

03

Transportation Network



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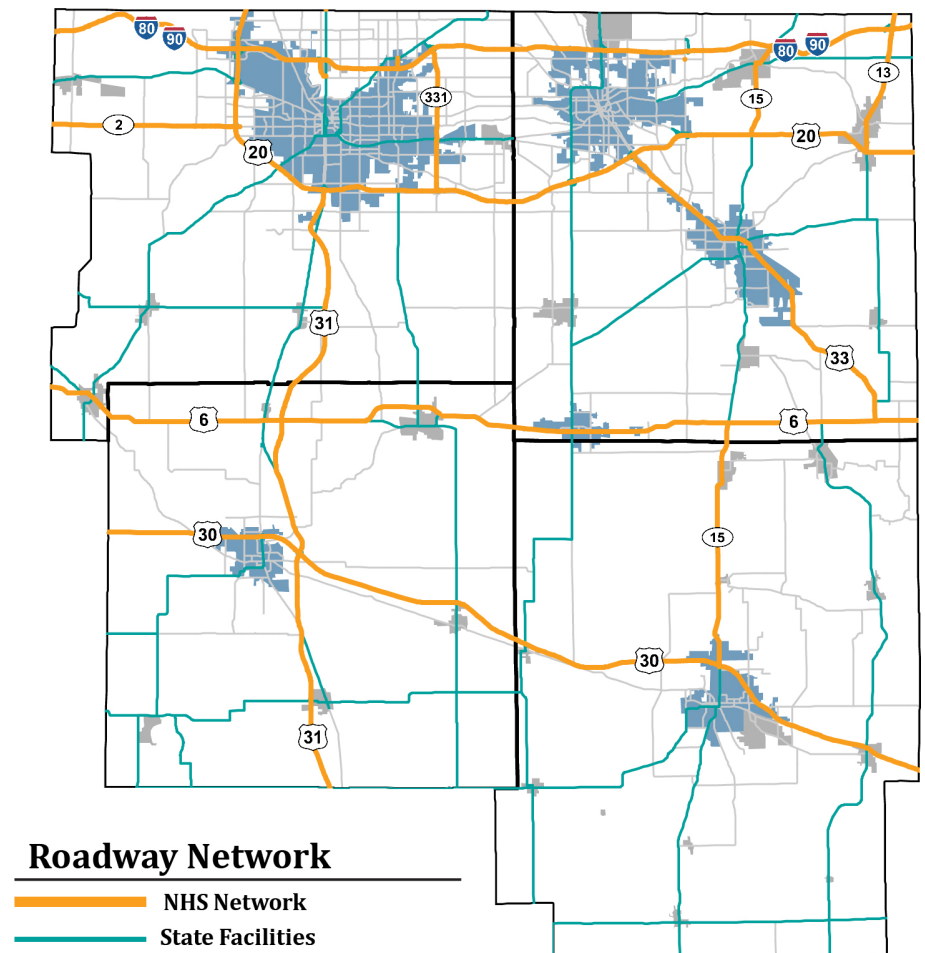
Transportation Network

Social and economic characteristics can influence the demand on the transportation system. More people, more jobs, or more economic successes can result in higher traffic volumes and increased development. The 2050 Transportation Plan analyzes the trends and projections of social and economic characteristics, in order to better understand the future demand on the regional transportation system. The transportation network is more than roads and highways; it includes public transportation, bicycle and pedestrian paths and the movement of freight. It is not just one of these elements, but all of them working together, to create an efficient and effective transportation network for people and products to move throughout the region. Figure 3-1 shows the major roadways within the MACOG region.

Roads and Highways

The MACOG region comprises over 6,548 miles of roadway, providing connectivity and access, both locally and regionally. At its most basic, the roadway network can be separated into three categories: the national highway system, state facilities, and local facilities. Furthermore, roadways are functionally classified, based upon their intended character of service, into interstates, expressways, principal and minor arterials, major and minor collectors, and local roads. The transportation network is always evolving and because of this, it is important to identify and address changes, challenges, and opportunities that might occur in the future through the visioning of the transportation planning process.

Figure 3-1: Roadway Network



National Highway System

The National Highways System (NHS) contains roads and highways important to the nation's economy, defense, and mobility and therefore should be given the highest priority for improvements and repairs. Within the MACOG region there is one corridor that is part of the Eisenhower Interstate System: I-80/I-90 (Indiana Toll Road). This interstate runs through the northern portion of the region, traveling from California to New York. Other highways that are part of the NHS include US 6, US 20, US 30, US 31, US 33, SR 2, SR 13, SR 15 and SR 331.

Regional State Facilities

State highways are generally a mixture of primary and secondary roads intended to provide regional

connectivity between the cities and towns within the state. For the MACOG region, SR 2, SR 4, SR 10, SR 14, SR 25, SR 110, SR 120, SR 933 (Lincolnway), US 6, US 20, and US 30 provide east-west connections inside and outside the region. For north-south connection, SR 13, SR 15, SR 17, SR 19, SR 23, SR 331, US 31, and US 33 provide connection inside and outside the region.

Local Facilities

The Michiana area has an extensive network of arterial and collector roadways that provide access and connectivity for a high volume of vehicular traffic. These networks are extended to other smaller incorporated towns and cities, accommodating travel demand. In total, 35 cities and towns are connected by the network within the MACOG region.

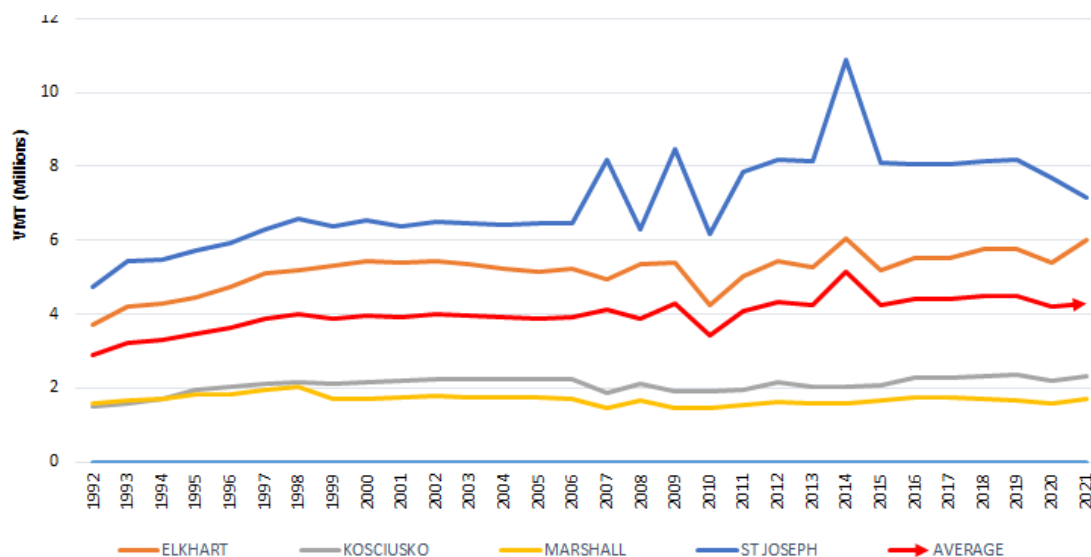
Vehicle Miles Traveled

Vehicle-miles traveled (VMT) is an indicator of road network usage as it measures the distance in which vehicles travel over a particular length of time. VMT is a measure used in transportation planning for a variety of purposes. It measures the amount of travel for all vehicles in a geographic region over a given period of time, typically a one-year period. The Federal Highway Administration has kept records of VMT on a monthly basis since

1970. In 2007, the national level of VMT hit an all-time annual high since the start of this record keeping. By 2008, nationwide VMT dropped for the first time since 1980, and continued to flatline due to economic and social factors. Since 2015 however, VMT has steadily been increasing due to a recovering economy.

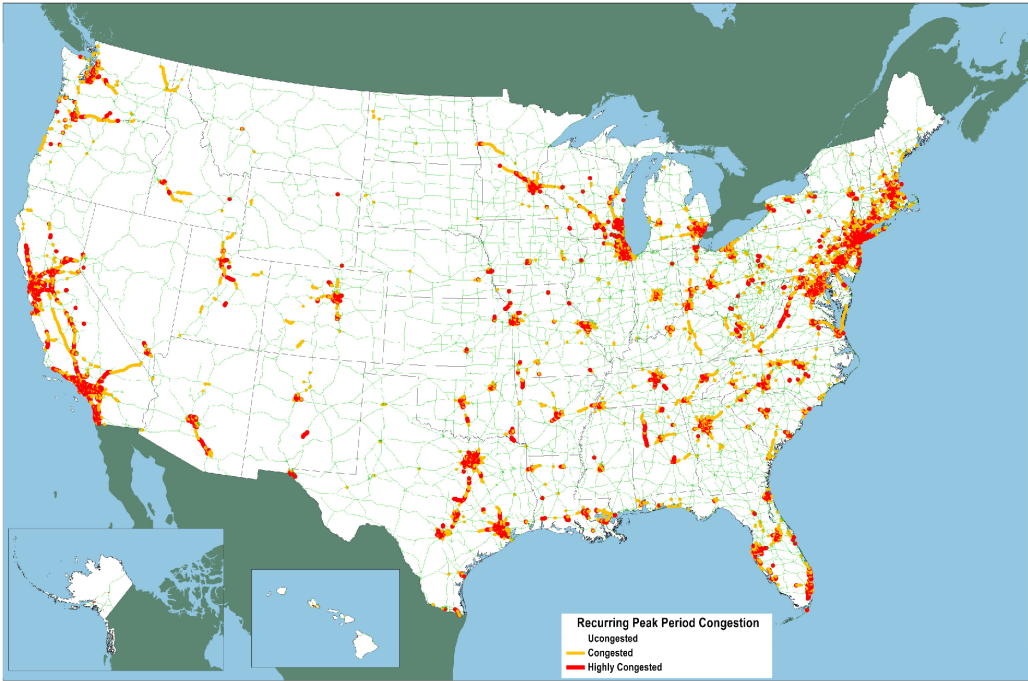
Since 1992, The MACOG Region has seen a general increase in VMT, which is shown in Figure 3-2. A plateau occurred in the late 1990's and lasted until the mid 2000's. After the late 2000's Great Recession, a slight upward trend in VMT occurred to where we are today with an average of 4.2 million VMT across all four MACOG counties. As of 2021, the vehicle-miles traveled within the MACOG Region was 17.2 million miles, which is up from the 2020 year, which was 16.9 million miles. Higher VMT numbers creates more congestion, thus putting a strain on the network in the form of reduced speeds and longer travel times during peak period travel. Figures 3-3 & 3-4 show 2012 and 2045 peak period congestion on the NHS, respectively. Most of the peak period congestion occurs in larger metropolitan areas, however, as the transportation network and urbanized areas have expanded over the last 10 years, more road users have and will continue to add to peak period congestion.

Figure 3-2: Total Daily VMT by County



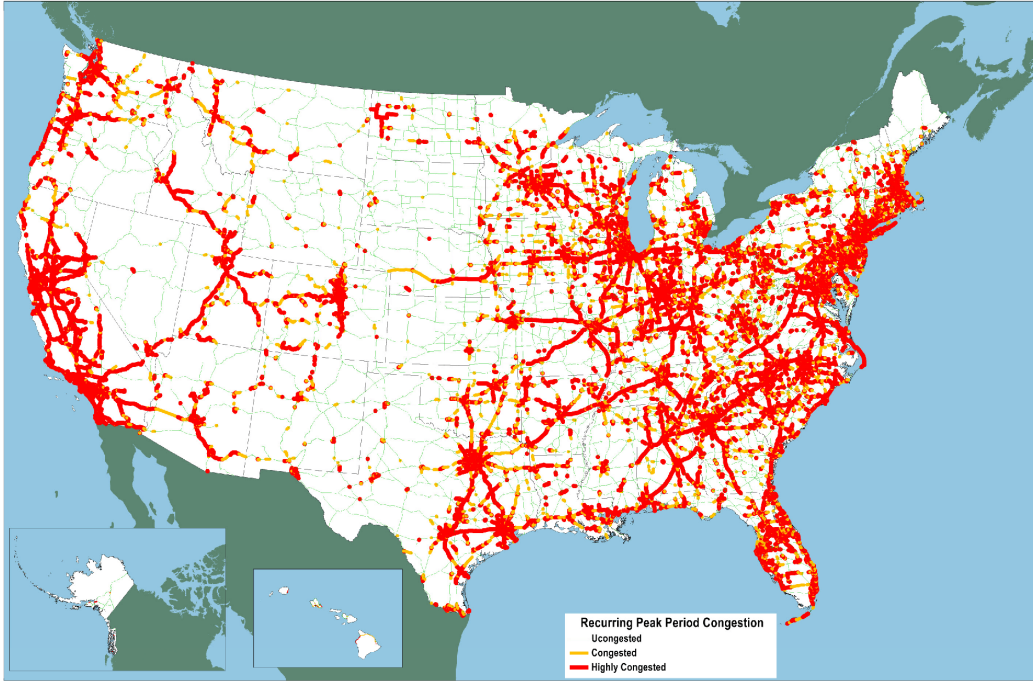
Source: 2022 INDOT

Figure 3-3: Peak Period Congestion on the NHS: 2012



Notes: Highly congested segments are stop-and-go conditions with volume/service flow ratios greater than 0.95. Congested segments have reduced traffic speeds with volume/service flow ratios between 0.75 and 0.95. The volume/service flow ratio is estimated using the procedures outlined in the HPMS Field Manual Appendix N. Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, version 4.3, 2017.

Figure 3-4: Peak Period Congestion on the NHS: 2045



Notes: Highly congested segments are stop-and-go conditions with volume/service flow ratios greater than 0.95. Congested segments have reduced traffic speeds with volume/service flow ratios between 0.75 and 0.95. The volume/service flow ratio is estimated using the procedures outlined in the HPMS Field Manual Appendix N. Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, version 4.3, 2017.

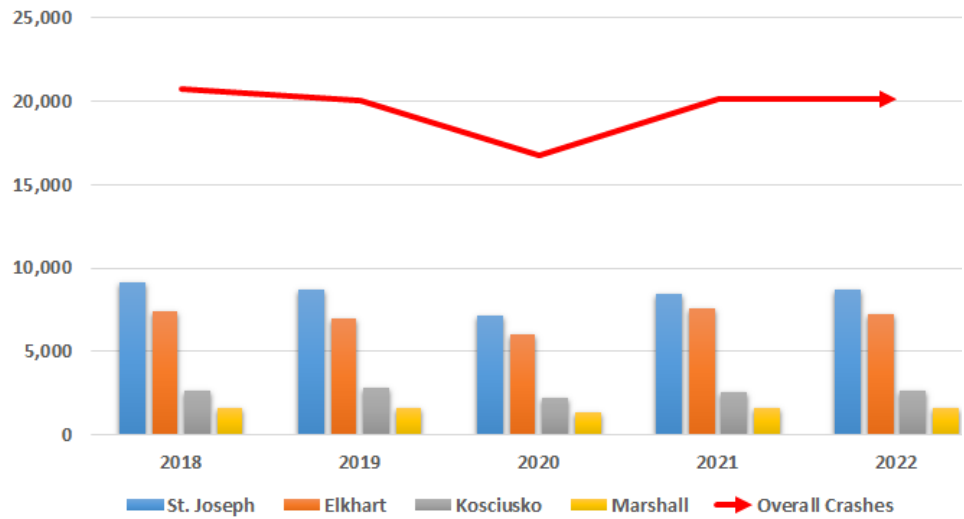
Safety

The MACOG Region has seen a slight decrease in overall crashes from 2018 through 2022 (Figure 3-5). An anomaly occurred between 2019 and 2021; there was a 16% drop in crashes from 2019 to 2020, and a 17% jump between 2020 and 2021. This is likely due to the COVID-19 pandemic and subsequent shutdown, which reduced the amount of roadway users, therefore, dropping the overall amount of crashes during this timeframe.

Over the last 5 years in The MACOG Region, there was an average of 19,563 total crashes, meaning nearly **54 crashes** occurred every day. Every crash is recorded by the seriousness of the injury sustained. They are labeled as serious injury (fatal & incapacitating), non-serious injury (non-incapacitating & possible), or property damage only. There is a focus on serious injury crashes, as improvements to the road network can help prevent these types of injuries, making roads safe for all users.

Figure 3-6 shows breaks down the overall crashes by type. Of all of those crashes, **6,397 crashes involved serious or fatal injuries, which accounts for 6.54% of the total crashes reported**. St. Joseph County accounted for the majority of these crashes over the 5 year period, with the highest average property damage only and possible/non-incapacitating/incapacitating injury crashes. Elkhart County did see the highest average fatal injury crash rate at 29 over the same 5 year period. An overall drop in incapacitating injury crashes (and subsequent increase in non-incapacitating injury crashes) seemed to occur from 2021 to 2022 in 3 out of the 4

Figure 3-5: Total Crashes by County from 2018-2022



counties, although after further research, a policy change occurred with a new version of The Automated Reporting information Exchange System (ARIES) software in 2021, providing reporting agencies a different avenue to report suspected serious injuries. This is shown on Figure 3-7.

Through geographic information system applications, MACOG maps and analyzes the location of crashes in order to effectively determine which segments of roadway would most benefit from safety enhancements. MACOG continually strives to improve the safety of the transportation system within the region in order to reverse increasing crash rates.

Figure 3-6: Overall Crash Total by Type

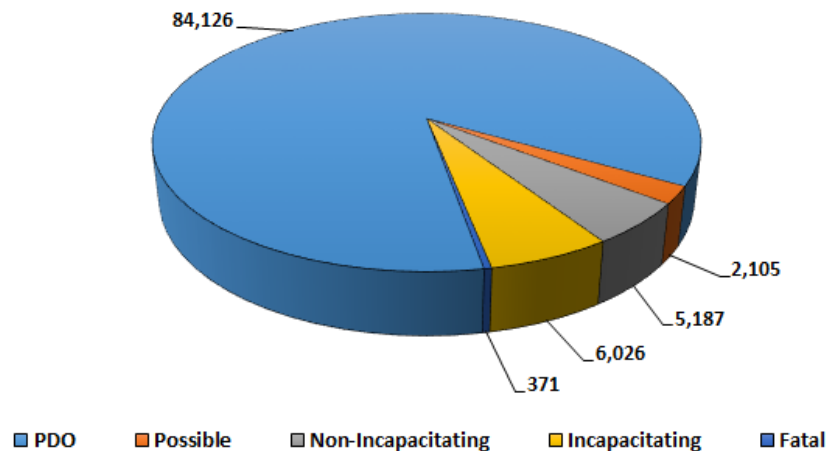
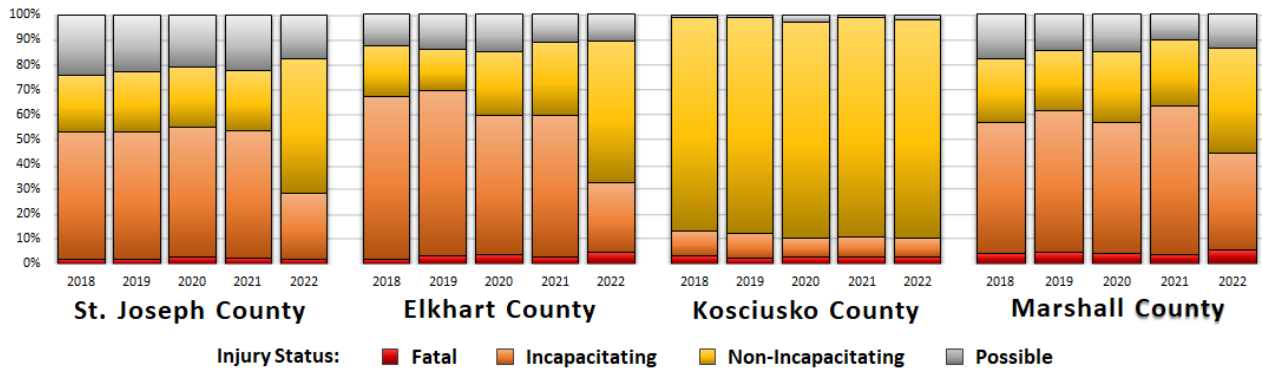


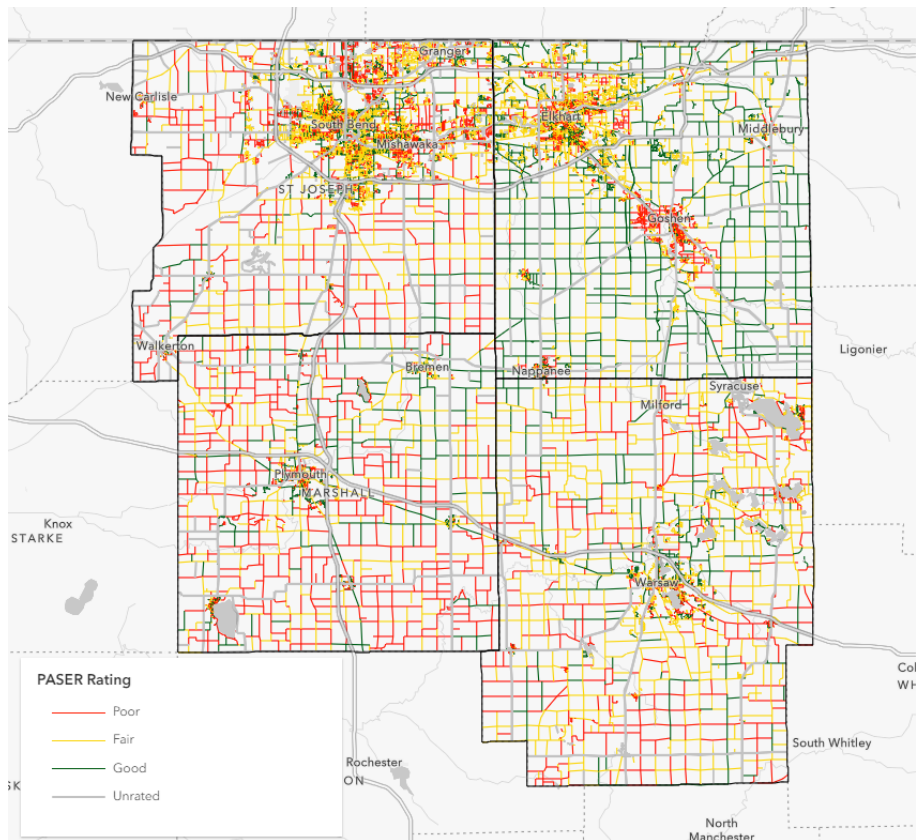
Figure 3-7: Percent of Injury Crashes by Type



SOURCE: AUTOMATED REPORTING INFORMATION EXCHANGE SYSTEM (ARIES)

Asset Management

Asset management provides local public agencies a method for compiling important information about their assets in order to be able to formulate quality management strategies for current and future periods. According to Federal Highway Administration (FHWA), “Asset management is a strategic and systematic process of operating, maintaining, and improving physical assets, with a focus on engineering and economic analysis based upon quality information, to identify a structured sequence of maintenance, preservation, repair, rehabilitation, and replacement actions that will achieve and sustain a desired state of good repair over the lifecycle of the assets at minimum practicable cost” (23 U.S.C. 101(a) (2), MAP-21 § 1103). The transportation network is a critical infrastructure asset for the region and local public agencies. Preservation and maintenance are key for ensuring that the network remains safe for travel, efficient, and reliable. Asset management can maximize life cycle costs, becoming a tool for cost effective practices. INDOT estimates that \$1 spent on pavement preservation can save \$6 to \$14 on future repairs. In 2016, INDOT introduced



the Community Crossing Matching Grant. With this grant, the state began to require asset management as a part of communities planning process in order to receive monies from this grant.

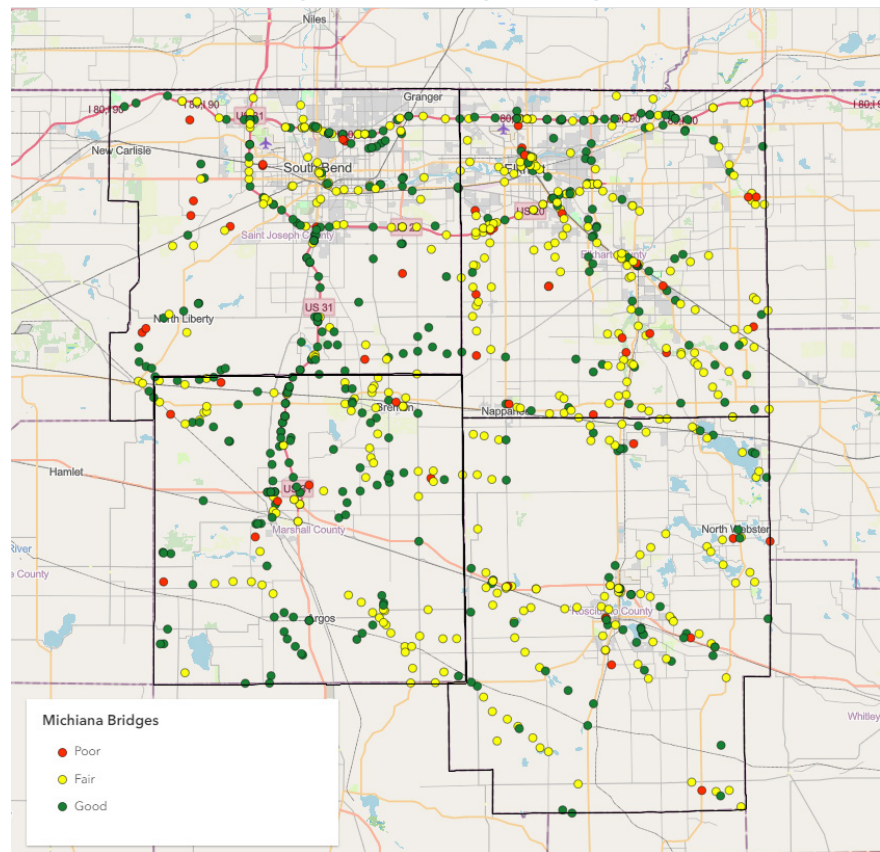
Since that time MACOG has trained and developed strategies to provide technical assistance to Local Public Agencies (LPAs) regarding asset management by teaching LPAs Pavement Surface Evaluation and Rating (PASER) techniques as well as helping them to understand how roadways deteriorate based on the type of wear visible on those roads. MACOG helps LPAs develop 5-year asset management plans in an effort to help the region maintain the roadway network in a strategic manner. With those partnerships, MACOG has worked to develop tools in which LPAs can more quickly visualize road repairs and estimate costs for appropriate fixes to those issues. Figure 3-8 shows road ratings throughout the region. As of 2022, roughly 25% of roads in the MACOG region are rated as GOOD (PASER 8-10), 45% are rated FAIR (PASER 5-7) and 30% are rated POOR (1-4).

Along with maintaining a regional database for road ratings, MACOG began an initiative in 2019 to maintain current and historical bridge ratings and statistics throughout the Region. In doing so communities are able to quickly reference the status of their bridges while also giving them the opportunity to perform analysis on bridge facilities they own in order to guide their decision making while preparing bridge asset management plans and applying for grants to rehabilitate or replace bridges in the transportation network. As of 2022 nearly 50% of bridges across The MACOG area are rated as FAIR, 45% are in GOOD condition, and 6% fall in the POOR category (Figure 3-9).

Public Transit

Public transit is an integral part of the transportation system, providing another mode

Figure 3-9: Bridge Ratings



choice for transportation. This includes providing options for senior citizens, the young, disabled and economically disadvantaged populations. Providing efficient public transit allows all populations access to businesses, health care facilities, employment, and recreation. For this reason, public transit is a crucial link to a stable economy and a better quality of life. Choosing public transit can also yield environmental benefits, lowering congestion and lessening automotive emissions.

Currently, those in the MACOG region are served by two fixed-route public transit services in the urbanized areas and a variety of travel options. Transpo provides fixed-route bus service throughout South Bend and Mishawaka. Transpo connects with Niles Dial-A-Ride (DART) to provide service into Niles, Michigan. The Interurban Trolley serves Elkhart, Goshen, and major points of commerce in between the two cities. Additionally, varieties of demand response services are available in Elkhart, Kosciusko, and Marshall Counties. Regionally, the Michiana area has access to two rail

transit services: the South Shore Line and Amtrak.

Transpo

Transpo operates twenty-one (21) fixed transit routes that serve the cities of South Bend, Mishawaka and Elkhart on 30 minute and 60 minute headways. Service runs Monday through Saturday with no service on Sundays. As of 2023, Transpo operates a fleet of fifty (50) revenue vehicles, all of which are Compressed Natural Gas (CNG) buses.

Over time, Transpo has seen fluctuations in ridership. This is largely due to economic and social factors as well as changes in service. Figure 3-10 illustrates Transpo’s ridership trend since 1996. Transpo reached their highest annual ridership numbers in 2007 at 3,480,510 patrons. Ridership had a significant drop from 2007 through 2009, where it plateaued until 2014 when a steady drop occurred. The lowest ridership since 1996 occurred in 2020 at 939,294 riders, but this was likely due to The COVID-19 pandemic and subsequent shutdown in the economy. Since then, there has been a rise back up above 1 million annual riders in 2022.

In addition to offering fixed-route service, Transpo also offers paratransit services, which covers a three-quarter of a mile corridor on either side of the transit routes. Transpo also provides four (4) Mishawaka School Tripper routes offered in mornings and afternoons during the school year. These are tailored towards providing students an

opportunity to use public transit to get to school. Beginning in 2013, a program allowed school age children unlimited travel during the summer for a discounted rate of \$30. In 2018, in order to introduce more K-12 youth to public transportation and increase access to employment, educational, and recreational opportunities, Transpo’s Free K-12 Summer Travel Program was introduced. This service provides free rides to students during the months of June, July and August. This program was expanded to the Interurban Trolley in 2019 and totaled over 31,000 rides.

Interurban Trolley

The Interurban Trolley is a fixed route bus service in Elkhart County, which was introduced in 1999. The Trolley operates a system of five (5) fixed routes (with a transfer point in downtown Elkhart), administered by MACOG. The Interurban Trolley provides easy and affordable public transit along the corridors connecting Elkhart and Goshen as well as major points of commerce between the two cities. In 2009, the Interurban Trolley added the Yellow Line, providing a viable connection to the South Bend and Mishawaka areas via a transfer point with Transpo. This, in turn, provides greater access and quality of life to & from the Michiana region.

The Interurban Trolley, since 1999, has seen a steady increase in ridership (Figure 3-11). This is likely due to adding additional fixed routes and realignments to the past system. The Interurban Trolley provided 470,394 unlinked

Figure 3-10: Transpo Annual Ridership Trend

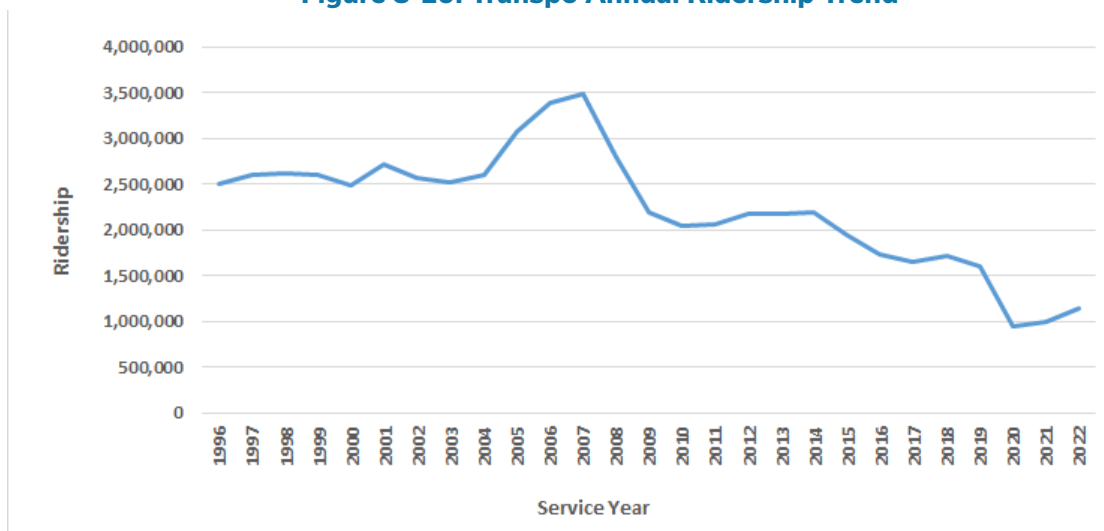
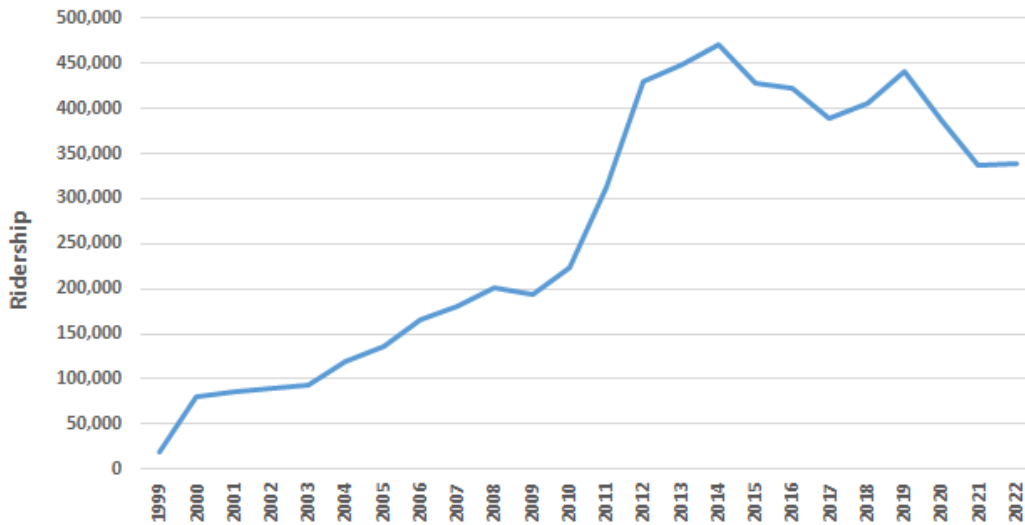


Figure 3-11: Interurban Trolley Ridership by Line



passenger trips in 2014, the highest annual ridership in its history. Ridership dropped to 389,896 in 2017 before breaking the 400,000 mark in 2018 and 2019. There was once again a drop in ridership between 2020 to 2022 to its last annual reported value of 338,606 in 2022.

In addition to offering fixed route service, the Interurban Trolley offers paratransit services in Elkhart and Goshen. In August 2013, the demand response services offered through the Heart City Rider (HCR) and the Goshen Transit Service (GTS) were discontinued, being replaced by what is now the Interurban Trolley Access service. The Interurban Trolley Access provides ten (10) ADA accessible vans for trips to disabled persons unable to use the Interurban Trolley fixed route system within the ADA Corridor. The ADA Corridor includes a 1.5-mile buffer on either side of the fixed transit routes. MACOG continually assesses the effectiveness and efficiency of the transit route system to ensure that the community’s needs are being met.

Connect Transit Plan

Starting in late 2021, MACOG and South Bend Public Transportation Corporation (Transpo), through a Federal Transit Authority (FTA) grant, conducted the CONNECT Transit Plan. CONNECT studied the Interurban Trolley and Transpo fixed route transit systems that service South Bend, Mishawaka, Elkhart, and Goshen in both St. Joseph and Elkhart counties. The plan looked at alternative ways to balance important but

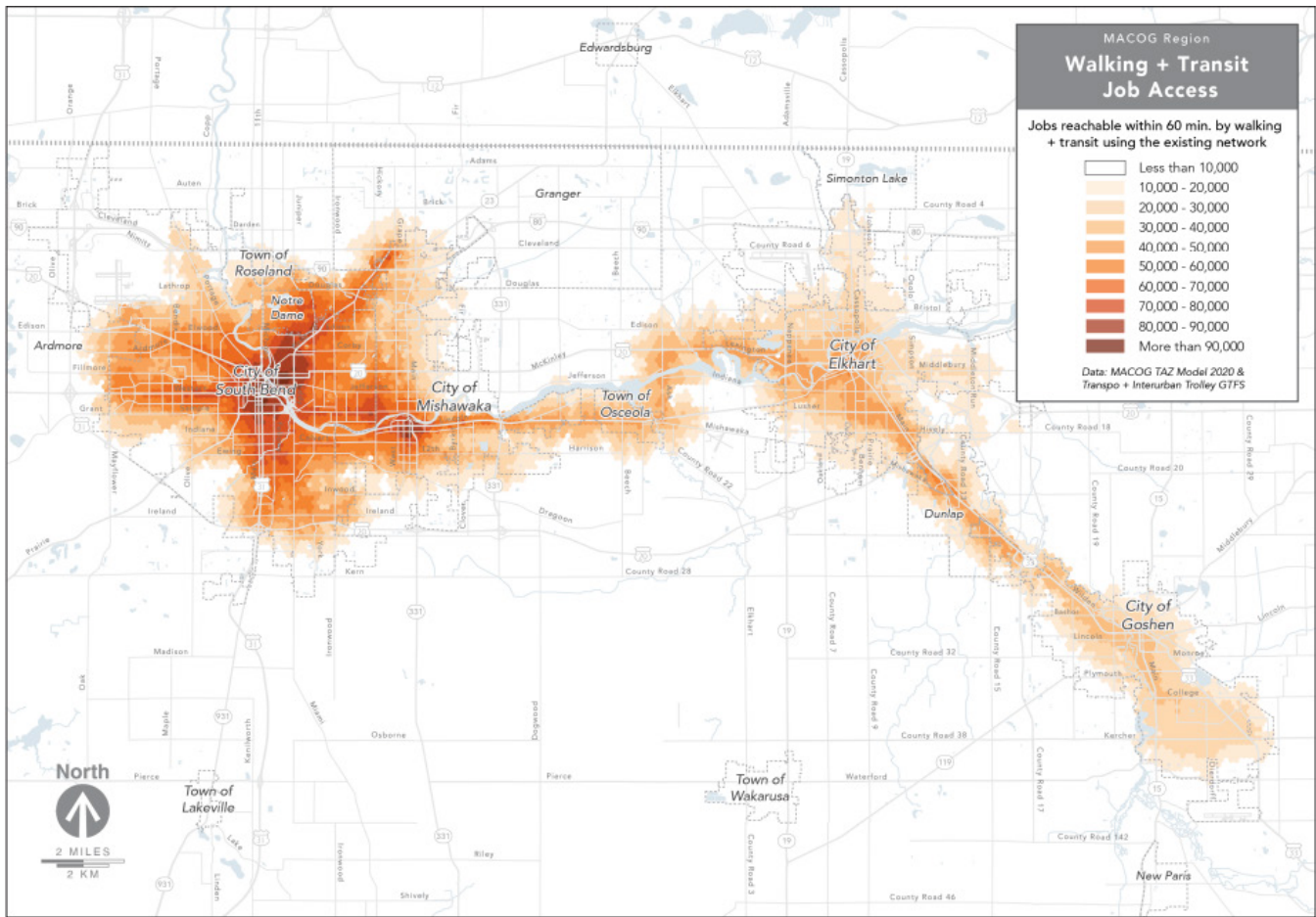
competing priorities, such as improving the frequency and span of service versus adding new service areas and new routes. This has resulted in a ten (10) year plan to improve transit services across the region. This plan was endorsed by both The Transportation Technical Advisory Committee (TTAC) and Policy Board meetings in March & April of 2023 respectively. The results from this plan can be viewed at www.connecttransitplan.com.

Public Demand Response Services

Demand response service is a non-fixed route system that requires riders to schedule trips ahead of time. There are four of these types of services in the MACOG region provided by the Kosciusko Area Bus Services (KABS), Marshall County Council on Aging, Elkhart County Council on Aging and Elder Haus.

The Kosciusko Area Bus Service (KABS) serves the entire Kosciusko County area. Their service has a fixed route but deviates from that route to requested stops within a pre-defined corridor. KABS operates on weekdays with a peak hour fleet of eight vehicles. The Marshall County and Elkhart County Councils on Aging operate transit services throughout their counties while Elder Haus provides service in the City of Nappanee. Their services provide trips during the weekdays to older adults who are no longer able to drive themselves. Other organizations, such as ADEC, provide additional transportation services to individuals needing assistance.

Figure 3-12: Walking & Transit Job Access



Job Access via Transit

As more and more of the population relies on our transit systems to access their places of employment, our transit systems will be used more frequently and will have to keep up with the need of use. Figure 3-12 shows the job access via walking and transit. There is a large population that can reach their jobs within 60 minutes of our existing network. Communities will continue to grow, therefore, forcing these transit systems to find ways to improve service, both efficiently and effectively.

South Shore Line

The South Shore Line, operated by the Northern Indiana Commuter Transportation District (NICTD), is a commuter rail service providing access from South Bend to Millennium Station in Chicago. The South Bend boarding site is located at the eastern point South Bend International Airport and links the South Shore Line with airline services

and other public bus services. Five (5) daily trains leave from South Bend bound to Chicago, with five (5) trains offering return service.

According to the South Shore Annual Ridership report, South Bend ridership decreased from 260,794 in 2017 to 246,661 in 2018, a 5.52% decline. As with other modes of transportation, ridership dropped significantly in 2020 due to the COVID-19 pandemic. This was the first time in over 10 years that annual ridership dipped below 100,000 passengers to 82,616. Since 2020, ridership has more than doubled to 176,631. Service improvements such as double tracking and the potential relocation of the South Bend Station aim to make the trip from South Bend to Chicago a 90 minute-commute.

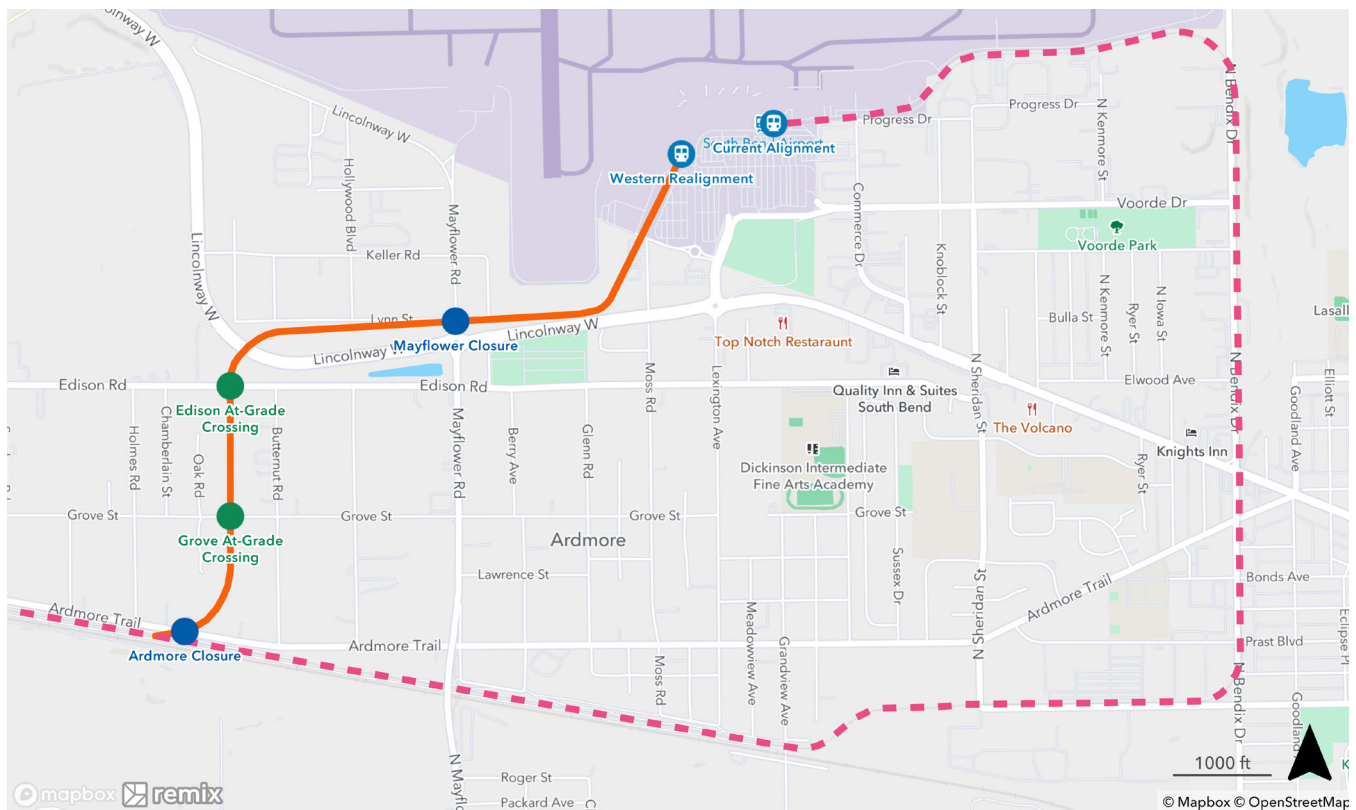
Since the early 1990s, when the transition from the current South Bend Amtrak station to The South Bend International Airport occurred, there

has been interest in once again moving The South Shore Line eastern terminus from the current location on the airport's east side. The main reasons for this renewed interest is due to the reduction in the number of at grade crossings and lessened travel time from South Bend to Chicago. After numerous studies over the last 3 decades, NICTD's board, in 2022, began pursuing a new project, relocating the eastern terminus to a new station on the airport's west side along with a new proposed train route. This new route would reduce at-grade crossings from twenty-two (22) to as few as three (3) and decrease travel time to Chicago's Millennium Station from between twelve (12) and fifteen (15) minutes (Figure 3-13). As of 2023, this proposed project is still being considered, with final engineering and procurement support expected by the end of quarter one in 2024. This proposed route would greatly improve safety within the transportation network and leave the opportunity to provide service to other proposed locations in the future.

Amtrak

Amtrak provides rail passenger service throughout the United States. Passenger stations within the MACOG region are located in South Bend and Elkhart. Two routes run along this line. Capitol Limited runs from Chicago to Washington D.C stopping at each station daily. Lake Shore Limited has daily service running from Chicago to Boston and New York. Both stations also serve 33 cities with direct service. Passenger volumes for both South Bend and Elkhart have consistently been near or above 20,000 annual passengers from 2016 through 2019. During the COVID-19 pandemic, numbers dropped significantly to 10,474 and 9,383 passengers in Elkhart and South Bend, respectively. Annual ridership has picked back up in 2022 to 16,157 in Elkhart and 18,484 in South Bend.

Figure 3-13: South Shore Line Realignment



High Speed Rail

An important development occurring in the Region and the Midwest is the configuration of a high-speed rail system. Studies are still being conducted as far as which tracks will be used, but the proposed system would connect Cleveland, Cincinnati, Detroit, Indianapolis, St. Louis, the Quad Cities, Milwaukee, and Minneapolis-St. Paul to a hub in Chicago with various stops in between, including stops in North Central Indiana (Figure 3-14). The Midwest Regional Rail Planning Study (MWRRP), led by the Federal Railroad Administration (FRA), aims to set forth a “strategic forty-year vision for the Midwest’s passenger rail network, addressing topics, including network configuration, service levels, financing, and governance.” The majority of high-speed trains on this network would travel at 110 miles per hour, consuming less fuel than slower rail and air transportation, and be a self-sufficient system unsubsidized by the government. Amtrak service

through Niles, Michigan has already been upgraded with track and signal improvements to provide high speed service (110 mph) on parts of the route, along with service in the US 30 corridor.

For economic development, several factors make high-speed rail an appetizing concept. The construction and operation of the system would create jobs and revenue for companies supplying equipment and services to the project, as well as after the project is complete. Also, high-speed rail offers decreased travel time, which means increased connectedness between the Region and nearby major cities – an attractive proposition for employers, employees, families, and travelers.

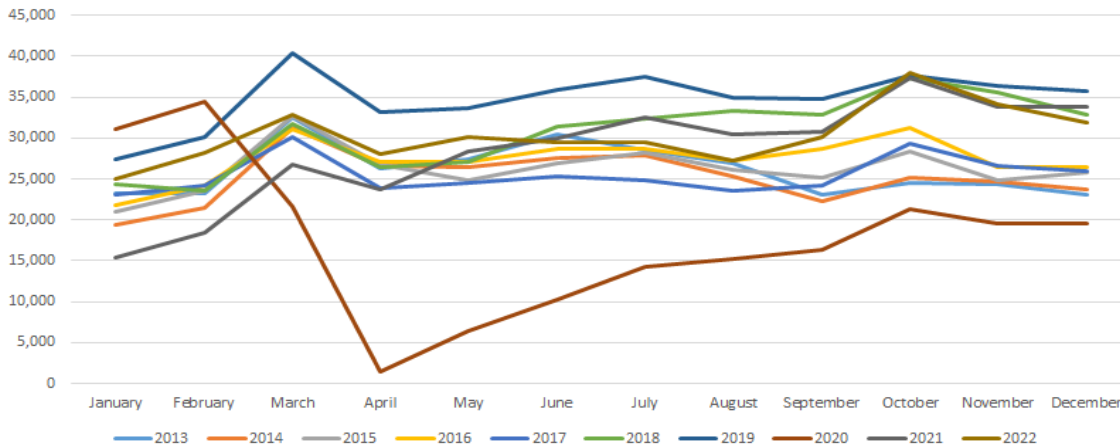
Aviation

There are a variety of airports located in the Region serving different purposes within the State and the Nation. There are five (5) general aviation airports, three (3) of which are regional, and two

3-14: Midwest Regional Rail Initiative



Figure 3-15: Monthly Enplanements at SBN



(2) of which are local. The regional airports are located in Elkhart, Goshen, and Warsaw and serve both regional and national markets with around 90 total base aircrafts. The local airports are located in Plymouth and Nappanee, serving local and regional markets with smaller aircraft. The only commercial service airport within the region is located in South Bend.

The South Bend International Airport (SBN) is also the only multimodal passenger facility operating in the Michiana area. In a true coordination of travel modes, the South Shore Line boarding station for train passengers is located at the east end of the SBN facility, while. Transpo city buses and private taxicabs board passengers along the arrival/departure drive. SBN is a full service commercial airport categorized as a Small Hub by the Federal Aviation Administration and consists of three active runways. Four commercial airlines operate from SBN providing links to hubs and destinations such as Atlanta, Chicago, Charlotte (VA) Dallas/Fort Worth, Detroit, Fort Myers/Punta Gorda, Las Vegas, Minneapolis, Orlando/Sanford, Phoenix/Mesa, Sarasota/Bradenton, and Tampa Bay/St. Petersburg.

With exception to 2020, there has been over 300,000 passengers enplaning at SBN, with spikes in March/April, as well as October. The highest passenger enplanement occurred in 2019 at 417,929, however, due to the COVID-19 pandemic and subsequent shutdowns across The United States, a 49% drop in enplanements followed in 2020. Since 2021, enplanements have rebounded

to pre-pandemic levels above 300,000 passengers. The South Bend International Airport provides a great impact to the region. It is estimated the Airport provides an economic benefit to the community in excess of \$1.7 Billion per year. With the change in designation from a regional to an international airport in April 2014, an even greater impact is being seen. These details are laid out in Figure 3-15.

Freight & Logistics

Road, rail, and air networks in the region serve freight and goods movement as well as passenger travel. Being able to provide a network that accommodates these movements efficiently is critical to the region’s economic well-being. In the Indiana Multimodal Freight and Mobility Plan updated in 2018, Indiana’s freight network is described as a “robust multimodal system comprised of highway, railroad, port and waterway, and air cargo facilities, as well as intermodal connections between each.” The MACOG region, in particular, experiences a high volume of freight traffic due to its highway and rail infrastructure.

Truck Network

Northern Indiana has many heavily traveled roadways especially relating to freight movement. According to the 2018 Indiana Multimodal Freight and Mobility Plan, “Indiana’s freight flow is projected to continue to grow substantially over the coming, with all counties in The MACOG Region growing over 50%.” The largest growth

in our region is in Elkhart County, which by 2045 is projected to grow over 20,000 kilotons; this can be attributed to The Norfolk Southern Auto Terminal. Marshall County is expected to see over 67% growth as it hosts seven state roads and four railroad companies with active rail lines. Marshall County, along with Kosciusko County, are expected to see higher growth with the ProPEL US 30 study that is currently taking place.

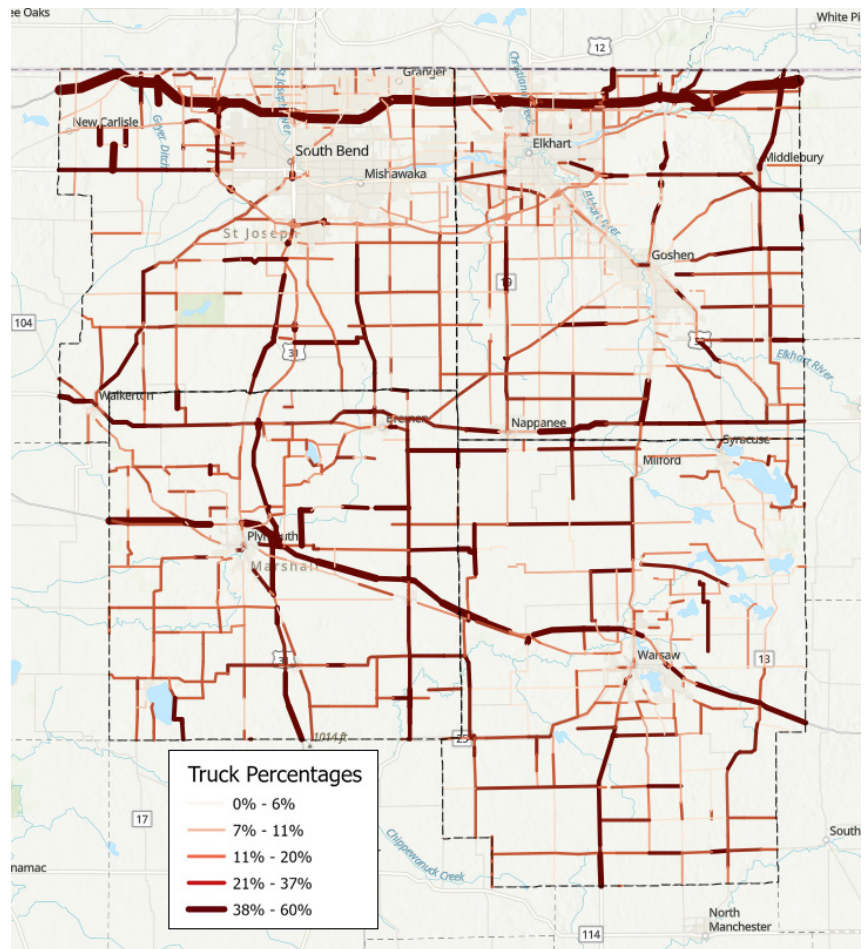
Figure 3-16 shows the truck volumes and comparisons to total traffic for the region. Roadways where trucks make up more than 20% of all traffic include state owned facilities, such as I-80/90, US 31, US 30, US 20, US 33, US 6, SR 2, segments of SR 15 and SR 13, as well as some local county roads throughout the region. The Indiana Toll Road (I-80/90) produces the majority of truck traffic through the region, with an average above 50% of the total annual average daily traffic (AADT).

ProPEL US 30 & 31

ProPEL is described as “an INDOT initiative for transportation planning that uses collaborative PEL studies to consider environmental, community and economic goals.” ProPEL US 30 includes two study areas, which are shown in Figure 3-16. The US 30 West study area extends from SR 49 in Porter County to Beech Rd. in Marshall County. It also includes a stretch of US 31 from US 30 south to CR700 North. The US 30 East study area starts at Beech Rd. in Marshall County to The Indiana/Ohio State Line in Allen County.

Through the use of PEL studies, INDOT aims to create smarter and more efficient transportation systems, in turn producing stronger communities as a result. The goal of this study is to identify the transportation needs of the corridor, identify improvements and environmental and community impacts, evaluate and screen alternatives, and provide recommendations to local officials &

3-16: Truck Travel Percentage

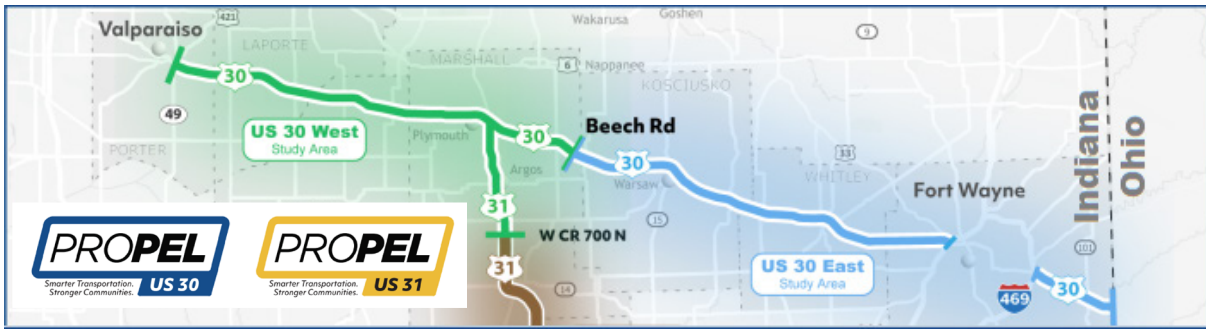


INDOT. This PEL study is expected to wrap up in the fall of 2024 with recommendations.

The US 30 and 31 Coalitions and local communities have continued conversations about priorities and potential solutions. Marshall County Local communities and the US 30 and 31 Coalition have continued conversations about priorities and potential solutions. In Fall of 2022, the Marshall County Commissioners established the Marshall County US 30 and 31 Study Committee, a study outlining Marshall County Priorities was created and presented to INDOT and the Coalitions as shown in Figure 3-17.

Kosciusko County and the City of Warsaw have had ongoing discussions since 2018 related to preferred improvements for U.S. 30.

Figure 3-17: ProPEL US 30 and US 31 Project



Air Cargo

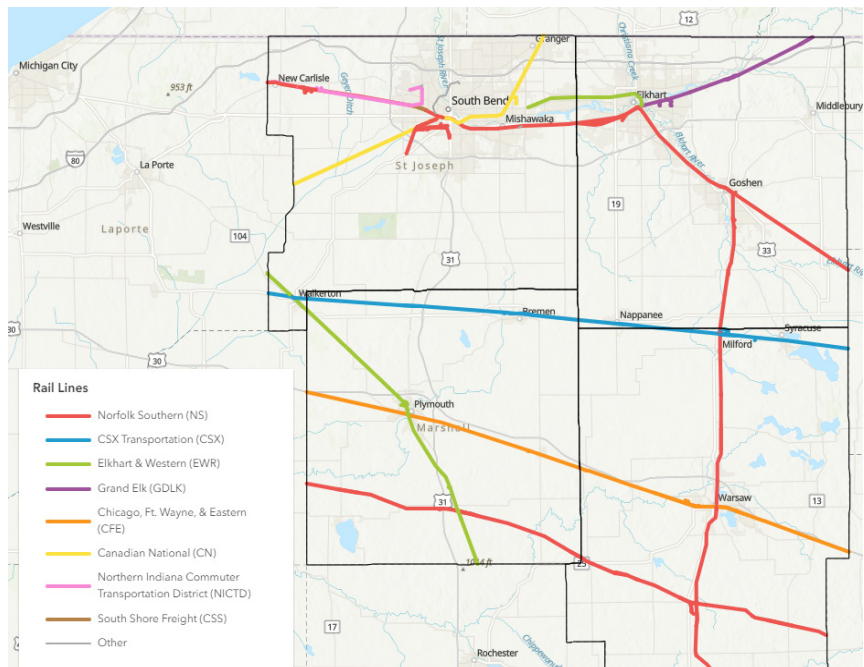
Airports also play a part in the movement of freight. The South Bend International Airport serves as the only commercial airport within MACOG’s boundaries and transports a significant amount of freight into and out of the region. FedEx and UPS use the South Bend International Airport for air and ground parcel distribution. Total cargo steadily rose in 2018, peaking at just over 2.2 million tons in September. This value was eclipsed in the summer of 2019 at just under 2.5 million tons of cargo. 2020 was the lowest year in the 5 years that were analyzed, likely due to the COVID-19 pandemic. Since then, there has been a slow recovery to reach pre-pandemic levels.

Rail

There are 3 Class 1 railroads across our region: CSX Transportation (CSX), Norfolk Southern (NS), and Canadian National (CN). These three railroad operators account for over 70% of operational rail mileage in the MACOG region. Norfolk has the most rail mileage in the four county region, along with the NS Elkhart Yard in Elkhart County. This facility is the second largest of all NS railyards in the NS system. It’s 72 classification tracks provide movement of agricultural products, steel, chemical (including ethanol), and automotive products. South Shore Freight (operated by NICTD), Elkhart & Western (EWR), Grand Elk (GDLK), and Chicago, Ft. Wayne & Eastern (CFER) are the class 3

facilities within The MACOG Region. These four rail operators provide service to rail lines not served by the larger class 1 operators. Although they tend to have lower traffic volumes and lower speeds, they provide vital freight service access at a lower-cost. Figure 3-18 provides a look at both the class 1 and class 3 rail systems within the region.

Figure 3-18: Rail Lines



Active Transportation

Bicycle and Pedestrian

Bicycle and pedestrian projects are an important and integral component of transportation planning. A transportation system that supports

bicycling and walking expands residents' mobility options and can complement multiple forms of transportation. A strong bicycle and pedestrian network can enhance a community's quality of life by providing great economic, environmental, social and health benefits. By reducing single occupant vehicle travel, air quality improves and users can lead healthier lifestyles. Within the MACOG region, there has been a push to incorporate connections to the current trail network and urban/rural population centers (Figure 3-19).

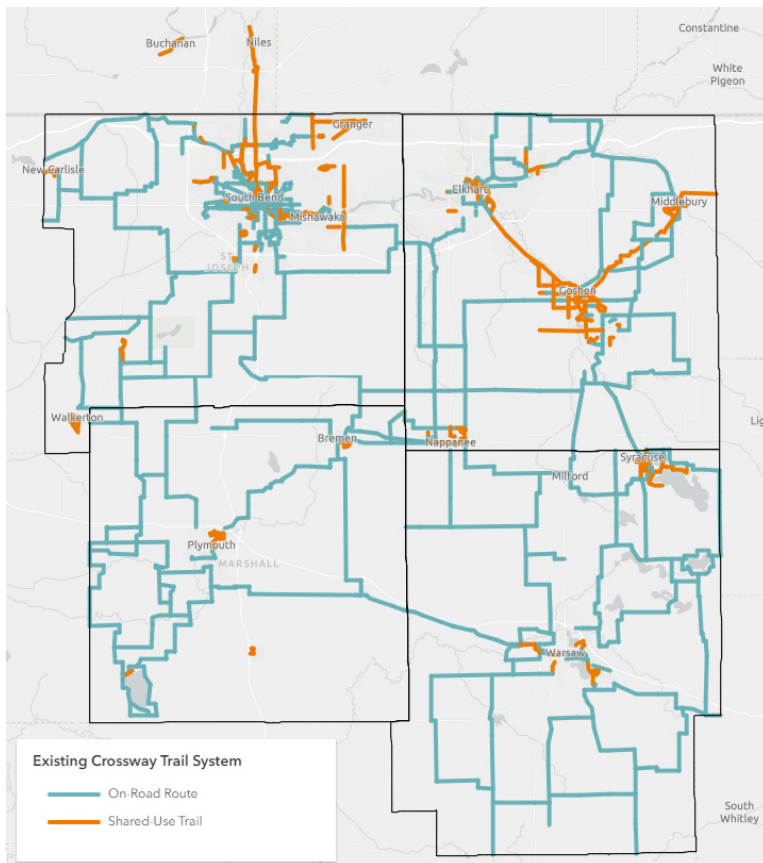
Despite the low percentage of commuters that walk and bike to work nationally, new trends suggest that these modes of transportation are becoming increasingly popular. Compared to the United States as a whole, most counties in the MACOG region documented a higher rate of walking and bicycling to work. Figure 3-20 shows estimates by county of workers who commute by either biking or walking. The entire MACOG region, as a whole, is above the national average by nearly half a percent regarding bicycle

commuting and a quarter percent when it comes to pedestrian commuting. Because St. Joseph County has the largest urban population, it is no surprise that residents tend to walk to work more often, as 4.0% of commuters lean toward that type of commuting. Marshall County shows the highest percentage of bicyclist commuters at 2.4% of the commuting population. These findings are significant, particularly to the region, because it shows that there is an interest in alternative commuting methods.

Trail Count Program

Another goal that communities within the four county MACOG Region are trying to achieve is managing and maintaining the trail systems that they currently have or plan for the future. One way that MACOG has been able to help our local partners is through the trail counting program, which has been providing our local community officials with daily, monthly, and yearly trail usage data. This in turn allows local governments to see where the greatest need to invest in their community trails is.

Figure 3-19: Existing Crossway Trails System

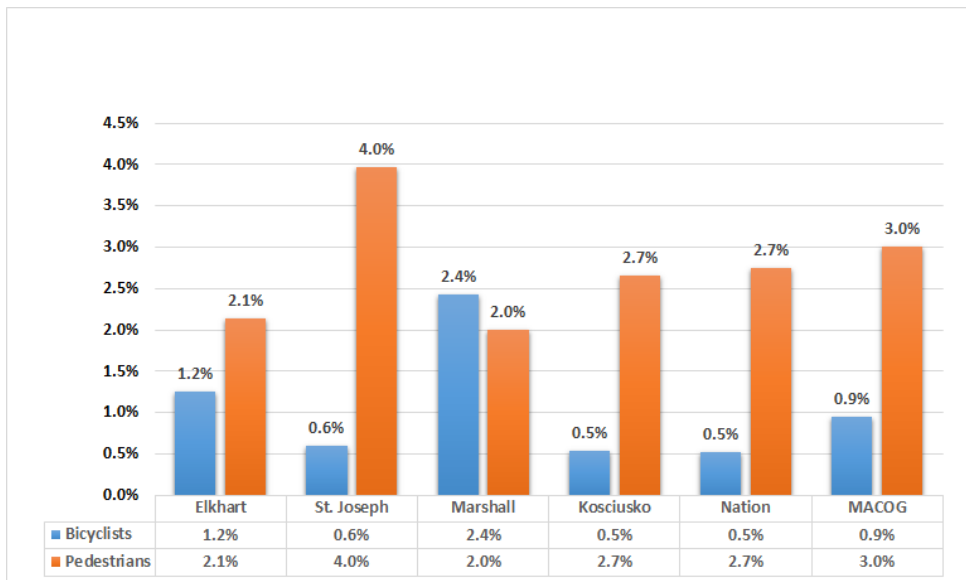


Currently, the trail network within St. Joseph, Elkhart, Marshall, and Kosciusko Counties boasts 10 permanent trail counters, each counter having the ability to count both pedestrians and bicyclists separately. Through the year of 2022, over 700,000 unique users have been counted through this counting system. Also, MACOG has 2 mobile counting units, which similarly counts pedestrians and bicyclists, and these units are able move from one location to the next, allowing a greater sample of trail users to be counted. These mobile counters also allow local communities to test different sites for the placement of future permanent counters (Figure 3-21 & Figure 3-22).

Sidewalks and Accessibility

Sidewalks are an important component of the transportation network because no matter the destination, every trip starts and ends with pedestrian travel. Sidewalks should be connected and accessible. MACOG has worked with

Figure 3-20: Workers Commuting by Bicycle or Walking



many Local Public Agencies (LPAs) in the region to adopt Americans with Disabilities Act (ADA) Transition Plans for the Public Right-of-Way, which addresses sidewalk accessibility. The purpose of these plans is to ensure communities are creating reasonable, accessible paths of travel in the public right-of-ways for everyone, including people with disabilities. These plans provide a schedule for communities on how they should address and improve sidewalk accessibility. As part of the plan, communities have adopted Accessibility Guidelines for Pedestrian Facilities in the Public Right-of Way. These guidelines suggest that whenever there is an intersection improvement project or new construction project, any affected curb ramps, sidewalks, and crosswalks will be rebuilt to these ADA design guidelines, where feasible and reasonable. MACOG has created an ADA inventory database that can be used as a guide for sidewalk improvements and a resource for creating a better pedestrian network.

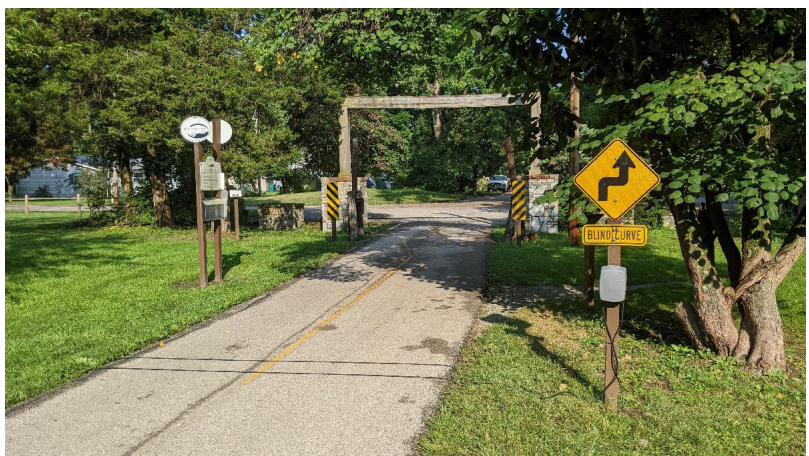
Horse and Buggy Users

MACOG Region is home to a large Amish population that have unique transportation considerations. Modes

Figure 3-21: Beutter Park, Mishawaka (Permanent Counter)



Figure 3-22: Heritage Trail, Winona Lake (Mobile Counter)



of transportation among this population include walking, biking, and use of horse & buggy. Elkhart & Kosciusko Counties contain the majority of the Amish demographic. Statistically, from 2019-2022, 27 crashes involving a horse & buggy occurred, 1 of which included a fatality. As roadways take on different changes and characteristics over time, there is a need to include our most vulnerable populations in the decision making process.

Electric Vehicle Infrastructure

Given the region’s recent air quality has hovered near the 8-hour ozone standard, cleaner modes of transportation are a significant opportunity to remain in attainment for ozone over the long-term while reducing particulate matter and carbon emissions. In the United States, transportation alone is responsible for 27% of greenhouse gas emissions, according to a study by the Environmental Protection Agency in 2022. As local utility portfolios incorporate renewables as part of their Integrated Resource Plans with a 20-year planning horizon, electric vehicles specifically present an opportunity to convert to a cleaner vehicle fleet in the region over the coming decades.

Recent private funding opportunities such as the Indiana Volkswagen Environmental Mitigation Trust Fund, administered by the Indiana Department of Environmental Management, and Indiana Michigan Power grants for electric schools buses have supported a variety of electric and alternative fuel vehicles and fueling or charging infrastructure which have reduced emissions. New or expanded federal funding opportunities such as EPA Clean School Bus Program and U.S. EPA DERA programs, which lower the total cost of ownership further below conventional vehicles form any use cases. The INDOT National Electric Vehicle Infrastructure (NEVI) program will transform the ability for

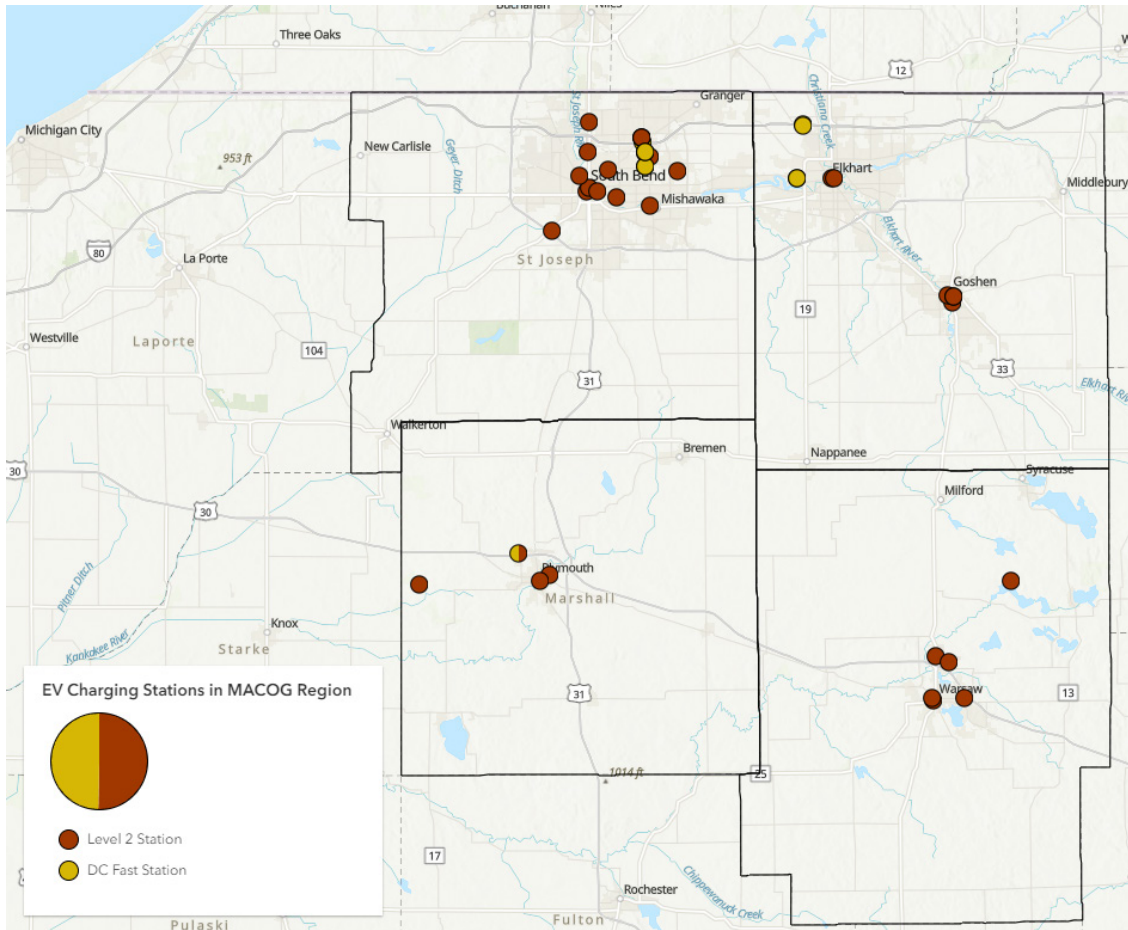
electric vehicles to travel long distances, investing in nearly \$100M in Indiana in direct current fast charging (DCFC) stations. The state’s NEVI plan approved by FHWA in 2022 puts forth a vision is to “collaboratively plan, build, and maintain safe and innovative EV infrastructure that enhances quality of life, drives economic growth, and facilitates the movement of people and goods.” The Volkswagen program has invested over \$5M to bring DCFC stations online at about 60 locations by the end of 2023.

Figure 3-23 shows the location of publicly accessible electric vehicle charging infrastructure, including slower Level 2 stations provided at destinations typically at charging speeds around 7 kW (about 25 range-miles per hour), and Level 3 or DCFC which are often located along highway corridors and provide speeds greater than 50 kW. With the NEVI standard of 150 kW and newer vehicles capable of accepting 150-200 kW (hundreds of miles in 30 minutes), new stations typically provide 150 kW – 350 kW per port for light-duty vehicles. Heavy duty charging infrastructure is not yet publicly available in the region.

Since 2012, over 40 charging stations have been added to the network. Ten Level 2 locations were installed between 2021-2023 through \$90,000 in Volkswagen program grant funding that MACOG



Figure 3-23: EV Charging Stations in the MACOG Region



secured on behalf of local government grantees to provide a basic level of public charging access. In 2022, 994 all-electric vehicles were registered in the region according to Indiana Bureau of Motor Vehicles (BMV) data provided through the Indiana Vehicle Fuel Dashboard released by the Indiana Office of Energy Development in 2023. This number is an underestimate of the total demand for charging, and excludes plug-in hybrid vehicle data which the BMV combines with traditional hybrids.

While current registrations account for less than 0.1% of registered light-duty vehicles in the region, electric vehicle sales are projected to increase rapidly due to the shift in auto manufacturer portfolios, regulations, incentives, and consumer trends.

