. These figures suggest that local travel was more affected compared to long-distance trips. This decline in travel was temporary for the NATS Area, as travel volumes nearly returned to pre-COVID levels by 2021.

Annual Total Vehicle Miles Traveled in the NATS Area (1,000 miles)

NFC	2017	2018	2019	2020	2021
US-31	63,042	78,837	74,288	65,648	71,602
Other Principal Arterials	79,270	80,977	78,719	66,424	76,220
Minor Arterials	204,238	204,630	203,723	169,271	192,240
Major Collectors	89,919	91,538	89,099	80,121	95,866
Minor Collectors	3,876	2,801	2,751	2,427	3,153
Local roads	58,451	57,224	56,742	49,763	55,371
TOTAL	498,796	516,007	505,321	433,654	494,452



The COVID-19 pandemic has expedited the shift towards substituting vehicle journeys with remote work and online shopping. In 2021, there may have been a rebound effect where individuals undertook certain trips that they had to postpone in 2020. However, it is still premature to ascertain whether 2021 signifies a complete restoration of pre-pandemic travel patterns or if there will be enduring effects on travel as a result of the pandemic.

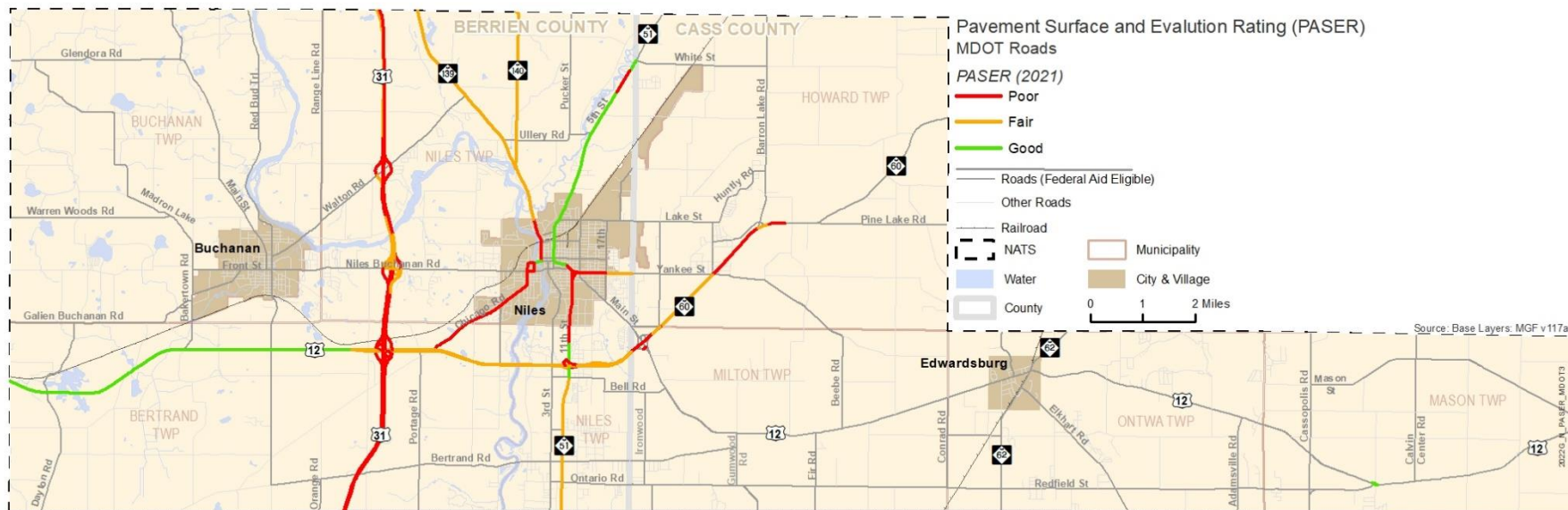
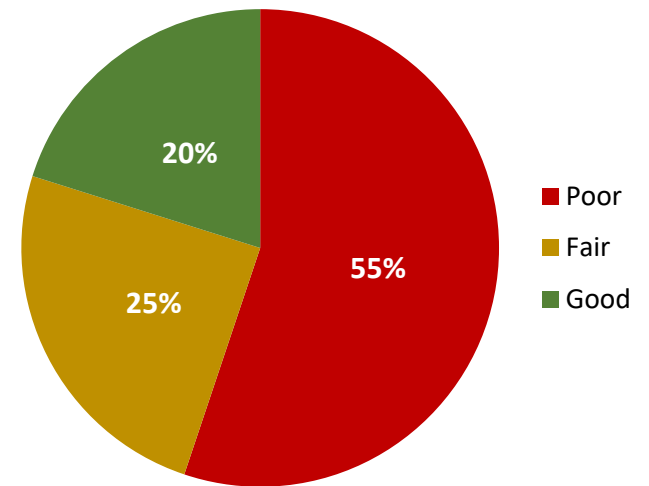
The COVID-19 pandemic accelerated a transition towards replacing vehicle trips with remote work and online shopping. In 2021, there may have been a rebound effect where individuals were taking certain trips, they had to defer in 2020. It is too early to determine if 2021 represents a full return to pre-pandemic travel patterns or if there will be long-term effects on travel caused by the pandemic.

Pavement Condition for MDOT Controlled Roads

The condition of the pavement is assessed using the Pavement Surface Evaluation and Rating System (PASER), which assigns a score ranging from 1 to 10. A score of 10 indicates a newly constructed or recently reconstructed road, while a score of 1 indicates complete failure. Each year, a team consisting of SWMPC staff, and a county road engineer collects PASER scores for federal-aid routes.

Within the NATS area, MDOT is responsible for maintaining approximately 108 miles of road. Out of this total, 13 miles were rated in good condition, 52 miles were rated as fair, and 42 miles were rated as poor.

2021 PASER Ratings
MDOT Maintained Roads



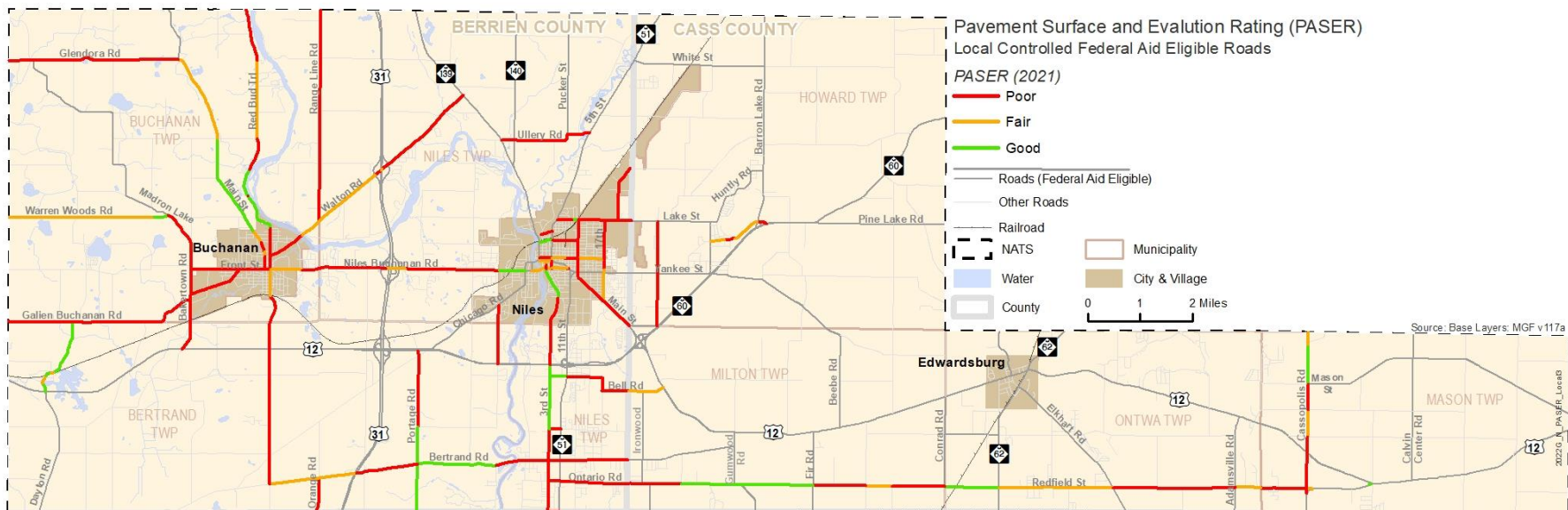
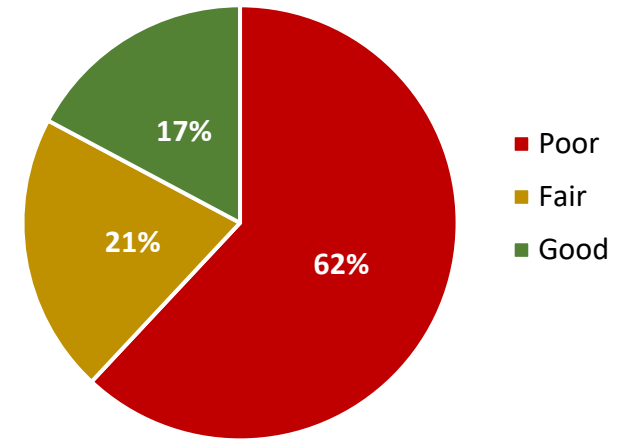
Pavement Condition for Locally Controlled Federal Aid Roads

While MDOT (Michigan Department of Transportation) roads generally maintain a fair or good condition, the locally owned roads exhibit significantly worse conditions. Within the NATS area, there are 136 miles of locally controlled federal-aid eligible roads, of which 94 miles are rated as poor, 20 miles as fair, and only 22 miles as being in good condition.

Approximately 38 miles, accounting for 28% of the local roads, have a PASER (Pavement Surface Evaluation and Rating) score of 4, indicating poor condition. This implies that while some roads fall into the poor category, most have not yet reached a state where complete reconstruction is the only viable option.

It is more cost-effective to maintain roads in good or fair condition than to undertake reconstruction or resurfacing projects to elevate poor roads to good condition. Implementing a long-term strategy focused on routine maintenance becomes imperative. However, at present funding levels, it becomes extremely challenging to improve road conditions from poor to good or fair. Thus, more expensive measures are currently required to prevent the complete failure of deteriorating roads.

2021 PASER Ratings
Locally Maintained Federal Aid Roads



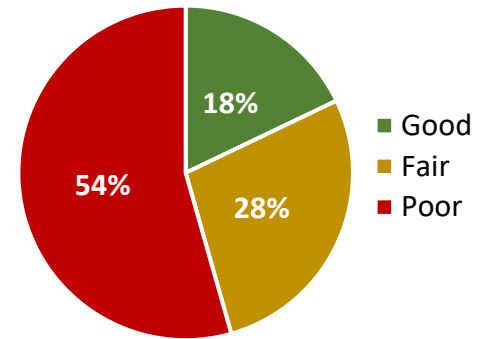
Pavement Condition—National Highway System

Recognizing the significant role of the National Highways system in bolstering the economy and ensuring national defense, the maintenance requirements for this network have become increasingly stringent.

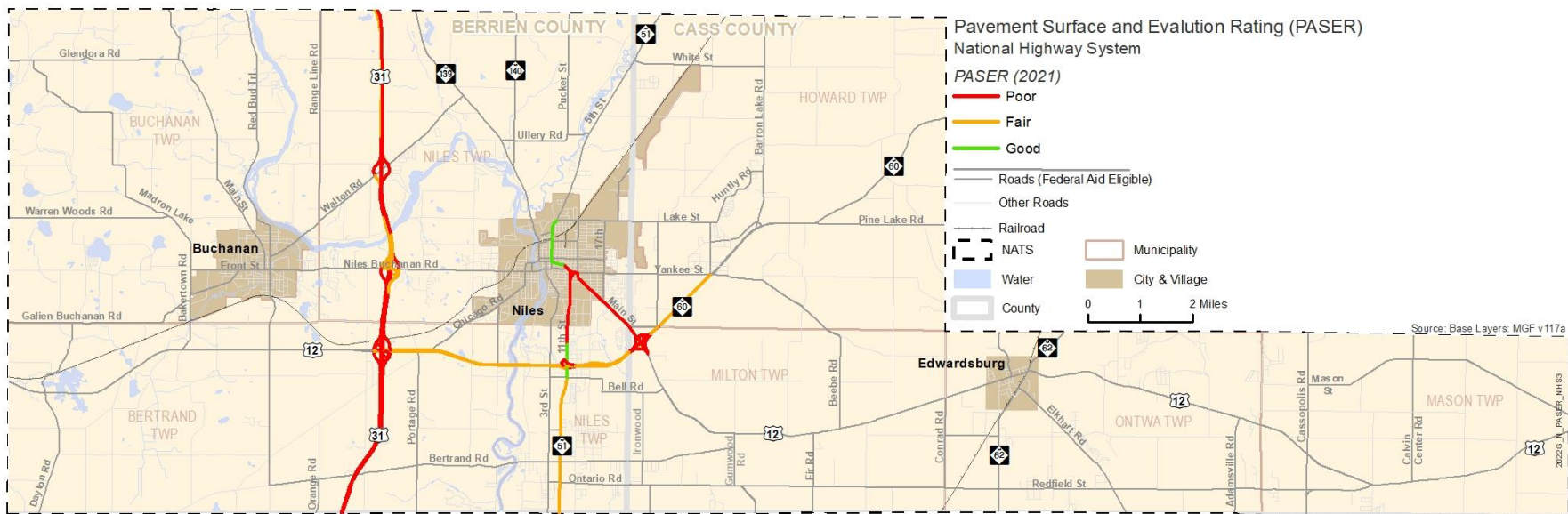
The ownership of the National Highways system predominantly rests with MDOT, which accounts for 50 out of the 51.5 miles of the NHS. The remaining 1.5 miles are under the jurisdiction of local road agencies, specifically Main Street in Niles, extending from Business M-60 (Oak Street) to US-12.

To monitor the condition of both the Interstate and non-Interstate NHS routes, the Federal Highway Administration (FHWA) has established a specific performance measure. This measure employs the Pavement Condition Index (PCI), a metric chosen by FHWA to categorize the condition of the pavement. Although the PCI shares similarities with the PASER criteria, the data collection process and the classification into good, fair, and poor conditions differ. Since the NATS Area lacks any Interstate highways, only the non-Interstate NHS pavement condition metric is applicable in this region.

2021 PASER Ratings
National Highway System



**Non-Interstate NHS
Pavement Condition Index**
26.9% good
35.5% Poor

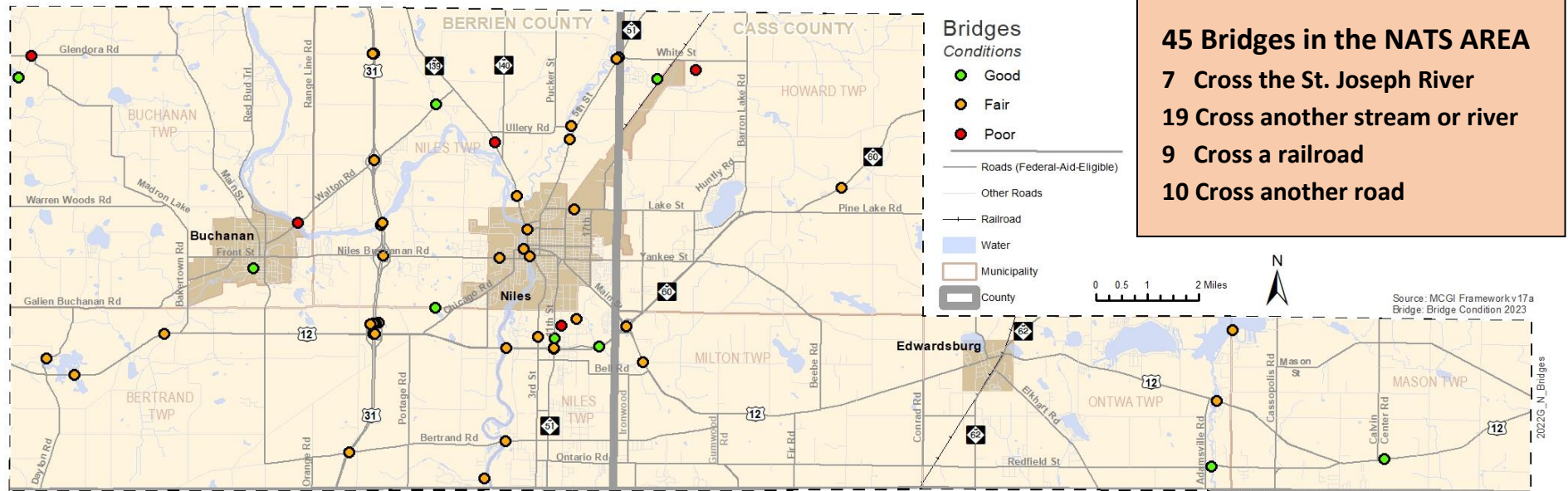


Bridges within the NATS Area

There are 45 bridges within the NATS area. A bridge is considered any structure that carries at least 20ft of road over water, a railroad, or another road. Culverts, where a stream is channeled through a tunnel under a road are included. Within the NATS Area MDOT maintains 24 bridges and 19 are maintained by a county, city, or village. The MDOT bridges are much larger on average than the locally maintained bridges, with MDOT maintaining 80% of the total bridge deck area in the NATS area. A major cause of this is that each overpass over US-31 – regardless of the road owner – is an MDOT-maintained bridge.

Almost a quarter of the bridges consist of culverts under 30ft long. The next fifty percent of the bridges are between 30ft and 250ft long. Approximately a quarter of the bridges are over 250ft, with a majority of these maintained by MDOT. By far the longest bridges in the NATS area, at over 1,300 ft each, are the US-31NB & US-31 SB bridges over the St. Joseph River. The next longest bridge the Walton Rd bridge over the St. Joseph River is 540ft. long.

Bridges—Jurisdiction	MDOT	Local	Total
City of Buchanan	0	1	1
City of Niles	3	1	4
Village of Edwardsburg	0	0	0
Bertrand Township	7	2	9
Buchanan Township		3	3
Niles Township	13	8	21
Howard Township		2	2
Mason Township		1	1
Milton Township		1	1
Ontwa Township	1	1	2
Berrien CRD Total		13	
Cass CRC Total		5	
NATS TOTAL	24	19	45



National Bridge Inventory System

Inspectors thoroughly evaluate every bridge in Michigan utilizing the comprehensive National Bridge Inventory (NBI) system. The NBI employs a rating scale of 0 to 9 to assess the condition of the bridge's primary components, namely the deck, superstructure, and substructure. In the case of culverts, a singular culvert rating is utilized. To determine the overall bridge rating, the lowest rating among these elements is considered. The ratings are categorized as follows, aiding in the comprehensive classification of bridge conditions:

7-9 Good Condition: This indicates a completely new bridge or has only minor problems.

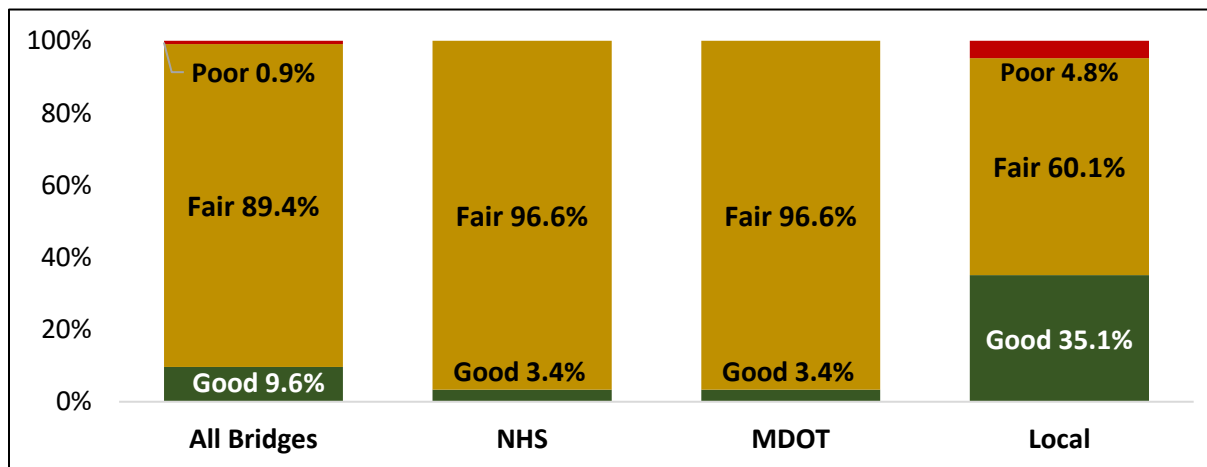
5-6 Fair Condition: All structural elements are sound but may have minor corrosion, cracking or chipping.

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 2-3 is serious or critical. A value of 0-1 means the bridge is closed (it is in imminent danger of failure).

Bridges in in Poor Condition

As of 2022, three bridges within the NATS area were rated in poor condition. The largest of these, at a length of 169 ft, is the Thompson Road Bridge which has a rating of 4. While the substructure of the bridge remains in fair condition, the superstructure has been deemed poor.

The other two deteriorated structures are culverts under the jurisdiction of the Berrien County Road Department. The culvert on Glendora Road in Buchanan Township, which carries the Galien River, is rated at 4. Similarly, the culvert on Ferndale Street in Niles Township, responsible for carrying Brandywine Creek, has a more severe rating of 3, indicating a critical condition. Consequently, a weight restriction of 11 tons is currently imposed on this bridge. It's worth noting that there are no bridges within the NATS area with a rating lower than 3.



NBI Rating based on the percent of total deck area in the NATS Area.



The Thomson Road Bridge, constructed in 1919, spans the now abandoned Michigan Central Railroad switchyard. This bridge is included on the National Register of Historic Places, as an early testament to T-beam construction and boasts a unique brick deck, a feature seldom found in similar structures.



ROAD & BRIDGE NETWORK—Travel Demand Model

Travel Demand Forecasting

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

Because of the interaction of traffic between Niles, Michigan and South Bend, Indiana, it was decided that the travel patterns of the area could be better modeled if a regional model was built. The travel demand model used for the Niles Area Transportation Study (NATS) 2045 Metropolitan Transportation Plan (MTP) is a regional model that includes the areas of Niles, Buchanan, South Bend and Elkhart.

Through coordination and cooperation, both the Niles Area Transportation Study and Michiana Area Council of Governments were able to enhance and expand their models by creating one travel demand model for the entire urbanized area.

By joining these models, the organizations of the Niles Area Transportation Study (NATS), MACOG, and MDOT are able to work together to more accurately capture the travel patterns across the Michigan/Indiana border and increase the overall sensitivity of the model. By approaching the model as a partnership, NATS, MACOG, and MDOT were able to strengthen coordination among agencies, promote the use of regional approaches to planning and decision-making and emphasize the importance of regional perspective. The NATS/MACOG regional model allows for better analysis of the region and supports a collaborative effort to address issues facing the region, across jurisdictional boundaries.



The NATS/MACOG travel demand model contains some unique modeling features...

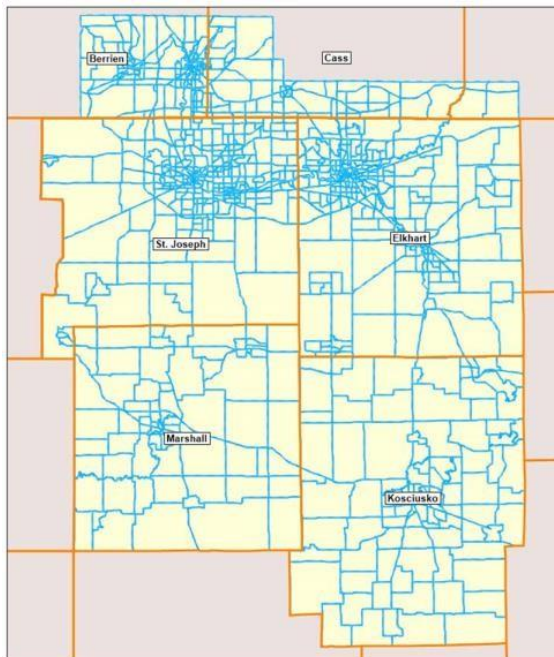
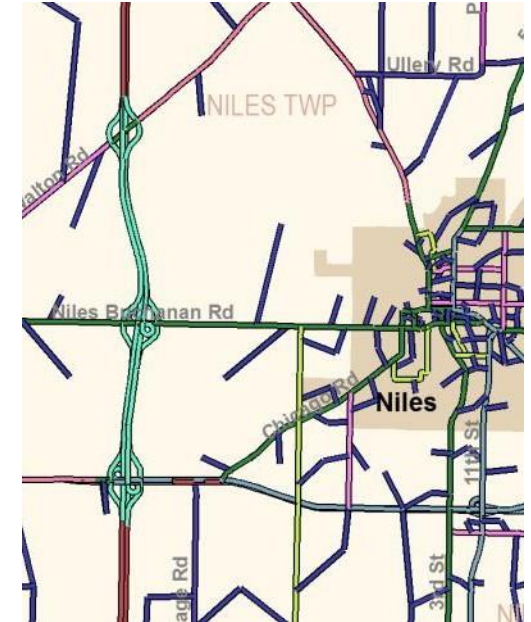
- Sensitivity to fuel prices
- More realistic representation of special populations (seniors, low income, students)
- Sensitivity to urban design (mixed uses, development density, grid vs. cul-de-sac style street networks)
- Ability to represent shifts in the timing of travel (due to congestion, aging population, etc.)
- Consistency with tours and trip-chaining behavior
- More accurate commuting patterns from destination choice models
- Improved representation of speeds and delays from traffic signals, stop signs, etc.

Components of the Model

Road Network

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

Transportation system information or network attributes required for each link include facility type, area type, lane width, number of through lanes, parking availability, national functional classification, and traffic counts (based on availability). The network attributes were provided by MDOT staff and reviewed by the MPO and 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 traffic conditions.



Traffic Analysis Zones (TAZ)

The Traffic Analysis Zone (TAZ) is the primary geographical unit of analysis of the travel demand model, and it represents the origins and destinations of the travel activity within the model area. TAZs are determined based on 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.

Components of the Model

Socio-Economic Data

Travel demand models are driven, in part, by the relationship between land use activities and the characteristics of the transportation network. Inputs to the modeling process include the number of households, the population in the households, vehicles, and employment located in a given TAZ. These characteristics are generally referred to as socioeconomic data (SE- Data). The collection and verification of the SE- Data was a collaborative effort between SWMPC, MPO Committee members, and MDOT. Household, population, and employment data from the 2010 U.S. Census, the 2015 American Community Survey, Claritas, and Hoovers employment databases was presented to the MPO and Technical Advisory and Policy Committees. They were asked to provide detailed information about new developments and where employers or population had been lost. The revised data was included in the travel demand model.



Population Synthesis

The Niles/MACOG TDM generates a disaggregate synthetic population of households based on the demographic information associated with the traffic analysis zones. For each zone, individual households are created. Each household has a total number of persons, workers, students, and a binary variable indicating whether any of the household members are over the age of 65. Each household also has an income variable that indicates whether the household belongs to the lower (under \$35,000/year), middle (\$35,000 - \$75,000/year), or upper (over \$75,000/year) income category, each of which comprises approximately a third of the households in the region. The number of vehicles available to each household is modeled separately, after the population synthesis, based on these variables and other variables describing the zone in which the household is located.

Components of the Model

Tour and Stop Generation

The new travel demand model generates tours and stops rather than trips. The number of tours and stops of each type is estimated using multiple regression models applied to the disaggregated synthetic population of households. First, the number of tours, of each type, is estimated for each household. Then, for each stop type, the ratio of stops per tour is modeled, and the total number of stops produced by multiplying this ratio by the number of tours.

	Workers	Non-Workers	Students	Seniors	Vehicles	Income	Gas Price	Accessibility
Work Tours	+			-	+	+		
Work Stops	+			-	+	+		-
Other Stops	+	-	+	-	+	+		
School Tours			+			+		-
School Stops			+			+		-
Other Stops			+			+		-
Other Tours	+	+		+	+		-	
Short Maintenance Stops	+	+		+	+	+	-	
Long Maintenance Stops	+	+	-	+	+		-	
Discretionary Stops	+	+	+	+	+	+	-	
Key	+	Variable (column) increases tour/stop rate (row)			-	Variable (column) decreases tour/stop rate (row)		

Source: MACOG Travel Model: Model Development and Validation Report

This model offers a more realistic representation of special populations.

Tour Base Mode Choice

In the new model, as in activity-based models, the mode of travel is developed in two stages: tour mode choice and trip mode choice. After tours are generated, they are assigned a primary mode by tour mode choice models. Then, after the spatial distribution of stops creates trips, individual trips are assigned a mode based on the primary mode of the tour in trip mode choice models.

The MACOG model makes use of four primary tour modes:

- Private Automobile
- Public Transit
- Walk/Bike
- School Bus



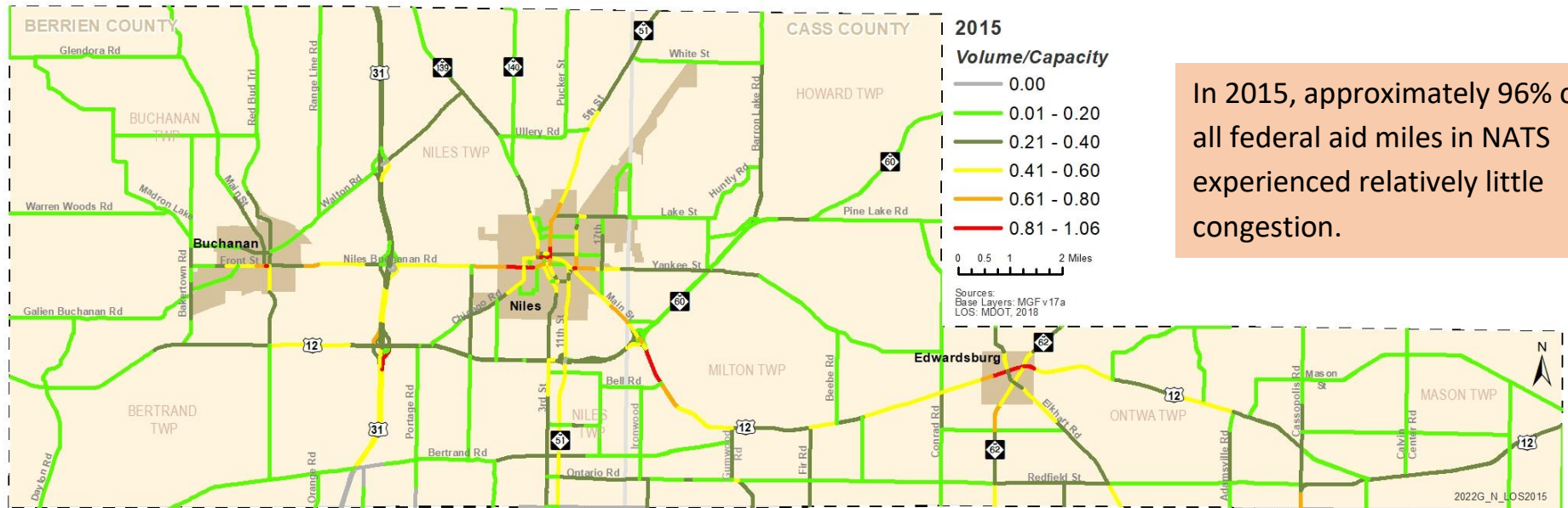
2015 Daily Congestion Model

The Base Year scenario shows the existing conditions of the area-wide transportation system as it was in 2015. There is little traffic congestion in the majority of the NATS road network. Highlighted are the roads that have higher volume/capacity ratios in the table below.



2015 Model Congested Road Segments

Jurisdiction	Route Name	From	To	Length	Volume	V/C ratio
Niles	Oak Street	12th Street	13th Street	0.36 miles	13,166	0.79
Niles	Main Street (US 12)	Berrien/Cass County Line	Bell Rd	1.15 miles	16,809	0.78
Niles	Grant/Broadway	W of Lincoln	3rd Street	0.78 miles	12,579	0.84
Niles	Main Street	Front Street	5th Street	0.24 miles	10,795	0.80
Niles	5th Street	Wayne Street	Broadway	0.6 miles	14,264	0.78
Buchanan	Front Street	Main Street	Red Bud Trail	0.1 miles	10,215	0.91
Edwardsburg	Main Street (US 12)	Section Street	M 62	0.65 miles	14,755	0.87



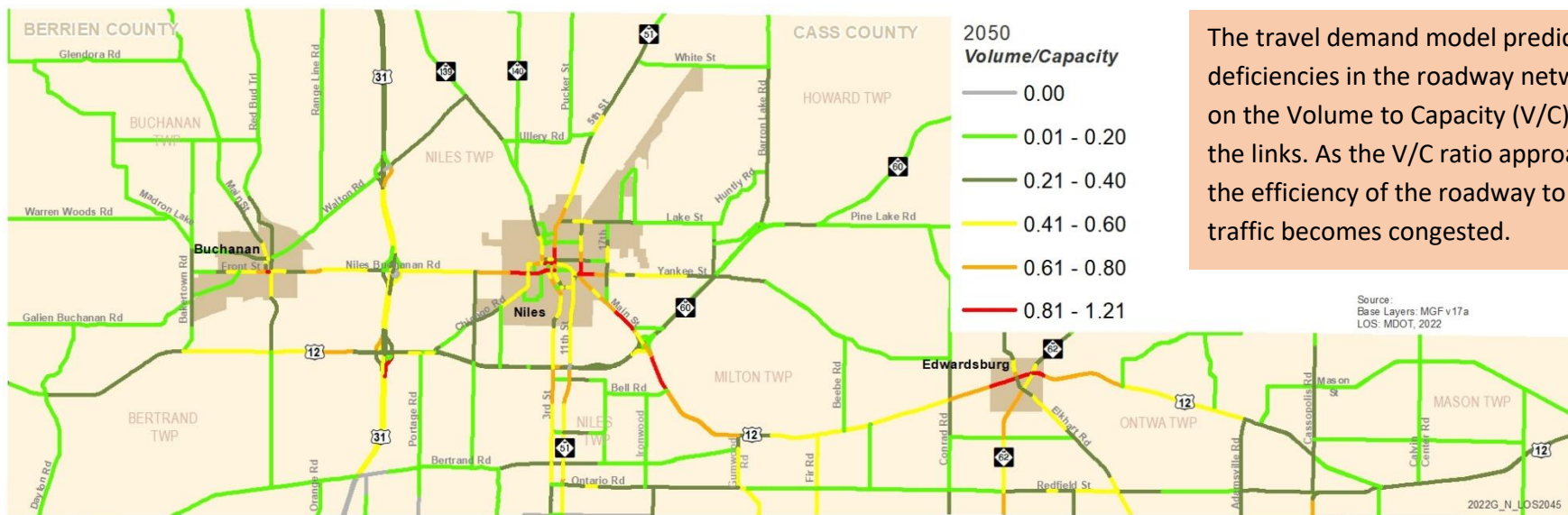
In 2015, approximately 96% of all federal aid miles in NATS experienced relatively little congestion.

2050 Daily Congestion Model

By 2050, Main Street (US-12) in Niles will approach maximum capacity. The model also predicts that the section of US-12 passing through Edwardsburg will reach capacity. Downtown Niles will experience a 15% increase in congestion on Main Street between Front Street and 5th Street and a 10% rise on Fifth Street from Wayne to Broadway. Oak Street will become congested, Grant Street will see a slight increase in congestion, and a section of Front Street in Buchanan will approach maximum capacity. Gumwood Drive, currently uncongested, is expected to have a significant increase in traffic volume of 21% from 2015 to 2050. *The maps on the following pages provide more details.*

2015 Model Congested

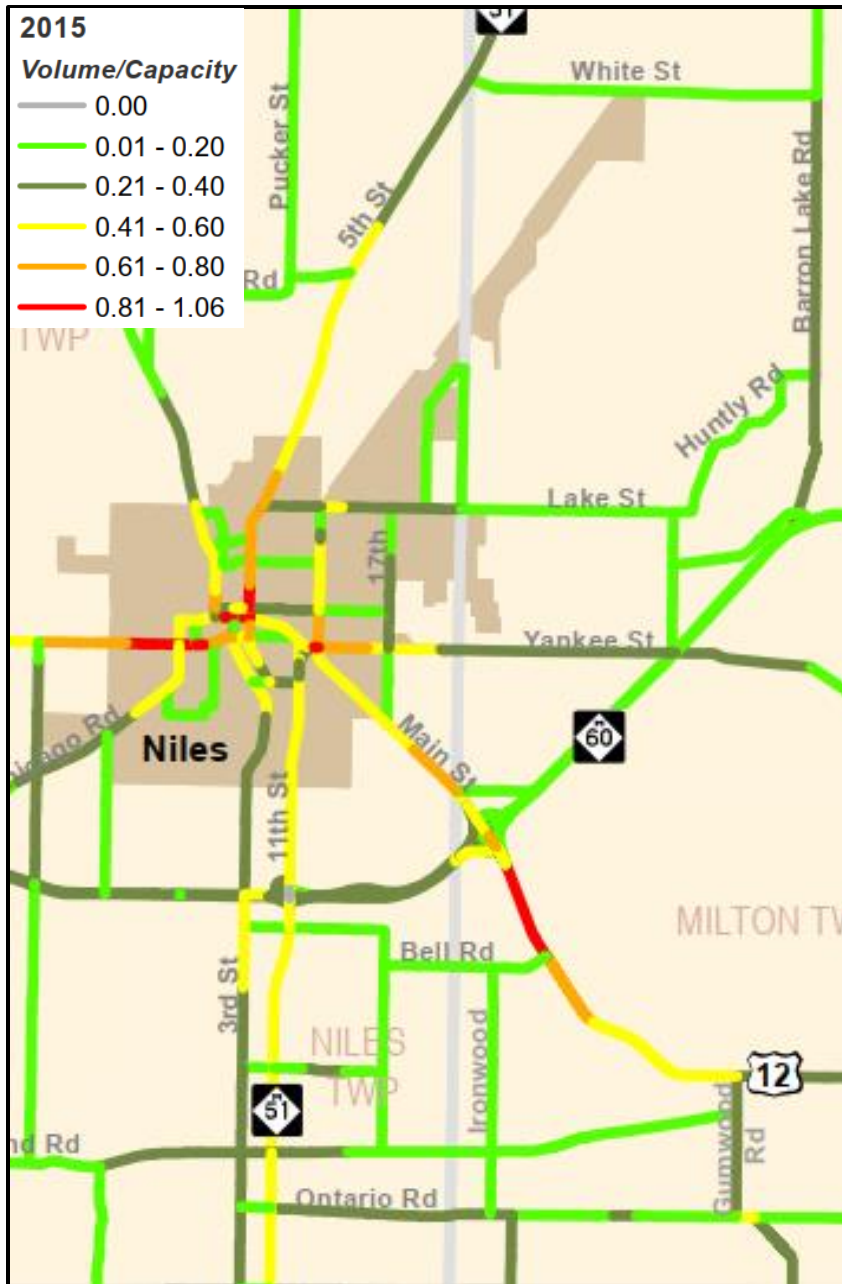
Jurisdiction	Route Name	From	To	Length	Volume	V/C ratio
Niles	Oak Street	12th Street	13th Street	0.36 miles	15,471	0.93
Niles	Main Street (US 12)	Berrien/Cass County Line	Bell Rd	1.15 miles	20,296	0.95
Niles	Grant/Broadway	W of Lincoln	3rd Street	0.78 miles	13,766	0.92
Niles	Main Street	Front Street	5th Street	0.24 miles	12,389	0.92
Niles	5th Street	Wayne Street	Broadway	0.6 miles	16,030	0.86
Buchanan	Front Street	Main Street	Red Bud Trail	0.1 miles	11,035	0.98
Edwardsburg	Main Street (US 12)	Section Street	M 62	0.65 miles	17,103	1.00



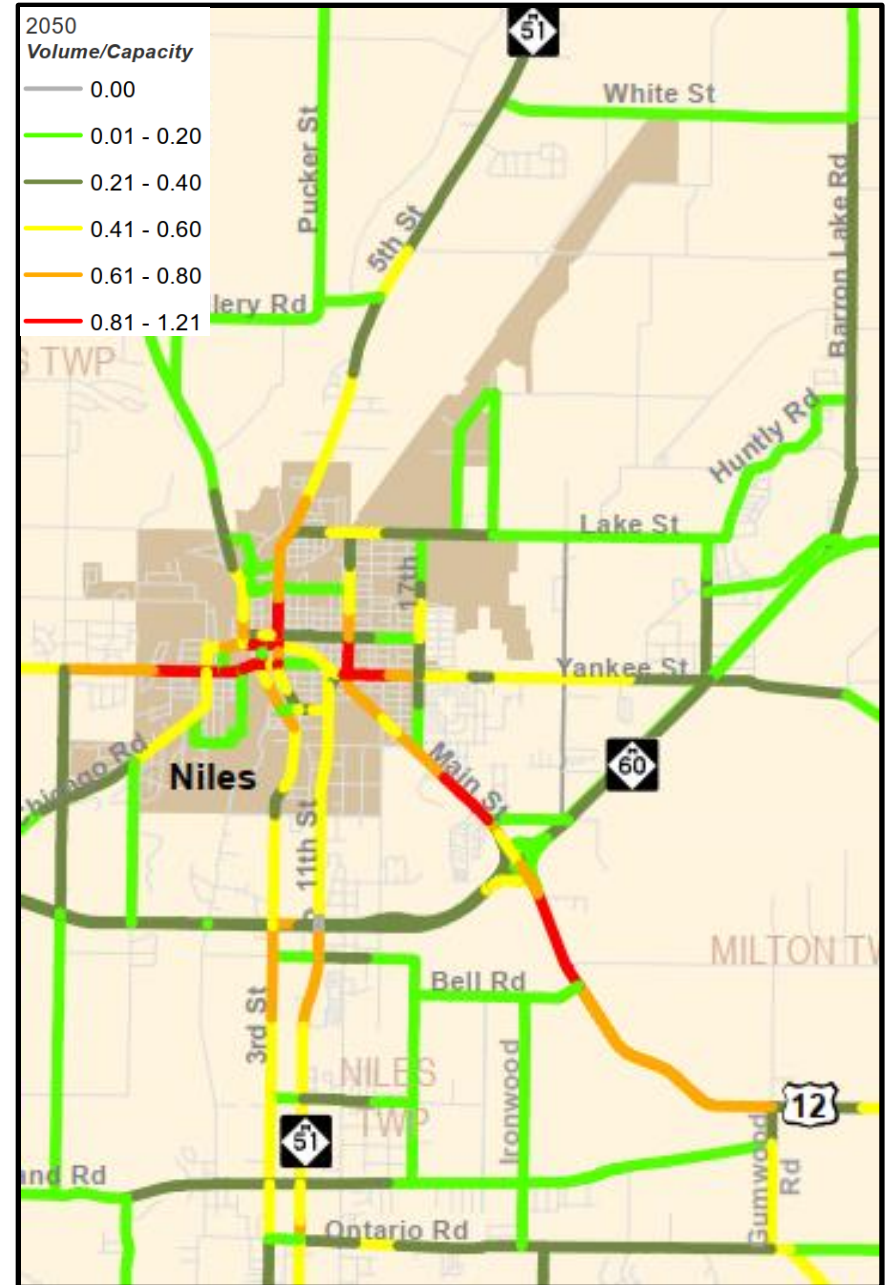
The travel demand model predicts deficiencies in the roadway network based on the Volume to Capacity (V/C) ratios of the links. As the V/C ratio approaches 1.0, the efficiency of the roadway to handle traffic becomes congested.

Source: Base Layers: MGFv17a
LOS: MDOT, 2022

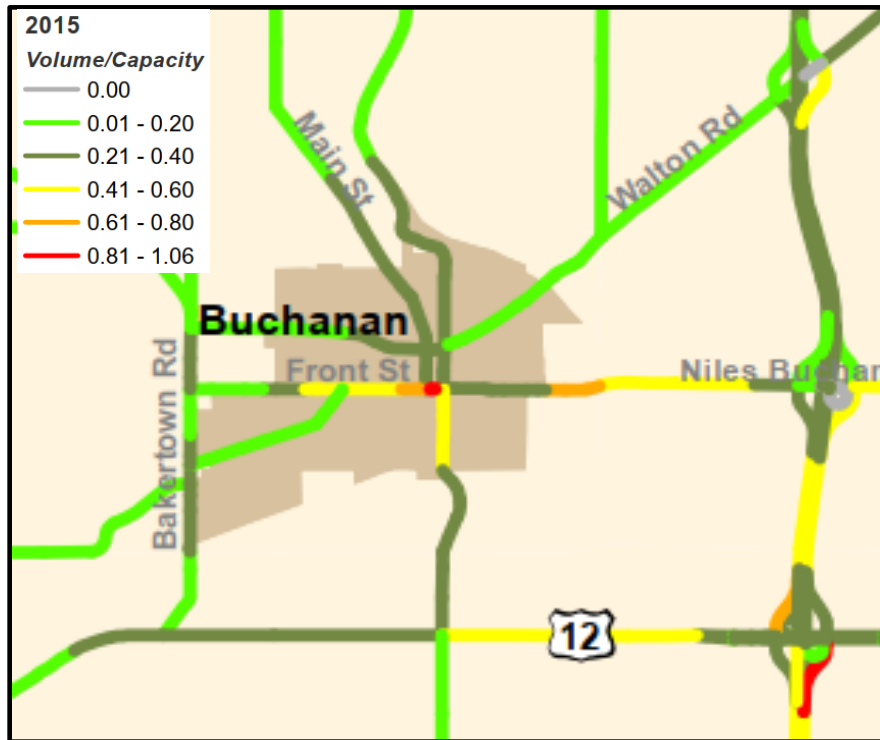
2015 Daily Congestion Model – Niles



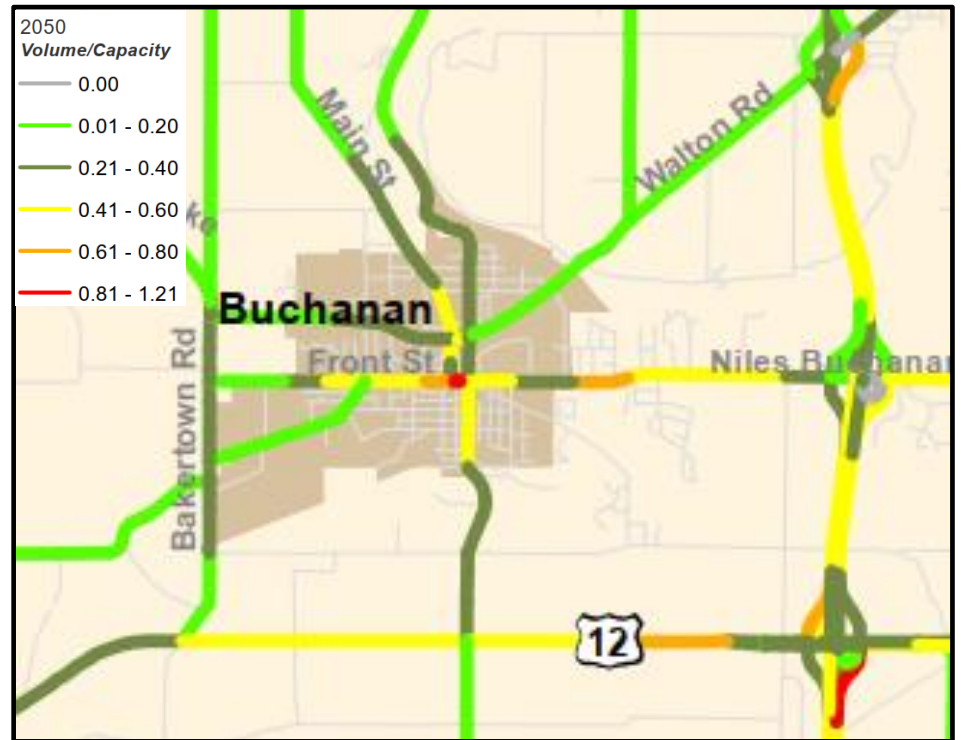
2050 Daily Congestion Model – Niles



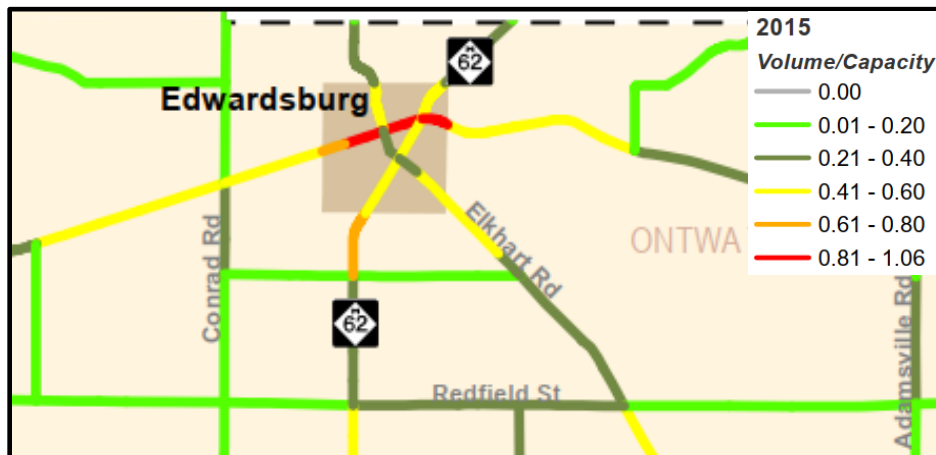
2015 Daily Congestion Model – Buchanan



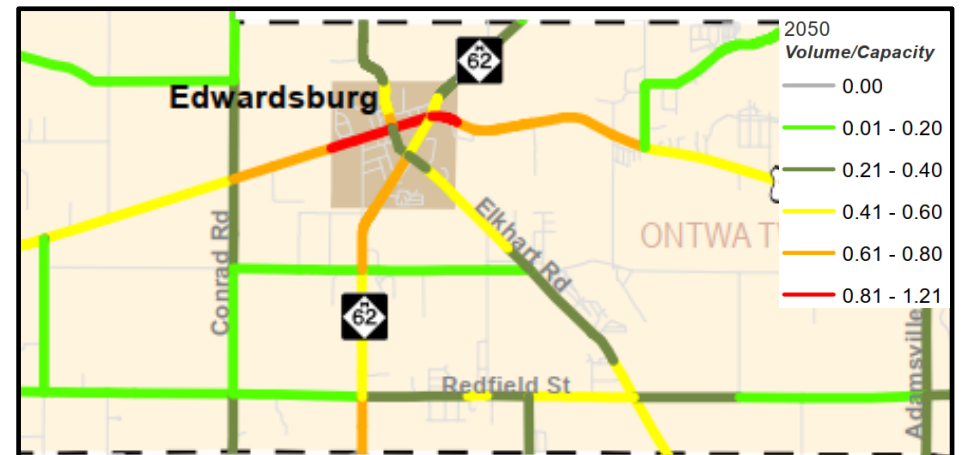
2050 Daily Congestion Model – Buchanan



2015 Daily Congestion Model – Edwardsburg



2050 Daily Congestion Model – Edwardsburg





STRATEGIES:

IMPROVING THE ROAD AND BRIDGE NETWORK

Strategy	Economy	Environment	System Preservation	Choice	Safety	Health	Equity	Resiliency and Reliability
<p>Preserve and maintain existing road & bridge network</p> <p>Keep records on the condition for pavements, culverts, and bridges. Use PASER condition as a tool to help select projects.</p> <p>Encourage use of local asset management plans to identify the most appropriate treatment strategies.</p> <p>Monitor the effectiveness of fixes to ensure investments meet expected useful life.</p> <p>Encourage the use of preventative maintenance to extend pavement lifespan.</p>	✓		✓		✓			✓
<p>Implement Complete Streets Policy</p> <p>Ensure all projects in the NATS area to consider the needs of all users.</p> <p>Provide educational and planning assistance to local governments on implementing Complete Streets principles.</p> <p>Consider reallocation of extra space in the right of way for other modes.</p>	✓	✓	✓	✓	✓	✓	✓	✓
<p>Analyze safety issues and potential solutions</p> <p>Distribute NATS 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.</p> <p>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.</p>	✓				✓		✓	✓
<p>Analyze safety issues and potential solutions</p> <p>Maintain inventories of assets, condition, and life cycle to assist in identifying which assets are at risk for failure.</p> <p>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.</p> <p>Consider potential hazards in project design, selection, and construction.</p> <p>Ensure redundancy in transportation networks to ensure critical services can be delivered during road closures</p>	✓				✓		✓	✓



NON-MOTORIZED NETWORK

NON-MOTORIZED NETWORK

Walking, both by itself and in conjunction with transit, provides a means to access important goods, services, and activities. This accessibility is particularly important for those who may have limited transportation options: youth, the elderly, people with disabilities, and people with low incomes.

Currently connected accommodations for pedestrians and cyclists is limited to the City of Niles, City of Buchanan and the Village of Edwardsburg. Sidewalks are almost completely lacking in townships, with the only accommodations existing are some roads which contain wider shoulders.

72% Federal Aid Eligible Roads

Have No Accommodations for Pedestrians or Cyclists

21 miles

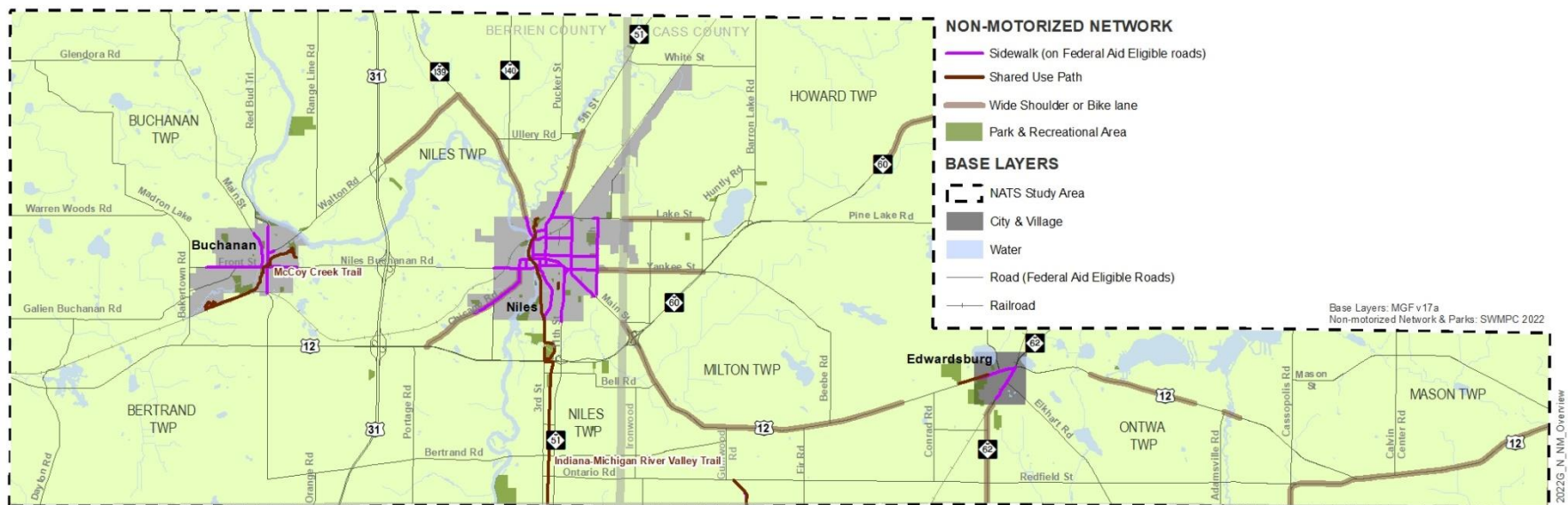
Federal Aid Roads with Sidewalks

33 miles

Federal Aid Roads with Wide Shoulders

13 miles

Non-motorized Trails



Considering the Needs of All Users

Part of the NATS 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.



NATS considers walking and cycling priorities because they produce a variety of benefits including 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 NATS area walk other than for recreation, likely because conditions for walking and cycling are overall poor. The majority of 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 all other means of travel. Furthermore, those who use transit must begin and end their journey on foot or bicycle.

**United States
Department of Transportation
Policy Statement on
Bicycle & Pedestrian
Accommodations (2010)**



“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.”

WALK 

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

BIKE 

66% rarely commute by bike to work or school.

2014 NATS Transportation Survey

Maintaining Pedestrian and Bicycle Facilities



Any break in the pedestrian network or disrepair can potentially eliminate walking or transit option or force the choice to drive.

“I am tired of walking to the school bus stop, when people don't know how to shovel their sidewalks — I am walking on the road in the dark to go to school”

2014 NATS Transportation Survey

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.

- 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.

The top responses from residents on how to improve walking and cycling in NATS Planning Area:

- Build more sidewalks and bike lanes
- Improve road crossing
- Provide better lighting
- Fix the existing sidewalks

2014 NATS 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
- Long stretches of snow or ice covering sidewalks



Commuting Patterns

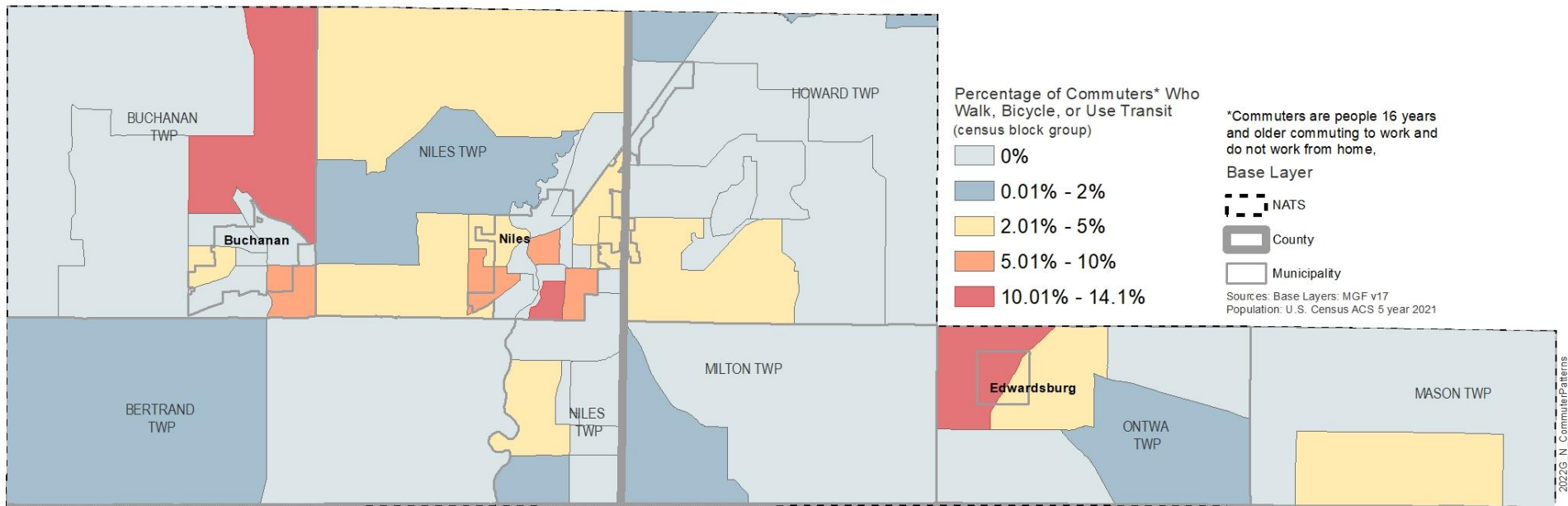
Today, automobile travel is the primary mode of transportation within the NATS area. However, the prevalence of driving alone varies across the study area. In the City of Niles and Niles Township, there is a higher concentration of residents who prefer modes of transportation other than personal automobiles for their daily commutes.

One of the main challenges in the region is the ongoing dispersion of the population from incorporated cities and villages into townships. As a result, residents have to travel longer distances to access essential resources such as food, healthcare, and employment.

This situation poses a significant problem for senior citizens and individuals with disabilities who are unable or uncomfortable with driving themselves. Due to the lack of viable alternatives, these individuals may find the increased distances to be insurmountable barriers.

Only 1.8% of Commuters
Walk, bike or use transit within the NATS Planning Area

Source: U.S. Census Bureau, 2021, 5-year American Community Survey



Regional Non-motorized Connections

The Indiana Michigan River Valley Trail is an interstate, 17-mile paved pedestrian/ bicycle trail connecting Niles, Michigan, to South Bend and Mishawaka, Indiana, including the campus of Notre Dame University.



The trail will make commuting by bike from the city of Niles and Niles Township to South Bend and Mishawaka possible. It will also provide a connection for the residents in the area to destinations within the City of Niles.

The Michigan segment of the trail system is 6 miles long from Plym Park in Niles to Stateline Road.

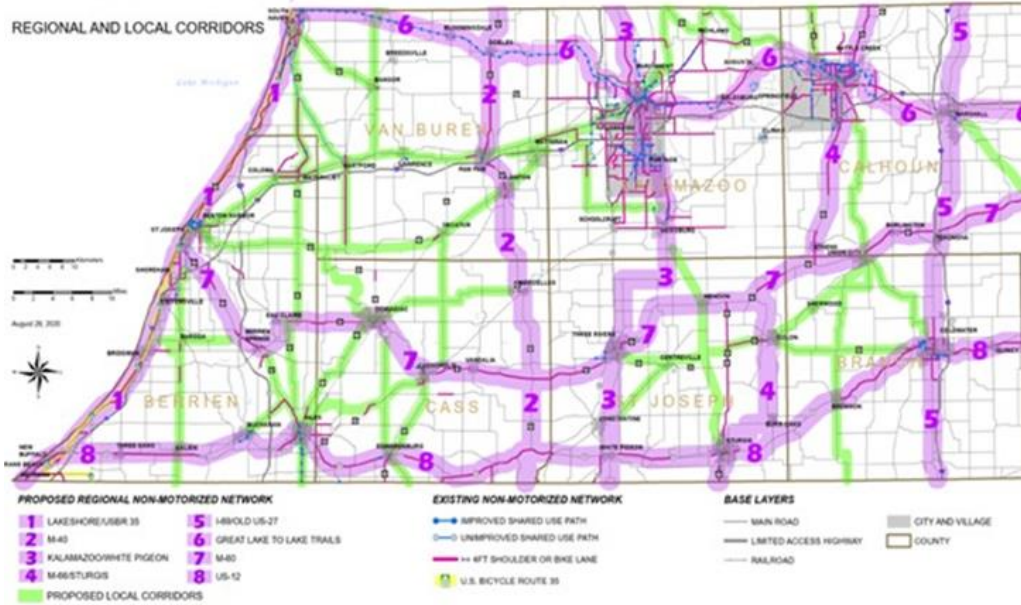
Future phases of this trail will continue west to connect to Buchanan, and continue northwest to connect to Berrien Springs then St. Joseph/ Benton Harbor. The trail functions as both a recreational asset as well as for people taking trips for work or other business.

The trail connects to:

- 4 - Universities and several schools
- 4 - Downtowns: Niles, Roseland, South Bend and Mishawaka
- 16 – Parks
- 2 – YMCAs
- 5 - Hospitals or major medical facilities
- Businesses offering eating, lodging and shopping



SOUTHWEST MICHIGAN GAP ANALYSIS AND PRIORITIES



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.

Priority Routes within NATS

US-12 - This proposed on-road corridor would follow the US-12 Heritage Route starting in New Buffalo and connects through to Branch County in Coldwater.

M-140 - This proposed on road corridor would follow M-140 north connecting Niles to Eau Claire. It would also connect the IN/MI shared path in Niles to South Bend.

M-60 - This proposed corridor would follow M-63/M-60 connecting Berrien Springs head east through Cass County as part of the MI/IN trail system.

M-62 - This proposed on-road corridor would follow M-62 north connecting Edwardsburg to Cassopolis.

The Plan as a Tool

The Michigan Department of Transportation (MDOT) has worked to develop the Southwest Regional Nonmotorized Plan. This plan serves as a tool, not only for MDOT staff, but also for the vast number of stakeholders, agencies, and organizations in the Region.

- Collect data of the existing and proposed network
- Identify opportunities to enhance non-motorized transportation
- Help prioritize nonmotorized investment
- Continue to foster cooperative planning across municipal/county boundaries
- Synchronization of Plans – understand what exists and what is planned to better coordinate efforts



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, and Parks with Hiking Trails, Mountain Biking Trails, Cross Country Skiing Trails and Equestrian Trails. This plan will help municipalities and trail organizations to 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



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 involved the use of four maps to analyze Berrien County, providing valuable insights into stress, health, needs, and demand. During community open houses, participants were asked to identify routes that they would use or strongly support for development. Among these routes, three are located in the NATS area: the Indiana/Michigan River Valley Trail, an East-West corridor connecting Niles and New Buffalo, and the Old Sauk Trail.

The Indiana Michigan River Valley Trail is a 17-mile paved pedestrian/bicycle trail that spans across state lines, connecting Niles, Michigan, to South Bend and Mishawaka, Indiana. Plans are underway to connect the East and West portions of Berrien County by linking the existing McCoy's Creek Trail, which is a 5-mile shared-use path primarily serving the City of Buchanan. Currently, a one-mile extension of the McCoy's Creek Trail is in progress. These improvements will play a crucial role in connecting Buchanan to the Indiana Michigan River Valley Trail. The Old Sauk Trail begins in the southern part of the City of Buchanan and extends through Bertrand Township.

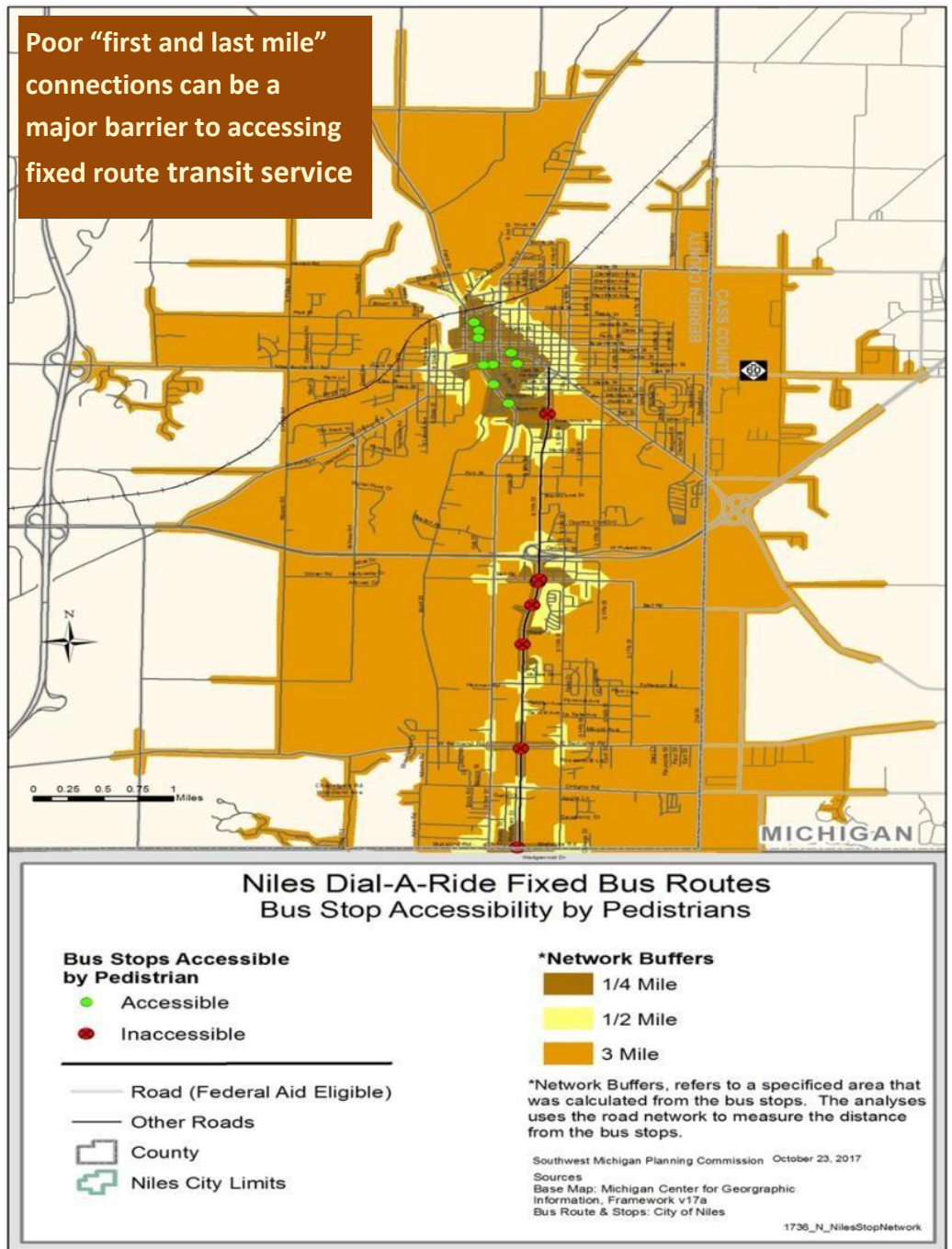
The Master Plan also highlights opportunities for trail infrastructure along 22 road segments in the NATS area, with summary maps provided for each municipality in Berrien County.

**WALK.
BIKE.
RIDE.**

The quality of the transit trip does not start and stop at the vehicle door. By working to improve the quality, safety, and convenience of the walking environment near transit stops, the entire transit experience is improved, which can encourage more people to utilize fixed route public transit.

Currently within the NATS area the majority of people do not access public transit by foot, rather they rely on demand response/curb to curb service. Among the reasons is that access to the fixed route is difficult. Improvements to walkability could increase the passengers of the fixed route bus service.

Within the City of Niles there is extensive sidewalk infrastructure throughout the neighborhoods and business district that provide pedestrian access to the fixed route transit stops within the city. Because the stops are located along the roadway, this means vehicles do not have to pull off the road for passenger boarding. This is not the case for stops located along 11th Street in Niles Charter Township and the City of Niles, where the infrastructure was primarily designed to service the automobile. Because of the lack of pedestrian infrastructure stops along the fixed route stops are primarily located at the front doors of businesses which are a set back from 11th Street. This adds additional time to routes because buses are required to pull off the road way and many times must make left hand turns to re-enter the linear route. Pedestrian connectivity from residential areas along the corridor are very limited because there is very little direct access on public property to stops. Access to stops requires people cross at intersections with no crosswalks and travel across great expanses of parking lots.



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	✓	✓	✓	✓	✓	✓	✓	✓
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- 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	✓	✓	✓	✓	✓	✓	✓	✓
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- 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 NATS Complete Streets Policy in project selection.

Promote Walking and Biking	✓	✓	✓	✓	✓	✓	✓	✓
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- Promote current facilities where people can bike and walk.



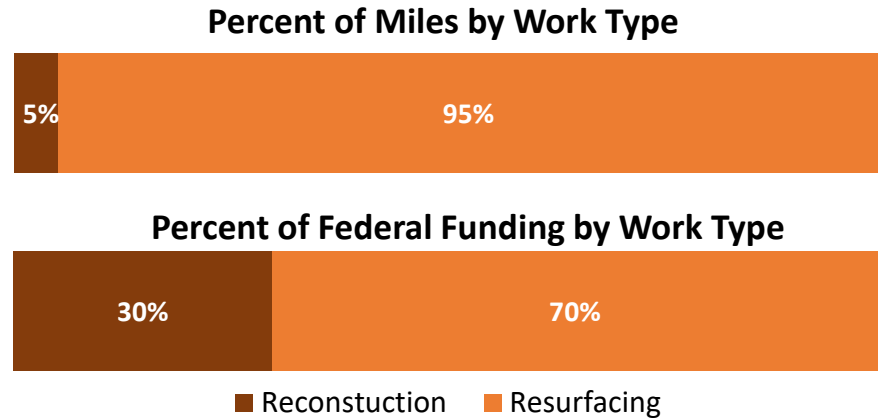
FISCALLY CONSTRAINED ROAD & BRIDGE PROJECTS

Fiscal Year	Responsible Agency	Project Name	Limits	Project Description	Federal Source	Federal Amt	Total Amt	NHS	Performance Measures			
									Pavement	Bridge	Safety	Reliability
2023	Berrien CRD	E Bertrand Rd.	M-51 East to County Line	Resurface	STBG	\$441,990	\$592,952		X			
2023	Buchanan	W Front St	Red Bud Trl to Oak St	Reconstruction	STBG	\$639,283	\$3,017,300		X			
2023	Buchanan	W Front St Signal	Front and Oak St. Intersection	Replace Traffic Signal	CRP	\$78,873	\$404,500		X		X	X
2023	Cass CRC	Calvin Center Rd	US-12 to Grange St	Resurface	STBG - Rural	\$198,400	\$248,000		X			
2023	Cass CRC	Gumwood Rd	Gumwood & Redfield Intersection	Construct Roundabout	HSIP	\$581,672	\$727,090				X	
2023	Cass CRC	Gumwood Realignment	North of the Redfield Intersection	Realign Gumwood to create a single 4-way intersection	STBG	\$339,282	\$1,165,000		X		X	
2023	Buchanan	McCoy Creek Trail Extension	Trailhead on Schirmer Pkwy to the River St. Joe Brewery	Non-motorized Path	TAP	\$339,770	\$596,088				X	
2024	Berrien CRD	W Bertrand Rd	US-31 to Portage Rd	Resurface	STBG	\$222,433	\$300,000		X			
2024	Cass CRC	Cassopolis Rd	US-12 to Old 205	Resurface	STBG	\$134,053	\$180,800		X			
2024	Cass CRC	Pine Lake St	Conrad Rd to Dailey Rd	Resurface	STBG - Rural	\$161,421	\$299,238		X			
2024	Niles	Wayne St	North 5th St to 13th St	Resurface	STBG	\$252,514	\$340,571		X			
2024	NDART	Transit Capital	Area wide	Bus replacements Resurface	CMAQ	\$140,000	\$35,000					X

Fiscal Year	Responsible Agency	Project Name	Limits	Project Description	Federal Source	Federal Amt	Total Amt	NHS	Performance Measures			
									Pavement	Bridge	Safety	Reliability
2025	Berrien CRD	W Bertrand Rd	US-31 to Red Bud Trl	Resurface	STBG	\$374,521	\$457,570		X			
2025	Cass CRC	Elkhart Rd	May St to Village of Edwardsburg limits	Resurface	STBG	\$100,841	\$123,202		X			
2025	Niles	Sycamore St	9th St to 13th St	Resurface	STBG	\$133,256	\$162,805		X			
2026	Berrien CRD	Red Bud Trl	US-12 to Bertrand Rd	Resurface	STBG	\$378,212	\$500,000		X			
2026	Cass CRC	Redfield St	County line to Batchelor Rd	Resurface	STBG	\$122,976	\$150,246		X			
2026	Cass CRC	Gumwood Realignment ACC	North of the Redfield Intersection	Realign Gumwood to create a single 4-way intersection	STBG - Rural	\$532,244	NA		X			
2026	Niles	Pokagon St	2nd St to 5th St	Resurface	STBG	\$130,811	\$159,818		X			
2027-2050	Local Agencies	System Preservation	Repair federal aid road network		STBG				X		X	X
2027-2050	Local Agencies	Air Quality	Non-motorized facilities, traffic flow improvements, and transit vehicle replacements		CMAQ/CRP						X	X

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

Primary Work Type	Projects	Miles	Federal Funding
Reconstruction	2	0.55	\$978,565
Resurfacing	10	10.32	\$2,291,607
Total	12	10.87	\$3,270,172



Summary of Non-Road Maintenance Projects 2023-2026

Primary Work Type	Projects	Funds Used	Federal Funding
Signal Replacements	1	CRP	\$78,873
Safety Projects	1	HSIP	\$581,672
Bus Replacements	1	CMAQ	\$140,000
Non-Motorized Paths	1	TAP	\$339,770
Total	4		\$1,677,997

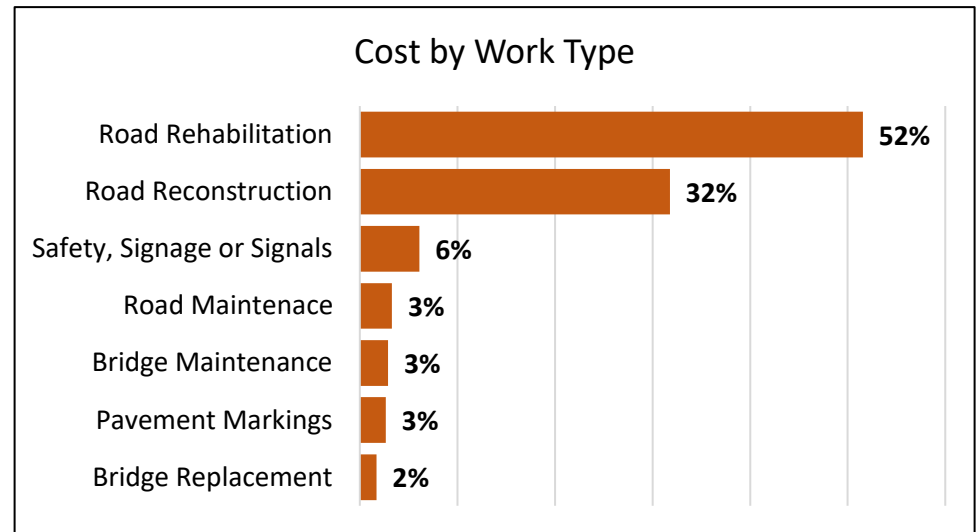
Fiscal Year	Project Name	Limits	Project Description	Phase	Federal Cost	Total Cost	NHS	Performance Measures			
								Pavement	Bridge	Safety	Reliability
2023	M-51	Chestnut Lane to M-60BR	Interchange reconstruction and asphalt resurfacing	CON	\$21,281,000	\$26,000,000	x	X	X	X	
2023	US-31 N	US-12 to Berrien Twp	Hot Mix Asphalt Overlay	CON	\$16,247,225	\$19,850,000	X	X			
2023	US-12	Galien Township line to Mayflower Rd	Shoulder Rehabilitation	CON	\$8,336,423	\$10,185,000		X		X	
2023	US-12	Mayflower Road to M-139	Mill and Two Course Hot Mix Asphalt Overlay	PE	\$345,407	\$422,000	x	X			
2023	US-12	M-139 to Leet Rd	Concrete Pavement Repairs	CON	\$4,993,013	\$6,100,200	x	X			
2023	Signal Upgrades	6 signals in the NATS area	Modernize signals to current standards	ROW	\$30,000	\$30,000	x			X	X
2023	Pavement Markings	All trunkline routes in NATS	Longitudinal pavement marking	PE	\$1,278	\$1,420				X	
2023	Pavement Markings	All trunkline routes in NATS	Longitudinal pavement marking	CON	\$253,044	\$281,160				X	
2023	Pavement Markings	All trunkline routes in NATS	Special pavement marking	PE	\$1,278	\$1,420				X	
2023	Pavement Markings	All trunkline routes in NATS	Special pavement marking	CON	\$65,178	\$72,420				X	
2023	Pavement Markings	All trunkline routes in NATS	Pavement marking retroreflectivity readings	CON	\$1,802	\$2,002				X	
2024	US-31	under Buchanan Road, Niles Township, Berrien County	Epoxy Overlay, Replace Expansion Joint, P&H Repl, Zone Paint, Approaches	CON	\$1,938,382	\$2,368,213	x		X		
2024	US-12	at Beebe Road and Adamsville Road	Addition of Left turn lane and Passing Flare	PE	\$229,927	\$255,474				X	X
X2024	US-31 S	US-12 to Niles/Berrien Township Line	Concrete pavement repairs and shoulder one course milling and resurfacing	CON	\$2,205,639	\$2,694,733	X	X		X	
2024	M-51	M-51	Durable all-weather markings with centerline and shoulder corrugations	CON	\$70,496	\$78,329	X			X	
2024	Signal Upgrades	6 signals in the NATS area	Modernize signals to current standards	CON	\$1,950,463	\$1,950,463				X	X
2024	Signal Upgrades	2 signals in the NATS area	Modernize signals to current standards	ROW	\$0	\$0	X			X	X

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 NATS	Durable pavement marking	PE	\$639	\$710				X	
2024	Pavement Markings	All trunkline routes in NATS	Durable pavement marking	CON	\$52,398	\$58,220				X	
2024	Pavement Markings	All trunkline routes in NATS	Longitudinal Pavement Markings	PE	\$1,278	\$1,420				X	
2024	Pavement Markings	All trunkline routes in NATS	Longitudinal Pavement Markings	CON	\$288,189	\$320,210				X	
2024	Pavement Markings	All trunkline routes in NATS	Special pavement marking	PE	\$1,278	\$1,420				X	
2024	Pavement Markings	All trunkline routes in NATS	Special pavement marking	CON	\$49,203	\$54,670				X	
2024	Pavement Markings	All trunkline routes in NATS	Pavement marking retroreflectivity readings	CON	\$1,406	\$1,562				X	
2025	Countywide	Signing Upgrade, Signing Update	Non-freeway signing	CON	\$177,000	\$177,000	X			X	X
2025	Pavement Markings	All trunkline routes in NATS	Longitudinal Pavement Markings	PE	\$1,278	\$1,420				X	
2025	Pavement Markings	All trunkline routes in NATS	Longitudinal Pavement Markings	CON	\$269,019	\$298,910				X	
2025	Pavement Markings	All trunkline routes in NATS	Special pavement marking	PE	\$1,278	\$1,420				X	
2025	Pavement Markings	All trunkline routes in NATS	Special pavement marking	CON	\$39,618	\$44,020				X	
2025	Pavement Markings	All trunkline routes in NATS	Pavement marking retroreflectivity readings	CON	\$1,406	\$1,562				X	
2025	M-43	M-62, M-139, M-140	Installation of all-weather pavement markings and corrugations	PE	\$37,623	\$41,803				X	
2025	US-12	at Beebe Road and Adamsville Road intersection in Cass County	Addition of Left turn lane and Passing Flare	ROW	\$4,500	\$5,000				X	X
2025	US-12	Mayflower Road to M-139	Mill and Two Course Hot Mix Asphalt Overlay	CON	\$3,731,132	\$4,558,500	x	X			
2025	US-12	Over St. Joseph River	Bridge removal and replacement, scour countermeasure, Approaches	PE	\$16,370	\$20,000	x		X		

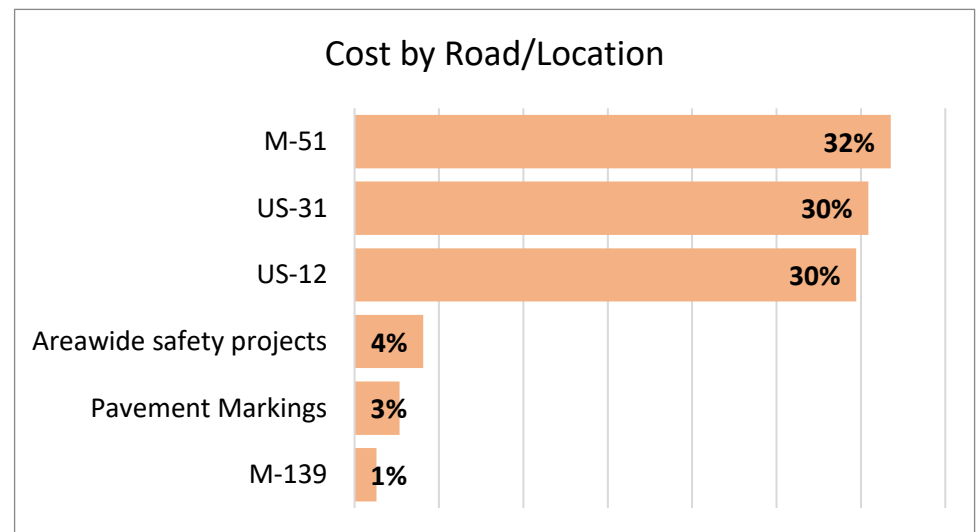
Fiscal Year	Project Name	Limits	Project Description	Phase	Federal Cost	Total Cost	NHS	Performance Measures			
								Pavement	Bridge	Safety	Reliability
2026	M-43	M-62, M-139, M-140	Installation of all-weather pavement markings and corrugations	CON	\$334,422	\$371,580				x	
2026	US-12	at Beebe Road and Adamsville Road intersection in Cass County	Addition of Left turn lane and Passing Flare	CON	\$1,121,220	\$1,245,800				x	x
2026	M-139	US-12 to M-140	Mill and Two Course Hot Mix Asphalt Overlay	PE	\$876,368	\$1,070,700	x			x	x
2026	Signal Upgrades	2 signals in the NATS area	Modernize signals to current standards	CON	\$573,927	\$573,927				x	x
2026	Pavement Markings	All trunkline routes in NATS	Longitudinal pavement marking	PE	\$1,278	\$1,420				x	
2026	Pavement Markings	All trunkline routes in NATS	Longitudinal pavement marking	CON	\$265,824	\$295,360				x	
2026	Pavement Markings	All trunkline routes in NATS	Special pavement marking	PE	\$1,278	\$1,420				x	
2026	Pavement Markings	All trunkline routes in NATS	Special pavement marking	CON	\$49,203	\$54,670				x	
2026	Pavement Markings	All trunkline routes in NATS	Pavement marking retroreflectivity readings	CON	\$1,406	\$1,562				x	
2027	Pavement Markings	All trunkline routes in NATS	Pavement marking retroreflectivity readings	CON	\$1,406	\$1,562				x	
2027	M-51	M-51 from Fort Street northerly to North Niles City Limit	Vulnerable Road User Road Safety Audit	EPE	\$22,500	\$25,000	x			x	
2029	M-139	US-12 to M-140	Mill and Two Course Hot Mix Asphalt Overlay	CON	\$7,948,208	\$9,710,700	x	x			
2029	US-12	Over St. Joseph River	Bridge removal and replacement, scour countermeasure, Approaches	CON	\$15,284,670	\$18,674,000	x		x		

MDOT Funding Summary 2023-2026

Work Type	Projects	Cost
Road Maintenance	1	\$2,205,639
Road Rehabilitation	5	\$34,529,568
Road Reconstruction	1	\$21,281,000
Bridge Maintenance	1	\$1,938,382
Bridge Replacement	1	\$1,145,900
Pavement Markings	15	\$1,791,100
Safety, Signage or Signals	4	\$4,087,037
Grand Total	28	\$66,978,626



Road/Location	Projects	Cost
Areawide safety projects	3	\$2,731,390
M-139	1	\$876,368
M-51	1	\$21,281,000
Pavement Markings	15	\$1,791,100
US-12	5	\$19,907,522
US-31	3	\$20,391,246
Total	28	\$66,978,626





PASSENGER TRANSPORTATION

Passenger Rail

While private vehicles remain the primary mode of transportation for travel across county and state borders, residents of the NATS area can also avail themselves of passenger rail options provided by Amtrak. Specifically, Amtrak offers three government-supported service lines in the State of Michigan, all of which have their western terminus in Chicago, where passengers can change trains to reach any passenger rail station in the United States. The historic Niles Amtrak Station is the hub for the Wolverine and Blue Water lines.

The Wolverine line offers multiple daily train runs in both directions, with stops in Chicago, Hammond-Whiting, IN, Michigan City, IN, and several Michigan cities including New Buffalo, Niles, Dowagiac, Kalamazoo, and five stops before Detroit, as well as three additional stops en route to Pontiac.

Similarly, the Blue Water line also stops at the same cities between Chicago and Battle Creek as the Wolverine line. Beyond Battle Creek, however, the Blue Water makes additional stops at East Lansing, Durand, Flint, Lapeer, and Port Huron.

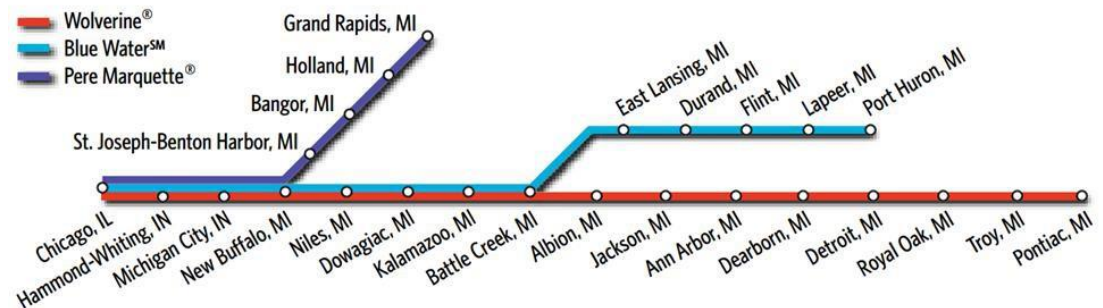
Finally, the Pere Marquette line offers daily service between Chicago and Grand Rapids, with stops in Saint Joseph-Benton Harbor, Bangor, and Holland.



Commuter Rail

For residents and visitors in the Niles area seeking interurban commuter rail service, the nearest option is the South Shore Line. Operated by the Northern Indiana Commuter Transportation District, this electrically powered line runs between Millennium Station in downtown Chicago and the South Bend Airport, with the closest station located in Michigan City, IN. Those traveling to points west can incorporate this option into their travel plans, as the South Shore Line offers connections to Chicago's extensive transit system, including the Chicago Transit Authority, Metra, and Pace. This allows for convenient access to downtown Chicago and beyond.

WOLVERINE SERVICE, BLUE WATER and PERE MARQUETTE



Amtrak Performance

The *Wolverine* and *Blue Water* services run on Amtrak and MDOT owned tracks. Because of that, sections have been upgraded in track and signal improvements which allow for parts of the route to be upgraded to high-speed service (110 mph).

Amtrak Ridership

In 2020, Amtrak reported a significant decrease in ridership due to the pandemic. According to a report by the Congressional Research Service, Amtrak's ridership in FY2020 was 16.8 million passengers, which was a 47% decrease from the previous year. The three routes that serve the Southwest Michigan region experienced a larger decrease in ridership in 2021 dropping by 50%.



Amtrak has seen a gradual increase in ridership. According to Amtrak's latest ridership report from August 2022, ridership was up 66% compared to the same period in 2021, but still down 35% compared to 2019 levels. Amtrak has been working to improve and expand its services throughout the Midwest region in recent years. These efforts have included investments in new equipment, infrastructure upgrades, and service enhancements to attract more passengers.

Additionally, with concerns about climate change and the rising cost of air travel, many travelers are opting for more environmentally friendly and cost-effective transportation options like trains. This trend could also be contributing to an increase in Amtrak ridership in the Midwest and across the United States.

Amtrak Ridership 2018-2022

Year	Wolverine (Detroit to Chicago)	Blue Water (Port Huron to Chicago)	Pere Marquette (Grand Rapids to Chicago)	Total Ridership
2018	483,670	185,020	95,540	764,230
2019	501,124	181,832	97,593	780,549
2020	244,500	98,173	47,236	389,909
2021	153,323	98,668	52,367	304,358
2022	367,254	52,367	86,148	505,769

TRANSIT SERVICE AREAS IN THE COUNTIES OF BERRIEN, CASS & VAN BUREN

Public Transit

The NATS study area is serviced by three public transit providers. However, this analysis will focus primarily on Niles DART since they provide services within the study area.

Cass County Public Transit and Berrien Bus are the other two transit providers that serve rural areas within Berrien and Cass counties. These providers serve as a critical link, bringing people from rural areas to the urbanized activity centers of Niles, Buchanan, Benton Harbor, St. Joseph, and Dowagiac.

Transpo is another transit system that connects people to the South Bend, Indiana region. It is the primary urban transit provider in the urbanized area of South Bend. The map provided on the following page gives an overview of all four transit providers in the study area.

Transit Service Areas

BERRIEN COUNTY

- Berrien Bus, Rural
- Berrien Springs, Dial-A-Ride
- Niles, Dial-a-Ride
- TCATA Dial-A-Ride
- Niles, Fixed Route 2
- Benton Harbor Fixed Route
- Urban Area Without Service

CASS COUNTY PUBLIC TRANSIT

- Cass County, Rural
- Cassopolis Dial-A-Ride
- Dowagiac Dial-A-Ride

VAN BUREN COUNTY PUBLIC TRANSIT

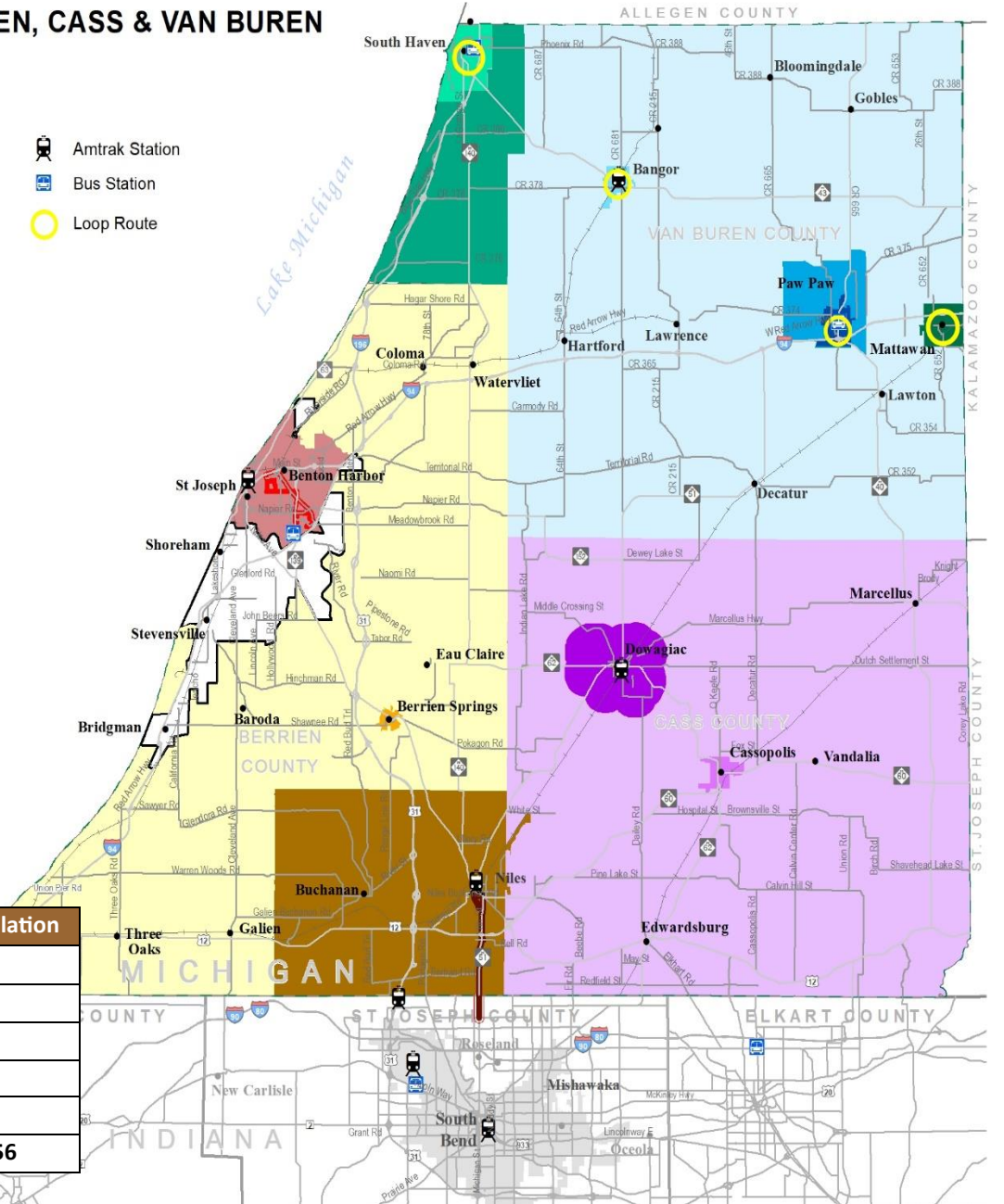
- Van Buren, Rural
- Bangor, Apple Loop Route
- Paw Paw Dial-A-Ride
- Paw Paw, Concord Loop Route
- Mattawan, Loop Route
- South Haven Dial-A-Ride
- South Haven, Metro Loop Route

INDIANA

- South Bend Public Transportation
- Michigan City Transit service (MCT)

- Amtrak Station
- Bus Station
- Loop Route

NDART Service Area	Population
City of Buchanan	4300
City of Niles	11988
Bertrand Twp.	2611
Buchanan Township	3436
Niles Charter Township	14417
Total Service Area	36,756



Trip Generators

Within and surrounding the NATS MPO study area are five activity centers that include: Niles, St. Joseph, Benton Harbor, Dowagiac in Cass County, and the South Bend-Mishawaka area in Indiana.

These five activity centers offer health care facilities, schools, colleges, larger retail stores, recreational attractions, government offices, and human service agencies. Many of the destinations within the activity centers also serve as employment centers for many people.



Transit is a critical transportation link for older adults, people with disabilities, and low-income households. Many of the needs of these groups are being met, but there are gaps in services that need to be addressed.

Trip Generator	City	County	Type	Transit Serving Destination From Niles and Buchanan Area
Corewell Health Hospital	City of St. Joseph	Berrien	Medical	Berrien Bus
Corewell Health Services	Royalton Township	Berrien	Medical	Berrien Bus
Corewell Health Hospital (pictured above, right)	Niles	Berrien	Medical	Niles Dial a Ride
Corewell Health Dialysis Niles	Niles Township	Berrien	Medical	Niles Dial A Ride
Four Winds Casino	New Buffalo	Berrien	Employment	Berrien Bus
Lake Michigan College	Benton/Bertrand Townships	Berrien	Education	Berrien Bus & Niles Dial a Ride
11th Street Corridor	Niles	Berrien	Shopping	Niles Dial A Ride
Corewell Health Rehabilitation Services	Niles Township	Berrien	Medical	Niles Dial A Ride
Lake Michigan College	Niles	Berrien	Education	Niles Dial A Ride
Borgess Hospital Dowagiac	Dowagiac	Cass	Medical	Cass County Public Transit
Southwest Michigan College	Bertrand/Dowagiac Townships	Berrien/Cass	Education	Niles Dial a Ride & Cass County Public Transit
Grape Road Corridor	Mishawaka	St. Joseph, IN	Shopping	TRANSPO
St. Joseph Regional Health Center	Mishawaka	St. Joseph, IN	Medical	TRANSPO
The South Bend Clinic	South Bend	St. Joseph, IN	Medical	TRANSPO
Memorial Hospital	South Bend	St. Joseph, IN	Medical	TRANSPO



Niles DART—By The Numbers

Niles Dial a Ride Service Area Population: **36,756**

Annual Riders: **40,643**

Average Expense per Passenger: **\$17.93**

Annual Passenger Fare Received: **\$80,160**

Annual Millage Received, 18% of Total Expense: **\$119,758**

Average Passenger Boarding Per Hour: **3**

Total Miles Traveled: **163,868**

Total Hours Operated: **119,758**

Number of Vehicles : **9**

Niles Dial a Ride Governance and Administration

DART is organized under the State of Michigan Home Rule Act which authorizes cities to form transit systems. The City Council of Niles serves as the DART Board. The Board is supported by a Local Advisory Council that meets on a bi-annual basis to provide feedback and recommendations about DART services. A Community Development Director oversees the entire management staff and reports to the Niles City Manager. The DART General Manager acts as the executive director of the transit system and reports directly to the Community Development Director and is responsible for all administrative duties performed by the system



Facilities

The Niles DART transportation facility is located at 623 N. Second Street in downtown Niles. It is owned by the City of Niles and includes vehicle storage, administrative offices, a large passenger waiting area and maintenance. This location also serves as a stop on the fixed route as well as a transfer point to Cass County Transit and the Berrien Bus transit systems.



Deviated Fixed Routes

Niles DART operates an hourly deviated fixed-route service that is available Monday through Friday from 10:00am to 5:00pm. (See Appendix 1.1) The route stops at 23 origins and destinations that include major retail, apartment and senior living facilities and also connects with Transpo at the state line to provide a connection to South Bend. Bus shelters are available at two stops and all the stops are signed.

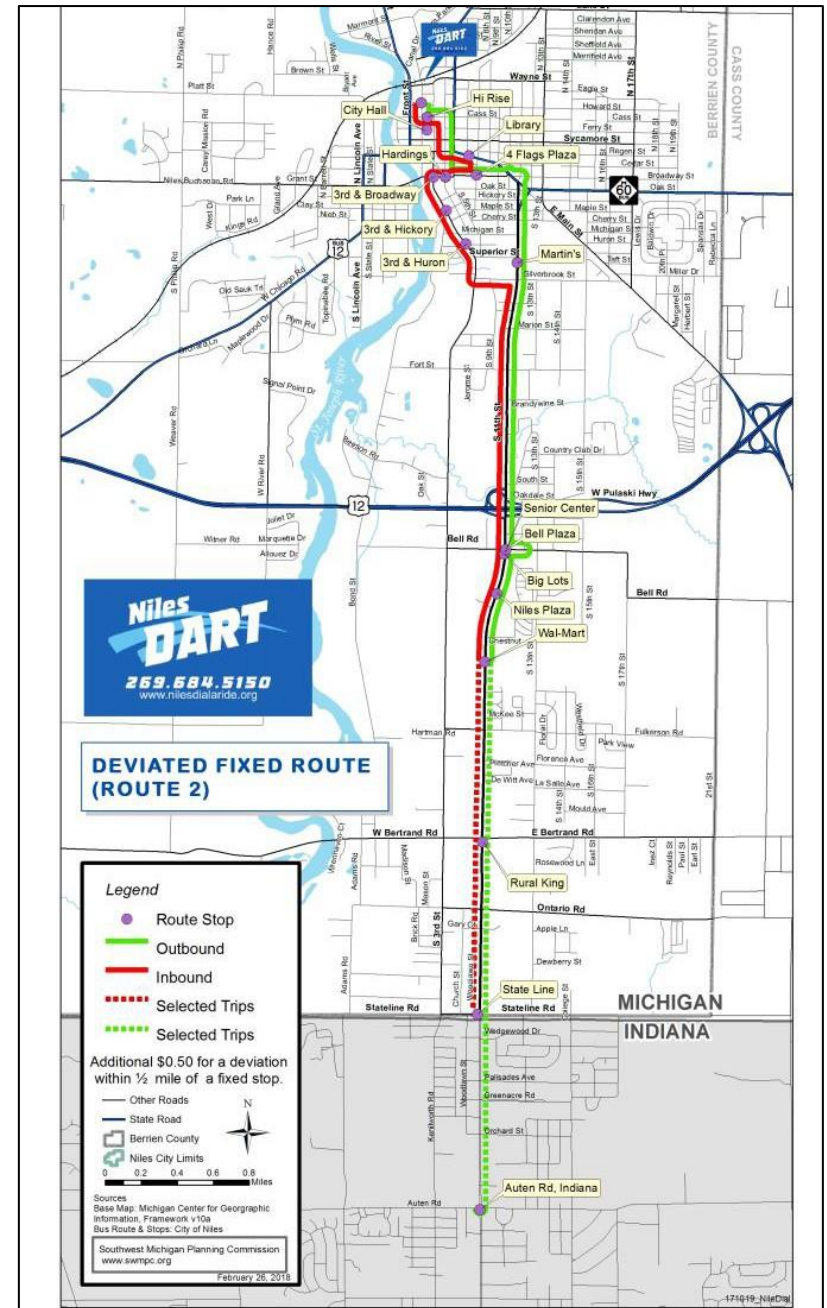
Demand Responsive Service

Niles DART offers curb-to-curb transportation services to the general public in the City of Niles, City of Buchanan, Niles Township, and Buchanan Township. Customers are encouraged to schedule their rides 24 hours in advance.

It is Niles DART policy to make sure that the needs of Priority 1 and 2 are fully administered before addressing the needs of Priority 3 and 4 call requests.

Service Priority	Description
Priority 1 – Recurring /Subscription Trips	Rides reserved for the same passenger, same time, same origin
Priority 2 – 24 Hour Advance Request	Rides reserved 24 hours in advance
Priority 3 – 1 Hour Advance Request	Rides reserved at least one hour in advance
Priority 4 – Immediate Request	Rides reserved less than one hour in advance

The transportation facility located in downtown Niles offers a waiting area where passengers can connect to other public transit providers including Cass County Public Transit and Berrien Bus.



First and Last Mile Connections

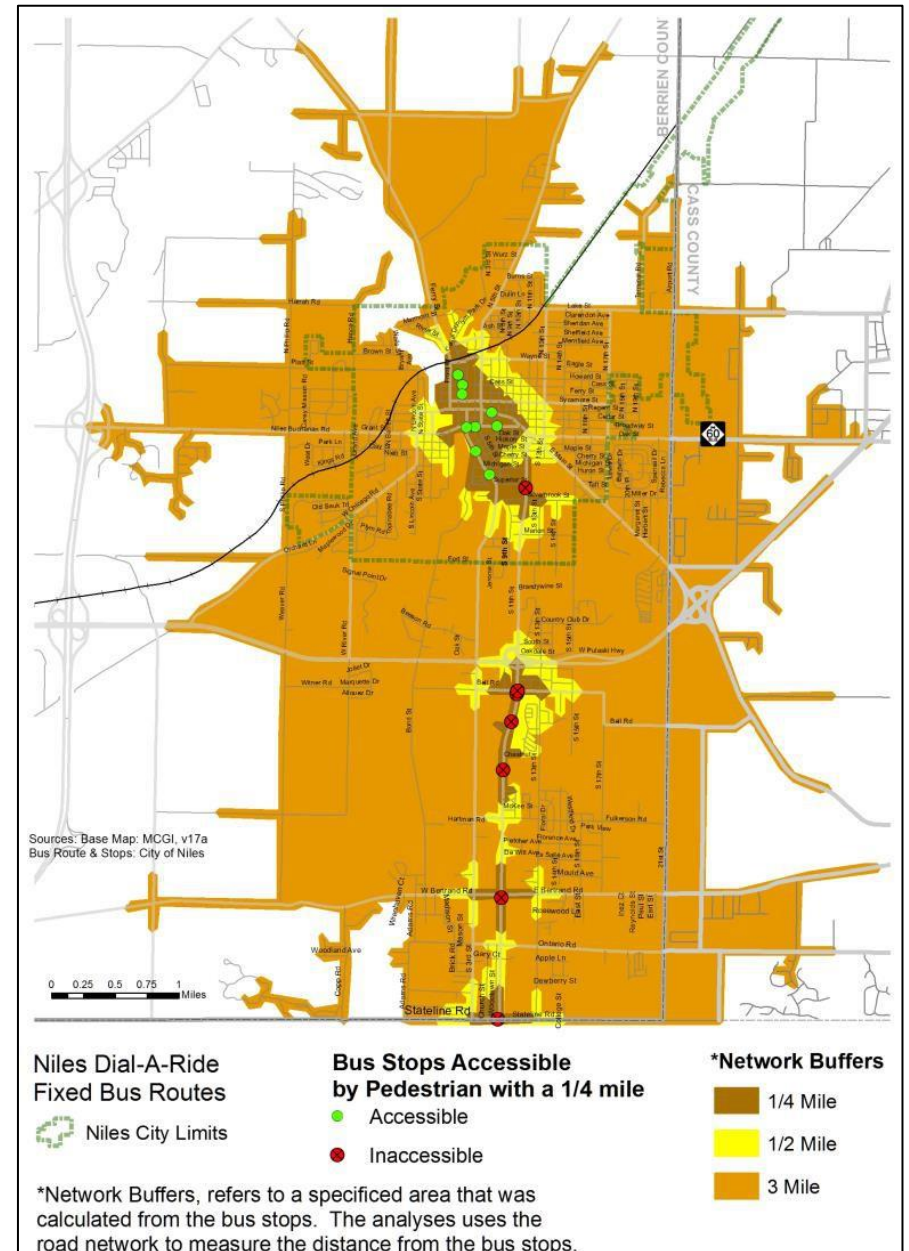
Niles DART deviated flex route services 23 origins and destinations within the City of Niles and Niles Township. Many of the stops in the City of Niles are accessible by sidewalk allowing people to safely walk to the bus stop. Within Niles Township the majority of stops require buses to pull off the route onto public property to pick up passengers. This lack of pedestrian infrastructure increases the length and time of route.



Poor “first and last mile” connections can be a barrier to accessing fixed route transit service along 11th Street Niles Township.

FTA Funding for Pedestrian Improvements

All pedestrian improvements located within 1/2 mile and all bicycle improvements located within 3 miles of a public transportation stop or station shall have a de facto physical and functional relationship to public transportation

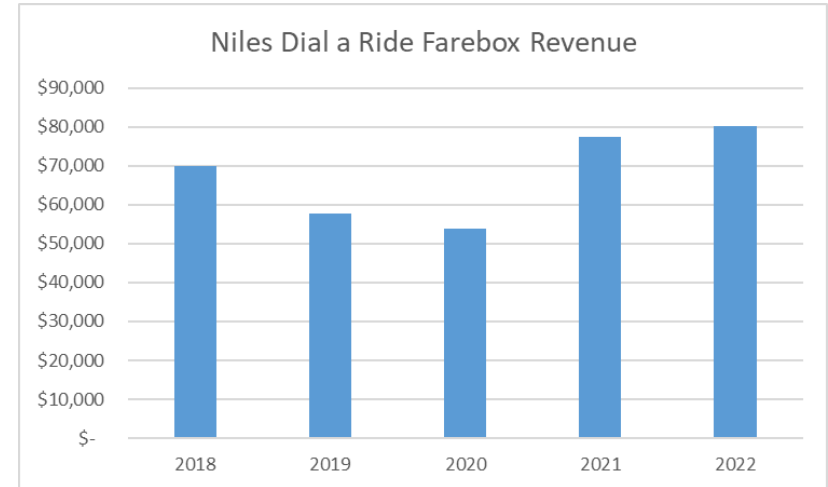


Niles DART Fare Structure

Passenger fares depend on the service type, the origin and destination and the age or disability of a passenger. Reduced fares are available for older adults age 60 and older and individuals with a disability. Passengers who qualify for a reduced fare are issued a reduced fare card to indicate they are eligible for the reduced fare.

Service Type	Geographic Location	Fare
Demand Response	Coty of Niles	Within Niles City Limits \$3.00 or \$1.50 RF*
Demand Response	City of Buchanan	Within Buchanan City Limits \$1.50 or \$0.75 RF*
Demand Response	To, From, Within Townships (including to/from Buchanan)	\$4.00 or \$2.00 RF
Deviated Fixed Route		\$2.00 or \$1.00 RF* \$0.50 for Route Deviations
DART's other fare media includes: \$10.00 Punch Card and \$1.00 Tokens (for use by human service agency clients).		

Niles Township and Bertrand Township do not contribute any local operating revenue to the Niles DART system, because of this there is a \$1.00 increase added to the fare structure for passenger trips into or out of those townships.



Niles DART State of Good Repair

With an estimated 40% of buses and 25% 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. Niles DART has a wide variety of capital assets to maintain, including, but not limited to, busses and facilities. The agency must rehabilitate and replace their existing physical assets to keep them in a state of good repair (SGR) and provide a consistent level of service to their 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.

In 2016 FTA published the final rule that requires public transit agencies to establish targets for three asset categories and report annually on progress towards targets.



\$210,000

Investment needed to bring Niles DART fleet up to 100% State of Good Repair

Performance Measure	Description	Asset	Base Data - 2019	Target 2020	Data Source
Rolling stock in a state of good repair	Percent of rolling stock transit vehicles that have exceeded useful life	6 Cutaway Buses	43% exceed ULB	29% exceed ULB	PTMS
Non-Revenue Vehicles in a state of good repair	Percent of non-revenue vehicles that have exceeded useful life	1 Truck with snow plow	100% exceed ULB	100% exceeds ULB	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/Maintenance Building	1 rated 3 on TERM scale.	0% rated below a 3.0 on the FTA TERM Scale	PTMS

Public Transportation Safety

On July 19, 2018, the Federal Transit Administration (FTA) introduced the Public Transportation Agency Safety Plan (PTASP) final rule. This rule mandates specific operators of public transportation systems to develop and certify an agency safety plan based on the principles and methods of Safety Management Systems (SMS). The objective of this rule is to enhance safety measures within the public transportation sector.

Further progress was made on May 25, 2021, when the NATS Policy Committee showed its support for the Niles DART Public Transportation Safety Targets. They extended their support by endorsing the targets outlined in the Niles DART Agency Safety Plan, which was officially published on December 8, 2020. This collaborative effort aims to promote a safer public transportation system in the Niles DART area.



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	2	.2	2	.2	95,000
Fixed Route	0	0	0	0	1	.46	20,000

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.

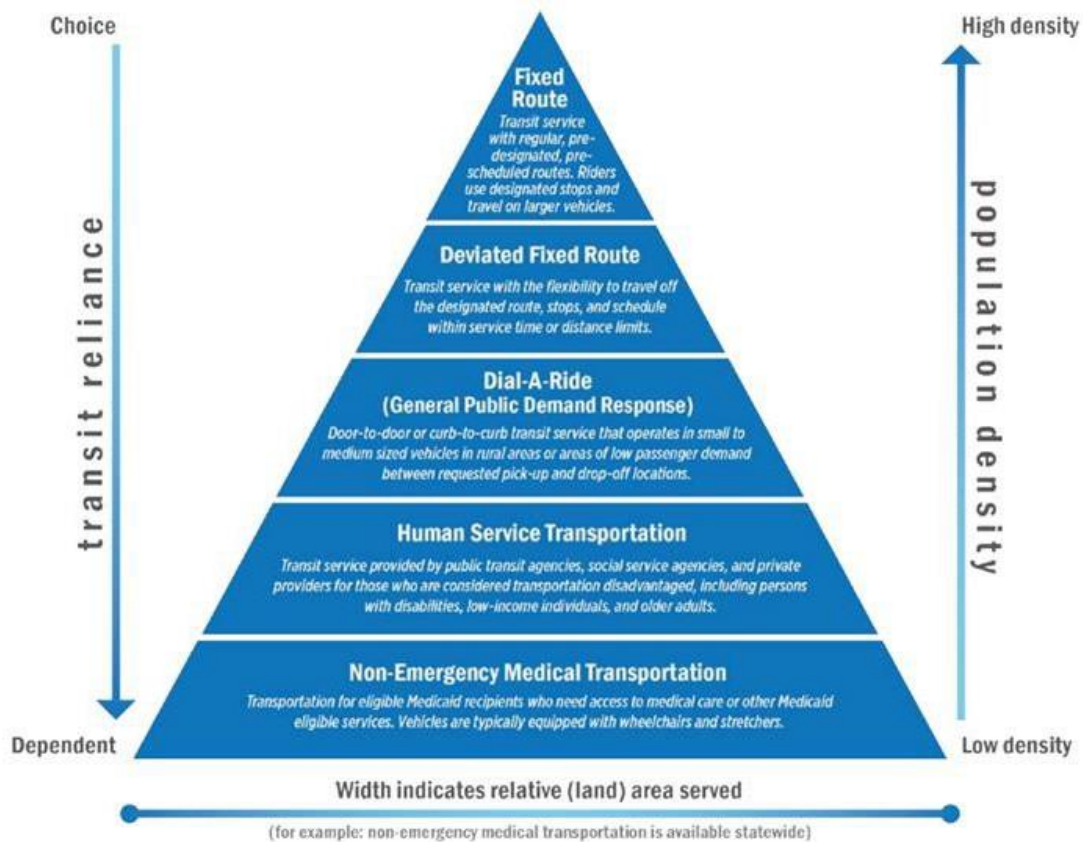
INJURIES (total number of reportable injuries and rate per total vehicle revenue miles by mode) Many transit agencies have never had a fatality, and continued safe operation is exactly what is desired. However, injuries occur much more frequently and are due to a wide variety of circumstances. Analyzing 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.

Transit Importance

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 programs 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.



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 reduce duplication of service and effort.
- Residents living in the NATS planning area need to travel across municipal and county boundaries to get to work but also for other reasons, such as shopping, school, and to access health care.

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.

Public Transit Planning Initiatives

There is a need for additional transit coverage and regional north/south linkages within the region and beyond. There are areas that have no services and others where 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.

Countywide Service Consolidation Plan

The existing public transportation services in Berrien County are not adequately meeting the needs of residents and businesses.

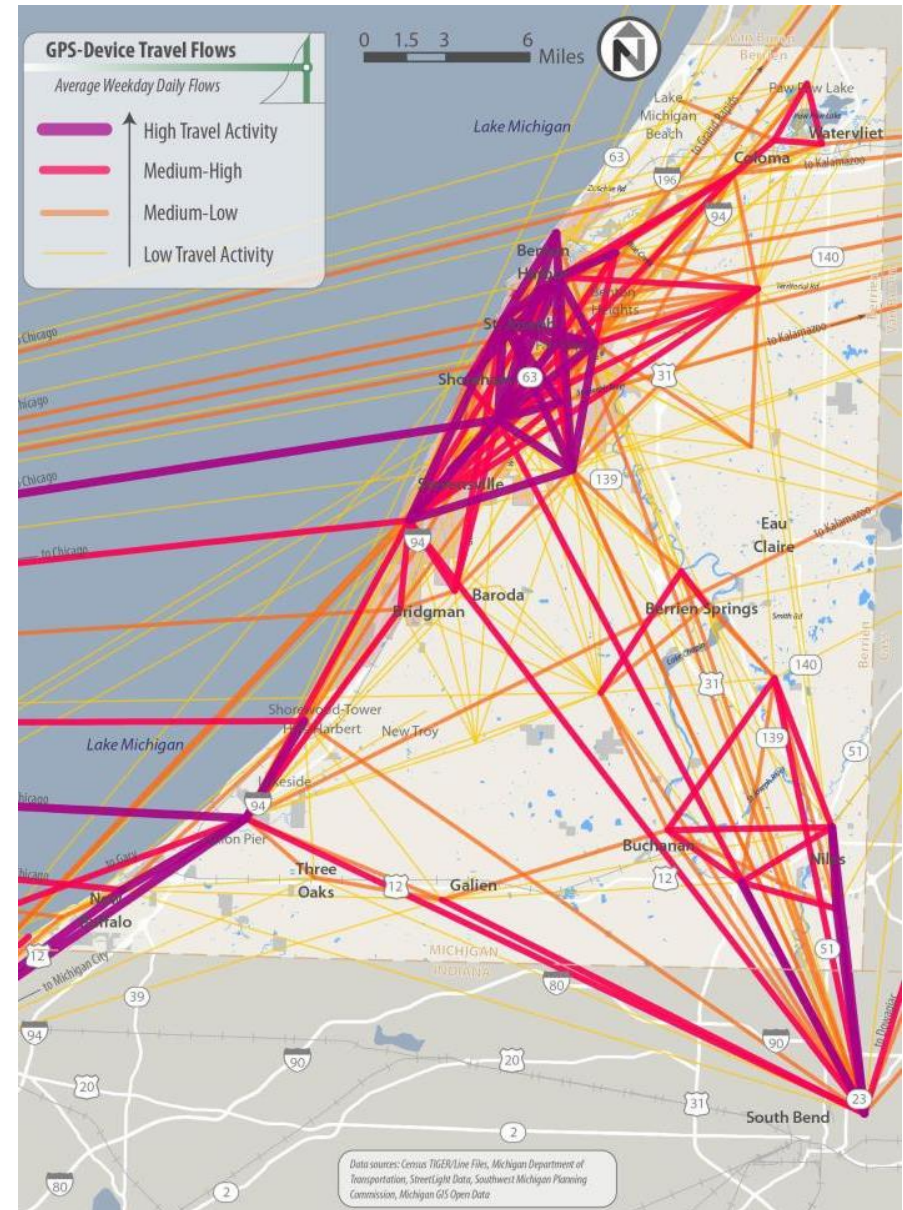
Existing Service
 91,000 Residents – 58%
 40,000 job – 66%

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 do not 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 to each other 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. 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.

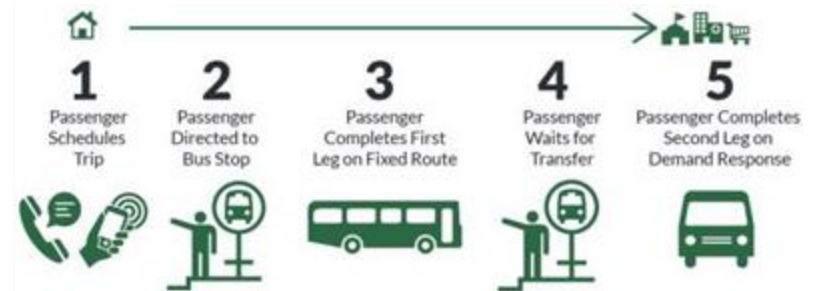




Proposed Countywide Service

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

The proposed countywide system would use scheduled fixed route service for longer trips between urban areas within and bordering Berrien County. A demand response system would handle shorter trips either point-to-point or as feeder service to the fixed route network.



STRATEGIES:

IMPROVING PASSENGER TRANSPORTATION



Strategy	Guiding Principles Met							
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Improve Transit Facilities and Equipment	✓	✓		✓		✓	✓	
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Support fixed route stops with bicycle infrastructure and end-of-trip facilities, such as bicycle parking and on-board bicycle racks. Investments are made in alignment with TAM plans with the intent of keeping the state’s public transit vehicles and facilities in a state of good repair. and meeting TAM targets.

Extend/Create New Transportation Services	✓			✓	✓	✓	✓	✓
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Increase service hours to support service sector employment trips. Improve connections with nearby destinations in South Bend and Cass County. Increase connections to intercity bus in South Bend and Benton Harbor.

Safety			✓	✓	✓		✓	
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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	✓	✓	✓	✓	✓	✓	✓	✓
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Foster public-private partnerships with municipalities and transit systems within Berrien County to actively increase opportunities for additional local funding sources.



FISCALLY CONSTRAINED TRANSIT PROJECTS

Summary of Anticipated Federal & State Funding for Niles DART

State funds, along with federal and local dollars, including farebox revenue and local mileages, are pooled together to provide essential support for the operation and maintenance of the Niles DART. The state's investment strategy for the Local Transit Program is primarily guided by the comprehensive requirements outlined in Act 51 of 1951, which dictate the annual distribution and utilization of CTF revenues, as well as the permissible uses of federal formula apportionments and competitive grant awards.

To formulate the revenue forecast for the 2050 Long-Range Plan, we have considered the federal and state funds programmed in the NATS TIP for FY 2023. The FTA 5339 funds, which are awarded through a competitive process, have consistently been granted to NDART over the past decade, and their projection for the future is based on the average awards received during this period. Federal funds are expected to experience an annual growth rate of 1.9% between 2023 and 2030, followed by a 2.1% annual growth rate from 2031 to 2050. Similarly, State CTF funding, regulated by Act 51, is anticipated to grow at a rate of 1.7% annually between 2023



Program	Description	2023-2030 Funding	2031-2040 Funding	2041-2050 Funding	2023-2050 Funding
Urban Area Transportation Program 5307	The FTA Administration Urban Area Program is intended to provide planning, capital, and operation assistance to public transportation providers in urbanized areas. Funds are allocated to the South Bend Urban Area and split between Transpo and Niles Dial a Ride through annual negotiations.	\$2,223,703	\$3,331,254	\$4,100,767	\$9,655,724
Bus and Bus Facilities Program 5339	The FTA 5339 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. Niles DART applies for these funds each year and awarded based on need.	\$581,584	\$871,251	\$1,072,508	\$2,525,343
Comprehensive Transportation Fund (CTF)	This funding is awarded for operating and capital support, training, and special projects to local bus operators that service the general public. The CTF program provides the 20% match for federal transit capital funded projects.	\$1,651,798	\$2,430,853	\$2,934,273	\$7,016,924

Local Funding for Niles Dial A Ride Transit

Michigan has a long list of counties and communities that provide a dedicated source of local funding for public transit. The only dedicated funding source for the Niles Dial A Ride Transit (DART) comes from a millage in the City of Niles. The millage and passenger fares are the only reliable sources of annual revenue that provides support to transit operations and capital match costs for Niles DAR. Until there is an additional form of reliable local revenue there will be limited opportunities to expand transit service within the NATS urbanized area.



Local Revenue Projections

Because local funding amounts can vary from year-to-year, the base funding amount was derived by using a ten-year average of reported Niles DART passenger fares and millage revenues collected between 2013-2022. To estimate the 2023-2050 local revenue, the local fund growth rate of 1.7% from 2023-20230 and 1.9% from 2031-2050 was applied.

Local Funding Source	Description	2023-2030 Funding	2031-2040 Funding	2041-2050 Funding	2023-2050 Funding
Transit Millage	The City of Niles levies .05 mills on all real and tangible personal property in the City of Niles for the exclusive purpose of financing Niles DAR.	\$955,765	\$1,406,543	\$1,697,833	\$4,060,141
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.	\$595,649	\$876,582	\$1,058,119	\$2,530,350

Year	Project	Description	Federal Source	Federal Amt	State CTF Amt.	Local Amt.	Total Cost	Performance Measures Transit Asset Management	Transit Safety
2023	Transit Operating	Operating expenses	5307	\$150,000	\$150,000	\$0	\$300,000		
2023	Transit Capital	Preventive Maintenance	5307	\$110,000	\$27,500	\$0	\$137,500	X	
2023	Transit Capital	Replace one cutaway bus	5339	\$68,000	\$17,000	\$0	\$85,000	X	X
2024	Transit Operating	Operating expenses	5307	\$155,200	\$155,200	\$0	\$310,400		
2024	Transit Capital	Preventive Maintenance	5307	\$110,000	\$27,500	\$0	\$137,500	X	
2024	Transit Capital	Facility maintenance	5339	\$52,800	\$13,200	\$0	\$66,000	X	X
2025	Transit Operating	Operating expenses	5307	\$160,500	\$160,500	\$0	\$321,000		
2025	Transit Capital	Preventive Maintenance	5307	\$110,000	\$27,500	\$0	\$137,500	X	
2025	Transit Capital	Replace one bus	5339	\$72,000	\$18,000	\$0	\$90,000	X	X
2026	Transit Operating	Operating expenses	5307	\$160,500	\$160,500	\$0	\$321,000		
2026	Transit Capital	Preventative Maintenance	5307	\$115,500	\$28,875	\$0	\$144,375	X	
2026	Transit Capital	Replace one bus	5339	\$75,200	\$18,800	\$0	\$94,000	X	X

Summary

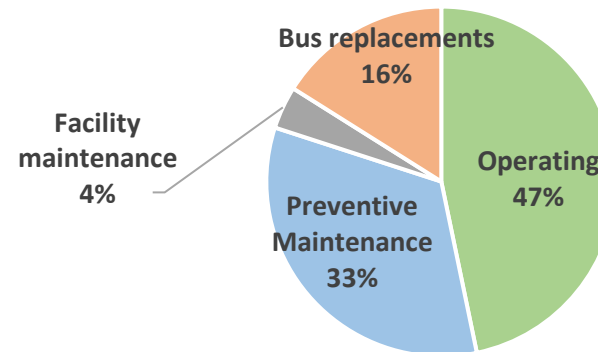
Total 5307 Available 2023-2026	\$1,071,700
Total 5307 Programed 2023-2026	\$1,071,700
Balance	\$0

Total 5339 Available 2023-2026	\$268,000
Total 5339 Programed 2023-2026	\$268,000
Balance	\$0

2023-2026 Transit Projects

	Federal	State CTF	Total
Operating	\$626,200	\$626,200	\$1,252,400
Preventive Maintenance	\$445,500	\$111,375	\$556,875
Facility maintenance	\$52,800	\$13,200	\$66,000
Bus replacement	\$215,200	\$53,800	\$269,000
Total 2023-2026	\$1,339,700	\$804,575	\$2,144,275

FTA Funding 2023-2026





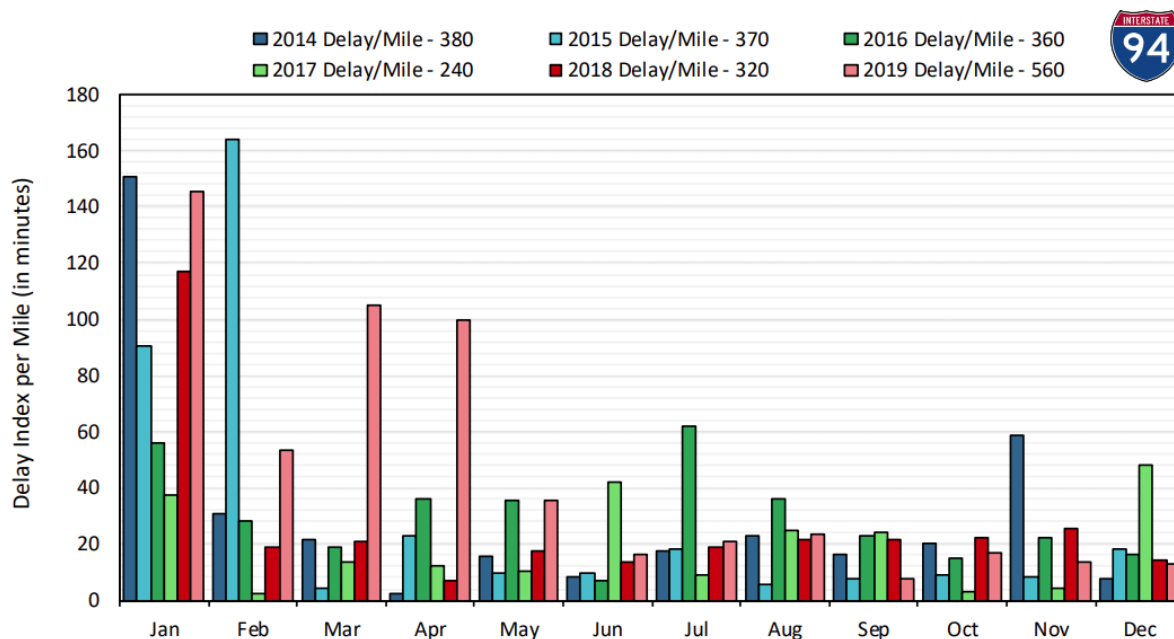
FREIGHT TRANSPORTATION

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

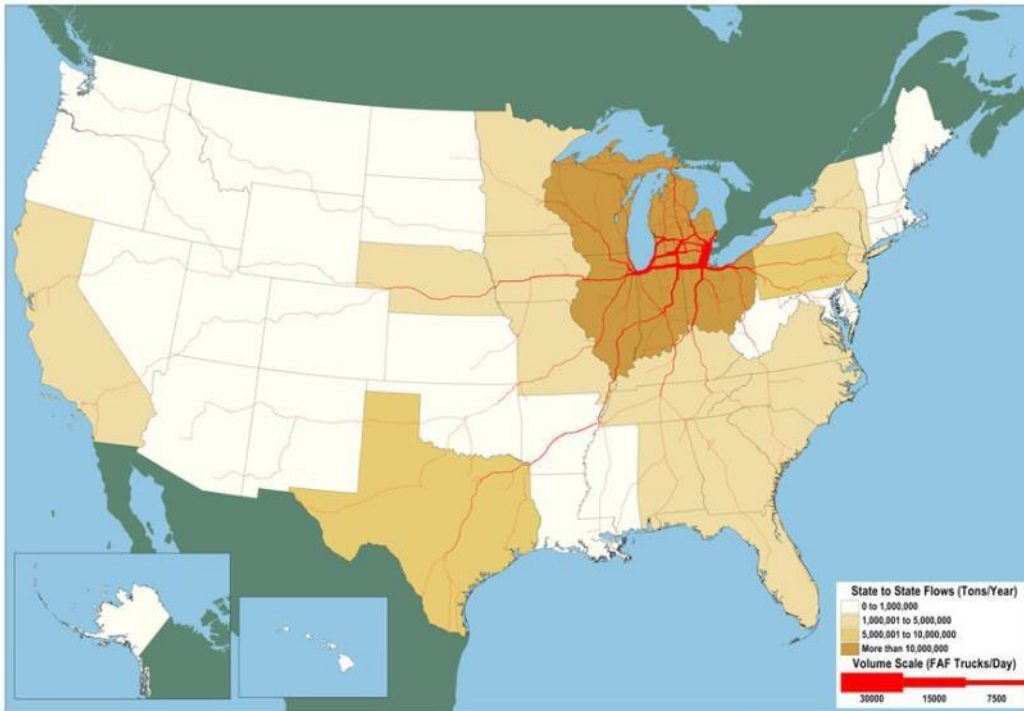
The most significant corridors for freight in the NATS area include US-31 (which grants access to I-94 in Michigan and the I-80/I-90 Toll Road in Indiana), CN railroad tracks through Edwardsburg, and Amtrak railroad tracks through Niles and Buchanan. Hazardous liquid pipelines have commercial access points at the terminals on South 3rd Street in Niles Township. Gas transmission pipeline systems transport natural gas through the area, but there are not any commercial access points, so they are not covered in this Plan. Regionally the area is served by the commercial port at Benton Harbor-Saint Joseph. Air freight at Jerry Tyler Memorial Airport is covered in the next section—Aviation.



Interstate Congestion & Reliability

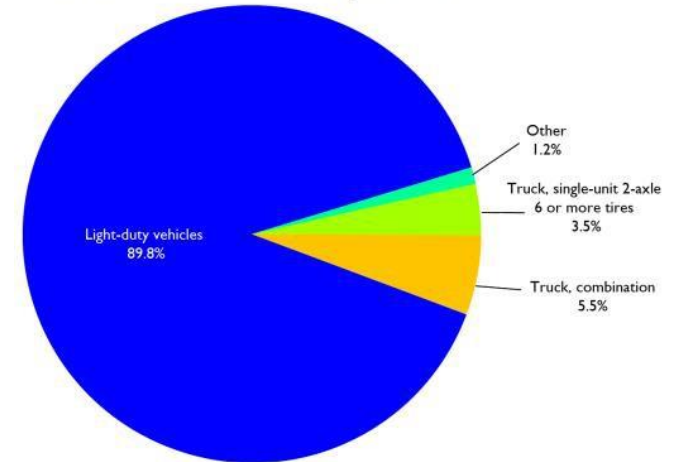
The MDOT 2016 Freeway Congestion & Reliability Report states that in 2016 the user delay cost for the I-94 corridor in Berrien County was \$5,658,000. This is an improvement on the 2012 to 2015 four-year average of \$9,042,000. The graph below, from that report, shows how that user delay cost is broken out by month.

Major Flows by Truck To, From, and Within Michigan: 2012

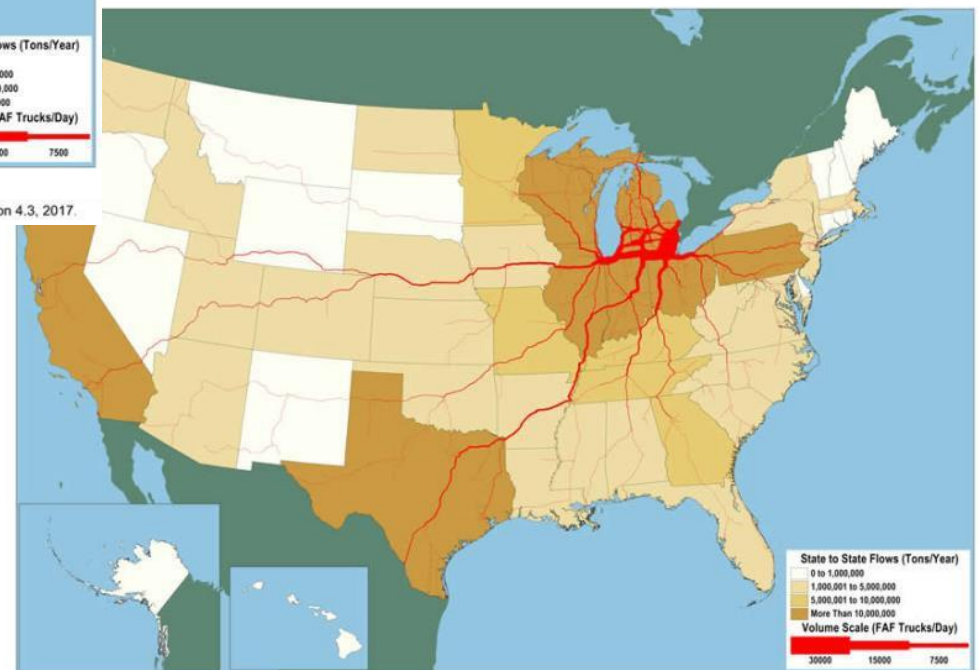


Note: Major flows include domestic and international freight moving by truck on highway segments with more than twenty five FAF trucks per day and between places typically more than fifty miles apart.
U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, version 4.3, 2017.

Share of Highway Vehicle-Miles Traveled (VMT) by Vehicle Type
Source: USDOT Bureau of Transportation Statistics



Major Flows by Truck To, From, and Within Michigan: 2045



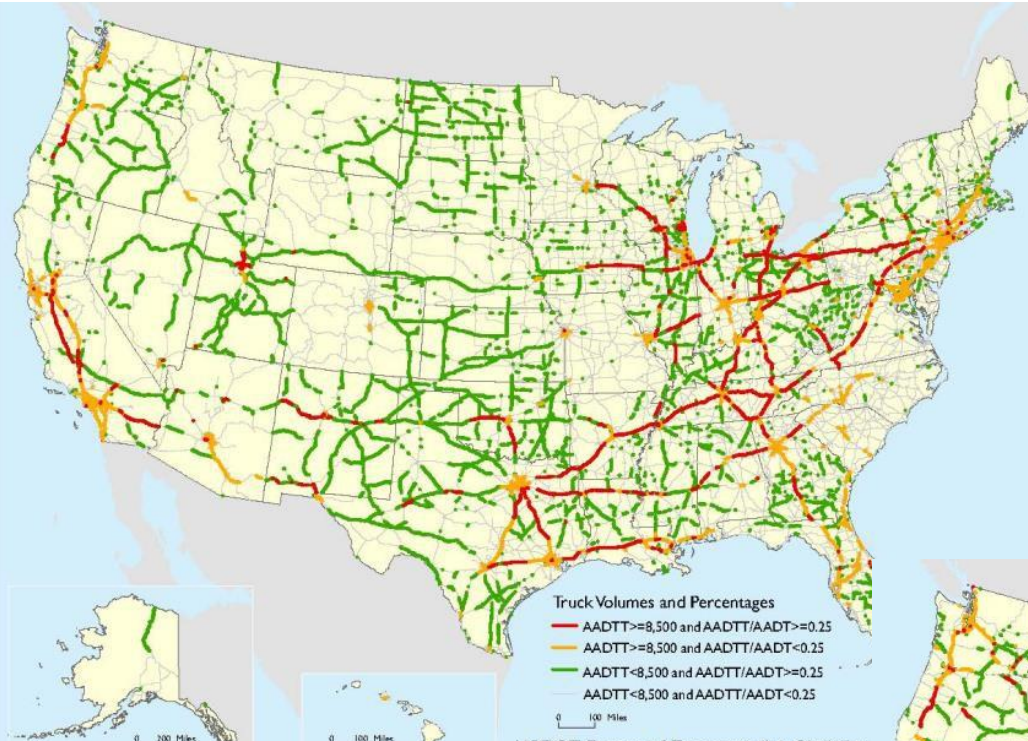
Note: Major flows include domestic and international freight moving by truck on highway segments with more than twenty five FAF trucks per day and between places typically more than fifty miles apart.
U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, version 4.3, 2017.

Freight Vehicle-Miles Traveled

Long-haul freight truck traffic on the National Highway System between 2012 and 2045 is projected to increase dramatically by-

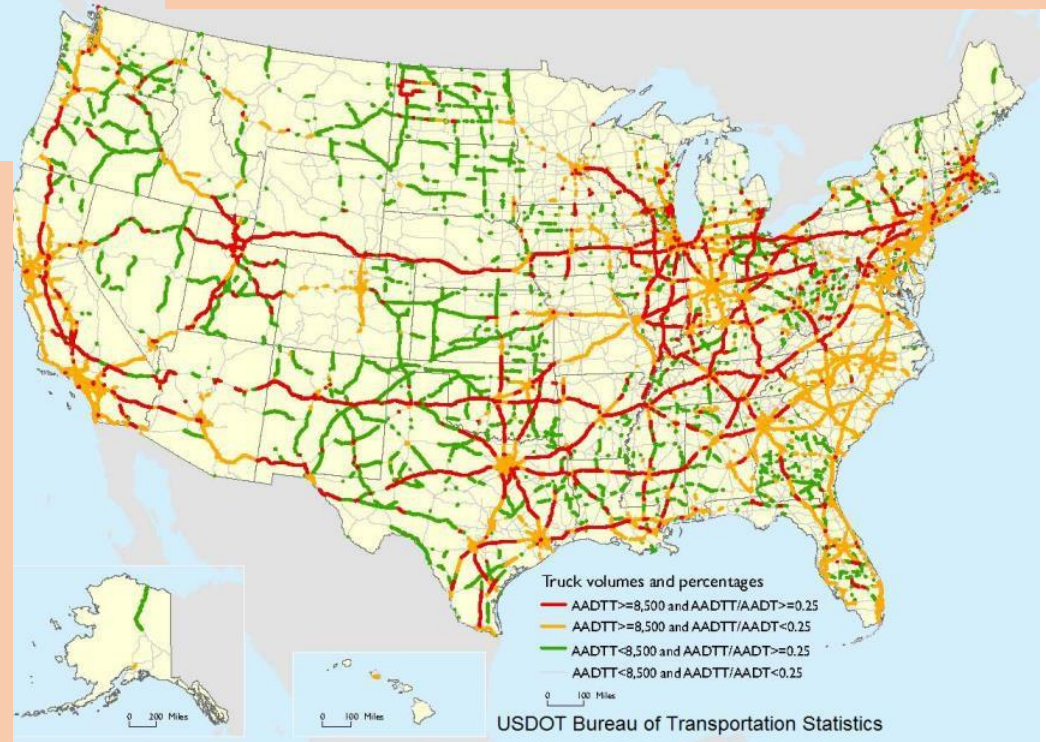
Bureau of Transportation Statistics

58%



NATS is located along USMCA (new 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 high-ways.

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 are estimated to grow from 5,560 miles in 2012 to 13,480 in 2045, an increase of more than **140%**.

USDOT Bureau of Transportation Statistics

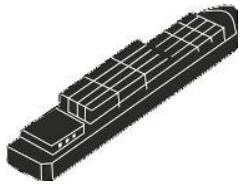
Freight Rail

Canadian National Railway (CN) runs freight rail service through Edwardsburg. The Amtrak line that runs through Buchanan and Niles is also used for freight (see map, 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 (source: MDOT Office of Rail (IHS Transearch database). Berrien County figures include the CSX line through the Twin Cities area as well. Pass through tonnages, such as for 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.swmp.c.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

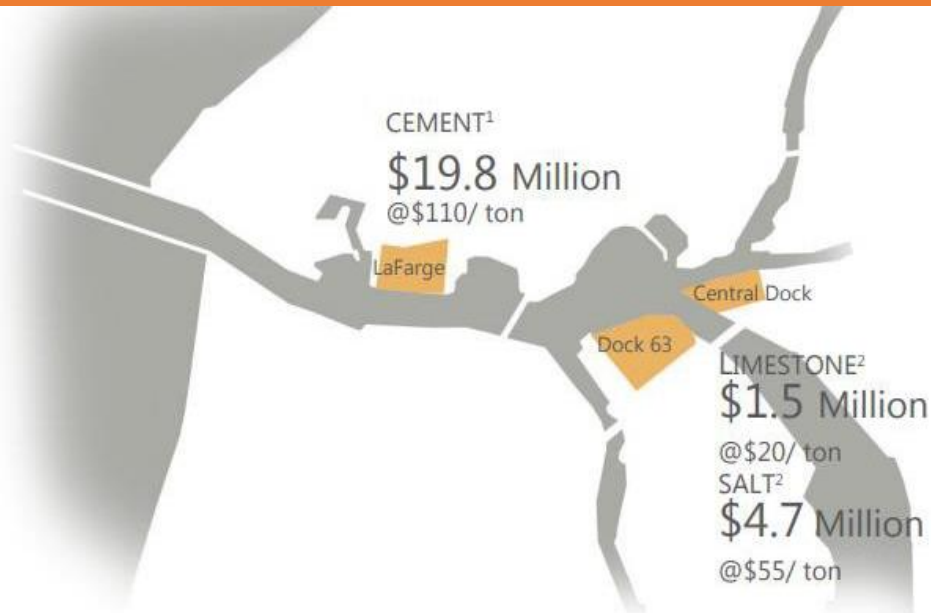
Source: USACE Fact Sheet for the Twin Cities Harbor



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



ESTIMATED
\$2.5 Million
 Saved
 by Shipping in 2015



2015 Freight³
 Projections: **340,000 tons**
 340 Jobs



2004 - 2009

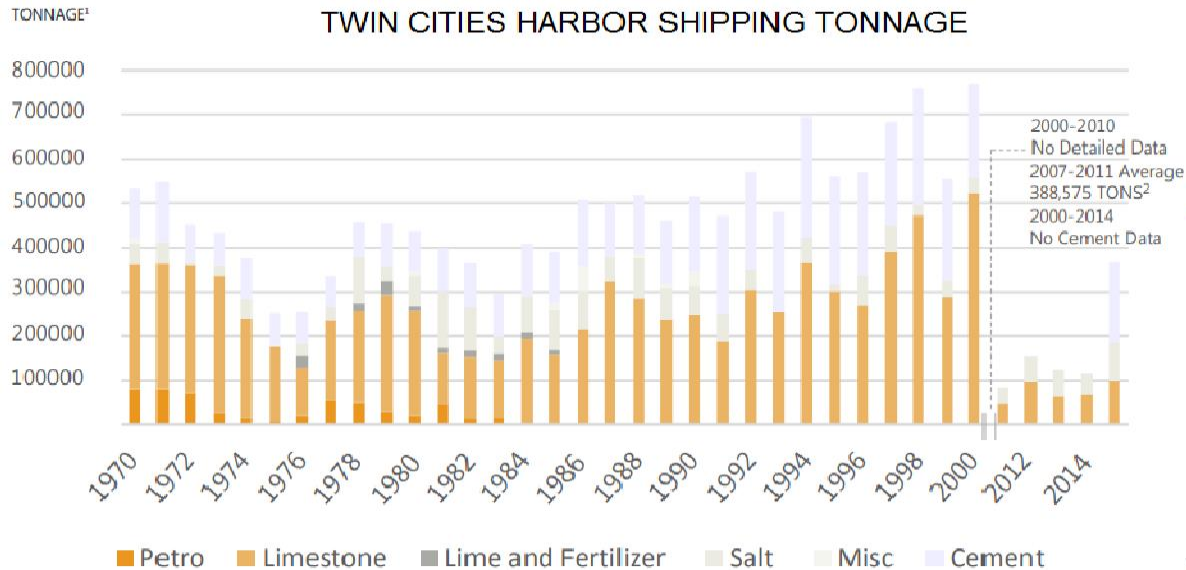


2010 - 2014

Changing variables have led to a decline in the number of annual ships.⁴

84% SUPPORT
 Commercial
 Shipping

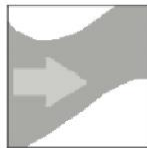
The 2015 Resilient St. Joseph master planning process revealed overwhelming support for maintaining commercial shipping in the Twin Cities harbor.⁶



VARIABLES



MARKET DEMAND For iron
When steel and iron are in demand, ships prioritize these, which reduces tonnage in the Twin Cities



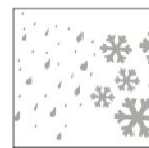
SHOALING + UPSTREAM RUN-OFF
Precipitation, farming, and stormwater practices impact the amount of silt and organics down-river



FUNDING + SHIPPING LEGISLATION
Government legislation and funding priorities can impact dredging and international shipping



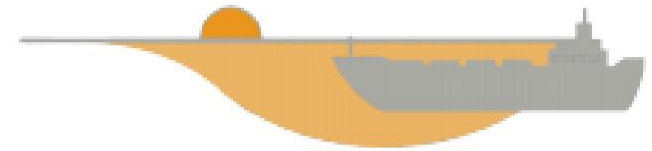
ROAD CONSTRUCTION + MAINTENANCE
Annual budgets and legislative priorities have a significant impact on freight in the Twin Cities



WEATHER + LAKE LEVELS
Winter trends impact freight for road maintenance, and changing lake levels impact dredging

Twin Cities Harbor A Study of Potential in Benton Harbor & St. Joseph, MI 1. Table 5.1, River Action Plan, 2001 2. Resilient St. Joseph: St. Joe Commercial Harbor Presentation

\$26 Million
2015 Projected Port Revenue



Twin Cities Harbor A Study of Potential in Benton Harbor & St. Joseph, MI (2015)
Based on records provided by Peter Berghoff, Dock 63



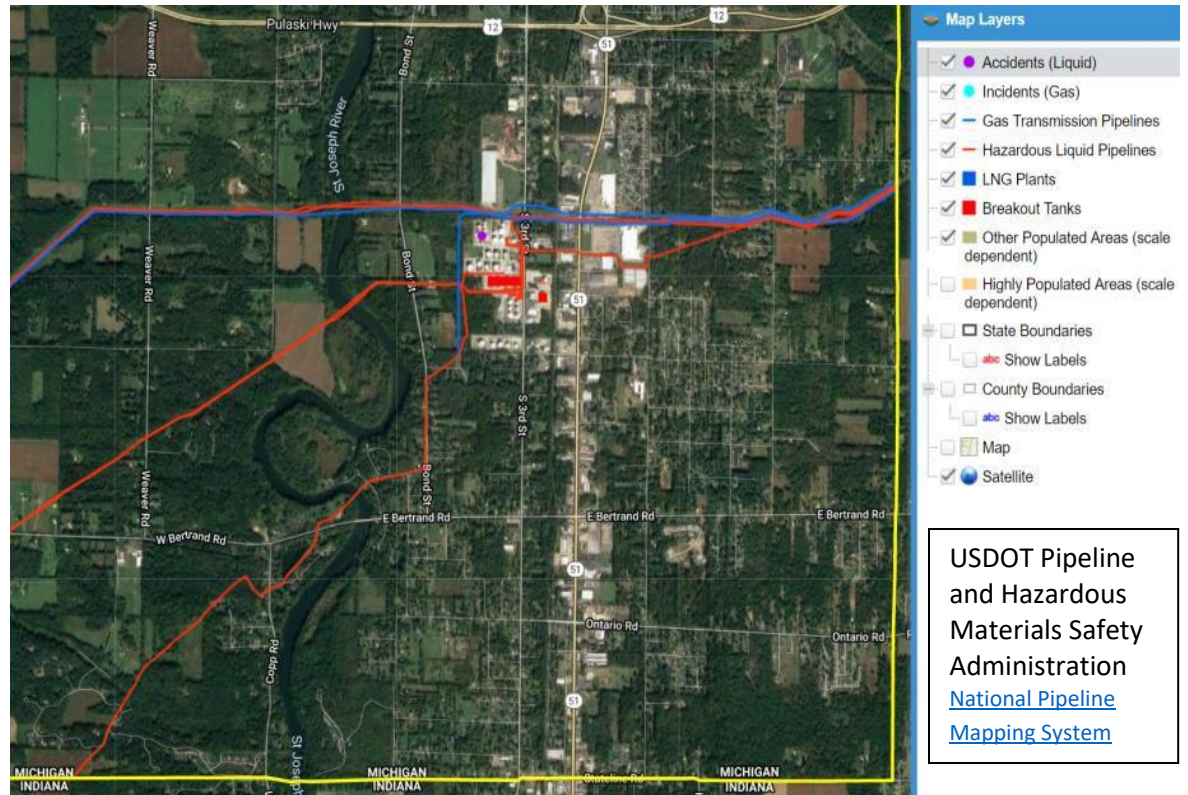
**U.S. Army Corps of Engineers Fiscal Year (FY) 2021, 2022, and 2022
St. Joseph Harbor, MI - Project Requirements and President's Budget (\$1,000)**

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

Pipelines

Hazardous liquid pipelines (red on the map below) have commercial access points at the terminals on South 3rd Street in Niles Township (pictured below), including Buckeye Terminals, CITGO Petroleum Corp., and Marathon Petroleum Corp. Pipeline systems are part of the critical infrastructure needed to supply fuel.

Natural Gas — Gas transmission pipeline systems transport natural gas through the area (blue on map), but there are not any commercial access points, so they are not covered in this Plan.

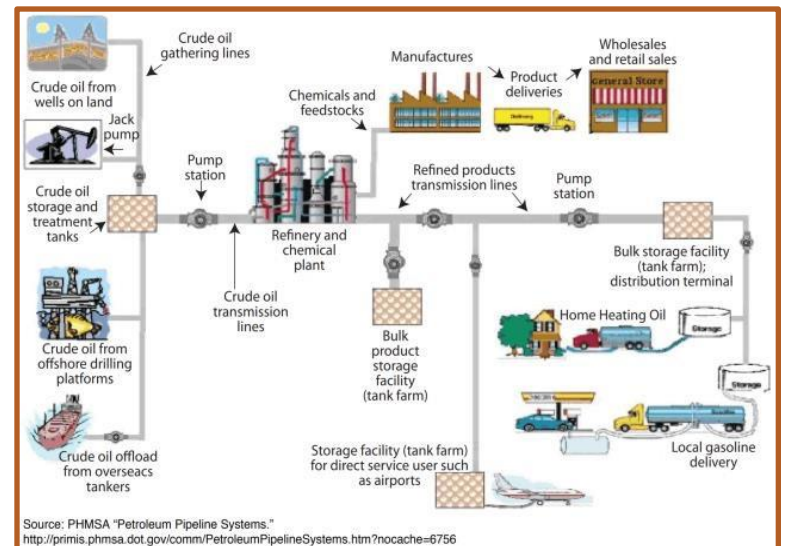


What Do Hazardous Liquid Pipelines Carry?

Hazardous liquid pipelines, as defined in federal regulations, carry:

- **Crude oil**
- **Refined petroleum products**, including gasoline, diesel, jet fuel, and home heating oil
- **Highly Volatile Liquids** such as propane, butane, ethylene, condensates
- **Supercritical Carbon dioxide**
- **Anhydrous Ammonia**

Source: [Pipeline Safety Trust](#)





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
- 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

Regional 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



AVIATION

Aviation

The Jerry Tyler Memorial Airport in Niles, Michigan plays a crucial role in serving the general aviation market and supporting the air transportation network in the region. As a Tier 2 airport, it serves the population center of the greater Niles area.

Owned and operated by the City of Niles, the airport functions as a fixed base operator and provides general aviation fuel and jet fuel through rented facilities. Being part of the National Plan of Integrated Airport Systems (NPIAS), the Jerry Tyler Memorial Airport is eligible to receive federal grants under the Airport Improvement Program. This program aims to fund development projects that enhance the design standards of NPIAS airports and increase capacity, particularly in congested airports.

The airport's importance extends beyond recreational flying, as businesses rely on its services for quick and efficient travel of personnel and delivery of materials, particularly for just-in-time manufacturing processes. These factors contribute to the significant economic impact of the airport. The latest economic impact estimate conducted in 2017 by the Michigan Department of Transportation reported a substantial contribution of \$18,374 million to the local economy.



Jerry Tyler Memorial Airport Features

Operates: Year Round

Primary Runway Length: 4,100 ft.

Primary Runway Width: 74 ft.

Activity Data

Total Operations: 6,500

Total Aircraft: 32

Total Passengers: 16,500

2015	Federal	State	Local	Total
Capital Expenditures	\$166,667	\$8,334	\$8,334	\$183,333

Infrastructure

Michigan’s system airports are classified using a two-step methodology including airport tiers (1, 2 and 3) and their associated ARCs (ranging from A-I to C-II), known as a MASP ARC. The MASP ARC is an indicator of the type of activity that occurs at an airport, and the role the airport plays in meeting system goals. The MASP ARC helps align the facility goals appropriate to each airport, including:

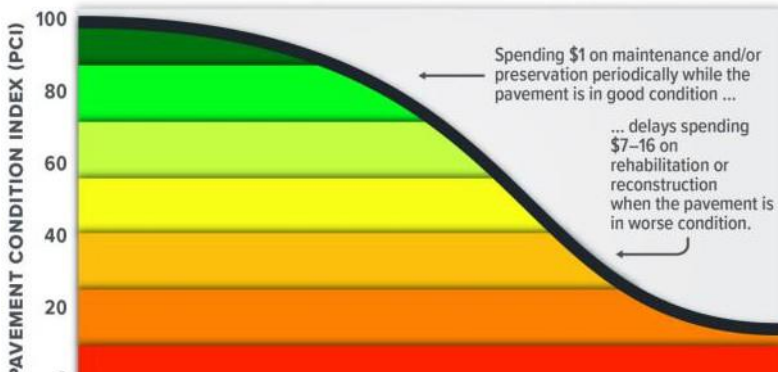
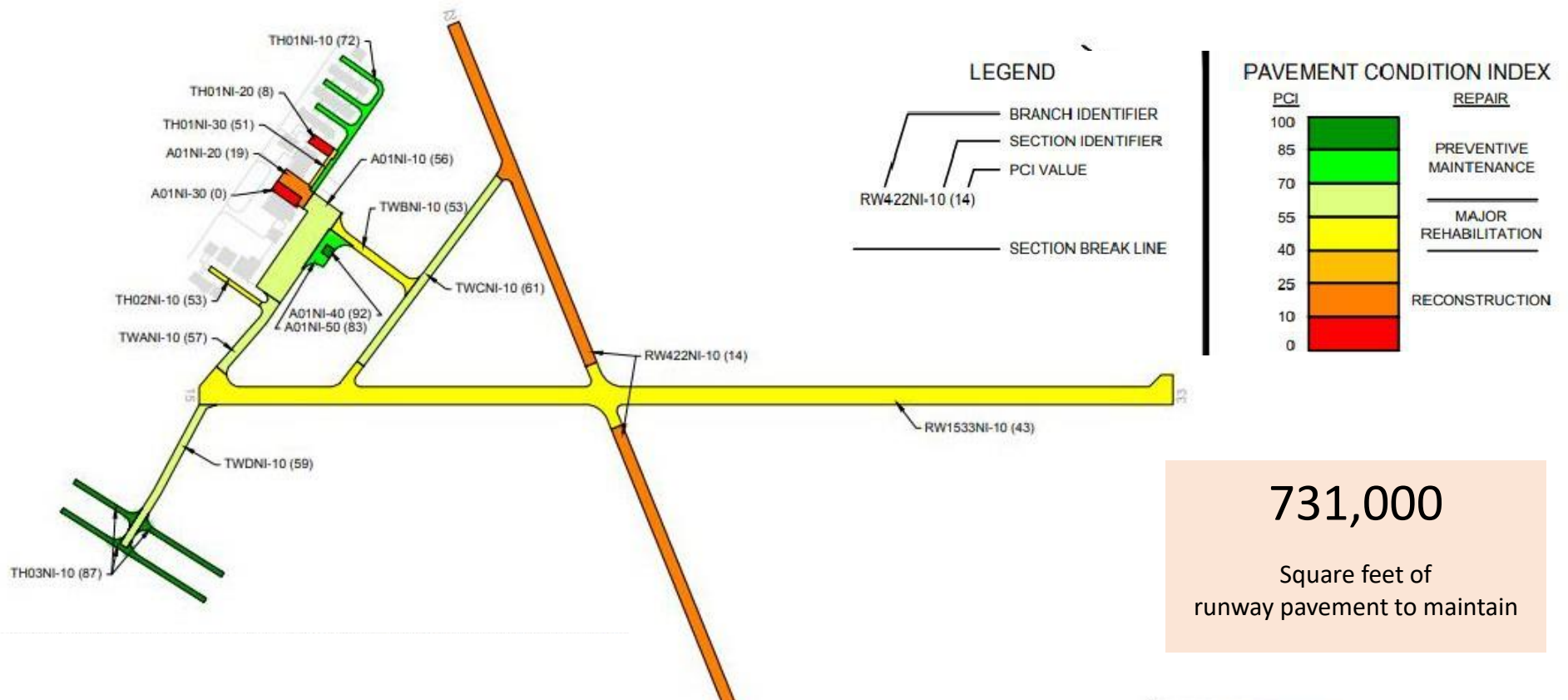
- Primary Runway System
- Lighting and Visual Aids
- Approach Protection
- Basic Pilot and Aircraft Services
- All-Weather Access
- Year-Round Access



Airport Report Card			Airport Name: Jerry Tyler Memorial Airport	
NILES			FAA Identifier: 3TR	
			2017 MASP Tier: 2	
			Current FAA Airport Reference Code (ARC): B-II	
			2017 MASP Airport Reference Code (ARC): B-II	
Facility Goal	Airport Development Item	Currently Has	2017 MASP ARC	
			B-II Development Goals	Met?
Primary Runway System	Length (feet)	4,100	4,300	No
	Width (feet)	75	75	Yes
	Surface Type	Paved	Paved	Yes
	Primary Taxiway System	Direct Connector	Full Parallel if >20,000 ops	Yes
Lighting and Visual Aids	Runway Lighting System	MIRL	MIRL	Yes
	PAPI	Yes	Yes	Yes
	REIL	Yes	Yes	Yes
	MALS/R	No	No	Yes
	Rotating Beacon	Yes	Yes	Yes
	Lighted Wind Indicator	Yes	Yes	Yes
	Segmented Circle	Yes	Yes	Yes
Approach Protection	Approach Protection Plan	Yes	Yes	Yes
Basic Pilot and Aircraft Services	Restrooms (24 hours)	Yes	Yes	Yes
	Fuel	Yes	Yes	Yes
	Aircraft Parking	Yes	Yes	Yes
	Aircraft Maintenance	Yes	Yes	Yes
	Available Staff	No	Yes	No
All-Weather Access	Instrument Approach	Non-Precision	Non-Precision	Yes
	Weather Reporting (AWOS/ASOS)	No	Yes	No
	Weather Briefing Access	Yes	Yes	Yes
Year-Round Access	Open Year-Round	Yes	Yes	Yes
	Snow Removal	Yes	Yes	Yes
Landside Access	Public/Private Transportation	Yes	Yes	Yes
Notes: For A-I airports with paved runways, the standard width is 60 feet. Runway length goal shown is subject to FAA/AERO justification determination. A VASI in lieu of a PAPI is acceptable. VASI/PAPI/REIL on one runway end is acceptable. An Airport Zoning Ordinance is considered an acceptable Approach Protection Plan. Aircraft parking consists of either a hangar, tie-down, or parking area. Weather briefing access may be provided by a Weather Briefing System, computer, internet access, or cell phone coverage.				
Additional Airport Notes:				
Pavement Condition Index (PCI)		Existing PCI	Minimum PCI Goal	PCI Performance
Based on FAA Aircraft Approach Category (AAC): 'B'	Runway	49	55	Below goal
	Taxiway	59	45	Meeting goal
Source: ASM/Facility Information Worksheets/MDOT Airport Directory/FAA Form 5010/MDOT APMS/FAA Digital-Chart Supplement (d-CS)				

Network-Level Pavement Condition Index (PCI)

During a PCI inspection, the types, severities, and amounts of distress present at a pavement’s surface are quantified. This information is then used to develop a composite index that represents the overall condition of the pavement in numerical terms, ranging from 0 (failed) to 100 (excellent). The PCI number is a measure of the overall condition and is indicative of the level of work that will be required to maintain or repair a pavement.



The table below summarizes the overall area-weighted PCI’s for the Jerry Tyler Memorial Airport assuming no work is competed at this airport. The 2020 PCI is from actual inspections, while the 2021-2030 for forecasted values

2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
38	38	37	35	33	31	30	29	27	26	25



Main Street Bridge (M-139) in Niles during the Flood of February 2018 (Photograph courtesy of Matt Dunlap).

Transportation and the Environment

It is broadly recognized the 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 transportation system. SWMPC's role in this relationship is summarized as; the transportation planning process provide 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 the 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 overall guidelines for planning, design, construction and maintenance of transportation projects that represent good planning practice



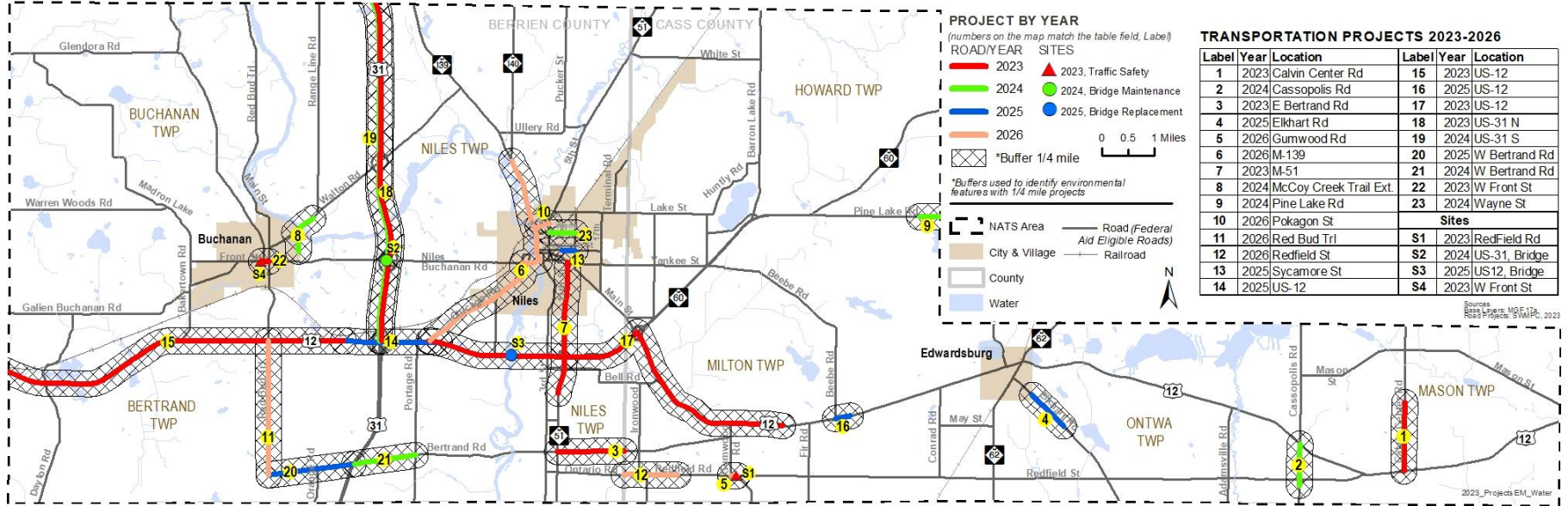
Identification of Sensitive Environmental Features and GIS Methodology

Table 1. Details of Features

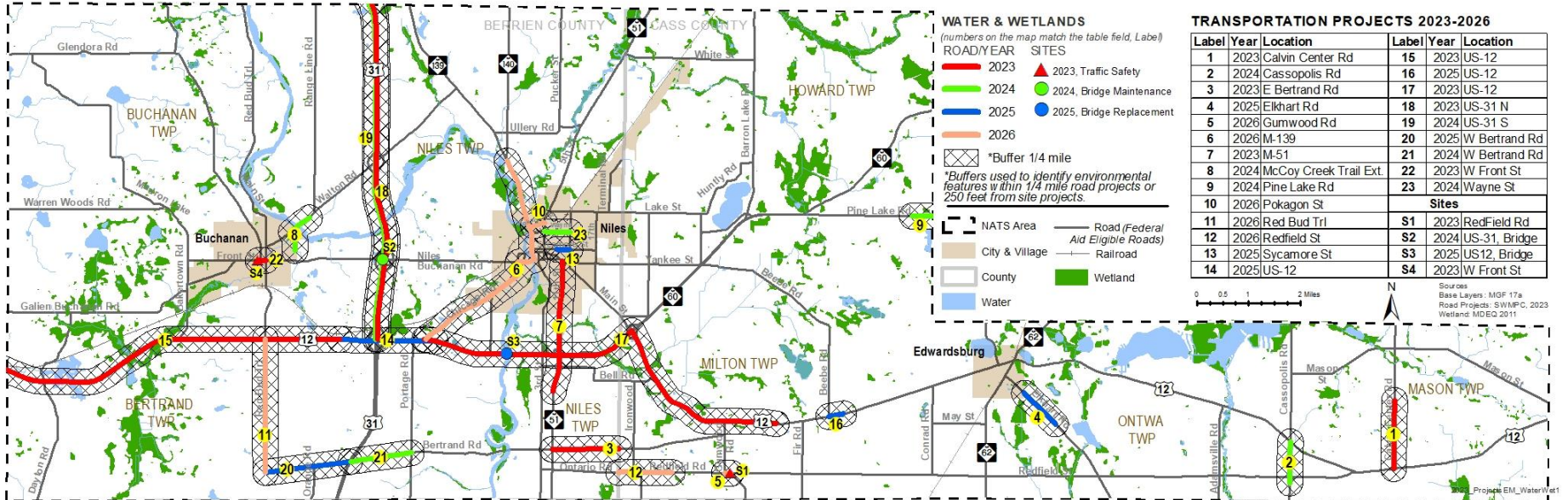
ENVIRONMENTAL FEATURES & SIGNIFICANT COMMUNITY RESOURCES - ANALYZED IN GIS		
FEATURE	DATA SOURCE	DESCRIPTION
GROUND WATER	Wellhead Protections Areas	A wellhead protection area is a surface and subsurface land area regulated to prevent contamination of a well or well-field supplying a public water system.
SURFACE WATER	Michigan Geographic Framework	The framework serves as the digital base map for State of Michigan government.
FLOOD AREAS	Federal Emergency Management Administration (FEMA)	Flood zones are geographic areas that FEMA has defined according to varying levels of flood risk and type of flooding. These zones are depicted on the published Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map (FHBM).
FARMLAND	Crop Land Data Layer - 2021	Crop specific land cover data layer with a ground resolution of 30 meters. Crops were reclassified into broader categories.
COMMUNITY RESOURCES	Various Sources	Hospitals, Medical Centers, Schools, and Parks
HISTORICAL MARKERS	Michigan Department of Natural Resources	A marker is determined by historic significance at the local, state or national level, and in the case of historic resources, integrity.
WETLANDS	Michigan Department of Environmental Quaility	Data represents the extent, approximate location and type of wetlands and deepwater habitats.

The list above was compiled with an awareness of invaluable natural resources and the community resources in NATS, 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 bridge, signal or roadside facility. Features that fall within the buffer were identified and listed in the Results Table 1, along with a discussion of the findings and selected maps.

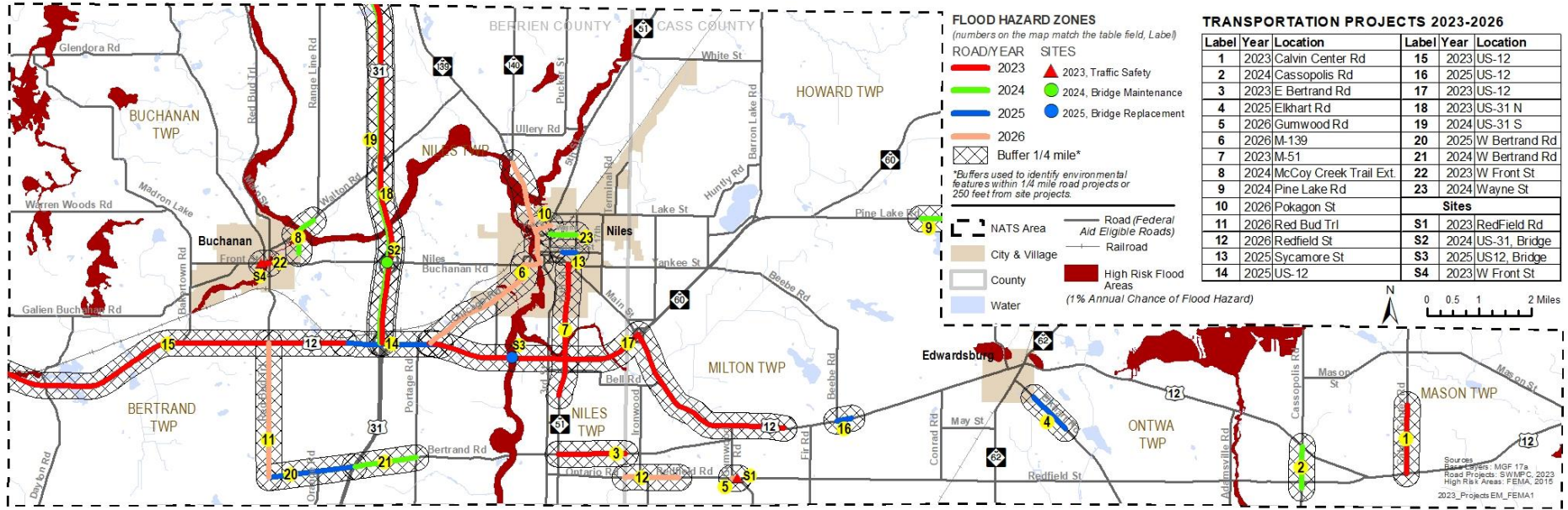
Projects



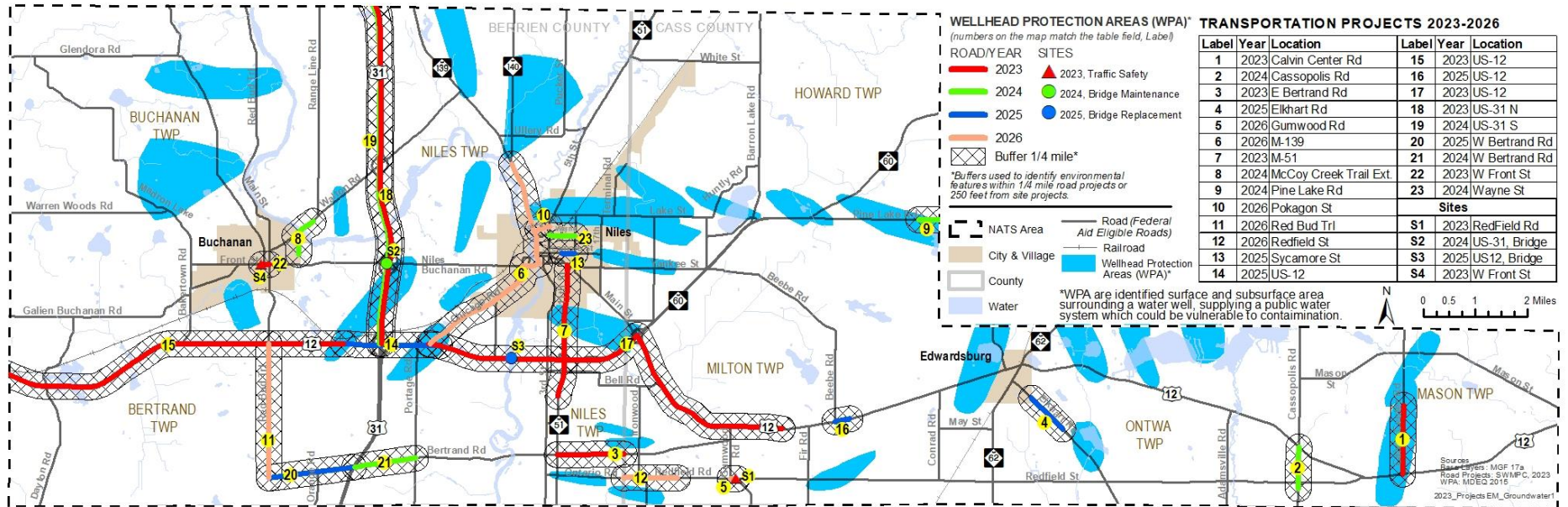
Water and Wetlands



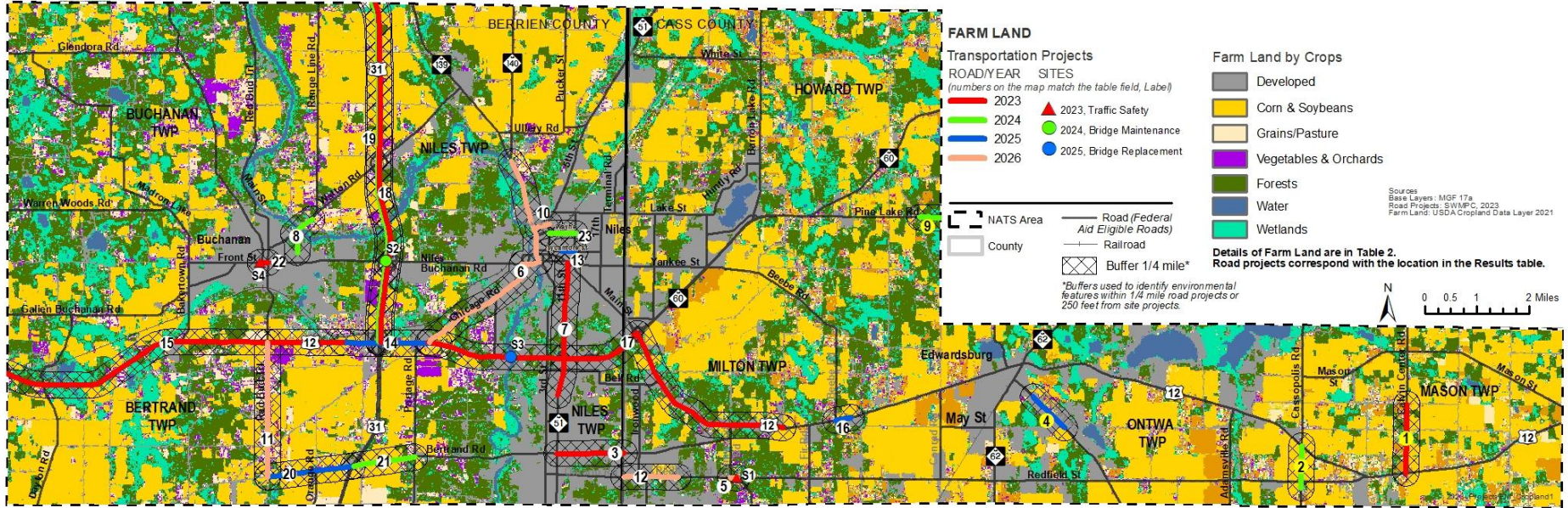
Flood Hazard Zones



Wellhead Protection Areas

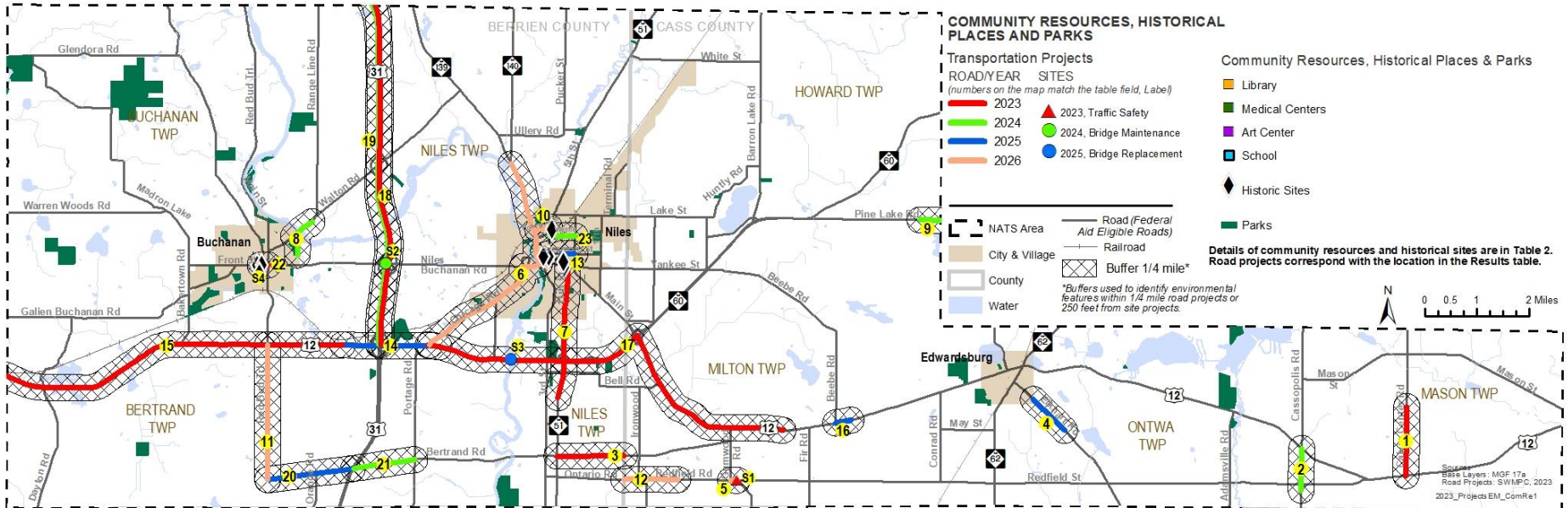


Farmland



Details of Community Resources and Historic Sites within buffer in are Table 2.

Community Resources, Historical Places and Parks



Road Projects					Map Features						
Map Label	Year	Location	Agency	Type	Surface Water	Groundwater	Wetland	Farmland	Flood Risk	Community Resources	Parks & Recreational Areas
1	2023	Calvin Center Rd	CCRC	Resurface		X	X	X			
2	2024	Cassopolis Rd	CCRC	Rehabilitation	X		X	X			
3	2023	E Bertrand Rd	BCRD	Capital Preventive Maintenance		X					
4	2025	Elkhart Rd	CCRC	Resurface	X	X	X	X			
5	2023	Gumwood Rd	CCRC	Road Realignment			X				
6	2026	M-139	MDOT	Rehabilitation	X		X		X	X	X
7	2023	M-51	MDOT	Reconstruction	X	X	X		X	X	X
8	2024	McCoy Creek Trail Ext.	City of Buchanan	Roadside Facilities	X		X		X		X
9	2024	Pine Lake Rd	CCRC	Capital Preventive Maintenance	X	X	X				
10	2026	Pokagon St	City of Niles	Resurface	X	X	X		X	X	X
11	2026	Red Bud Trl	BCRD	Capital Preventive Maintenance				X			
12	2026	Redfield St	CCRC	Capital Preventive Maintenance		X	X				
13	2025	Sycamore St	City of Niles	Capital Preventive Maintenance						X	
14	2025	US-12	MDOT	Rehabilitation	X	X	X				X
15	2023	US-12	MDOT	Rehabilitation	X	X	X		X		
16	2025	US-12	MDOT	Safety, Signage or Signals			X	X			
17	2023	US-12	MDOT	Rehabilitation	X	X	X		X	X	X
18	2023	US-31 N	MDOT	Rehabilitation	X	X	X	X	X		X
19	2024	US-31 S	MDOT	Maintenance	X	X	X	X	X		X
20	2025	W Bertrand Rd	BCRD	Capital Preventive Maintenance				X			
21	2024	W Bertrand Rd	BCRD	Resurface				X			
22	2023	W Front St	City of Buchanan	Reconstruction					X	X	X
23	2024	Wayne St	City of Niles	Capital Preventive Maintenance					X	X	
Sites: Bridge or Safety Projects											
Label	Year	Location	Agency	Type							
S1	2023	RedField Rd/Gumwood Rd	CCRC	Traffic Safety							
S2	2024	US-31/Buchanan Rd	MDOT	Bridge Maintenance			X				
S3	2025	US12/St Joseph River	MDOT	Bridge Replacement	X				X		
S4	2023	W Front St	Buchanan	Traffic Safety						X	

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 projects. Only one project, the realignment on Gumwood Road, is considered an expansion. However, all the projects listed in the plan will need to adhere to overall sound guidelines for planning, design, construction and maintenance of transportation projects. Addressing issues in the transportation plan is not intended to be project specific. The owners of any future project are still required to meet all the necessary 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 were intersected with environmentally sensitive features in the map. Where a project buffer and an environmentally sensitive resource intersect, impacts are considered possible and are listed in the Results Table 1, followed by selected maps. It should be noted that no additional analysis of possible impacts were conducted. Simply because a project buffer intersects a wetland, for example, does not mean the wetland would be impacted. Nor does the absence of 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.

Map Feature	RESULTS - Bridge or Safety Projects
Surface Water	US-12 Bridge - St Joseph River
Wetland	US-31/Buchanan Rd
Flood Risk	US-12 Bridge - St Joseph River
Wellhead Protection Area	None
Farmland	None
Community Resources or Historical Sites	W Front St - Historical designation which include, neighborhood, site and building
Park	None



There were very few of the site projects that are within the 250-foot buffer zone of an environmental feature. None of the projects were found to be near the Wellhead Protection Area, farmland or parks. The bridge work on US-12 is over the St Joseph River and in area of high risk of flooding. It should be noted that the 250-foot buffer around the sites are not seen because of the scale of the maps.

SUMMARY OF RESULTS – Road Projects

Map Feature	RESULTS - Road Projects
Surface Water	Half of the projects are within the buffer zone of lakes, rivers and streams. Many of these are near the St. Joseph River while the others are close to small streams. The project in Bertrand Township on US-12 also is near Dayton Lake.
Wetland	16 of the 23 projects are near wetlands. The project along US-12 in Bertrand Township are near two large wetlands. In addition the project on M-139 is near a large wetland.
Flood Risk	10 projects are in an area of high risk for flooding. The non-motorized trail cuts across one of these areas. All the projects that are near the St Joseph River are in the areas of high risk for flooding.
Wellhead Protection Area	Many of the projects near water are also are in the Wellhead Protection Area (WPA) with the exception of the project on Bertrand Rd. This is not near surface water but in the WPA. The Calvin Center Road project is completely within one of these area while most other projects have a small percentage of the WPA in the buffer zone.
Farmland	The projects on Calvin Center Road and Cassopolis Road are surrounded by farmland. While the projects in the City of Niles and Niles Township are not near farmland.
Community Resources or Historical Sites	The projects within the City of Niles and Buchanan are close to hospitals, schools, libraries and historical sites.
Park	The projects within the City of Niles and Buchanan are close to many parks. The project on US-12 near US-31 is near a preserve.

When assessing the road projects as a whole, it becomes evident that the environmental aspects within the buffered zone of these projects primarily involve water infrastructure such as lakes, rivers, streams, and wetlands. This association is particularly relevant to the projects that traverse or lie within areas highly susceptible to flooding, which are typically low-lying regions in the landscape. It is crucial to give special consideration to any wetlands present in the vicinity of a project site, as they play a significant role in floodwater storage, sediment retention, and wildlife habitat preservation.

Several of the projects in the City of Niles and Buchanan are situated near historically designated areas or buildings, as well as various community resources. For a comprehensive analysis of these findings, please refer to Table 2, which presents the complete results of the Geographic Information System (GIS) analyses. Additionally, the relevant maps can be found in the preceding pages.

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 (<i>Myotis sodalis</i>)	Endangered	Summer habitat includes river and stream corridors with riparian woods; woodlots within 1 to 3 miles of rivers and streams; and upland forests. Caves and mines as hibernacula.
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	Endangered	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests during spring and summer.
Rufa Red Knot (<i>Calidris canutus rufa</i>)	Threatened	Only actions that occur along coastal areas during the Red Knot migratory window of MAY 1- SEPTEMBER 30
Eastern Massasauga (<i>Sistrurus catenatus</i>)	Threatened	Hibernates below frost line in small burrows, tree roots or rock crevasses - Close proximity and in a variety of wetlands
Copperbelly Water Snake (<i>Nerodia erythrogaster neglecta</i>)	Threatened	multiple wetland types, as well as adjacent uplands
Mitcherll's Satyr Butterfly (<i>Neonympha mitchellii mitchellii</i>)	Endangered	Fens; wetlands characterized by calcareous soils which are fed by carbonate-rich water from seeps and springs
Eastern Prairie Fringed Orchid (<i>Platanthera leucophaea</i>)	Threatened	Mesic prairie to wetlands such as sedge meadows, marsh edges, even bogs

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 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. Cass and Berrien County in NATS are home to many unique natural communities. NATS has 20 unique natural communities identified by the Michigan Natural Features Inventory (MNFI) who maintains a database of occurrences of exemplary natural communities, rare plants, and rare animals found in Michigan. By definition, a unique natural community, does not fall under state and federal regulations, however many of these natural communities are wetlands that are protected by regulations.

GUIDELINES: Review of the Threatened and Endangered Species Act

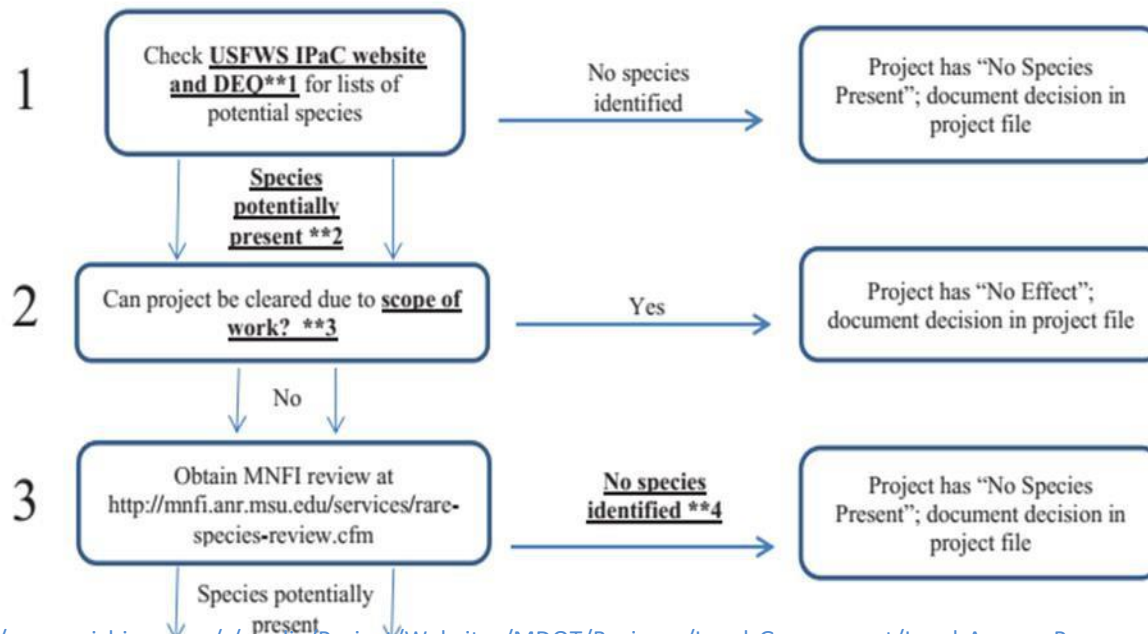


TOOLS: “[Local Agency Threatened and Endangered Species Review Process, Updated April 2023](#)” To navigate the process of review for threatened or endangered species the Michigan Department of Transportation (MDOT) have prepared guidelines for transportation agencies.

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/-/media/Project/Websites/MDOT/Business/Local-Government/Local-Agency-Program/NEPA/Local-Agency-Threatened-and-Endangered-Species-Review-Process-010819.pdf?rev=8cd97daff54e4070b7e2bb3f025b13ff>

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

Construction and Maintenance Guidelines (Part 1)

Insert special requirements addressing 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 minimize land disturbance at all times, 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 storm water 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 prior to 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 spoil 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.

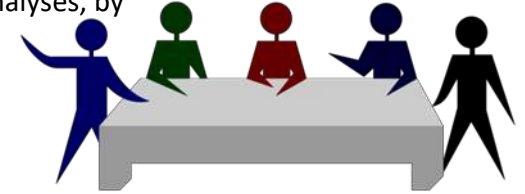
Sources

- 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

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

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 consider the needs of consulted agencies and to eliminate or minimize conflicts with other agencies' programs.



A list of contacts was compiled to include local, regional, state and federal organizations that have expertise in the 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 2050 LRP which includes maps of proposed projects on how they can provide their input

Agencies Consulted

Education

Andrews University
Lake Michigan College – Niles Campus

Environment

Michigan Department of Environmental Quality
Berrien County Conservation District
Cass County Conservation District
US Environmental Protection Agency
U.S. Department of the Interior: Fish and Wildlife Service
Wrightman and Associates

Health and Human Services

Corewell Health
Van Buren/Cass District Health Department
Berrien County Health Department

Historic Preservation

Berrien County Historical Association
Michigan State Historic Preservation Office
Niles Historical Society

Governmental Partners

Berrien County Drain Commissioners
Berrien County Road Department
Cass County Drain Commissioners
Cass County Parks Department
Cass County Road Commissioners
City of Buchanan
City of Niles
MDOT Air Quality
Pokagon Band of Potawatomi Indians

Natural Resources

Berrien County Parks
Cass County Parks
Friends of the St. Joseph River
Michigan Department of Agriculture & Rural Development
Michigan Department of Natural Resources
Southwest Michigan Land Conservancy

Environmental Justice

Historically low income and minority populations have received a disproportionate amount of health and environmental impacts from federal projects without seeing the full benefits. Environmental Justice (EJ) refers to methods to avoid these issues. EJ is mandated under a federal directive (Executive Order 12898, enacted in 1994) requiring all federal programs to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects as the result of its programs, policies, and activities on minority populations and low-income populations. Populations that require special consideration include historically marginalized groups such as African Americans, Asian Americans, Hispanic or Latino Americans, Native Americans, and low-income households. The federal requirements for EJ include the following criteria:

1. To avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects to EJ populations
2. Minimize any blocking of access of EJ areas to the transportation system
3. Ensure there is no neglect of transportation system in EJ areas

SWMPC staff has undertaken a variety of actions to ensure that the needs of low-income and minority populations are recognized and addressed. The primary method is through involvement with the public, community groups, and other stakeholders. The SWMPC public participation plan lays out goals and strategies for gaining greater input from all groups, including low-income and minority populations, which have historically been excluded from important decisions. These individuals and groups are invited to participate in meetings and other involvement activities to voice their opinions and offer their input. The maps on the following pages illustrate projects that are either regionally significant or federally funded and are currently programmed to be built in the NATS planning area between now and 2050

EJ Analysis Methodology

For the purposes of Environmental Justice (EJ), two terms need to be defined: Minority and Low-Income.

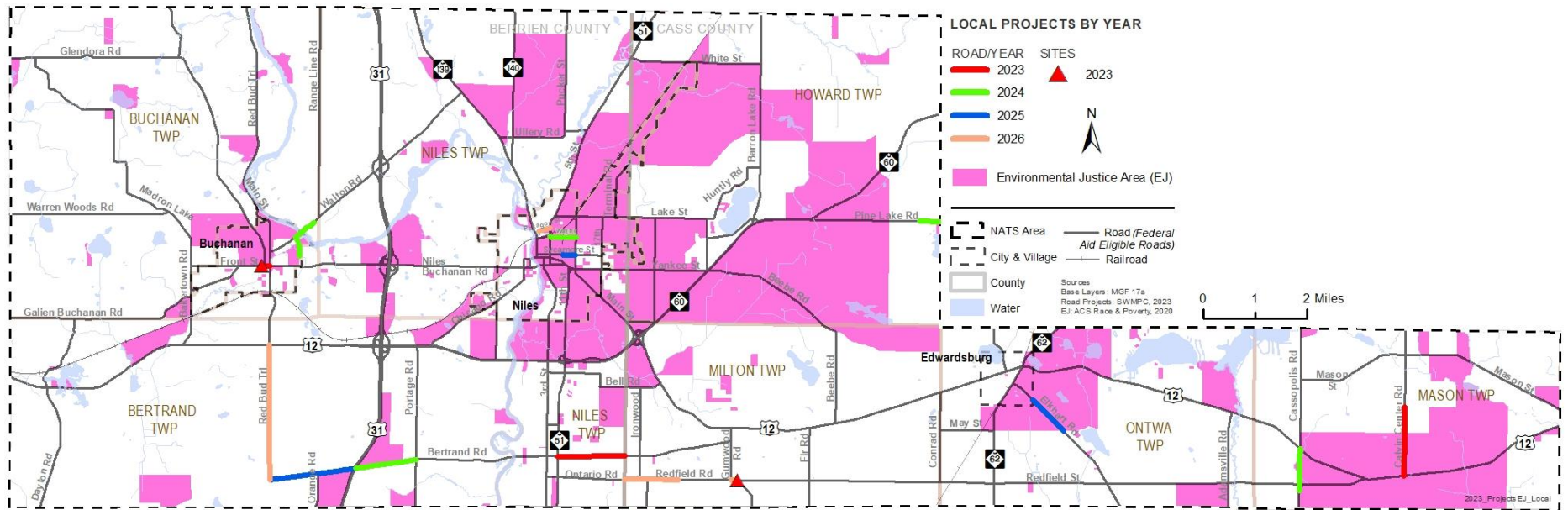
Low-Income is defined as a household living below the poverty level based on the U.S. Department of Health and Human Services (HHS) poverty guidelines. These guidelines change every year due to inflation and vary with the number of people within each household.

Minority is defined based on US DOT order 5610.2 as any person identifying as the following:

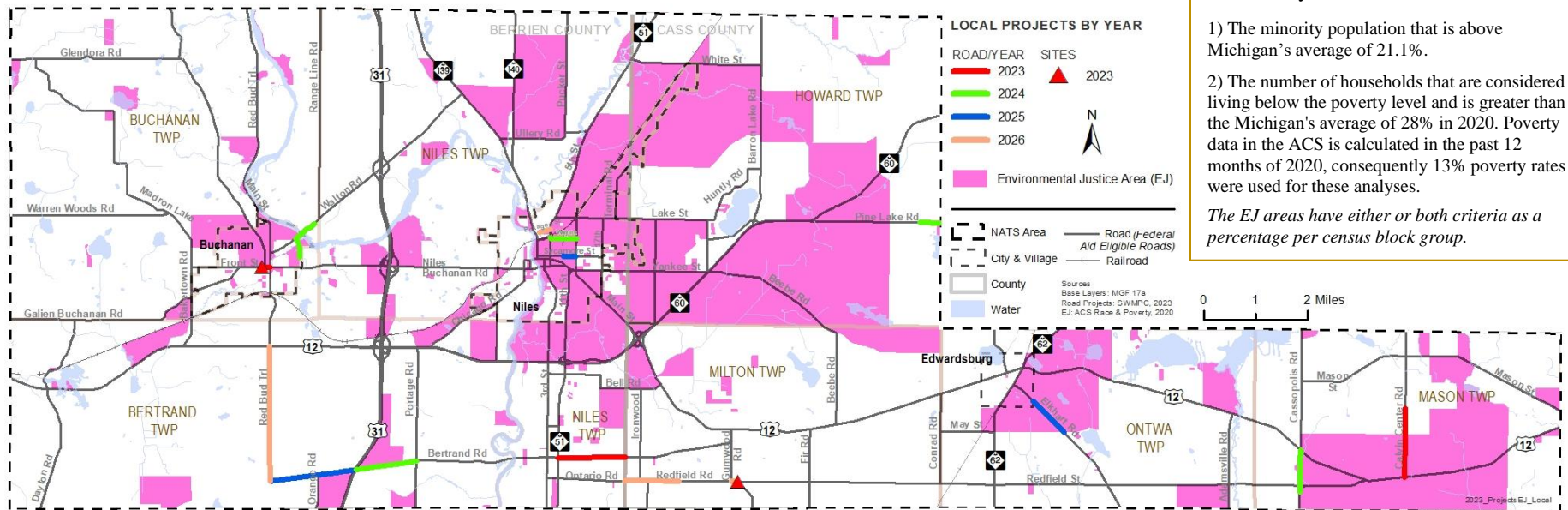
1. African American (a person having origins in any of the black racial groups of Africa)
2. American Indian and Alaskan Native (A person having origins in any of the original peoples of North America and who maintain cultural identification through tribal affiliation or community recognition)
3. Asian Americans (A Person having origins in any of the original peoples of the Far East, South East Asia or the Indian subcontinent)
4. Hispanic or Latino (a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race)
5. Native Hawaiian or other Pacific Islander (A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other pacific islands)
6. Other Minorities (a person having origins from regions not included in any of the above categories, but who does not identify as white)

Connecting Principles -> Environmental Justice

Locally Controlled Projects



MDOT Projects



Environmental Justice (EJ) areas are selected by two criteria:

- 1) The minority population that is above Michigan's average of 21.1%.
- 2) The number of households that are considered living below the poverty level and is greater than the Michigan's average of 28% in 2020. Poverty data in the ACS is calculated in the past 12 months of 2020, consequently 13% poverty rates were used for these analyses.

The EJ areas have either or both criteria as a percentage per census block group.

Analysis and Results of the EJ Analysis

Avoiding Disproportionately High and Adverse Human Health and Environmental Impacts

A majority of the projects in the Long Rang Plan are wholly or partially within an identified EJ area. Projects which are an expansion of the transportation system (widening) or relocating a road, may have potentially adverse impacts to the community through the displacement or relocation of individuals, economic hardship, and/or a lack of sense of community. Project which are a reconstruction, rehabilitation, maintenance, non-motorized improvements, or safety projects. are anticipated to have minimal (if any) impacts in terms of noise, right-of-way takings, or pollution.

Minimize any blocking of access of EJ areas to the transportation system

Minimizing access can be characterized as the permanent closing of streets or interchanges which would make travel from or to an EJ area more difficult. While temporary closures may be necessary as part of the construction process, no permanent closures are intended because of implementing the proposed projects. It has been determined that there is minimal blockage of access to the transportation system or loss of mobility as a result of implementing the projects in the 2050 Long Range Plan.

Ensure there is no neglect of the transportation system in EJ Areas

Approximately 10 percent of the total population within the NATS planning area is within a ¼ mile of a project listed in the long range plan. Out of the total minority population, 12.56 percent are within ¼ mile of a project. About a 16.2 percent of the households below the poverty level live within a ¼ mile of a transportation project, compared to 10.9 percent of all households. This analysis indicates that EJ populations are not being neglected based on the projects contained in the long-range plan.



Policy Committee Membership

Local Government	
City of Buchanan	Rich Murphy
City of Niles (1)	Georgia Boggs
City of Niles (2)	Serita Mason
City of Niles (3)	
Village of Edwardsburg	
Niles Dial A Ride Transit	Pepper Miller
Bertrand Township	Butch Payton
Buchanan Township	Lynn Ferris
Howard Charter Township	Bill Kasprzak
Mason Township	
Milton Township	Susan Flowers
Niles Charter Township	Richard Cooper
Ontwa Township	Dawn Bolock
County	
Berrien County Board of Commissioners (1)	Michael Majerek
Berrien County Board of Commissioners (2)	
Berrien County Planning Commission	
Berrien County Road Department	
Cass County Board of Commissioners (1)	Roseann Marchetti
Cass County Board of Commissioners (2)	James Lawrence
Cass County Road Commission	Sandra Seanor
State	
MDOT, Coloma TSC	Jonathon Smith
MDOT, Southwest Region	Josh Grab
MDOT, Statewide Planning	Jim Sturdevant
Tribal	
Pokagon Band of Potawatomi Indians	
Non-Voting	
Federal Highway Administration	Andy Pickard
Federal Transit Administration	Susan Webber
Michiana Area Council of Governments	Caitlyn Stevens
Southwest Michigan Planning Commission	Kim Gallagher

Technical Advisory Committee Membership

Local Government	
City of Buchanan	Don Ryman
City of Niles Public Works Department	Joe Ray
City of Niles, Community Development Department	Ryan Millan
Jerry Tyler Memorial Airport	Joe Ray
Niles Dial A Ride Transit	Pepper Miller
Village of Edwardsburg	
Bertrand Township	Butch Payton
Buchanan Township	Lynn Ferris
Howard Charter Township	Bill Kasprzak
Mason Township	
Milton Township	Susan Flowers
Niles Charter Township	Richard Cooper
Ontwa Township	Dawn Bolock
County	
Berrien County Community Development	
Berrien County Road Department	Kevin Stack
Cass County Planning Commission	Roseann Marchetti
Cass County Road Commission	Joe Bellina
State	
MDOT, Coloma TSC	Jonathon Smith
MDOT, Southwest Region	Josh Grab
MDOT, Statewide Planning	Jim Sturdevant
Regional	
Kinexus	
Pokagon Band of Potawatomi Indians	
Non-Voting	
MDOT, Office of Passenger Transit	Fred Featherly
MDOT, Transportation Modeling	Jon Roberts
EGLE, Air Quality	Breanna Bukwoski
Federal Highway Administration	Andy Pickard
Federal Transit Administration	Susan Webber
Michiana Area Council of Governments	Caitlyn Stevens
Southwest Michigan Planning Commission	Kim Gallagher

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 Niles Dial A Ride’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 Niles Dial A Ride’s targets
Congestion Mitigation & Air Quality Improvement	September 14, 2016.	February 17, 2017	March 20, 2017	MPO supports MDOT statewide Emissions targets and the South Bend congestion 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 25, 2022, NATS adopted MDOT'S 2023 Safety targets.

Performance Measure	Description	NATS DATA		Statewide Data		2021 State Target	2021 Target met?	2023 State Target
		2015-2019	2017-2021	2015-2019	2017-2021			
Number of fatalities.	The number of fatalities due to a vehicular crash.	9.6	10	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.	1.95	2.09	0.998	1.071	0.982	No	1.136
Number of serious injuries.	The number of serious injuries due to a vehicular crash.	43.0	46.8	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.	8.62	9.64	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.	4.0	3.4	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 NATS 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 application. Points were awarded based on the number of countermeasures a project includes. Every local road agency project includes at least one safety improvement, with some projects including several countermeasures. Examples of safety improvements funding in 2023-2026 include shoulder widening, signal timing improvements, improved signage, and improvements to pavement marking durability.

Pavement Condition

Federal regulation (23 CFR 490 Part C) requires states to establish targets for the percent of pavement in good condition and the percent of pavement in poor condition, on the Interstate and the Non-Interstate National Highway System (NHS). Reporting on pavement condition is based on a 4 yr. performance period with 2yr. and 4 yr. targets.

The Pavement Condition rule requires states to measure, monitor, and set targets based on a composite index of pavement condition measures (PCM). The PCM consists of four metrics: International Roughness Index (IRI), Cracking Percent, and Rutting/Faulting as reported by states to the FHWA’s Highway Performance Monitoring System (HPMS). Cracking Percent and IRI are reported on all pavement types. Rutting is reported only on asphalt pavements, while faulting is only reported for jointed concrete pavements. If all three metrics on a segment are “good,” then the segment is considered to be in good condition. If two or more metrics are “poor,” it is to be considered in poor condition.

Pavement Condition Targets apply only to bridges on the NHS, which includes the Interstate and Non-Interstate NHS. There are no Interstate highways within the NATS Area. 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 owns & maintains approximately 81 percent. On March 23, 2023, NATS voted to support MDOT’s two year and four-year pavement condition targets for 2022-2025.

Performance Measure	NATS 2021 Baseline	Statewide 2021 Baseline	2 yr. Targets – 2023 Statewide	4 yr. Targets – 2025 Statewide
Percentage of pavement on the Interstate System in good condition.	NA	70.40%	59.20%	56.70%
Percentage of pavement on the Interstate System in poor condition.	NA	1.80%	5.00%	5.00%
Percentage of pavement on the non-Interstate National Highway System in good condition.	26.9%	41.60%	33.10%	33.10%
Percentage of pavement on the non-Interstate National Highway System in poor condition.	35.5%	8.90%	10.00%	10.00%

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. These condition ratings are an important tool used to identify preventative maintenance needs, and to determine funding required for rehabilitation and replacement projects.

Federal regulations (23 CFR 490 Part D) require states to establish targets for the bridge conditions on the Interstate and Non-Interstate National Highway System. Reporting is based on a 4 yr. performance period with 2yr. and 4 yr. targets. On March 23, 2023, NATS voted to support MDOT’s two year and four-year bridge condition targets for 2022-2025.

Performance Measure	NATS 2021 Baseline	Statewide 2021 Baseline	2 yr. Targets – 2023 Statewide	4 yr. Targets – 2025 Statewide
Percentage of National Highway System (NHS) bridge deck area in good condition.	3%	70.40%	59.20%	56.70%
Percentage of National Highway System (NHS) bridge deck area in poor condition.	0%	1.80%	5.00%	5.00%

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. NATS 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 NATS region, with nearly every bridge in poor condition already programmed for repairs within the next four years.

Travel Time Reliability

Federal rules (23 CFR 490 Part D & F) 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 National Highway System (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. The reliability measure compares 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. The regulations requires reliability targets to be set for the percent of person-miles on the Interstate and non-Interstate NHS. Person-miles refers to the estimated number of people traveling, not number of vehicles. For Trucks (commercial shipping), the measure only applies to the Interstate.

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 per 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 May 23 2022, NATS voted to support for the Michigan Department of Transportation’s two year and four-year Travel Time Reliability Targets

Performance Measure	SWMC 2021 Baseline*	Statewide 2021 Baseline	2 yr. Targets – 2023 Statewide	4 yr. Targets – 2025 Statewide
Percentage of the person-miles traveled on the Interstate that are reliable.	100%	97.10%	80.00%	80.00%
Percentage of the person-miles traveled on the non-Interstate NHS that are reliable.	95.9%	94.40%	75.00%	75.00%
Truck Travel Time Reliability (TTTR) Index (interstate only)	1.12	1.31	1.60	1.60

*Due to the lack of Interstate in the NATS area, and difficulties in data collection, The reliability measures cover both the NATS & TwinCATS planning area

Travel Time Reliability Role in the Planning Process

The NATS area already meets the state’s 2023 Travel Time Reliability targets. NATS will continue to use travel demand models to predict if changes in population and travel patterns may lead to future reliability concerns.

Congestion Mitigation & Air Quality Improvement

The Congestion Mitigation and Air Quality (CMAQ) Program focuses on three performance areas to address congestion and improve air quality. These performance areas include the Total Emission Reduction Performance Measure, the Peak Hour Excessive Delay (PHED), and the Percent Non Single Occupancy Vehicle (SOV) Travel Targets.

Under the Total Emission Reduction Performance Measure (23 CFR 490 Subpart H), Metropolitan Planning Organizations (MPOs) located in non-attainment areas and receiving CMAQ funding are required to establish 2-year and 4-year targets for reducing criteria emissions. This measure aims to reduce emissions that contribute to ozone formation and the non-attainment of air quality standards.

The PHED and Percent Non-SOV Travel Targets (23 CFR 490 Subpart G) specifically apply to urban areas with a population above 200,000. The PHED measures the level of delay experienced during the peak hour on the National Highway system. The Percent Non-SOV Travel Target measures the percentage of the urban population commuting to work using means other than driving alone, such as carpooling, transit, walking, or biking.

The NATS boundary contains area within Berrien County and the South Bend Urban Area. Since Berrien County is in a non-attainment area and South Bend's urban population exceeds 200,000, all three CMAQ performance targets apply to this region. The targets for the Total Emission Reduction Performance Measure were developed by the Michigan Department of Transportation (MDOT) in coordination with each relevant MPO in Michigan. Similarly, the PHED and Percent Non-SOV targets were developed through collaboration between the Indiana Department of Transportation (INDOT), MDOT, MACOG (South Bend Metropolitan Planning Organization), and SWMPC.

Congestion Mitigation & Air Quality Improvement

On May 25, 2023, the NATS voted to adopt the MDOT's statewide cumulative emissions reduction targets, as well as the South Bend PHED and Percent Non-SOV targets. This decision reflects the commitment of the region to address congestion and improve air quality by setting specific goals and targets in these key performance areas.

Total Emission Reduction Targets for On-Road Mobile Source Emissions: Cumulative 2-year and 4-year targets, measured in kg/day

Performance Measure	Baseline Values 2021	2-yr. target 2023	4 yr. Target 2025
State Total Emission Reduction: PM2.5	1,527.49	595.00	1,191.00
State Total Emission Reduction: NOx	13,118.82	5,227.00	10,455.00
State Total Emission Reduction: VOC	5,246.55	2,295.00	4,590.00

Traffic Congestion Targets – South Bend Urbanized Area

Performance Measure	Baseline Values 2021	2-yr. target 2023	4 yr. Target 2025
Annual Hours of Peak Hour Excessive Delay Per Capita (NPMRDS/HPMS-AADT)	0.6 hours	2.0 hours	2.0 hours
Percent of Non-Single Occupancy Vehicle (Non-SOV) Travel (ACS Journey to Work Data)	20.6%	18.0%	18.0%

Congestion Mitigation & Air Quality Improvement in the Planning Process

Berrien County receives CMAQ funding which can be used within the NATS Area, on a project which will reduce emissions. A key factor in the CAMQ selection process is comparing the emission reduction benefits of the projects. Several key programs are the Rideshare program run by SWMPC which assists employers in the area with setting up carpool or van pool programs. NATS funds numerous non-motorized projects which replace some SOV trips with walking or biking trips.

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 Niles Dial A Ride Transit (NDART) is the designate transit provider for the Michigan portion of the South Bend Urban Area . Based on its fleet size which is less than 100 vehicles in revenue service during peak -time Niles Dial A Ride 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

Niles Dial A Ride has report State of Good Repair Targets to the Federal Transit Administration. NATS adopted and supports the targets set by NDART

Performance Measure	Description	Asset	Base Data - 2019	Target 2020	Data Source
Rolling stock in a state of good repair	Percent of rolling stock transit vehicles that have exceeded useful life	6 Cutaway Buses	43% exceed ULB	29% exceed ULB	PTMS
Non-Revenue Vehicles in a state of good repair	Percent of non-revenue vehicles that have exceeded useful life	1 Truck with snow plow	100% exceed ULB	100% exceeds ULB	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/Maintenance Building	1 rated 3 on TERM scale.	0% rated below a 3.0 on the FTA TERM Scale	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 Niles Dial A Ride Transit (NDART), as an FTA 5307 recipient, published their Public Transportation Agency Safety Plan, on December 8, 2020, and on May 25, 2021, the NATS Policy Committee voted to support the targets in the plan. These include 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 May 25, 2021, NATS agreed to set the MPOs Public Transportation Safety Targets by supporting the targets contained in the NDART 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	2	.2	2	.2	95,000
Fixed Route	0	0	0	0	1	.46	20,000

Transit Performance Measures Role in the LRTP Process

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

NATS Project Selection Process Background

NATS requires agencies to submit a project application who are re-questing Surface Transportation Program (STP). NATS 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.

Project Identification: NATS 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 NATS TAC and Policy Committee



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



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

NATS Project Prioritization Criteria

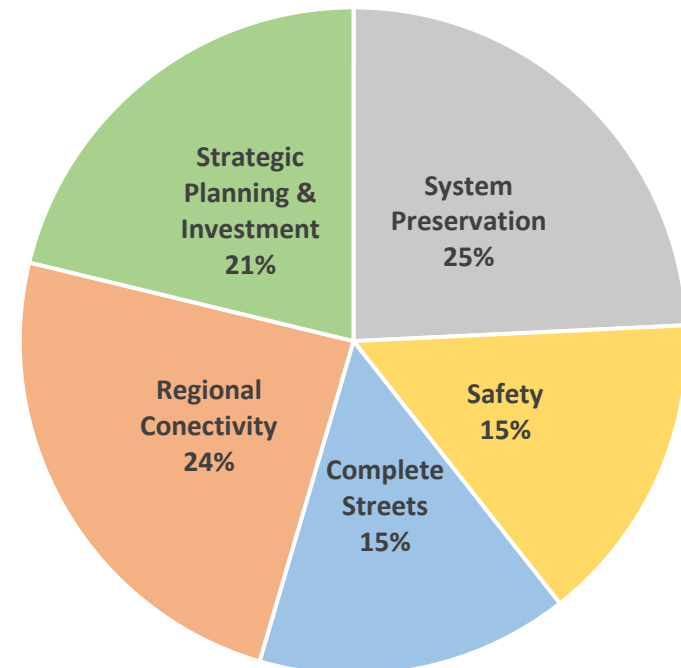
The following pages present a methodology to score projects submitted for consideration for NATS allocation of Surface Transportation Program (STP) dollars for the 2023-2026 Transportation Improvement Program (TIP).

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 NATS 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 NATS Policy Committee.

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

Project Prioritization Categories

System Preservation:	Condition of the road and type of fix proposed
Safety:	Addressing crashes
Complete Streets:	Adding or improving pedestrian or bicycle facilities
Regional Connectivity:	How many users the project may impact
Strategic Planning & Investment:	Using Asset Management best practices and stretching federal dollars



**NATS Road Project Prioritization System
for the 2023-2026 Transportation Improvement Program.**

Approved September 28, 2021

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 (8 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

Strategic Planning & Investment (6 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 plant such as a master plan or a parks and recreation plan.

Project Continuity (1 points 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 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.



PUBLIC OUTREACH

The PPP is a comprehensive guidance document, which in its implementation ensures that public participation will always be a major component of the SWMPC planning process. The document is available to the public through the SWMPC website where it may be viewed and downloaded, and upon request at the SWMPC office.

A brief overview of activities taken to solicit input for the Long Range Plan are listed is below.

- Developed webpages to support the NATS 2050 Long Range Plan with news and announcements to feature efforts such as:
 - Updated data on the transportation system
 - The selection of Performance Measure Targets
 - Identification of Strategies to meet the chosen targets
 - Project selection criteria
 - Proposed and selected projects
 - Air quality conformity
 - Opportunity for public comment
- Interactive maps featuring proposed and selected projects.
- Press releases- print news articles/radio interviews
- Emails to interested parties
- Legal notices in newspaper

Our promise to the public:

- Keep the public informed about our activities
- Allow everyone to have meaningful input in the planning process
- Respect all people and all ideas
- Seek out feedback on our actives so we can continuously improve our processes
- Make special efforts to involve persons and groups typically under-represented in planning or with special needs, including low-income, minority, elderly, and disabled populations
- Make providing feedback simple and easy
- Make all efforts for our plans to reflect the feedback from the public
- Treat the public as an equal partner in our process
- Continuously update our public participation methods based on public feedback and effectiveness

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](#).

WHO TOOK THE SURVEY?

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.

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AVERAGE AGE OF RESPONDENTS
42.1 in Berrien County

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.

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%

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

70%

IDENTIFIED AS CASUAL OR EXPERIENCED RIDERS

44%

RIDE ONCE OR MORE A WEEK

60%

RIDE MORE THAN 5 MILES PER TRIP

WALKER BEHAVIOR

78%

IDENTIFIED AS CASUAL OR EXPERIENCED WALKERS

80%

WALK ONCE OR MORE A WEEK

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



Grocery Store



Work



Restaurant



Medical Facilities

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.”

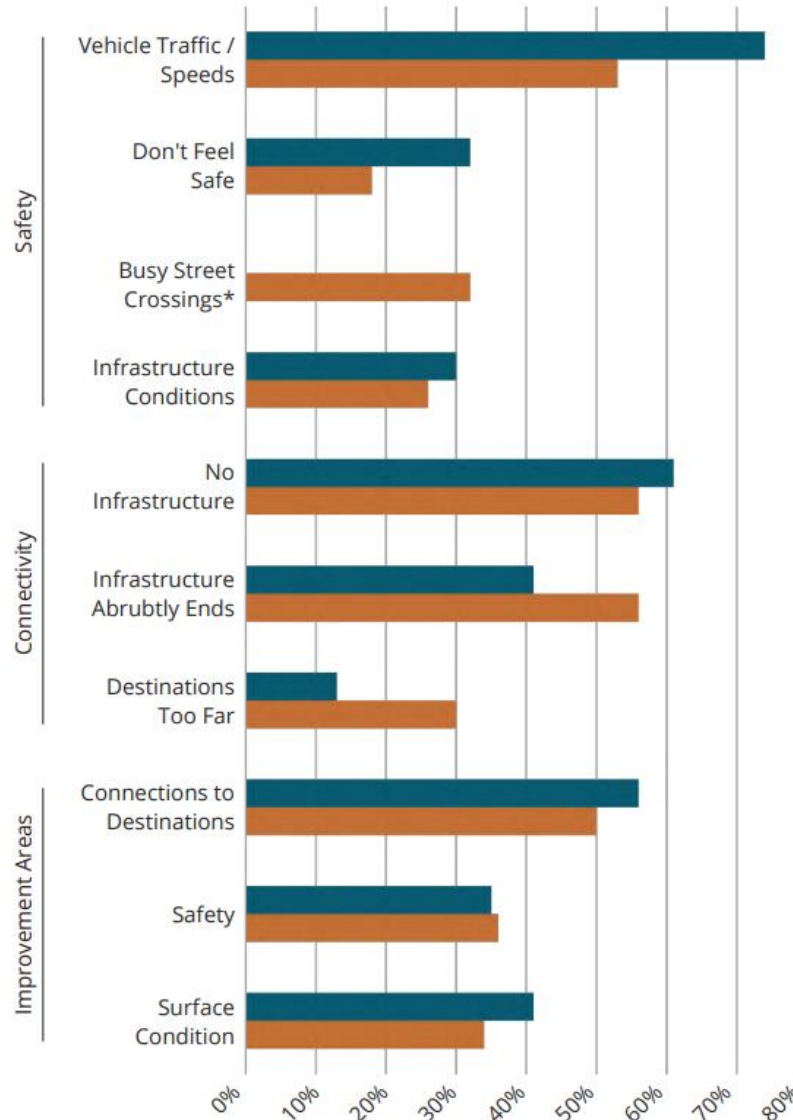
– SURVEY RESPONDENT

LEGEND

- Biker
- Walker

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

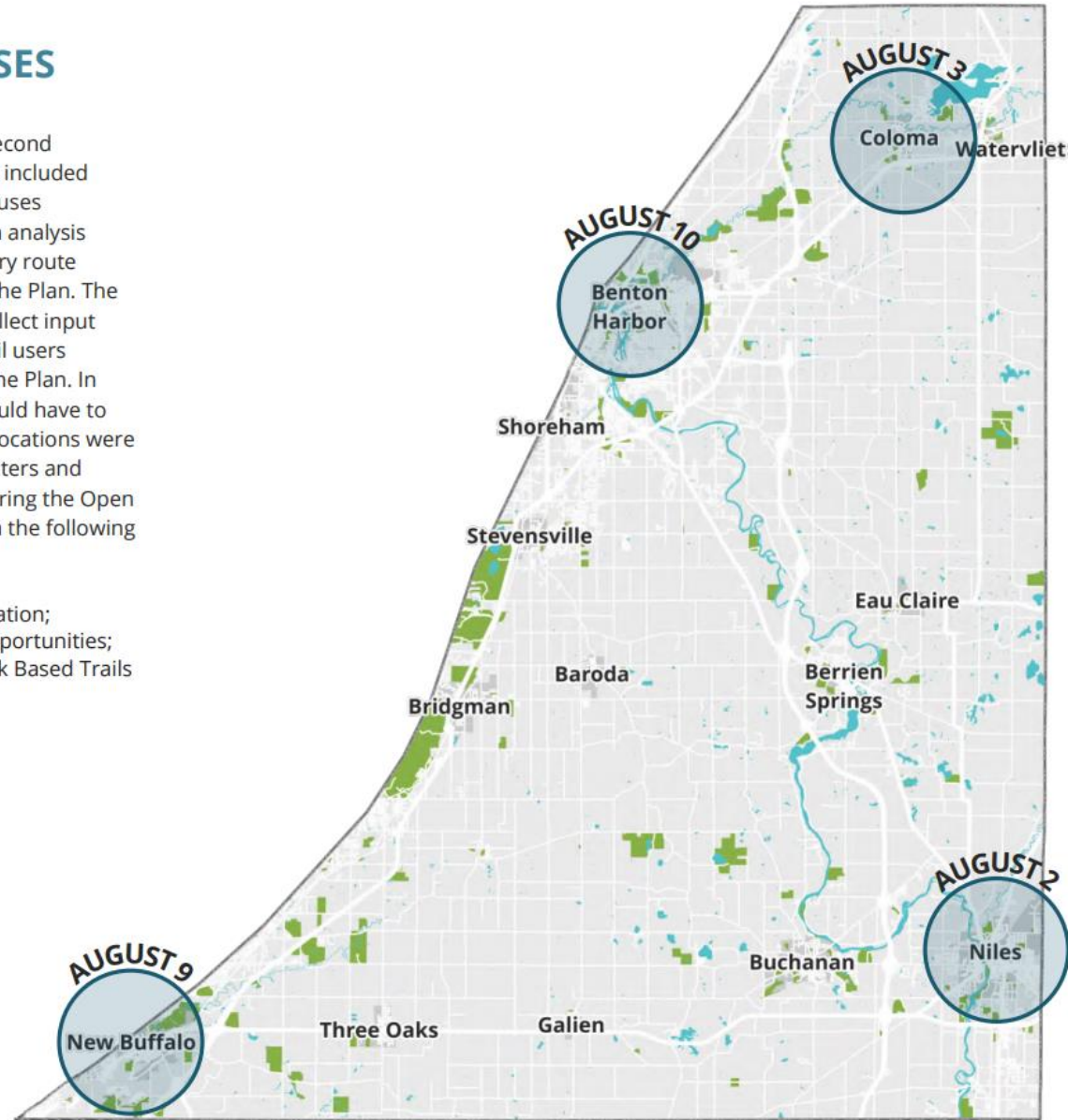
BARRIERS TO MORE USE



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.

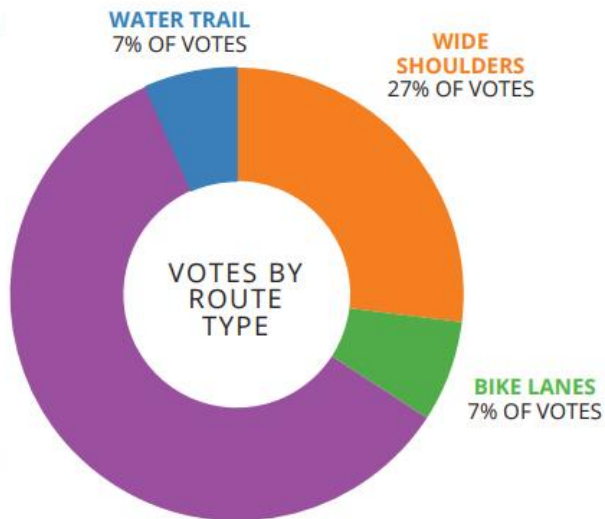


ACTIVITY 1 – RECOMMENDED ROUTE PRIORITIZATION

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.

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VOTES MADE IN ACTIVITY 1



Community Open Houses

COMMUNITY OPEN HOUSES

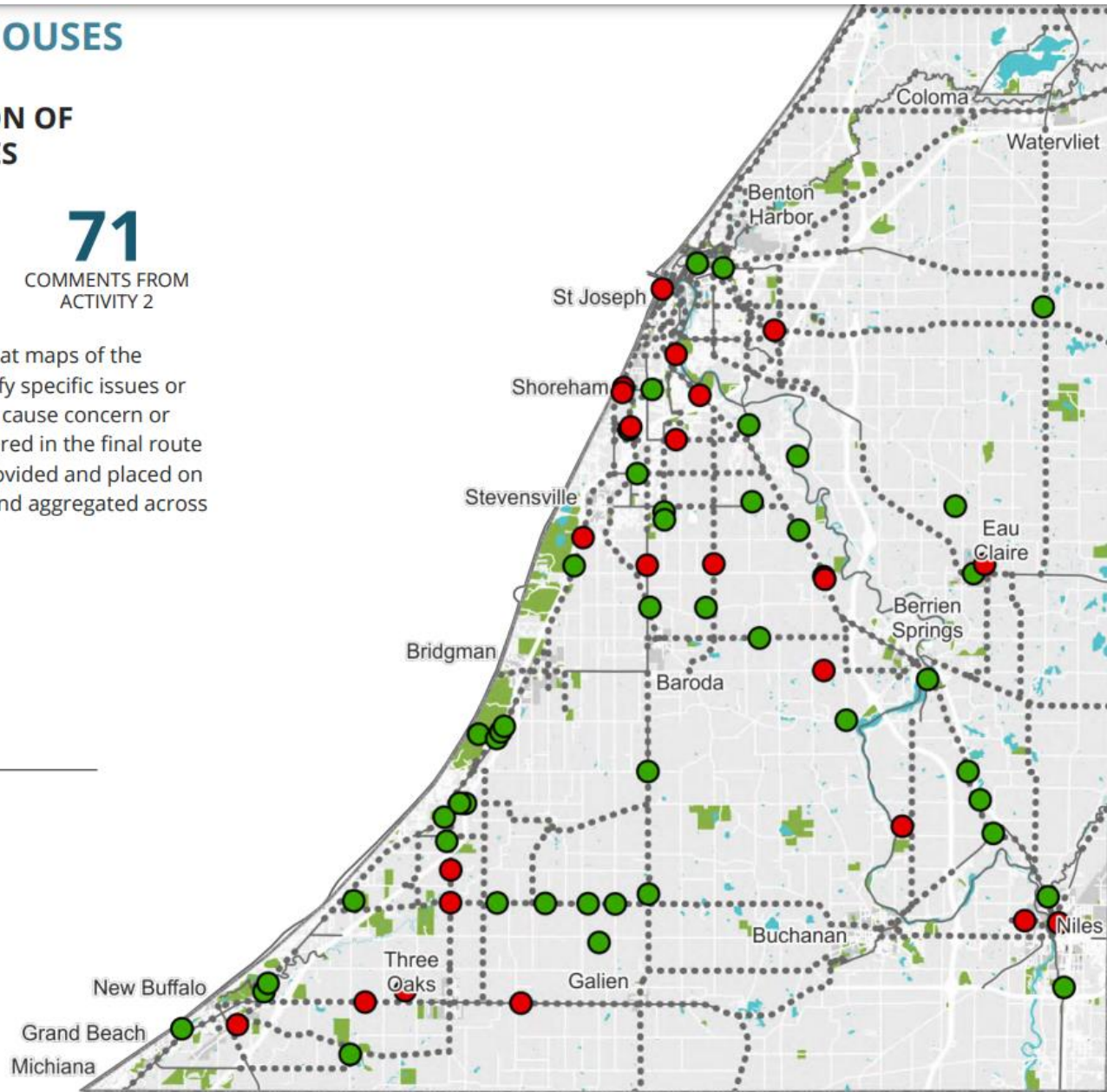
ACTIVITY 2 – IDENTIFICATION OF ISSUES AND OPPORTUNITIES

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.

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COMMENTS FROM
ACTIVITY 2

LEGEND

- • • Proposed Route
 - Opportunities
 - Issues
 - Park
 - Water
 - City or Village
- 1" = 6 Miles
- N



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.

ACTIVITY 4: POSTCARD FROM 2040

Imagine Berrien County in 2040. Write a postcard to a friend or family member describing the experience of using the County's active recreation and transportation system (trails, bike lanes, sidewalks, etc.). What has changed from today and how has that impacted your experience as a Berrien County resident and the experience of all Berrien County residents?

Responses might reflect the goal themes identified in the plan and listed below:

Connectivity	Culture
Safety	Economic Impact
Accessibility	Quality of Place & Talent Attraction
Equity	Collaboration
Health	Maintenance

<p>DEAR,</p> <p><i>I am so delighted to see the multi-use trails in the urban areas of Benton Harbor, St. Joseph and Stevensville. To be able to walk, run, cycle, paddle and even ride a horse (woah!) from the house to the library, bar, restaurant and back is living with a capital L! I could only hope for all of that 18 years ago.</i></p>	 <hr/> <p>FIRST NAME</p> <hr/> <p>LAST NAME</p> <hr/> <p>EMAIL (OPTIONAL, FOR UPDATES)</p>
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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.



Berrien County
Non - Motorized Summit

Bicycling and Pedestrian Facilities

Wednesday February 6, 2019
7:00p.m.—9:00p.m.

Andrews University - Howard Performing Arts Center
4160 E. Campus Circle Drive, Berrien Springs, MI 49104

Free, Open to the Public, Refreshments Provided

For more information contact: Kris Martin at martink@swmpc.org
269-925-1137 x1521

Attendees will accomplish the following:

- Help establish a non-motorized vision
- Discuss local priorities

Give your input for non-motorized transportation (trails, bike lanes, paved shoulders) in Berrien County. Your input will contribute to the Southwest Michigan 7-County Non-Motorized Transportation Plan and Map.

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.

Consultation Process

The Federal legislation (FAST Act) expands upon MAP-21’s requirements stating that all MPOs consult with federal, state, and local entities within their planning areas responsible for the following programs:

- Economic growth and development
- Environmental protection
- Airport operations
- Freight movement
- Land use management
- Natural resources
- Conservation
- Historic preservation
- Human service transportation providers

The goal of this process is to eliminate or minimize conflicts with other agencies' plans and programs that impact transportation, or for which transportation decisions may impact them. As required, SWMPC will consult with all possible entities responsible for programs mentioned above and welcome their input on future transportation projects. During the development of the 2050 Long Range Plan, SWMPC held discussions with various agencies responsible for carrying out transportation programs in the area as well as other interested groups and community agencies regarding how of their local plans might impact or be impacted by transportation decisions.

Agencies Consulted

Education

Brandywine Schools
Buchanan Schools
Edwardsburg Schools
Lake Michigan College – Niles Campus
Niles Schools

Economic Development

Niles Greater Area Chamber of Commerce
MSHDA
Kinexus
Michigan Economic Development Corporation

Environmental Protection

Fish and Wildlife Service
Michigan Department of Environmental Quality
Berrien County Conservation District
Cass County Conservation District
US Environmental Protection Agency

Health and Human Services

Corewell Health
Area Agency on Agency
Berrien County Department of Human Services
Cass County Department of Human Services

Historic Preservation

Berrien County Historical Association
Michigan State Historic Preservation Office

Governmental Partners

MACOG
Office of State Senator
79th District State Representative
Pokagon Band of Potawatomi Indians

Natural Resources

Department of Natural Resources
Berrien County Parks
Cass County Parks

Comments will be added once received

Process for Amending and Updating the NATS 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 NATS Technical and Policy Committees and approved by Southwest Michigan Planning Commission Board of Directors, after the opportunity for 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 will 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 NATS Policy Committee and SWMPC board action.

Resolutions will be added once the plan is approved