

Chapter 4

The Existing Transportation System

The Jackson MPO is served by several modes of transportation. Although the focus of transportation planning tends to be on the road network, the other modes of transportation are also essential to the community. It is important to consider how all of the modes are used so that people and goods can move safely and efficiently. In this chapter, an overview of each existing mode of transportation within the Jackson MPO is given. The current local and regional plans of each mode are laid out along with the highlights of future forecasts, issues, and needs that should be addressed. For information on how these modes coordinate with statewide plans and studies, see Chapter 5.

The Road Network

The road network is the largest component of the transportation system within the Jackson MPO. The roads are used by people in vehicles every day for work, travel and recreation. They are also used by the trucking industry to haul freight, pedestrians to travel in areas where there are no sidewalks, and by bicyclists where there are no separated bicycle infrastructure. The road network is the most critical part of the area's transportation infrastructure.

The following is an overview of the existing road network, maintenance and funding strategies, important policies, existing traffic conditions, existing plans, and future forecasts, issues, and needs for the road system.

Existing Road Network

Regional Road Network

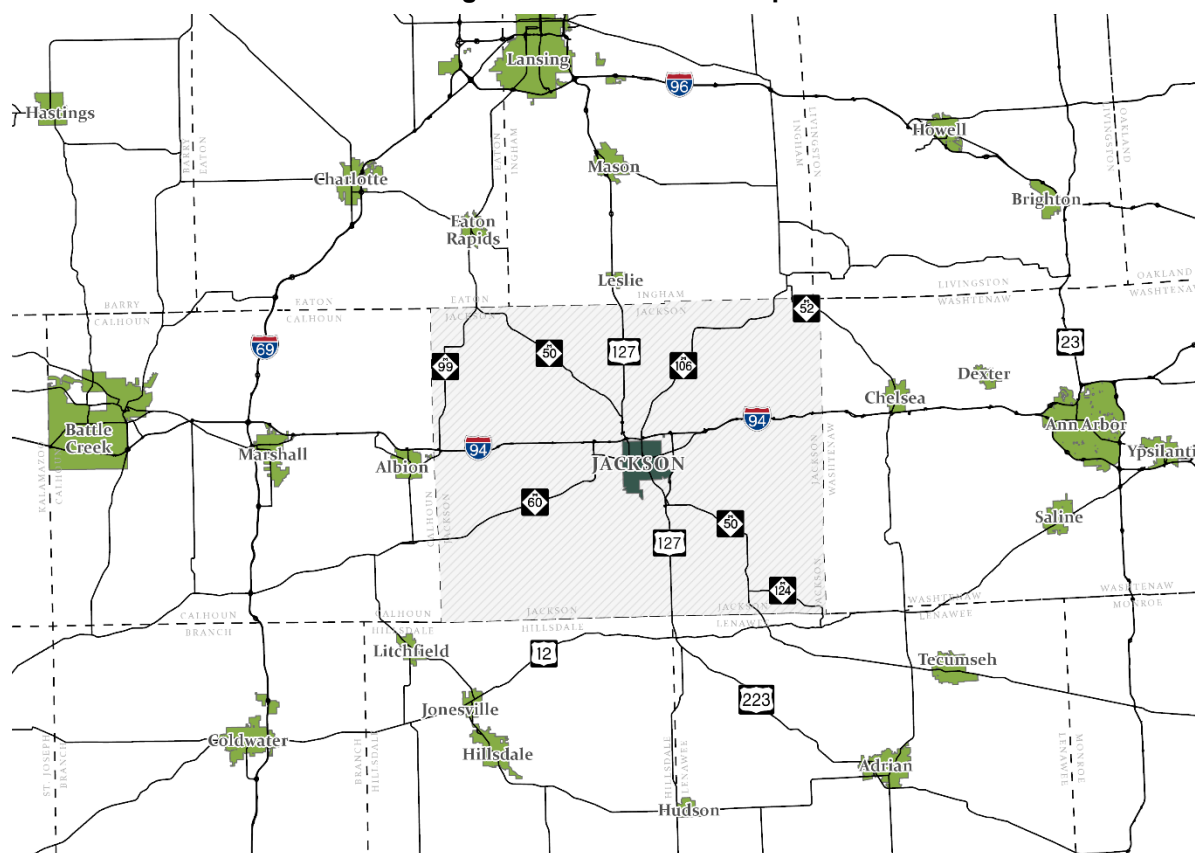
Jackson County, located in south-central Michigan, is fortunate to be positioned on the freeway network linking Michigan and the Midwest to other areas of the United States. Interstate 94 (I-94), connects the Jackson MPO to Ann Arbor, Detroit, and Canada to the east and Battle Creek, Kalamazoo, and Chicago to the west. The City of Detroit is approximately 73 miles east of the City of Jackson and the City of Chicago is approximately 205 miles west of Jackson.

US-127 provides a connection to Lansing to the north and continues south into Ohio, traversing Jackson County. M-50 is a state trunkline highway that runs from the northwest to the southeast through the county, connecting the City of Jackson to the Village of Brooklyn. M-50 provides connections outside of the County to Charlotte and to the Grand Rapids metropolitan area to the northwest and to Tecumseh and Monroe to the southeast. M-60 is another state trunkline highway that connects Jackson to southwest Michigan. M-60, terminating at I-94, runs through Spring Arbor and Concord before extending beyond the County through the rural countryside to Niles. M-106 is another state trunkline that begins in downtown Jackson and extends beyond the County to the northeast.

There are additional highways within Jackson County outside of the City of Jackson. M-124 provides an alternate connection from the Village of Brooklyn to US-12. This route

travels through the scenic Irish Hills and provides access to many lakes and Walter J. Hayes State Park. M-99 passes through the Village of Springport. Going south, it connects to Albion in Calhoun County and to the north it runs concurrently with M-50 north to Eaton Rapids. From there, it splits and heads north to Lansing. M-52 also cuts through the northeast corner of Jackson County.

**Figure 4-1
Regional Road Network Map**



National Functional Classification System

The National Functional Classification (NFC) System is used to identify how individual roads serve the County's road system, including factors like roadway design, speed, capacity, and the relationship to existing and future land use development. Designating roads as a part of this system also plays a role in determining eligibility for federal aid funding. Transportation agencies can describe roadway system performance, benchmarks, and targets by functional classification. As agencies continue to move towards a more performance-based management approach, functional classification will be an increasingly important consideration in setting expectations and measuring outcomes for preservation, mobility, and safety.

There are approximately 1,943 miles of roadway within the NFC system in Jackson County. The Federal Highway Administration (FHWA) provides guidelines for assigning roadways with a classification. The Michigan Department of Transportation tracks the number of miles within each county that are a part of the functional classification system. Table 4-1 lists Jackson County's total mileage from the most recent update in 2021.

Table 4-1: NFC Roadway System Length Miles for Jackson MPO Roads (2021)

National Functional Classification Type	National Functional Classification Number	Urban Miles	Rural Miles	Total Miles
Interstate	1	9	21	31
Other Freeway	2	14	5	20
Other Principal Arterial	3	36	7	43
Minor Arterial	4	80	71	151
Major Collector	5	67	287	347
Minor Collector	6	10	159	170
Local Collector	7	382	794	1,193
Total Mileage		598	1,345	1,943

Figure 4-2, a map of the NFC system in Jackson County, is on the next page.

NFC Types

There are eight different road categories within the NFC system. Categories 1-7 are used to identify roads within the system. The higher the class number, the more important the road is to the road network. Class 0 roads are other roads in a county, but are not a part of the system. An overview of the system within the Jackson MPO is listed below.

Interstates, Other Freeways, and Other Principal Arterials. The principal arterial road system includes freeway and non-freeway classifications. The NFC Numbers for the roads found in these categories are 1 for “Interstate,” 2 for “Other Freeway,” and 3 for “Other Principal Arterial.” In the Jackson MPO, categories 1 and 2 include I-94 and portions of US-127 and M-60.

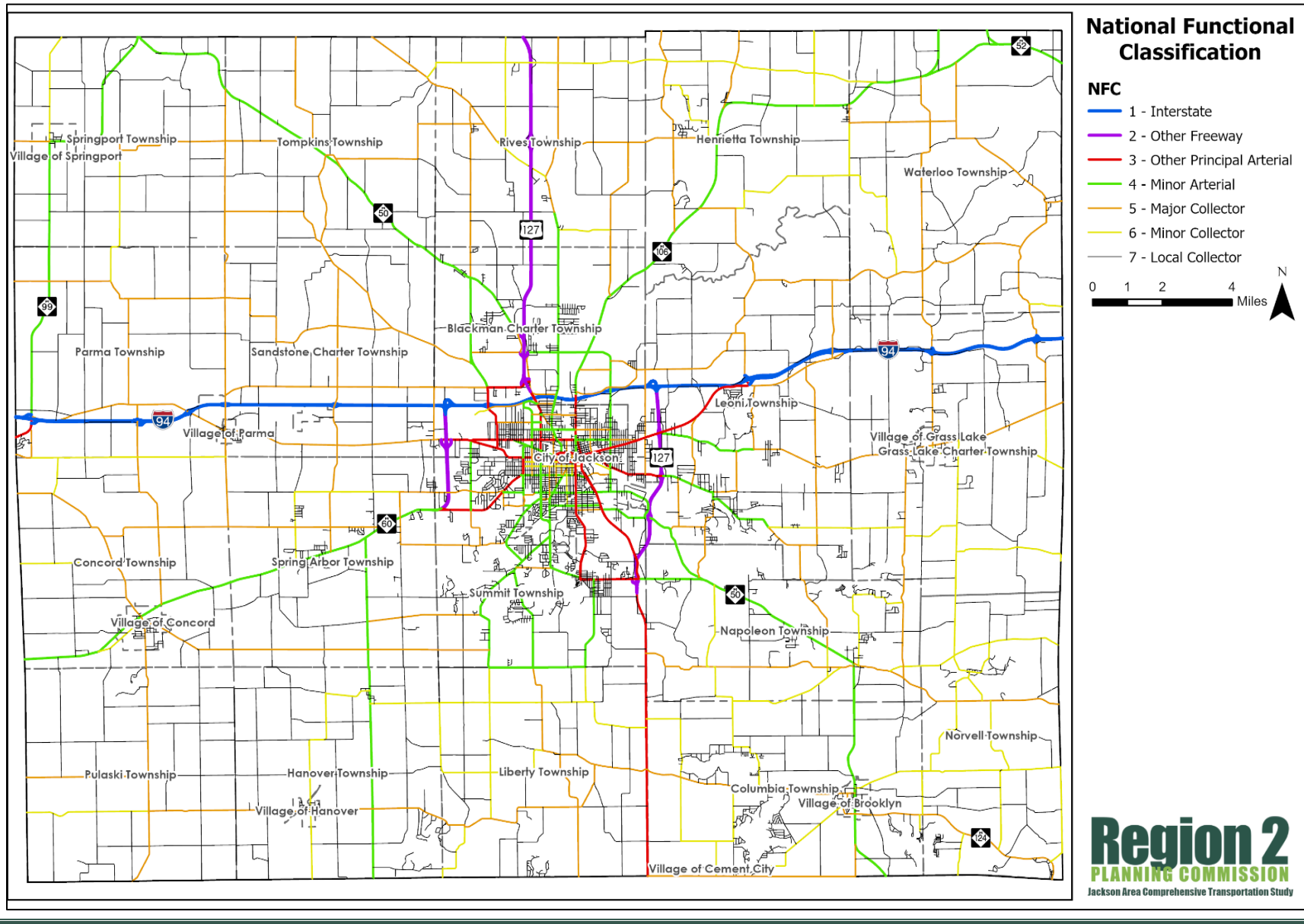
Principal arterial roads in the Jackson MPO serve the major centers of activity of the metropolitan area, have high traffic volumes, and the longest continuous trips. They also carry a high proportion of the total urban area travel on a minimum amount of mileage.

Principal arterials that connect to rural minor arterials have been identified as portions of M-99/W Michigan Ave, Spring Arbor Rd, Springport Rd/Airport Rd/Laurence Ave, M-50/N West Ave/Business US-127, Cooper St/Business US-127, West and East Michigan Ave/Business 94, Louis Glick Highway, US-127 South, E McDevitt Ave and Francis St. These routes also serve major centers of activity and have high traffic volumes. These routes differ from interstates and freeways by allowing automobile access to adjacent property.

Minor Arterials. The minor arterial street system interconnects and augments the principal arterial system, providing service for trips of moderate length at a lower level of travel mobility than major arterials. The NFC Number for the roads found in this category is 4.

Major, Minor, and Local Collectors. The collector street system provides land access and traffic circulation within residential neighborhoods, commercial, and industrial areas. Collector streets may penetrate residential neighborhoods, distributing traffic from the arterial roads through an area to the ultimate destination. The NFC Number for the roads found in these categories are 5 for “Major Collector,” 6 for “Minor Collector,” and 7 for “Local Collector.”

Figure 4-2: NFC System in Jackson County



Existing Policies & Programs

Road Maintenance & Funding

The responsibility for maintaining the roads and streets within the City of Jackson lies with the Engineering Division, Department of Community Development, and the Department of Public Works. The Engineering Division routinely collects Average Daily Traffic (ADT) volumes and maintains an inventory of pavement conditions in order to develop program improvement and maintenance projects.

Township roads in Jackson County are the responsibility of JCDOT, however, townships work with the County to ensure that the needs of the local community are being addressed. The assessment and determination of road maintenance and improvement project needs is facilitated through the collection of Average Annual Daily Traffic (AADT) volumes and pavement condition inventories (also called PASER). The seven villages - Brooklyn, Cement City, Concord, Grass Lake, Hanover, Parma and Springport - are responsible for the maintenance and operation of their street systems.

Funding improvements include appropriations from city and village general funds, state funding for general use on major and local streets through the Act 51 Michigan Transportation Fund (MTF) gas tax program, and federal transportation funds for use on the federal-aid eligible roadways. Because of the pattern and rate of development in Jackson County, the majority of the road improvement projects within the Jackson MPO have been and are likely to continue to be focused on the preservation and maintenance of the existing road system.

Complete Streets

Complete Streets is the idea that roads should be designed for all users. The Region 2 Planning Commission, the Jackson County Department of Transportation, and the City of Jackson passed Complete Streets resolutions in 2006. The Michigan Legislature passed Complete Streets legislation in 2010. State law requires that transportation projects consider all users of the roadway system. For more information about Complete Streets, see Chapter 10.

Existing Traffic Conditions

From the basis of traffic volumes in the study area, the major traffic movements identified within Jackson County are as follows:

- 1) To and from retail and hotel establishments at US-127 North near I-94 to retail and office activities along W Michigan Ave and the City of Jackson Central Business District (CBD).
- 2) From US-127 South to commercial and industrial areas along E Michigan Ave, High Street, and the CBD.

Figure 4-3
Cortland Street under Construction



- 3) From US-127 South into the CBD along S Cooper St (US-127 BR /M-50).
- 4) From the southwest at M-60 North to W Michigan Ave.
- 5) From the southwestern residential areas along Horton Rd and Kibby Rd to S West Ave and Fourth St into retail areas on N West Ave, W Michigan Ave and the CBD.

Other notable traffic movements in the area include Airport Rd from County Farm Rd to Wildwood Ave, S Brown St from W Michigan Avenue to Spring Arbor Rd, and along the Francis St corridor which carries traffic into Jackson from M-50 and Jackson College. Some of the issues include the north-south movement on the west side of the City, movement from I-94 into Downtown, access into Downtown from the east, and movement between the southeast and the southwest parts of the City. These challenges are characterized by discontinuous north/south and east/west routes.

West Ave provides access from the urban center to the major commercial areas to the north and the residential areas to the south. A new bridge over the Norfolk Southern railroad at N West Ave was completed in 2012, and intersection improvements at W Ganson St, improved traffic flow. Traffic traveling to or from Downtown with destinations at commercial uses along N West Ave can also use Wildwood Ave or W Michigan Ave.

Lansing Ave is a minor arterial which provides travel between downtown and the northern suburbs. The route terminates near the urban center. Being a moderately traveled route, Lansing Ave experiences some delays for northbound traffic where it intersects with North St during peak periods. Traffic flow between Lansing Ave and Downtown is occasionally interrupted by the railroad that crosses Steward Ave and Blackstone St to the south. Access to the north along Lansing Ave is good as the route extends into Ingham County.

M-106 (Cooper St) provides the best access from I-94 into Downtown. M-106 links I-94 traffic to industrial areas east of Cooper St near the urban center. Travel from Cooper St traverses through Downtown and continues south as M-50/US-127 BR (Brooklyn Rd), eventually connecting to US-127 South. A railroad crossing at the Cooper St/E Michigan Ave intersection compounds access problems between the CBD and I-94. The City completed the conversion of Washington St and Louis Glick Highway from one-way to two-way between Michigan Ave and Cooper St in early 2018.

The I-94 Freeway Modernization Study, completed in 2005, evaluated the need and feasibility of upgrading nine miles of the interstate between M-60 and Sargent Rd in Jackson County. Since then, the M-60, West Ave, Cooper St, Elm Ave, Hawkins Rd, Dettman Rd and Sargent Rd overpasses have all been replaced. This stretch of freeway has also been widened and many exit and entrances lanes have been extended. The intersections at several exit and entrances ramps have also been converted to roundabouts. Other upgrades include the replacement of the Grand River bridge, lights being installed, and the intersection of I-94, US-127, and M-50/West Ave being converted to a diverging diamond.

Existing Plans

Regional Transportation Safety Plan 2017

The 2017 Regional Transportation Safety Plan provides guidance on how to address safety on local roads in Jackson, Lenawee, and Hillsdale counties. Paid for by MDOT, the

Jackson County Department of Transportation (JC DOT) championed the plan. The overarching goal is the reduction of fatal and serious crash injuries within the three-county area by addressing risk within the following 6 emphasis areas:

- At-risk drivers' age groups
- Driver behavior
- Impaired drivers
- Intersection related crashes
- Single vehicle crashes
- Non-motorized crashes

City of Jackson Thoroughfare Plan 2002

The 2002 Thoroughfare Plan looked at how traffic moved through the downtown and the rest of the City. A series of one-way to two-way conversions were outlined, including Lansing Ave and Steward Ave, Cooper St and Milwaukee St. Many of these recommendations have been addressed and completed as of early 2018.

City of Jackson Master Street Plan 2010

The 2010 City of Jackson Master Street Plan was an update from the 1972 Master Street Plan. In the 2010 plan, Louis Glick Highway was identified as Business I-94 only. Both Louis Glick and Washington Ave have been converted to two-way streets. Most of the work from this plan has been implemented, and a new plan may be considered soon.

City of Jackson Community Master Plan 2016

The City of Jackson Community Master Plan, completed in 2016, proposes a framework focused on the City's long-term stability and redevelopment based on an assessment of the community's existing conditions. The mission of the plan is to build a better future community based on existing facilities and resources. The road network is seen as valuable infrastructure that can influence growth and development. The plan acknowledges the role the national functional classification system has in providing funding for federal-aid eligible roads. The City also considers street design for the transportation system through proposed "Transportation Typologies," tying together the needs of the different transportation modes available, the City's Complete Streets policy, a broader land use context, and community priorities.

Goals and strategies in the plan related to transportation include:

- The City of Jackson will continue to capitalize on its connection to regional and interstate transportation system through good stewardship and by integrating its intra-city transportation network with them. Within the City, all users and modes of transportation will be accommodated in a safe, complete network that balances efficiency of movement with appropriate access to the land uses it supports.
- Decisions will facilitate coordination between land use and transportation and among transportation modes.

- Institute a “culture of complete streets” in which all users are explicitly identified, prioritized, and planned for in all transportation projects.

Plan implementation recommends that improvements occur in phases in different areas of the City. Phase I calls for investments in the transportation system downtown, including:

- Continue to implement the Downtown Jackson Streetscape Plan.
- Implement the recommendations from the 2010 Jackson Rail Passenger State Development Study, including consolidating local bus and bicycle services into a location easily accessible from the Amtrak station.
- Convert the Louis Glick Highway/Washington St loop to two-way streets.

Phase II focuses on housing and neighborhoods and includes the following priorities for the road network:

- Develop a vision for a “gateway treatment” at N Cooper St interchange welcoming visitors and providing wayfinding and introducing the Jackson brand.

Phase III highlights Citizen-Government relations, including:

- Using visioning session data from the 2016 Master Plan as a starting point, make preliminary investigations into the feasibility of a commercial and service node at the corner of High and Francis Streets that is specifically designed to meet the daily commercial and service needs for the residents of the south side of Jackson.

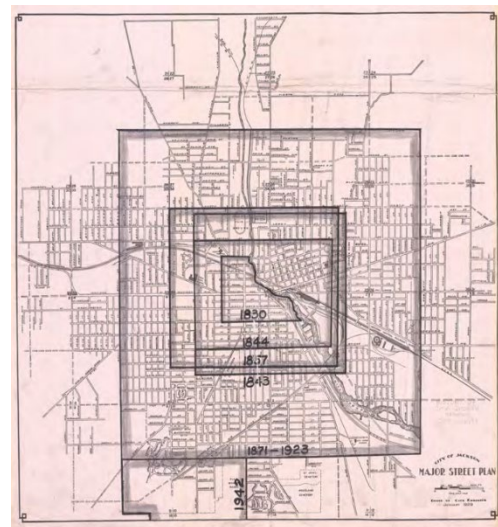
Future Forecasts, Issues, & Needs

The City of Jackson will be considering updates to the 2002 Thoroughfare Plan and the 2010 Master Street Plan, as most of the recommendations have been implemented. Engineers continue to look at what they can do to maintain and improve the road network.

JCDOT staff is considering a few projects to enhance the road system. With the change to becoming a Department of Transportation from a Road Commission in January 2013, there has been a greater focus on planning. The department is considering doing an inventory, analysis, and improvements to the top 50 worst intersections in the county. A corridor study along Airport Rd and modernizing traffic signals are other priorities.

JCDOT also supports installing non-motorized facilities, and looks to plan recommendations for the investment in strategic projects.

Figure 4-4
Jackson Master Street Plan, 1929



Public Transit

Public transit is a critical element of the transportation system, providing the public access to jobs, shopping, health care services, and recreational activities. Public transit is especially important for the elderly, youth, individuals with disabilities, and those who don't drive or can't afford a car. Millennials and Baby Boomers are also demanding fixed routes and shared rider services at increased rates, which creates additional stress on transit services. Public transit service is a great way to reduce traffic congestion, air pollution, and energy consumption.

As the role of public transit evolves in Michigan, having reliable funding sources is critical to meeting local demand. The expense of maintaining a viable public transit system can only be maintained with commitments from federal, state, and local jurisdictions.

Existing Transit Services

The Jackson Area Transportation Authority (JATA)

Public transportation services in Jackson have a long and varied history. Dating as far back as the 1890s, streetcar service was provided by the Jackson Street Railway Company. This service continued through 1936 when the first buses were purchased and began operating under the company name "Jackson City Lines." Since then, public transit services have been operated by both private and public entities. In 1986, the existing public transportation system was restructured under Michigan Public Act 196 and renamed the City of Jackson Transportation Authority (JTA). By becoming an authority, JTA was able to levy taxes to the residents within the City of Jackson to sustain both demand-response and fixed-route transit operations. Demand-responsive public transportation services are also provided on a limited basis to the remainder of Jackson County residents on a contractual basis. In 2011, the JTA changed its name to the Jackson Area Transportation Authority (JATA) to reflect the importance of providing more regional service.

JATA is governed by a nine-member Board of Directors consisting of three members representing the City of Jackson and one representative from Jackson County, Blackman Township, Leoni Township, Summit Township, and two at-large members. The JATA Board meets monthly to oversee the public transportation system.

The Local Transportation Advisory Council (LTAC) assists in the development of JATA services, as required by the Americans with Disabilities Act (ADA) and subsequent updates; the 10(e)18 Accessibility Plan and updates are required under State law; as well as coordination and consolidation issues. The LTAC reviews and provides recommendations on services provided to senior citizens and individuals with disabilities. The LTAC reviews proposed service changes including route modifications and fare increases which affect services provided to seniors and/or the disabled. They meet quarterly.

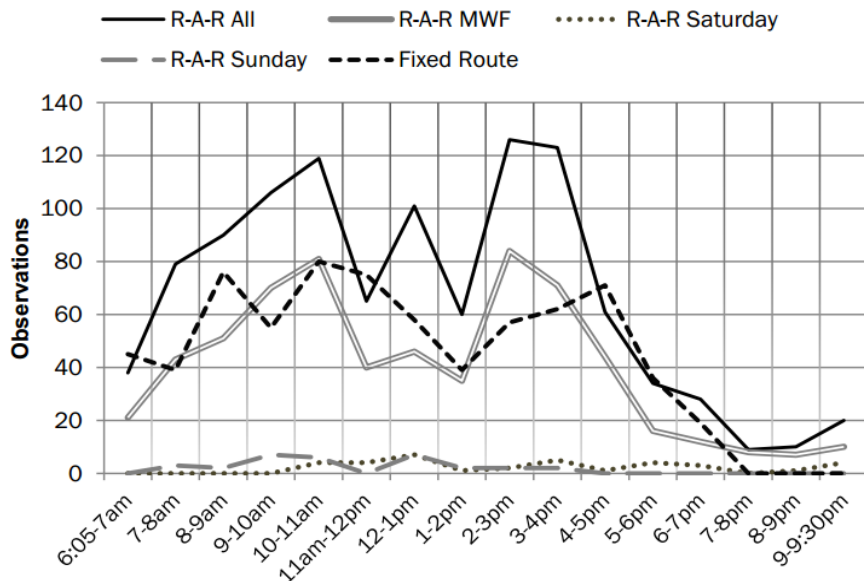
Figure 4-5
JATA Bus in Downtown Jackson



Existing Service Levels

JATA operates fixed route service on seven major routes Monday through Friday from 6:15 AM to 6:15 PM. Saturday service runs from 10:15 AM to 6:15 PM. JATA operates two additional routes which have more defined purposes than the major routes and operates at a much lower service level based on demand. To maximize efficiency, the system is set up as a hub and spoke system. Buses meet for timed transfers at the system hub, located in downtown Jackson. All fixed route buses are handicap accessible and have senior and disabled priority seating. Vehicles are equipped with bike racks to expand the service reach. Fixed route service is focused on the urban area in and around the City of Jackson.

Figure 4-6
Ridership Levels on JATA



JATA also operates demand-response curb-to-curb services throughout the City and County. Weekday service operates from 6:15 AM to 10:15 PM; Saturday service operates from 10:00 AM to 10:00 PM; and Sunday service operates from 7:00 AM to 4:00 PM.

Existing Vehicle Fleet

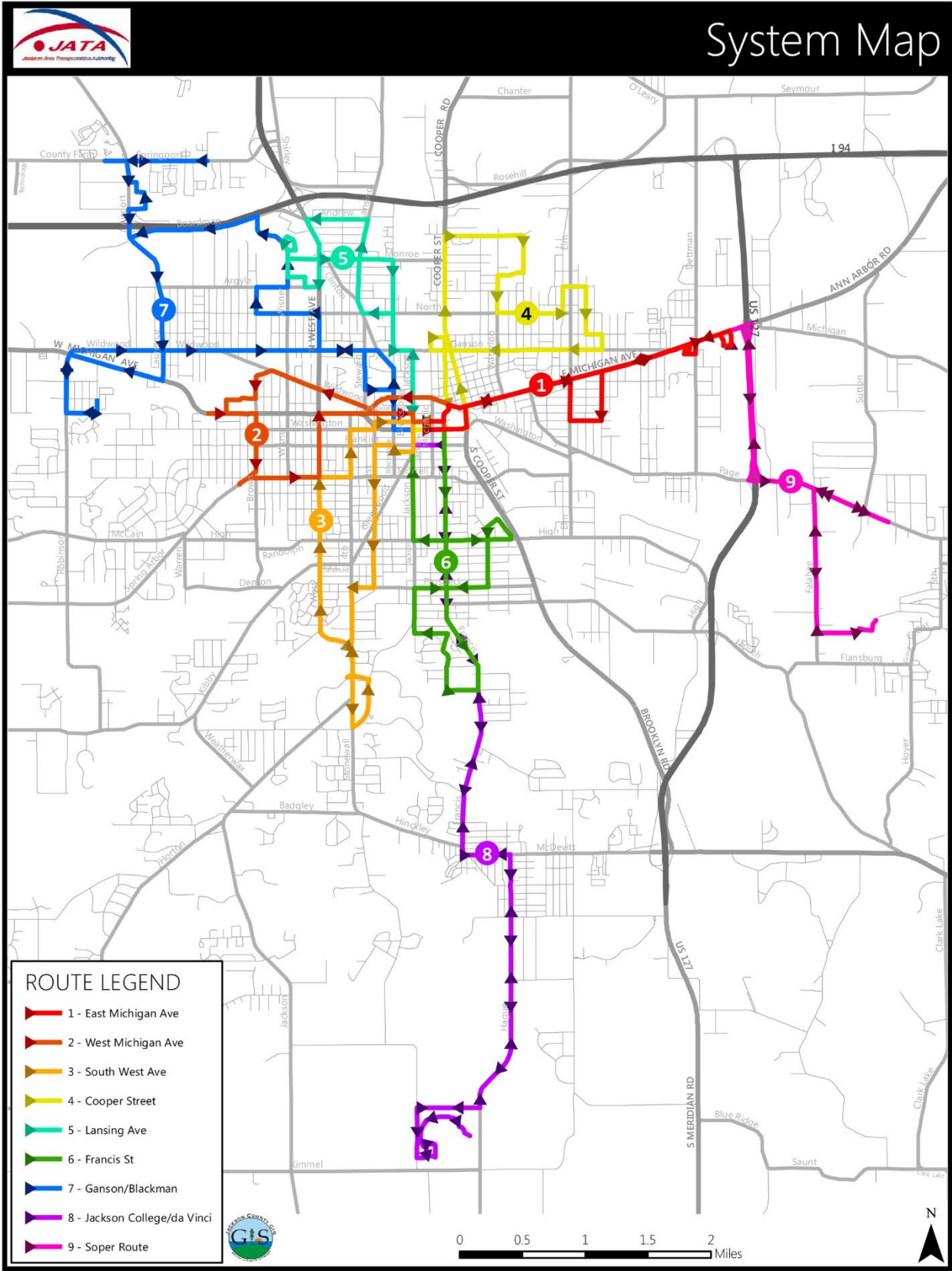
The 2022 JATA fleet consists of 14 full-sized buses, ranging from 29 feet long to 40 feet long. Almost 80% of these will be eligible for replacement within the next five years based on their age. There are 19 medium and light duty vehicles used for demand response. JATA also has five non-revenue vehicles used by staff in maintaining day-to-day operations. All vehicles are handicapped accessible with lifts or ramps and several have additional wheelchair stations that can accommodate up to six wheelchair passengers.

**Table 4-2:
Jackson Area Transportation Authority Ridership – Number of Trips 1991-2022**

YEAR	FIXED ROUTE	DEMAND RESPONSE	SEMI-FIXED (contract)	HEAD START (contract)	RIDES TO WELLNESS	TOTAL
1991-1992	685,272	49,721	59,287	0	0	794,280
1992-1993	760,093	53,229	59,458	0	0	872,780
1993-1994	761,155	63,398	56,049	0	0	880,602
1994-1995	708,577	68,124	41,294	0	0	817,995
1995-1996	665,312	66,796	35,835	0	0	767,943
1996-1997	626,665	66,336	37,128	0	0	730,129
1997-1998	618,988	73,121	36,051	0	0	728,160
1998-1999	597,980	80,499	38,499	0	0	716,978
1999-2000	593,459	96,978	37,967	0	0	728,404
2000-2001	585,446	119,895	18,030	87,847	0	811,218
2001-2002	512,621	115,378	1,605	84,948	0	714,552
2002-2003	516,741	107,790	0	67,584	0	692,115
2003-2004	495,064	98,625	0	52,418	0	646,107
2004-2005	513,116	95,533	0	46,189	0	654,838
2005-2006	559,412	89,637	0	26,292	0	675,341
2006-2007	480,475	74,551	0	0	0	555,026
2007-2008	504,390	57,105	0	0	0	561,495
2008-2009	505,934	52,422	0	0	0	558,356
2009-2010	557,561	46,444	0	0	0	604,005
2010-2011	582,512	44,997	0	0	0	627,509
2011-2012	545,384	41,829	0	0	0	587,213
2012-2013	530,363	42,092	0	0	0	572,455
2013-2014	548,102	40,476	0	0	0	588,578
2014-2015	549,311	39,230	0	0	0	588,541
2015-2016	510,768	32,232	0	0	0	543,000
2016-2017	486,262	34,316	0	0	0	520,578
2017-2018	476,803	37,193	0	0	0	513,996
2018-2019	486,001	34,622	0	0	0	520,623
2020-2021	350,505	22,467	0	0	3,621	376,593
2021-2022	261,108	22,219	0	0	5,718	289,045
TOTAL	16,575,380	1,867,255	421,203	365,278	9,339	19,238,455

Figure 4-7, a map of the JATA transit service system routes, is on the next page.

Figure 4-7: JATA Service Map



Intercity Bus Service

Jackson County is serviced by Indian Trails Bus Lines which operates out of the Jackson Area Transportation Authority's Downtown Jackson Transfer Center. JATA acts as the agent for Indian Trails. There are seven weekly routes that pass through Jackson County primarily serving the I-94 corridor between Ann Arbor/Detroit and Chicago, and include connections to Albion, Battle Creek, Kalamazoo, and Benton Harbor. Northbound travel from Jackson includes a bus departure to East Lansing. Hoosier Rides, a part of Miller Transportation, is another intercity bus services that provides daily connections into and out of Jackson.

Figure 4-8
Indian Trails Route Map



Rideshare Services

MDOT offers ridesharing and commuter vanpool programs throughout the state. The MichiVan Commuter Vanpools, which are operated by Enterprise, are open to members of the public and can help employers establish a service for their employees.

Uber and Lyft started offering rideshare services within Jackson in 2017. Both are private companies that offer alternative curb-to-curb services for any consumer. The companies connect an employee-driver to a customer seeking an on-demand ride. This kind of service has been transformed by the use of smart phones.

Taxi Cabs & Limousine Services

Multiple taxicab companies operate in the greater Jackson area. These services are licensed and must be registered with the City of Jackson in order to operate within the city limits. In addition to transit and taxicab services, there are several limousine services and car rental agencies in the Jackson area.

Existing Plans and Studies

Connecting Jackson County Study 2017

The Connecting Jackson County Study identified the gaps and issues with the JATA transit service within the City of Jackson and across Jackson County. Completed in early 2018, this study was a deeper analysis of some of the findings from the 2015 JATA Countywide Survey. The study looked at fixed-route and reserve-a-ride services, operations, capital budgeting and funding, inter-city travel, and the confluence of the non-motorized transportation system. Conclusions of the study are listed later in the “Future Forecasts, Issues & Needs” section.

Coordinated Mobility Plan: Prosperity Region 9 2016

Michigan 2-1-1 and their partners were trying to develop the joint capacity to provide One-Call/One-Click service to Michigan residents to assist with individual trip planning and to address transportation barriers limiting opportunities for employment, health care,

recreation, and other personal needs. The statewide study identified regional gaps in mobility, particularly for people with limited transportation options such as veterans, older adults, individuals with disabilities, and people with lower incomes. The study also involved identifying actions that can be taken by local transportation providers and Michigan 2-1-1 to increase regional mobility.

The statewide transit study led to the development of 10 different regional studies. Michigan 2-1-1 and MDOT's Office of Passenger Transportation collaborated to develop the Coordinated Mobility Plan for Region 9, which included Jackson, Hillsdale, Lenawee, Livingston, Monroe and Washtenaw counties. This plan was designed to meet the coordinated transportation planning requirements for MAP-21. It provides a review of existing plans and transit services for each of the 6 counties. Regional stakeholders identified and prioritized strategies and potential projects to meet transportation needs. Also, an overview of how to continue coordinated mobility planning within and across the region is included.

Future Forecasts, Issues, & Needs

JATA is expected to continue providing public transit service to the residents of Jackson County. This will include fixed route and ADA demand-response service to City of Jackson residents with additional demand-response service operating throughout the County. Operations are expected to continue with funding provided by passenger fares, federal and state grants, citywide millage, and service contracts.

Table 4-3 provides a list of JATA's capital and operational funding projects proposed for the 2050 Long Range Transportation Plan. The JATA capital program is based on fleet replacement schedules and programs.

The replacement cycles represent the replacement policies, in terms of age and miles, as established by the Federal Transit Administration (FTA) for specific vehicle types. For the purpose of this Plan, JATA proposes to continue operating their system at their current level of service. Although the focus of JATA will be to preserve and continue at the current level of service, this is not to imply that JATA will not be exploring service enhancement and delivery changes. However, similar to the road recommendations, only those projects which have an identified funding source are included in the list of projects.

The capital and operating costs and revenue projections used to develop the future projects list were provided by JATA. These operating and capital costs cover the fixed-route system and associated ADA and countywide demand-response operations. Cost projections are based on current (2022) dollars and are inflated by 2 percent each year.

**Table 4-3: Jackson Area Transportation Authority
Projected Capital & Operating Expenditures
(FY 2024 – 2050)**

Year	Project	Est. Cost	Year	Project	Est. Cost
2024	3 – Med. Duty Buses	\$ 386,000	2034	2 – 45 ft. Hwy Coaches	\$1,600,000
	Operating Program	7,950,900		1 – 35 ft. Bus	506,000
2025	1 – 35 ft. Bus	\$ 416,000		Security Imprv.	62,700
	Shop Equipment	18,000		Operating Program	9,692,000
	Operating Program	8,110,000	2035	3 – Vans	\$ 180,000
2026	3 – Vans	\$ 149,000		2 – 45 ft. Hwy Coaches	1,600,000
	1 – 35 ft. Bus	425,000		1 – 35 ft. Bus	516,000
	Operating Program	8,272,100		Operating Program	9,886,000
2027	CPU Upgrades	\$ 114,400	2036	1 – 35 ft. Bus	\$526,000
	Operating Program	8,438,000		Service Vehicle	60,000
2028	3 – Med. Duty Buses	\$ 400,000		Operation Program	10,084,000
	Security Imprv.	59,000	2037	1 – 35 ft. Bus	\$ 537,000
	Operating Program	8,606,300		Shop Equipment	23,200
2029	3 – Med. Duty Buses	\$ 405,000		CPU Upgrades	138,400
	1 – 35 ft. Bus	450,300		Operating Program	10,285,000
	Shop Equipment	20,000	2038	1 – 35 ft. Bus	\$ 548,000
	Operating Program	8,778,400		3 – Med. Duty Buses	493,000
2030	1 – 35 ft. Bus	\$ 460,000		Operating Program	10,491,000
	Service Vehicle	54,000	2039	1 – 35 ft. Bus	\$ 559,000
	Operating Program	8,954,000		3 Vans	194,000
2031	1 – 35 ft. Bus	\$ 478,000		Operating Program	10,701,000
	3 – Vans	166,400	2040	Security Imprv.	\$ 70,000
	Operating Program	9,133,000		1 – 35 ft. Bus	570,000
2032	CPU Upgrades	\$ 125,800		Operating Program	10,915,000
	Security Imprv.	63,500	2041	3 – Med. Duty Buses	\$ 507,790
	Operating Program	9,316,000		Security Imprv.	75,600
2033	1 – 35 ft. Bus	\$ 487,000		Operating Program	11,133,300
	3 – Medium Duty Buses	448,000	2042	Service Vehicle	\$ 63,000
	Operating Program	9,502,000		Security Imprv.	81,648
				Operating Program	11,355,966

Year	Project	Est. Cost
2043	1 – 35' Bus	\$ 587,100
	Service Vehicle	65,200
	Maintenance Equipment	150,000
	Operating Program	11,583,085
2044	Security Imprv.	\$ 88,180
	CPU Upgrades	145,300
	3 – Vans	203,700
	Operating Program	12,200,000
2045	1 – 35 ft. Bus	\$ 604,713
	Security Imprv.	95,234
	Operating Program	12,501,042
2046	3 – Med. Duty Buses	\$ 507,790
	Security Imprv.	75,600
	Operating Program	12,501,042

Year	Project	Est. Cost
2047	Service Vehicle	\$ 63,000
	Security Imprv.	81,648
	Operating Program	13,006,040
2048	1 – 35 ft. Bus	\$ 587,100
	Service Vehicle	65,200
	Maintenance Equipment	150,000
	Operating Program	13,266,160
2049	Security Imprv.	\$ 88,180
	Facility Upgrades	145,300
	3 – Vans	203,700
	Operating Program	13,531,483
2050	1 – 35 ft. Bus	\$ 604,713
	Security Imprv.	95,234
	Operating Program	13,802,112

JATA Long Range Transportation Plan

A summary of proposed activities in the JATA Long Range Transportation Plan that currently do not have a funding source include:

- Continuation of specialized Medical Services.
- Provision for all Human Service Agency transportation in Jackson County to:
 - Personal and medical trips
 - Nutrition sites
 - Other specialized services
- Provision for maintenance of non-profit agency vehicles.
- Increased demand responsive service.
- Extension of fixed-route service within the expanding urbanized area including the communities of Michigan Center, Grass Lake, and other satellite centers.
- Provision for corridor service to Lansing, Ann Arbor, and Battle Creek.
- Training facility to accommodate bus driver training for JATA, schools, and other agencies.
- Coordination of intercity bus / rail / public transportation operations.

Active Transportation

MDOT defines active transportation as “human-powered transportation that engages people in physical activity while they travel,” with the two main modes being walking and cycling. Active transportation facilities are important components to the transportation system. They provide an environmentally-friendly, low-cost mode of travel. There are also a number of benefits for people who choose active transportation travel, such as improved health, money saved on gas and car maintenance, and less traffic congestion due to less cars on the road. Some of these facilities can also double as recreational assets. Since 2002, there have been a number of investments made to improve the active transportation network in the Jackson MPO.

Existing Active Transportation Network

Sidewalks and Crosswalks

Pedestrian movement is generally accommodated by the presence of sidewalks and multi-use paths along with pedestrian crosswalks at major intersections. The City of Jackson has implemented “countdown signals” that provide pedestrians with a safe timeframe to cross the street. As required by the Americans with Disabilities Act (ADA), sidewalk ramps at crosswalks with detectable warning surfaces have also been installed. Pedestrian crossing islands and curb extensions are other improved safety features in some parts of Jackson.

The City of Jackson has implemented raised crosswalks downtown, which provide a safer road crossing for pedestrians. Figure 4-9 is an example of one. The benefits to raised crosswalks are that they are at the same level as the sidewalk, rather than being level with the road. This creates a small speed bump for cars so that drivers are more aware of the crossing and they must slow down. These function similar to continuous sidewalks, which is when a sidewalk continues across the road at a stop sign. At this time, continuous sidewalks have not been implemented anywhere in the Jackson MPO.

Figure 4-9
Raised Crosswalk in Downtown Jackson



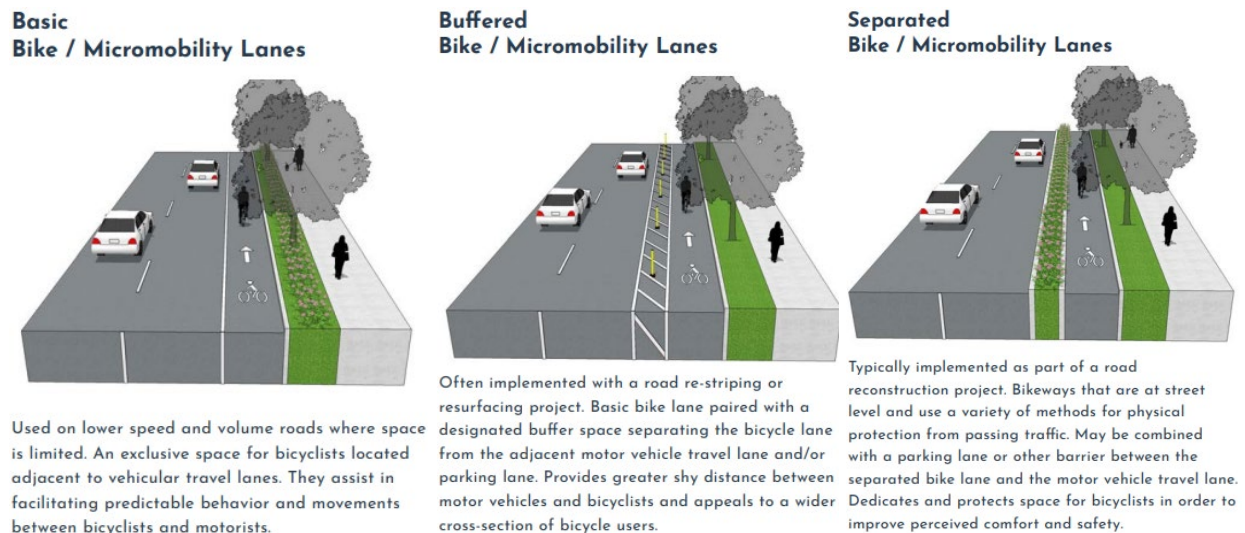
Bike Lanes

Dedicated bicycle facilities create opportunities for a range of users. Bike lanes are found on a number of streets near and within the City of Jackson. They provide a separated space for bicycles to operate, helping drivers understand where they can expect bicyclists to be in the roadway. Bike lanes discourage wrong way riding, and are useful on collector and arterial roads.

There are three types of bike lanes: basic, buffered, and separated. Figure 4-10 demonstrates the differences between the three. Separated lanes are the most optimal since they completely separate bikes from cars and have the most usage. Bike lanes can

also be made safer through painting them green which increases their visibility and helps make drivers more aware of their presence. Currently, all bike lanes in the Jackson MPO fall under the “basic” category. They mostly feature good signage and pavement markings, but none are painted green.

Figure 4-10: Different Types of Bike Lanes



Multi-Use Trails

Multi-use trails serve both pedestrians and bicycles and are a significant part of the active transportation network. These trails are separated from the road, which provides more safety and security than basic bike lanes. Multi-use trails are wider than sidewalks so that they can safely accommodate both pedestrians and bikes. They can also serve as recreation facilities. The following is a list of multi-use trails within the Jackson MPO:

- **Martin Luther King Jr. Equality Trail (Formerly the Intercity Trail)**: A 3 mile paved trail that traverses the city from E Washington St to Weatherwax Dr, where it then connects to the Falling Waters Trail. Constructed in 2000, this trail follows the route of a former Conrail rail line. The trail previously terminated at Merriman St but was extended to downtown Jackson in 2017. The Iron Belle Trail and Great Lake to Lake Trail routes align with the trail.
- **Falling Waters Trail**: A 10 mile paved trail extending from River St in the Village of Concord to Weatherwax Dr in Summit Township. It was built as an extension of the MLK Equality Trail in 2008, and follows the same former Conrail rail line. It passes through and provides access to Lime Lake County Park. The Iron Belle Trail and Great Lake to Lake Trail routes align with the trail.
- **Armory Arts Walk**: A 1 mile paved trail from W Monroe St to N Mechanic St. This trail follows alongside the Grand River. The Iron Belle Trail and Great Lake to Lake Trail routes align with the trail.
- **Mike Levine Lakelands Trail State Park**: 13 of this trail's 38 miles traverse through Jackson County, following a former Grand Trunk Western rail line. This mostly unpaved trail currently starts at the intersection of Parnall Rd and M-106 (Cooper

Rd) and travels northeast to Munith. From there, it extends to the Stockbridge area with a terminus at Whitmore Lake. Future plans include paving this trail and extending it to connect with the Armory Arts Walk. The Iron Belle Trail and Great Lake to Lake Trail routes align with the trail.

- **PAKA Trail**: 1 mile paved trail that connects the MLK Equality Trail to Ella Sharp Park. This trail starts at New Leaf Park and connects to an unnamed trail at Park Rd.
- **Sparks Foundation County Park**: 2 miles of paved trail run through the park. A connection to the MLK Equality Trail was built in 2017.
- **Unnamed Trails**: There are a number of unnamed trails, most of which parallel roads. Table 4-4 lists all unnamed trails in the Jackson MPO as of 2023. A majority of these trails are unsigned.

Table 4-4: Unnamed Trails in the Jackson MPO

Municipality	Parallel Street	Distance	Endpoint 1	Endpoint 2
City of Jackson	Brown St	1 mi	Randolph St	W Michigan Ave
	Elmdale Dr	0.5 mi	Hickory Ave	S Jackson St
	Kibby Rd	0.75 mi	The Cascades	Intercity Trail
	W Michigan Ave	1 mi	Brown St	Downtown Jackson
Village of Concord	N/A	0.75 mi	N Main St	Allman Rd
Blackman Charter Township	Airport Rd	0.25 mi	McDonald's	I-94 East Entrance Ramp
	Rives Junction Rd	0.75 mi	M-50	Northwest Schools
Leoni Township	Ann Arbor Rd	2.6 mi	Hackett St	Gilletts Lake Rd
	Page Ave	1.35 mi	Menards	5th St
Spring Arbor Twp	Teft Rd	1.2 mi	W Main St	Falling Waters Trail
Summit Township	W High St	0.75 mi	Warren Ave	The Cascades
	Horton Rd	0.75 mi	PAKA Trail	Weatherwax Rd
	McDevitt Ave	1.5 mi	Francis St	Oak Lane Rd
	Probert Rd	0.25 mi	Francis St	Maplewood Dr
	Spring Arbor Rd	1.42 mi	Lumen Christi High School	Polly's Country Market
	Weatherwax Rd	0.5 mi	Horton Rd	Falling Waters Trail

Signed Bike Routes

The City of Jackson has a number of signed bike routes. They are identified by the Manual on Uniform Traffic Control Devices (MUTCD) as standard “bike route” green signs with white letters. Bicycle traffic is encouraged to follow these routes throughout the City. The signed bike routes do not have bike lanes nor are they marked with any other indicator like a shared lane marking or “sharrow.”

The Clark Lake Spirit Trail is a 7 mile signed bike route around Clark Lake. This route mostly follows along residential roads, but a few sections feature paved trails separate from the road.

Other Facilities

Paved shoulders are another option for some bicyclists. Paved shoulders are typically found on roads in rural areas and widths can vary from 4 to 8 feet. They may or may not be marked.

Bicycle parking in the Jackson MPO is accommodated through bike racks. Several bike racks have been installed along streets in downtown Jackson. All of the JATA fixed-routes buses have bicycle racks to help accommodate intermodal travel for its customers.

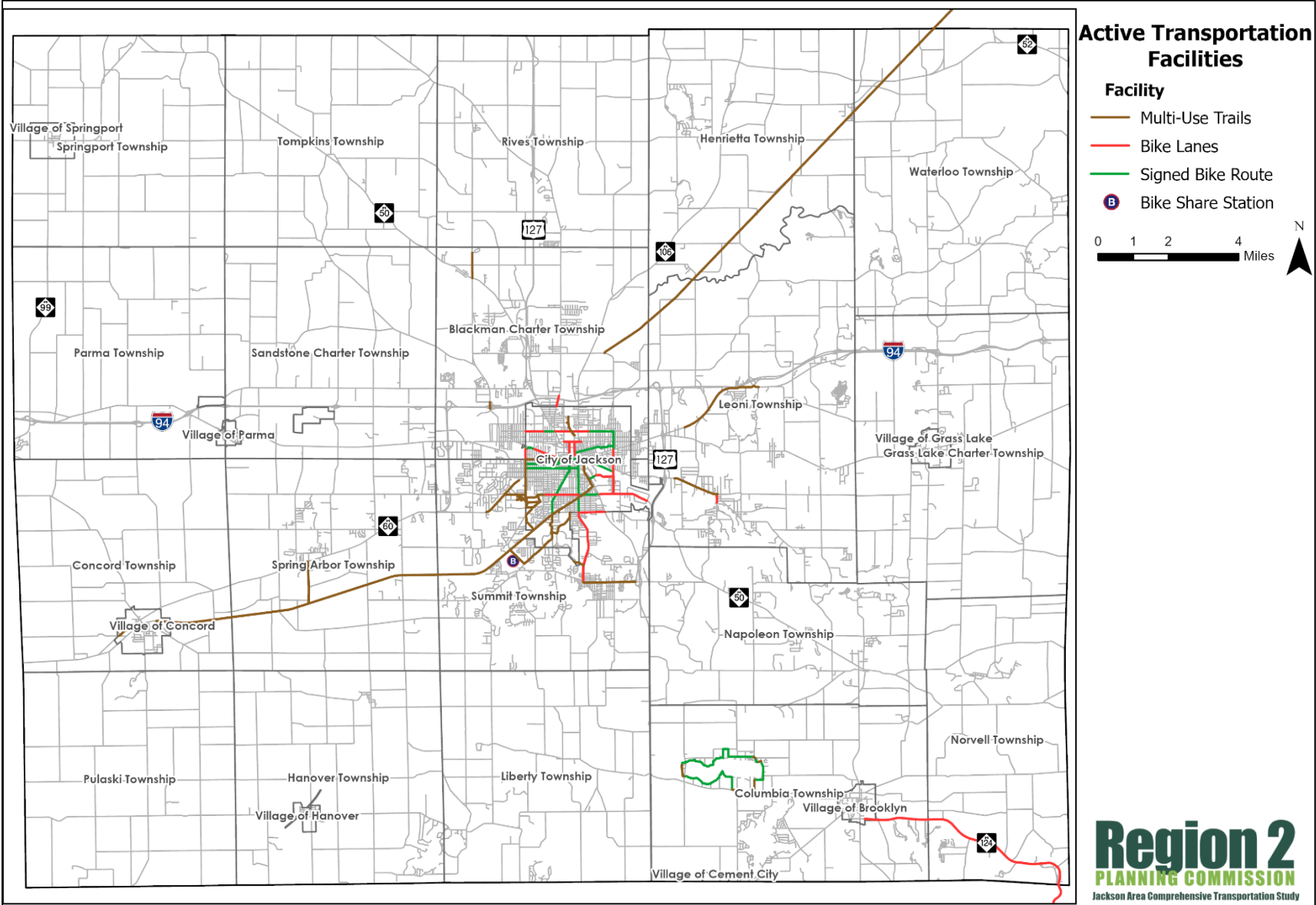
Jackson County supports one bike share station at the parking lot/trailhead where the Falling Waters Trail meets the Martin Luther King Jr. Equality Trail on Weatherwax Dr. The BCycle bike share station was installed in May 2017. In the first four months after installation, there were over 600 bicycle trips taken. The program is generating modest revenue.

Figure 4-11
Jackson County Bike Share Station



Figure 4-12, a map of the existing active transportation facilities, is on the next page.

Figure 4-12: Active Transportation Facilities Map



Existing Policies & Programs

The state transportation law requires that each local unit of government receiving Motor Vehicle Highway Funds (Act 51 funds derived from gasoline and car registration taxes) spend at least one percent of these funds each year for active transportation facilities. The law also requires that each administering road agency prepare a five-year program for expenditure of available funds. The City of Jackson and the Jackson County Department of Transportation review the need for active transportation facilities when programming future road paving and reconstruction projects. Both agencies also review future locations for the addition of active transportation facilities that meet funding requirements through the Transportation Alternatives Program (TAP).

Policies

Policies to address improvements to active transportation facilities in the Jackson MPO were included in the 2045 Long Range Transportation Plan. Some of those policies include:

- Strategies and actions in residential areas should be aimed at improving pedestrian safety and the overall quality of life. Projects that would limit undesirable vehicular activity on specific residential streets as a way of improving the pedestrian environment are encouraged.
- Special care should be given to address the removal of built-in barriers that limit access to pedestrian facilities.
- Pedestrian safety in school zones should be considered through a coordinated effort involving school officials, parents, police, traffic engineers and planners.
- Identify routes that would act as connectors between existing non-motorized trails.
- Improve bicycle facilities including storage, shelters, comfort stations and trail heads at major trip generators, destinations, and transit hubs.
- Improve safety issues such as signage, pavement markings, signals, drainage gate replacement, and rail crossings.
- Promote access between active transportation and other modes of transportation.

Safe Routes to School

The City of Jackson began working on Safe Routes to School (SRTS) with Jackson Public Schools in 2007. Over the last ten years, sidewalk improvements were made to the areas near Cascades Elementary School, Frost Elementary School, Northeast Elementary School and the School for the Arts. The City paid for the planning and engineering of the projects.

JCDOT has been active in the Safe Routes to School program. Several elementary and middle schools have received funding through this program and many others are in the process of developing their “walk to school” plans. JCDOT has assisted in the development of grant applications, and continues to be a resource to schools outside the City of Jackson. Schools outside the city that have received SRTS grants include Napoleon Community Schools, Grass Lake Community Schools, Springport Public

Schools, and East Jackson Middle School. Columbia School District plans to apply for a SRTS grant in February 2024.

Existing Plans and Studies

2020 Jackson City + County Non-Motorized Plan

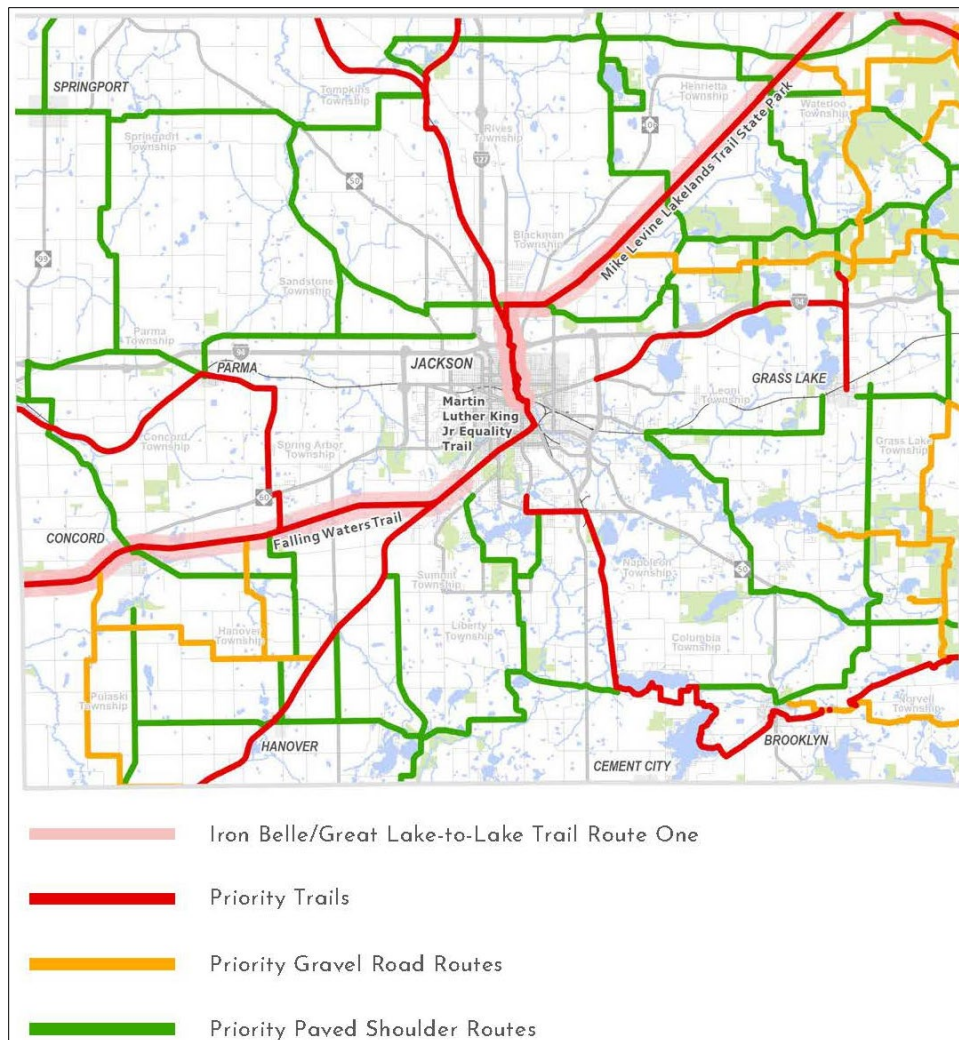
The Jackson City + County Non-Motorized Plan was led by the Region 2 Planning Commission, Jackson County, and the City of Jackson. The goal of this study was to improve biking and walking conditions throughout the county and establish a connected network of sidewalks, bike lanes, and multi-use trails. This plan serves as an update to the 2002 Jackson County Regional Trailway Study, which looked to establish a network of multi-use trails in the county. The 2020 plan proposes a non-motorized network in Jackson County consisting of many different types of routes, such as:

- Rail-trails
- Rail-with-trails
- Utility corridor trails
- Sidepaths
- Bike lanes
- Paved shoulder routes
- Gravel road routes
- Signed bike routes

Figure 4-13 on the next page shows a map of the proposed network. It consists of 57.2 miles of new priority trails which would provide connections between communities within Jackson County. They would also help with statewide trail projects such as the Iron Belle Trail and Great Lake-to-Lake Trail Route 1. Along with new trails, this plan also outlines other bike infrastructure that should be developed, such as bike parking, a uniform sign system, connected vehicle infrastructure, and bike sharing stations. It includes the costs of developing nine priority trails and how much funding will come from federal, state, local, and private sources.

It would be beneficial for Jackson County and the communities within the Jackson MPO to consider the developments of this plan. The proposed network would provide many benefits to the community by allowing alternatives to commuting by car and establishing more opportunities for recreation. The plan recommends that a countywide trail commission be established to oversee the construction and maintenance of the proposed county trail system.

Figure 4-13: Proposed Jackson County Non-Motorized Trail Network



Jackson County Recreation Plan 2020 – 2024 Edition

A priority of the Jackson County Recreation Plan 2020 – 2024 Edition was to develop and implement a recreation plan that responds to the desire of the public and enhances local parks and programs. One goal is to create a trail system throughout the county that will provide alternate modes of transportation as well as opportunities for recreation. An online survey was conducted in spring of 2019, which asked a question regarding the construction of non-motorized trails within Jackson County. Approximately 86% of respondents supported the development of a regional trail system. This plan supports the development of a non-motorized trail network and implementing the recommendations from the Jackson City + County Non-Motorized Plan. Jackson County will implement portions of the plan as opportunities arise and resources become available.

2003 City of Jackson Bike Route Map

The City of Jackson approved a Bike Route map to accommodate bicycle trips on low-volume roads between potential bicycle trip generators. These generators include park and recreational facilities, entertainment and shopping centers, large employers, and

other areas. Specific facilities were developed with input from the Walkable Communities Task Force, bicycling organizations, traffic engineers, planners, and the public. Most of these facilities have been implemented over the last 20 years.

City of Jackson Community Master Plan 2016

The City's 2016 Master Plan highlights improvements for the non-motorized network. Non-motorized goals, recommendations, and strategies from the plan include:

- Complete the non-motorized transportation network to connect downtown to all major areas of the City.
- Reduce dependence on the automobile for all transportation needs.
- Make connections on existing non-motorized routes to provide access throughout the City.
- Implement the recommendations from the 2010 Jackson Rail Passenger State Development Study, including consolidating local bus and bicycle services into a location easily accessible from the Amtrak node.

City of Jackson Recreation Plan 2020 – 2024 Edition

A priority of the City of Jackson Recreation Plan 2020 – 2024 Edition was to develop and implement a recreation plan that responds to the desire of the public and enhances local parks and programs. One goal is to develop trail networks that traverse Jackson in collaboration with other local governments and organizations. An online survey was conducted in the summer and fall of 2019, which asked a question regarding the construction of non-motorized trails within the city and surrounding area. Approximately 72% of respondents showed support for developing a trail system. This plan supports the development of a non-motorized trail network and implementing the recommendations from the Jackson City + County Non-Motorized Plan. The City of Jackson will implement portions of the plan as opportunities arise and resources become available.

University Region Non-Motorized Plan 2015

The Michigan Department of Transportation University Region led the development of the MDOT University Region: Regional Non-Motorized Plan in 2015. The region is comprised of 10 counties, including Jackson County. The focus of the plan is developing a regional network of trails, paths and streets that provide connections between communities, counties, and adjacent regions. The primary goals are:

- Document the existing and proposed network
- Identify opportunities to enhance non-motorized transportation
- Help prioritize non-motorized investment
- Foster cooperative planning across municipal/county boundaries and continue to coordinate these efforts

The plan provides a map of the existing and proposed non-motorized facilities for the 10 county region, including Jackson County. Stated priorities for Jackson County include the completion of trail routes that are on the Iron Belle and the Great Lake to Lake Trails and

the development of connections through the Heart of the Lakes Recreation Commission Plan area, including to Brooklyn and Clarklake.

Jackson Trail Connector Feasibility Study 2017

The Michigan Department of Natural Resources, MDOT, Jackson County, and Blackman Charter Township worked together on the Jackson Trail Connector Feasibility Study in 2017 to examine an extension of the Lakelands Trail to the MLK Equality Trail. The study identified the location, benefits, and challenges for several routes, and a preferred trail option. As of November 2023, the Lakelands Trail extends to the intersection of Parnall Rd and Cooper Rd (M-106). JCDOT is currently evaluating further extension of the trail.

Future Forecasts, Issues, & Needs

The Jackson City + County Non-Motorized Plan, which was completed in May 2020, outlined many issues and needs for Jackson County's non-motorized trail system. Through surveys and public input meetings, the planning committee was able to hear what current issues prevent people from walking or cycling. Some of the issues were:

Issues with walking

- Condition of existing sidewalks (poor/narrow/uneven)
- Lack of sidewalks outside of downtowns
- Drivers paying attention
- Lack of crosswalks
- Snow/ice removal

Issues with cycling

- Lack of separated bikeways
- Lack of bike parking
- Availability of safe bikeways
- Driver attitudes toward bikes
- Narrow roads/no paved shoulders
- High speed traffic
- Road pavement condition

Jackson County and the City of Jackson should consider these issues when planning road projects along with connecting missing segments of multi-use trails, bike lanes, and sidewalks to establish a better network and allow for more usage of the facilities. They should also consider upgrading basic bike lanes to buffered or separated lanes and implementing more bike share stations.

Future Planning Studies

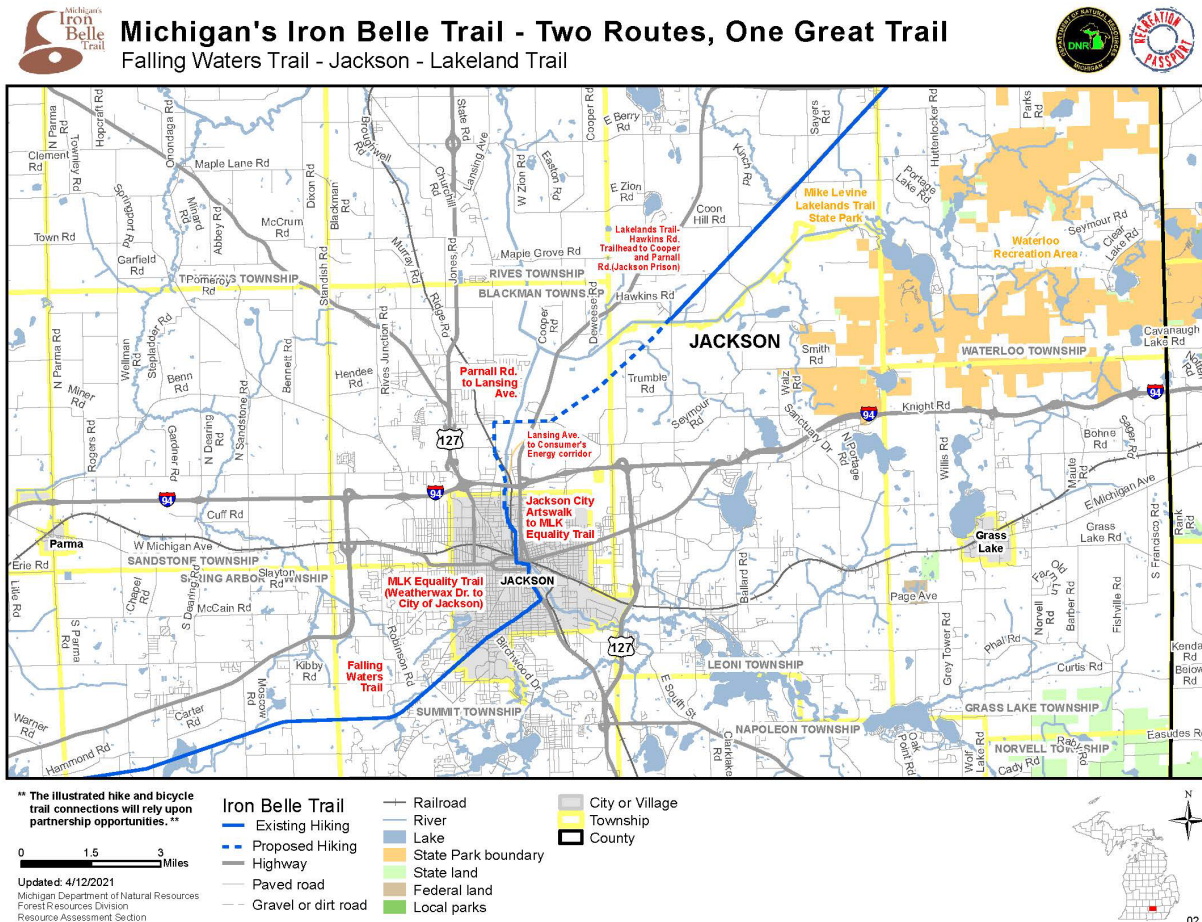
Energy and interest continue to grow to support the development of non-motorized facilities for transportation and recreation. Since a study of non-motorized transportation was done within the past few years, there are no known plans to develop a new non-motorized plan for Jackson County. Planners may see the need for a new study once more facilities are developed in the county. Proposed improvements from the 2020 Jackson City + County Non-Motorized Plan and the 2015 MDOT University Region Non-Motorized Plan will be considered along with the involvement of local villages, townships, the City of Jackson, Jackson County, and the Region 2 Planning Commission.

Iron Belle Trail

The Michigan Department of Natural Resources announced the plan for the Iron Belle Trail in 2015. The trail, which has two routes, one biking and one hiking, will run from Belle Isle Park in Detroit to Ironwood in the Upper Peninsula. In Jackson County, the route

follows the unpaved Lakelands Trail from Stockbridge, running through the northeast part of the county into the City of Jackson. Within the City of Jackson, it follows the Armory Arts Walk, Grand River Walk and the MLK Equality Trail. From there, it connects to the Falling Waters Trail, and continue along a proposed route to Homer in Calhoun County. To date, the trail is mostly complete in Jackson County. Figure 4-14 provides a map of the trail in Jackson County and the current missing connections.

Figure 4-14
DNR Map of the Iron Belle Trail through Jackson County



The Great Lake to Lake Trail

The Great Lake to Lake Trail Route 1 is a collection of existing and proposed trails that will stretch 250 miles from the shore of Lake Michigan in South Haven to the shore of Lake Huron in Port Huron. The trail passes through Jackson County using the existing Falling Waters Trail, MLK Equality Trail, Armory Arts Walk, and Lakelands Trail, following the same corridor as the Iron Belle Trail. To date, the trail is mostly complete in Jackson County. Currently, the trail is missing connections in a few places that would make it possible to fully traverse Jackson County. These missing connections are an extension of the Falling Waters Trail west of Concord toward Homer, a connection of the MLK Equality Trail to the Armory Arts Walk, and a connection of the Armory Arts Walk to the Lakelands Trail. Figure 4-15 provides a map of GLTLT Route 1.

Figure 4-15
Great Lake to Lake Trail Route 1



Passenger Rail

Rail plays a significant role in transportation planning, especially when considering economic development, safety, freight, and intermodal connectivity. Passenger rail service in Jackson is provided by Amtrak through the Wolverine Line. There are also two freight rail lines serving the area, Norfolk Southern and the Jackson and Lansing Railroad. This section addresses the existing conditions and future needs of passenger rail in the community. For more information on freight service in the Jackson MPO, see page 4-37.

Existing Rail Service

Amtrak Service

Jackson is located on the Detroit-Chicago intercity rail passenger corridor. Amtrak operates the Wolverine Line between Pontiac and Chicago, which consists of three daily passenger trains in each direction. Along with Amtrak, the section of the Wolverine Line from Dearborn to Kalamazoo is also used by Norfolk Southern (NS). This section of the line was purchased by MDOT in 2013. In addition to its current use, MDOT seeks other ways this line could be used in the future, such as a state-operated commuter rail.

Usage of the Wolverine Line has slightly fluctuated in the past, but COVID-19 resulted in a massive decrease in ridership and revenues. Passenger use of the Wolverine Line went from 501,124 passengers in 2019 to 244,500 passengers in 2020 and to 153,929 in 2021. This resulted in a 69.3% decrease from 2019 to 2021. At the Jackson Amtrak Station, ridership was 23,615 in 2019 with numbers dropping to 11,741 in 2020 and 7,852 in 2021. Additionally, operating revenues across the Wolverine Line decreased from \$31.3 million in 2019 to \$11.5 million in 2021. However, since 2021 ridership on the Wolverine Line has increased, going up to 367,254 in 2022, a jump of 138.6%.

High-Speed Rail

High-speed rail on the Wolverine Line was first established in September 2013 when the state received \$196.5 million to engineer and upgrade improvements from Porter, IN to Kalamazoo which brought track speeds up to 110 mph. These upgrades improved safety, comfort, and travel times for passengers along this corridor. With MDOT's purchase of the Dearborn-Kalamazoo corridor in 2013, over 200 miles of the line are now under the control of Amtrak and MDOT. Together, they aim to reduce travel times between Chicago and Detroit from 5 hours, 15 minutes to less than 4 hours. Amtrak, under contract to MDOT, took over maintenance functions of the Dearborn-Kalamazoo segment from Norfolk Southern in February 2013. Upgrades to the line include replacement of ties, rails, and switches, improvements to grade crossings, and extension of an advanced signal system. In 2021, the section of line from Kalamazoo to Albion was upgraded to high-speed rail, with speeds increasing from 79 mph to 110 mph. Amtrak and MDOT plan to increase speeds from Albion to Dearborn over the next several years.

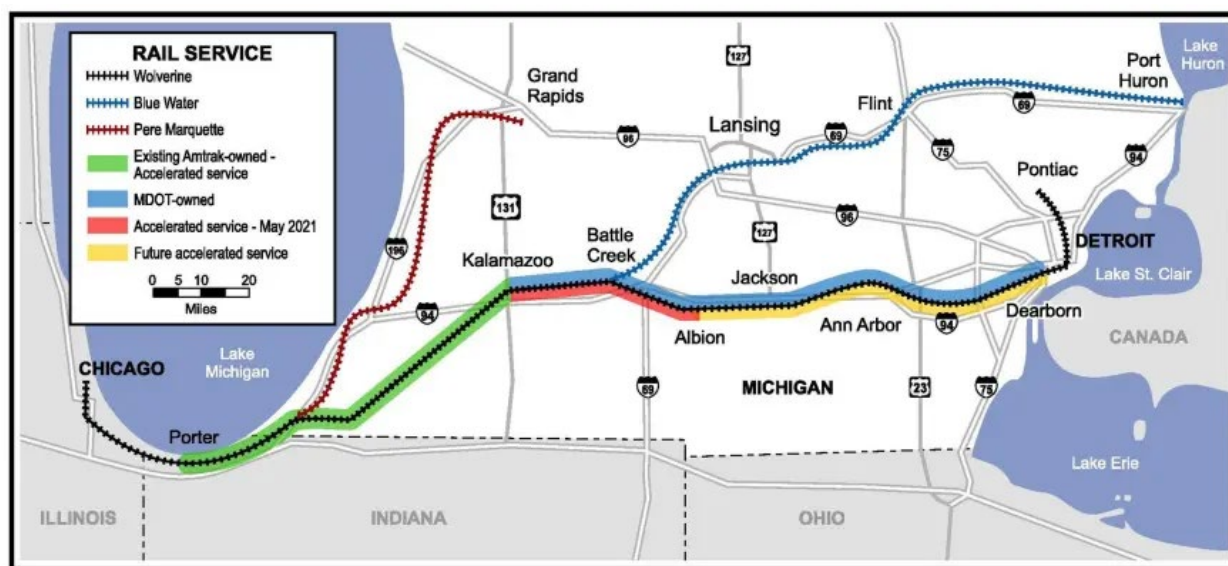
Amtrak, through an ongoing partnership with the Federal Railroad Administration and the State of Michigan, developed a radio-based train communication system, the Incremental Train Control 4 System (ITCS). It is currently in high-speed revenue service on 80 miles of Amtrak-owned track in Michigan and works to prevent train-to-train collisions, train over-speed conditions, and protect track workers. ITCS is a form of Positive Train Control

(PTC), an advanced signal system required by 2018 on most routes with passenger train service.

The development of high-speed rail would spur business productivity in Jackson and along the rail corridor by strengthening the local region's connection to economically vital megaregions such as Detroit and Chicago. Faster service and increased transfer points will expand options for citizens in rural and small urban communities. High-speed rail could also alleviate congestion on the region's roadway network, specifically I-94, which the route runs parallel to.

Figure 4-16 highlights the Wolverine Line, showing the sections of high-speed rail and the ownership of each corridor. The Blue Water and Pere Marquette lines are also shown.

Figure 4-16
Amtrak Wolverine Line



Existing Plans and Studies

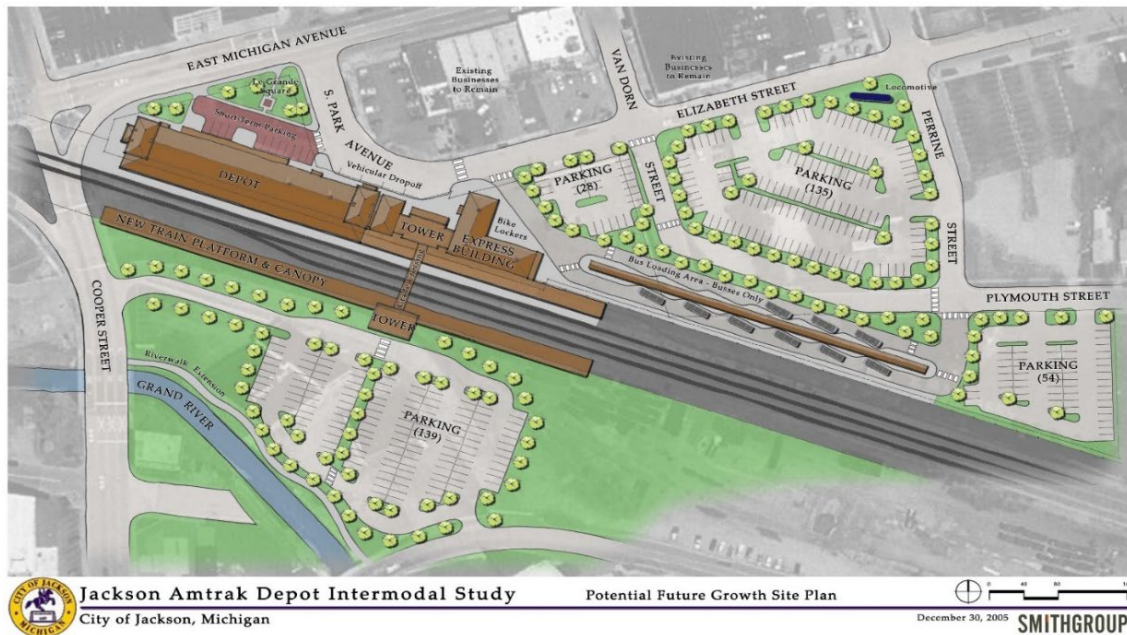
The 2005 City of Jackson Amtrak Depot Intermodal Feasibility Study

The Jackson Michigan Central Railroad Depot, now the Jackson Amtrak Station, was once a highly utilized facility. However, as modes of transportation shifted, the use of the depot declined. In 2005, the Jackson Amtrak Depot Intermodal Feasibility Study was completed for the City of Jackson to develop a multi-modal center at the site. The study provided an assessment of existing historical structures and their potential uses, along with identifying needs, developing conceptual plans, and discussing potential costs and funding sources. This plan would involve the bus station to be moved next to the train station, which would provide a more convenient way for people to get to and from the station. The plan also includes the construction of 356 paved parking spaces, temporary parking, vehicular drop-off, bike lockers, an additional platform with a canopy, and an extension of the river walk.

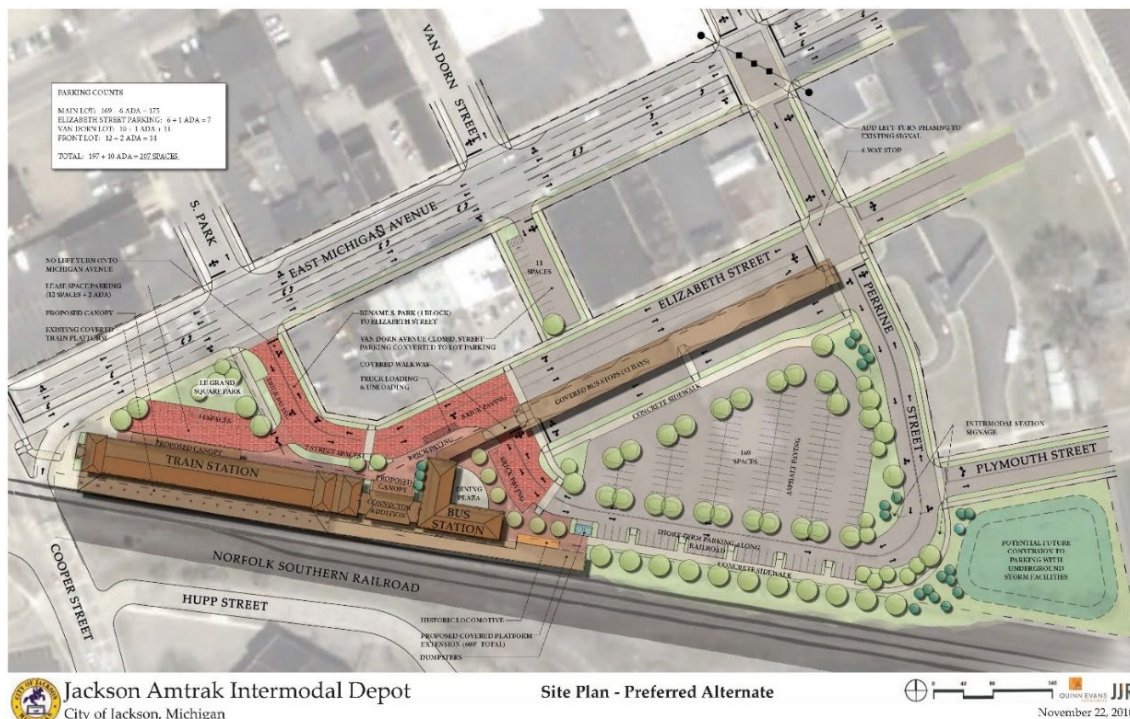
An updated report of this study was completed in 2010 with the intent to refine the design recommendations, update the construction budget estimate, and propose a schedule for

how the city could plan and implement this project. The new proposed design would only utilize space on the north side of the tracks, which would help lower the cost and prevent the demolition of some buildings. It features fewer parking spaces, with 207 in total. Despite less development than the 2005 concept, the project would still be beneficial for Jackson. Figure 4-17 contains the design concepts from both the 2005 and 2010 studies. Each provides an outlook of how the station and surrounding area could be revitalized.

Figure 4-17
(a) 2005 City of Jackson Amtrak Depot Site Development Plan



(b) 2010 City of Jackson Amtrak Depot Alternate Site Plan



Chicago-Detroit/Pontiac Passenger Rail Corridor Program Study

MDOT, in partnership with the Federal Railroad Administration (FRA), Indiana Department of Transportation (INDOT) and the Illinois Department of Transportation (IDOT), initiated a \$4 million Chicago-Detroit/Pontiac Passenger Rail Corridor Program study. The vision of the study is to provide safe and reliable passenger rail service that offers frequent, daily round trips at speeds up to 110 miles-per-hour. Passenger rail improvements will be evaluated along the corridor as well as the following three program components:

- An evaluation of potential route and service alternatives for the corridor.
- Tier 1 Environmental Impact Statement (EIS)
- Service Development Plan (SDP)

A Draft Environmental Impact Statement was completed in September 2014. In 2018, MDOT as lead state, in consultation with the FRA, has concluded that work at the project level would be more beneficial in the longer term than work at the corridor level. Therefore, the FRA will not issue a Final EIS or Record of Decision. They also concluded that this does not prevent future National Environmental Policy Act review of projects within the corridor, if federal funding is received.

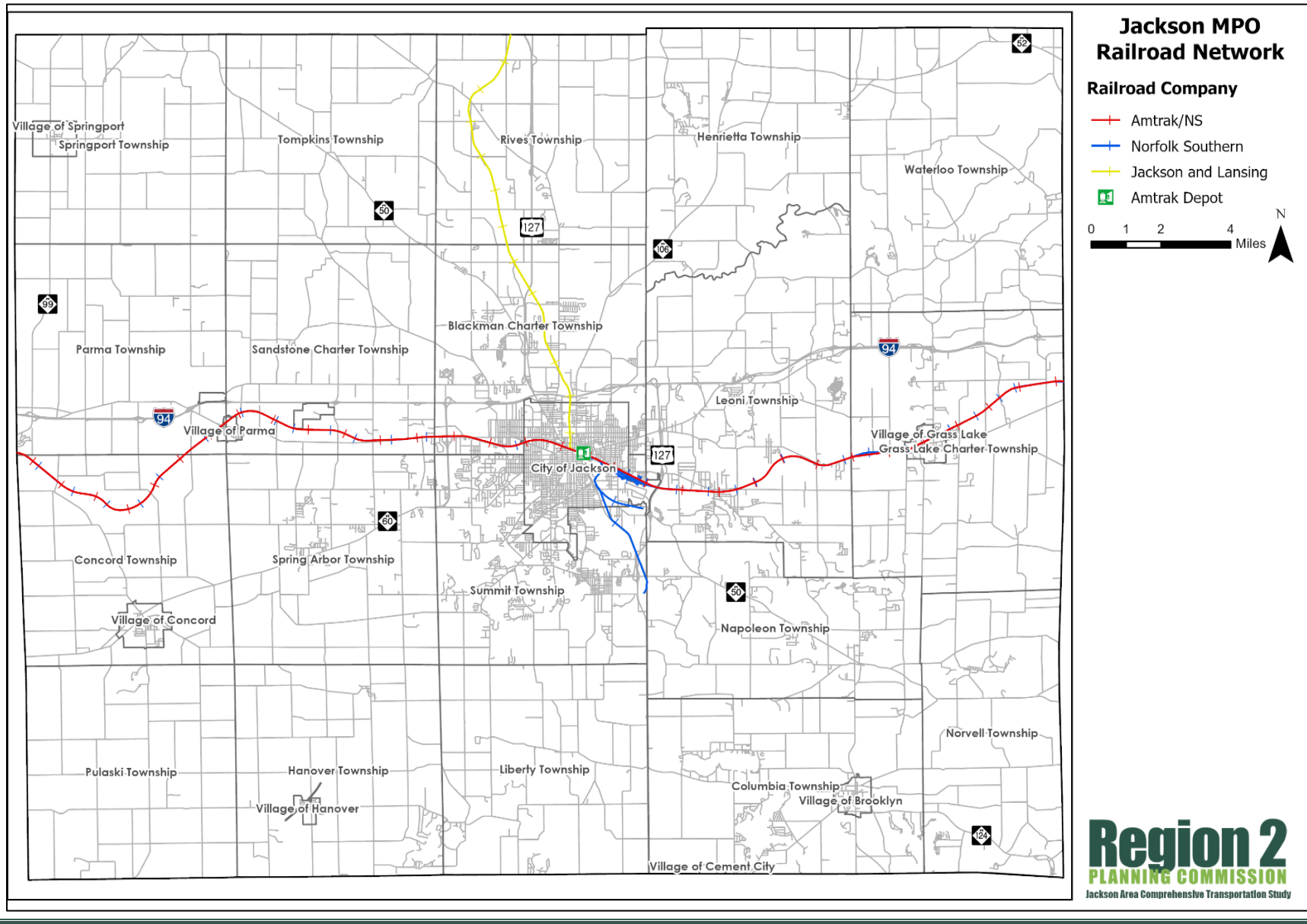
Future Forecasts, Issues, & Needs

Passenger rail transportation will continue to be available to the residents of Jackson County, with any future investment decisions determined by the private sector. The continuing efforts to develop high-speed passenger service along the Chicago-Detroit corridor is encouraged for the successful advancement of rail service as an alternate mode of transportation.

The City of Jackson should also continue to revisit and explore the recommendations of the 2005 Jackson Amtrak Depot Intermodal Feasibility Study and the 2010 alternate site plan. These improvements to the Jackson Amtrak Depot would be beneficial for the city by allowing multiple modes of travel to and from the station. This would also help revitalize the area outside the station and make it more attractive to those who are visiting Jackson by train.

Figure 4-18, a map of the railroad network in Jackson County, is on the next page.

Figure 4-18: Map of Railroad Network



Air Transportation

The Jackson MPO contains several public-use airports, with the largest being the Jackson County Airport - Reynolds Field (JXN). The Jackson County Airport accommodates non-commercial charter and freight flights. There are more than 40,000 landings and takeoffs per year. Located just beyond the northwest corner of the City of Jackson, the airport is an important part of the transportation system, and is a significant contributor of handling the Jackson MPO's goods and services.

Existing Airport Conditions

Jackson County Airport – Reynolds Field

Jackson County Airport – Reynolds Field was established in 1927 when Mr. and Mrs. Wiley Reynolds donated 160 acres of a family farm to the City of Jackson for use as a municipal landing field. The airport now comprises 960 acres of land located between M-60, I-94, Airport Rd and Wildwood Ave. The City of Jackson operated the airport until 1976 when the need for a broader tax base to support the airport became evident. In 1976, after two years of joint operation by the City of Jackson and Jackson County, the airport was sold to Jackson County for \$1.00.

Figure 4-19
Historic Picture of Jackson County
Airport – Reynolds Field



The airport has two paved 100 feet wide runways: Runway 7-25 is 5,357 feet long and Runway 14-32 is 4,000 feet long. The airport owns and maintains two corporate style aircraft hangars plus 15 hangar bays in two hangar structures. It also owns and maintains a terminal, tower, administration, and two maintenance buildings. The airport is an all-weather airport with precision approaches as well as visual navigational aids on all runways. There are 105 based aircrafts, most of which are housed in privately owned hangars on airport owned land. The hangar owners pay an annual land lease fee. Runway 7-25 has an Instrument Landing System.

The airport has a general aviation/passenger/charter terminal, a rotating beacon for night navigation, segmented circle and lighted wind indicators on runways 7-25 that measure wind speed and direction, and an automated 24-hour weather station linked to the National Weather Service. The airfield has pilot controlled runway lighting after hours when the tower is not staffed by air traffic controllers. The airport also has several fixed based operators who provide aviation support services.

The Federal Aviation Administration characterizes the airport as a Regional General Aviation Airport and is one of fourteen airports in Michigan with an operating air traffic control tower. The air traffic control services are provided by a private contractor, Midwest Air Traffic Services, Inc., and operate from 7:00 AM until 9:00 PM daily. After hours

arriving and departing aircraft utilize the assigned radio frequency for this airport to announce their intentions to other aircraft in the area.

The airport is estimated to have an economic impact on its service area of approximately \$40 million annually. This impact is due to the use by both airport and non-airport businesses and the general aviation sector, which make it a major transportation hub.

Other Public-Use Airports

- Napoleon Airport
- Shamrock Airport
- Van Wagnen Field
- Wolf Lake Airport

Future Forecasts, Issues, & Needs

Regional air carrier airports will continue to function as the primary passenger facilities providing national and international service for the residents of the Jackson metropolitan area. Capital Region (Lansing), Detroit Metro, Kalamazoo/Battle Creek, Toledo Express, Bishop (Flint), and Gerald R. Ford (Grand Rapids) International Airports are all within 90 minutes travel time from Jackson and provide service options for area residents.

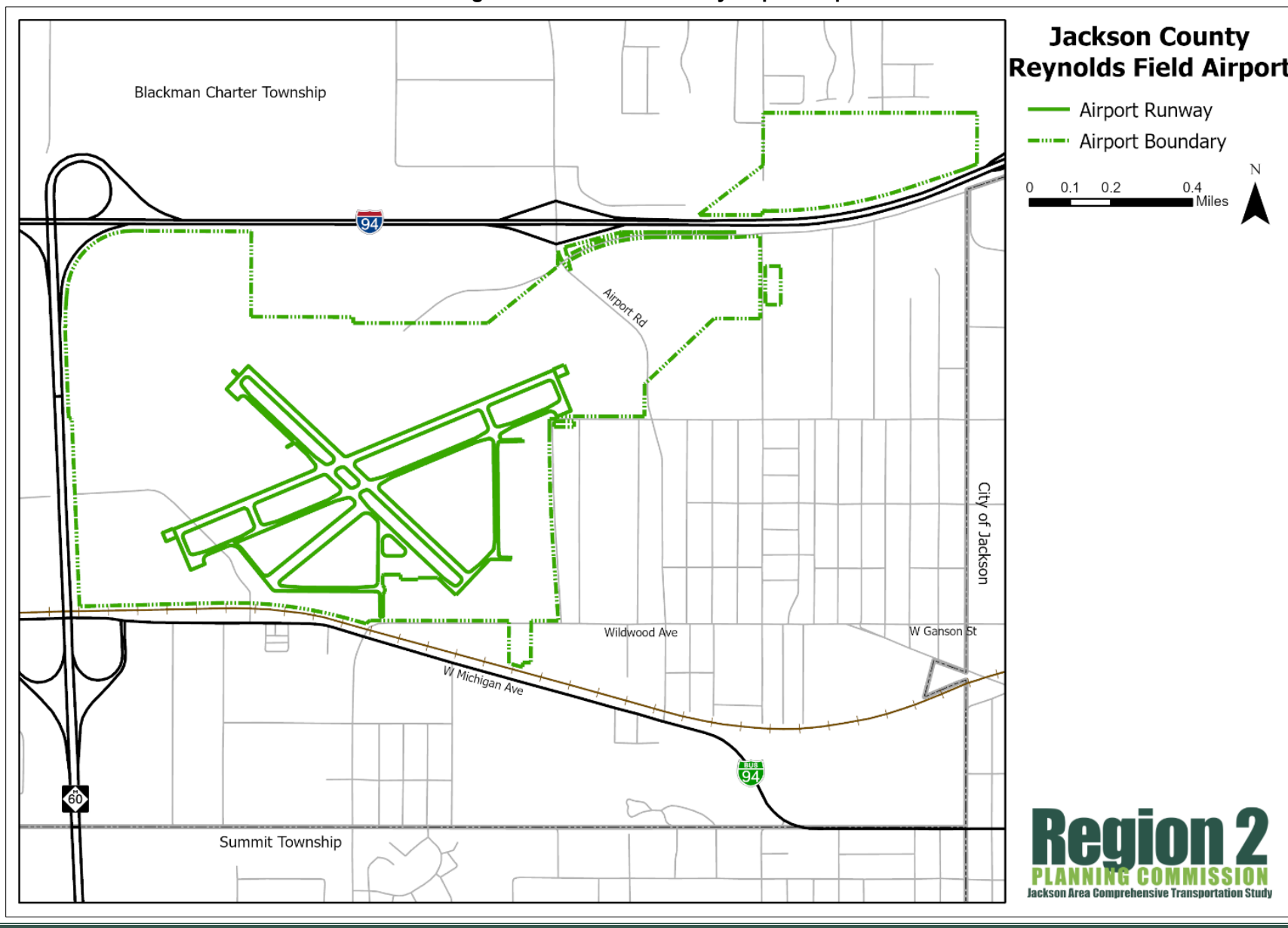
The annual economic value of the airport to the greater Jackson area is determined to be \$40 million (2019). It is expected to continue to provide air services to Jackson County businesses and private individuals by being a major player in the economic development of the region and being a significant transportation hub. The airport also plays a significant role in local and regional pilot training.

In 2017, Runway 7-25 was realigned and lengthened 5,357 feet to replace former runway 6-24. The shift allowed proper safety areas (1000') on both ends of the runway. In 2008, the crosswind runway (14-32) was extended from 3,500 feet to 4,000 feet. The combination of these changes addresses the FAA runway safety area criteria and provides future growth and development opportunities.

In 2017, the airport completed a Business Plan identifying key planning areas for the future, including: predevelopment of hangar sites with all utilities for enhanced revenue; marketing excess airport property for development and income through lease or sale; enhancing the airport as a “destination”; and funding key capital purchases through these new revenue streams.

Figure 4-20, a map of the airport runways and property boundary, is on the next page.

Figure 4-20: Jackson County Airport Map



Freight

The movement of freight has a significant impact on the transportation system. Of the more than 536 million tons of freight moved through the state in 2019, trucking accounted for 72.8%, rail handled 16%, water handled 9.6%, pipeline handled 1.5%, and aviation handled less than 1%. Of the 6 million tons of freight moved in Jackson County in 2019, trucks moved 94.4% and rail moved 5.6%. These modes work together to achieve the safe and efficient delivery of goods across the state and within the Jackson MPO.

Existing Network & Conditions

Freight on the Road Network

Truck traffic is common on the highways throughout the Jackson MPO, especially the freeways of I-94 and US-127. MDOT classified I-94 between Chicago and Detroit as the corridor with the highest amount of freight traffic in the state. There are also several major businesses and factories which generate truck traffic at their facilities.

There are roads in Jackson that are specifically dedicated to routing truck traffic. A tiered and classified system provides a means of determining the best routes to accommodate this traffic in urban and rural areas. The “heavy” truck category, with six or more tires on the road, is directed to specific routes. The City of Jackson and Jackson County have specific listings of streets that can accommodate heavy trucks.

Rail Freight

The main rail line in Jackson County is the former Michigan Central Line, which roughly runs parallel to I-94. Norfolk Southern (NS) uses this line for freight service from Detroit to Kalamazoo. NS also operates local freight service on two smaller lines in Jackson that both split from the main line near Washington Ave and Elm Ave. One line roughly parallels M-50/US-127 BR and terminates at MISA Specialty Processing. This line also serves Omni Source and Gerdau. The other line travels a short distance to the Dawn Food Products factory. NS has a railyard located within Jackson County on Mitchell St, near the intersection of Page Ave and Elm Ave.

A secondary mainline in Jackson County, the Jackson and Lansing Railroad Company (JAIL), connects with Norfolk Southern in Jackson, and CSX and Canadian National (CN) in Lansing with daily freight-only service. JAIL is a subsidiary of the Adrian and Blissfield Railroad.

Aircraft Freight

The Jackson County Airport is used daily for small cargo deliveries by aircraft primarily for “just-in-time” services. Though not a large part of the airport’s operations, current facilities adequately meet the needs of industry in the Jackson area. Currently, there are no plans to expand operations or capacity for this type of activity.

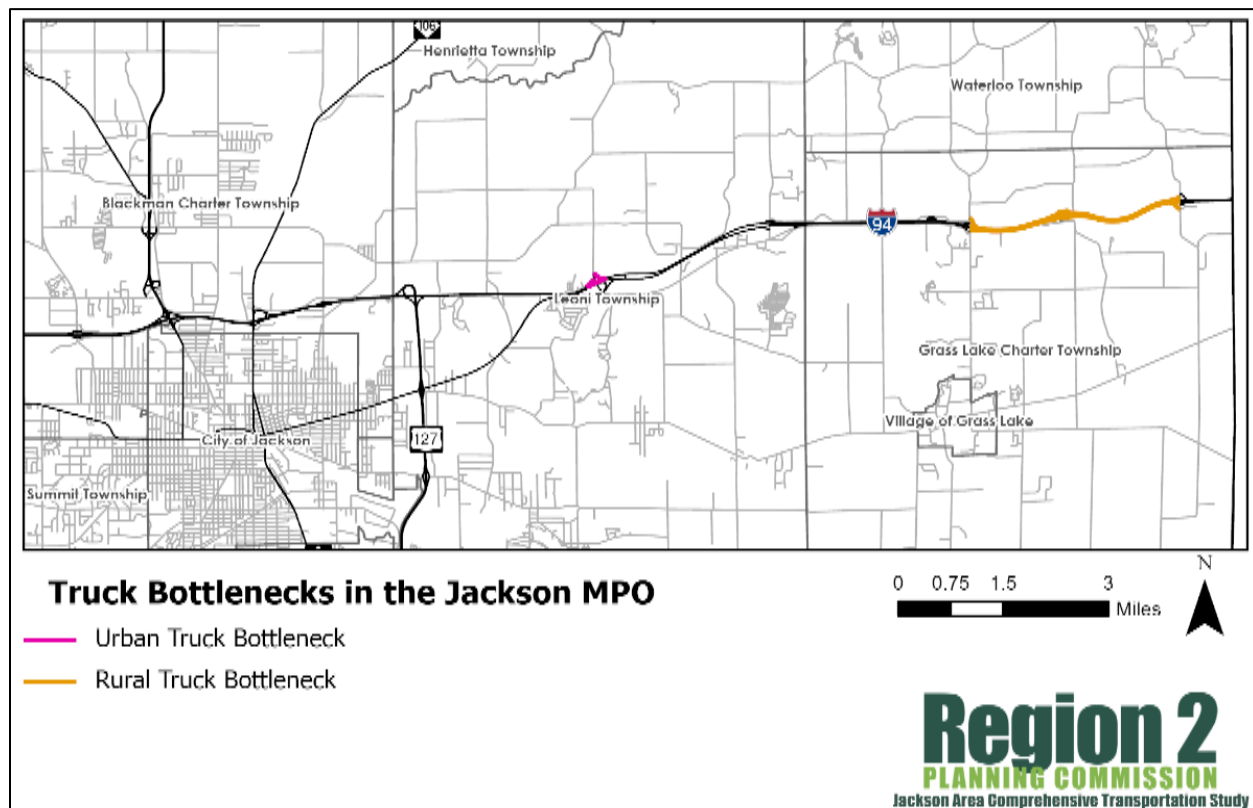
Existing Plans

Michigan Mobility 2045

The State Freight Plan, which was developed as part of Michigan Mobility 2045 (MM2045), provides a comprehensive overview of the state's freight transportation system. A multi-modal and intermodal resource, the plan provides a framework to consider the impact, improvements, and priorities related to freight. It outlines statewide strategic goals, the economic context of freight planning, policies, assets, system condition and performance, a 20-year forecast, overview of trends, needs and issues, and the Freight Investment Plan. Written to address freight at a state-level, the plan can help Jackson understand and consider how local infrastructure and policies can contribute to the future success of accommodating freight locally.

MM2045 identified urban and rural truck bottlenecks throughout the state for 2019. These are places where truck traffic commonly gets backed up and delayed. The areas were evaluated on how much money they cost each user a day. The Jackson MPO contains one urban and one rural bottleneck, both of which are along I-94. The urban bottleneck occurs on I-94 westbound at the Sargent Rd interchange and has a user cost of \$31,058 per day. The rural bottleneck occurs on I-94 in both directions between Mt Hope Rd and Clear Lake Rd. This bottleneck has a user cost of \$31,724 per day, the fifth most costly in the state. Figure 4-21 is a map of each bottleneck's location.

Figure 4-21: Truck Bottlenecks in the Jackson MPO



Future Forecasts, Issues, & Needs

The movement of goods has increased over time, and commodity forecasts project the increase to continue. The nature of that movement will continue to change along with technology as consumers' demands change. The City of Jackson and Jackson County will need to continue to track and maintain its freight infrastructure to keep up with growth projections. Freight traffic impacts congestion, safety, pavement life, air quality, and quality of life.

MDOT has projected a significant amount of growth in freight across the state out to 2045. The Jackson MPO should consider how it could play a part and prepare for the growth. The projections for Jackson County specifically are in Table 4-5. These projections include truck and rail freight that is delivered into, out of, and within the county.

Table 4-5: Freight Projections for Jackson County

Mode	Direction	Tons			Value (Million \$)		
		2019	2045	% Growth	2019	2045	% Growth
Truck	Inbound	2,954,375	3,165,770	7%	3,563	4,314	21%
	Outbound	2,835,526	3,510,926	24%	3,343	6,066	81%
	Within	96,400	72,202	-25%	103	107	4%
	TOTAL	5,886,301	6,748,898	15%	7,009	10,486	50%
Rail	Inbound	147,676	210,972	43%	165	265	60%
	Outbound	202,440	266,241	32%	67	87	31%
	TOTAL	350,116	477,213	36%	232	352	52%
Total	Inbound	3,102,051	3,376,742	9%	3,728	4,578	23%
	Outbound	3,037,966	3,777,167	24%	3,410	6,153	80%
	Within	96,400	72,202	-25%	103	107	4%
	TOTAL	6,236,417	7,226,111	16%	7,241	10,838	50%

Emerging Technology within the Transportation System

Electric Vehicles

IJA legislation allocated \$5 billion for the National Electric Vehicle Infrastructure (NEVI) Formula Program, which is focused on establishing a network of fast chargers across the country to accelerate the adoption of electric vehicles (EVs) and reduce greenhouse gas emissions. The NEVI Formula Program will allocate \$110 million to the State of Michigan between fiscal years 2022 and 2026 to install four 150 kW-or-greater chargers with Combined Charging System (CCS) ports at intervals of no more than 50 miles along each of the state's designated Alternative Fuel Corridors (AFCs).

MDOT developed the Michigan State Plan for Electric Vehicle Deployment in August 2022 to set the direction for a successful deployment of NEVI Formula Program funding within Michigan. Chapter 7 of the plan discusses the analysis completed to identify Michigan's charging needs, general funding, and considerations for future planning and deployment. The Jackson MPO currently does not meet the NEVI charger needs along the two AFCs within it, I-94 and US-127. In this plan, MDOT calls for 4 NEVI chargers to be installed within 1 mile of the I-94/US-127 North interchange. These chargers would all be within the Consumers Energy utility territory.

Connected & Automated Vehicles

Connected and automated vehicles (CAVs) are already impacting the state of Michigan. MDOT has a connected vehicle program that is supported by GM, Ford, the University of Michigan, Oakland County Road Commission, and others. Program assets and testing areas are currently just east of the Jackson MPO. A report prepared for the Region 9 Prosperity Initiative in 2017 called "Planning for Connected and Automated Vehicles" looked at the impact of the technologies for southeast Michigan. The report found that the impacts of CAVs will be broad. They will change commuting behaviors and patterns, government decisions related to land use, zoning, infrastructure, equity, and social welfare issues for local communities.

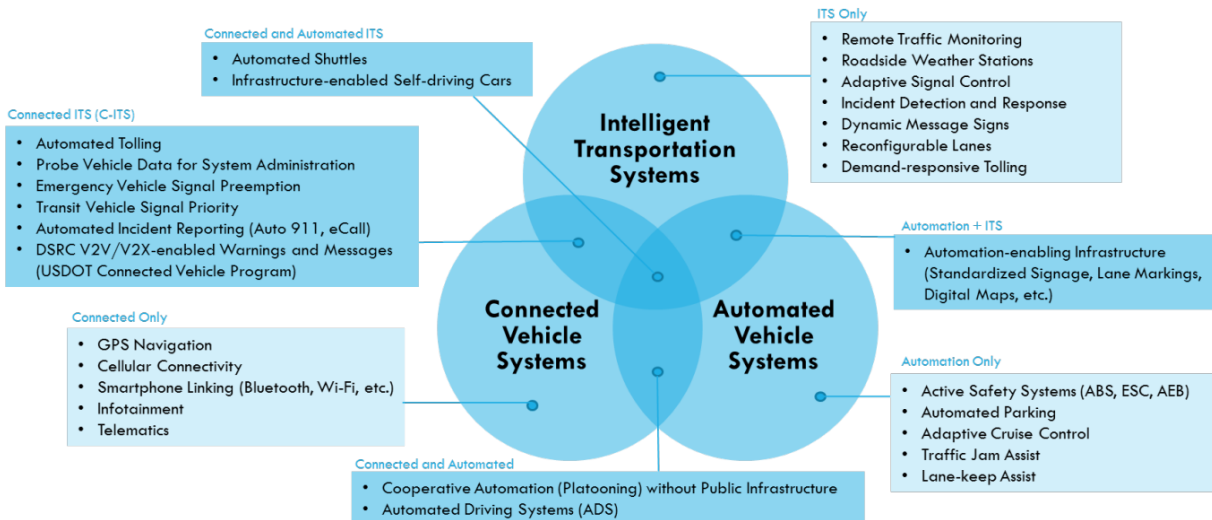
Defining Connected & Automated Vehicles

The term "connected and automated vehicles" refers to a variety of vehicle technologies and systems. There are different ways that vehicles can be connected and/or automated. Intelligent Transportation Systems (ITS) is another component of this emerging technology that can interact and influence CAVs. These technologies are explained in the text below and in Figure 4-22.

- **Automated Vehicle Systems** are any electronic system that influences the lateral and/or longitudinal motion of a vehicle. If the influence is continuous, this is referred to as a driving automation system.
- **Connected Vehicle Systems** enable the exchange of digital communication between a vehicle and another entity. Some vehicles may only be able to receive information while others may only be able to send it.

- **Intelligent Transport Systems** are electronics, communications, or information processing used to improve the efficiency or safety of a transportation system. ITS is typically implemented by a public or quasi-public entity.

Figure 4-22
Connected & Automated Vehicle Terms



Impact

The impact of CAVs is largely unknown because its deployment has been primarily limited to test environments. Researchers have begun to consider how transportation will change as a result of this disruptive technology. The influence of computer-driven vehicles may require changes to transportation laws, policy, infrastructure, and access management. The full impact in urban, suburban, and rural environments is unknown.

Road and highway infrastructure is one aspect of transportation that will be affected. Current design standards have been developed to meet the needs of human drivers, and may need to change to accommodate CAVs. Road markings are a critical part of the road system, and CAVs' adherence to these markings is imperative to safety and maintaining consistent road operations. Some automated vehicles rely on identifying road markings, but this could be complicated by snow and rain weather events. Not all roads, especially in rural areas, have complete road markings. With the goal of producing a self-driving car, automakers are exploring other ways to automate lane keeping.

CAVs could potentially allow for a more robust and efficient flow of traffic. The same amount of traffic could be accommodated by fewer lanes because vehicles can operate closer together. In mixed traffic situations, risky driving behavior may decrease with CAVs because their behavior is less erratic. Bicyclists have reported feeling safer next to CAVs because their behavior is easier to predict.

The number of vehicle miles traveled may also be affected. Vehicle miles traveled (VMT) is defined by the federal government as a measurement of miles traveled by vehicles within a state or in an urbanized area, and is used as a standard to track how much people drive. Below are some factors that may affect VMT.

Factors potentially increasing VMT

- **Zero occupancy VMT.** Vehicular miles traveled could increase due to vehicles traveling without passengers between drop-off and pick-up locations.
- **Less use of public transit and non-motorized modes.** Increased conveniences and affordability could make CAVs more popular options than public transit, biking, or walking.
- **Reduced trip chaining.** For example, one vehicle could take a family member to work, return home empty to take another to school, etc. This would mean less vehicle ownership, but may still increase vehicle miles traveled.
- **Increased mobility of non-drivers.** CAVs would offer underserved populations – the elderly, the young, and people with disabilities - access to travel.
- **Urban form and development patterns.** People might be more willing to accept longer commute times because they would be able to engage in other activities while traveling, and, therefore, live in a more affordable home farther from their workplace. This could cause an increase in urban sprawl development patterns.

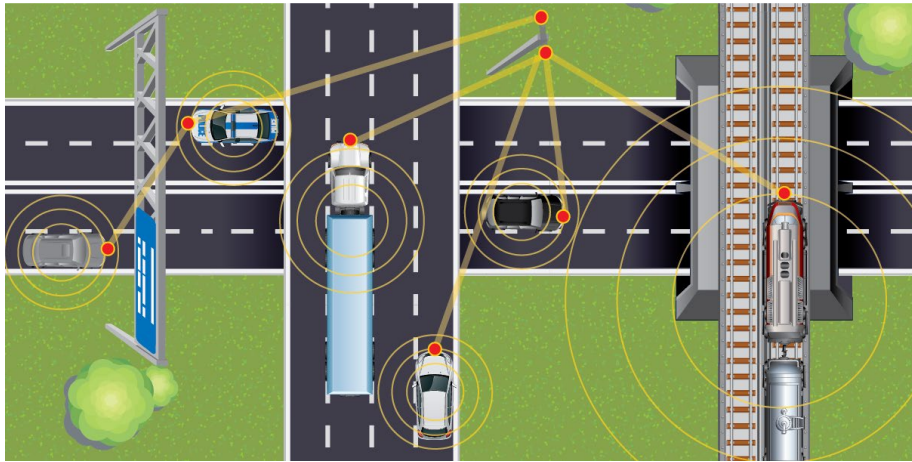
Factors potentially decreasing VMT

- **Lower car ownership.** If people own fewer vehicles due to carsharing options, unnecessary travel could be reduced.
- **Increased vehicle occupancy.** More people could become interested in carsharing, as technology evolves to make it more convenient and less expensive, including suburban and rural areas. More people in fewer vehicles would decrease the total vehicle miles traveled.
- **CAVs used as first and last mile solution along with public transit.** If CAVs are used to help get people to and from transit routes, and not replace a trip by public transit, travel may be reduced. If a CAV does not need a human driver, there may be less need to need to park a car and parking facilities could be reduced. As parking demands diminish, communities may no longer need to invest in new parking structures. Communities could lower or eliminate minimum parking requirements. Reduced parking demand may reduce the need for parking requirements.

Intermodal Implications

Some forms of rail have been partial or fully automated for some time. Rail infrastructure is optimally designed to take advantage of these technologies, although maintaining connection and automation through tunnels and in extreme weather conditions can be challenging. As technology advances continue, there is incentive to update transportation facilities to increase safety and efficiency. USDOT, through the Connected Vehicle Safety for Rail initiative, is researching how CAVs and rail will safely interact at railroad crossings.

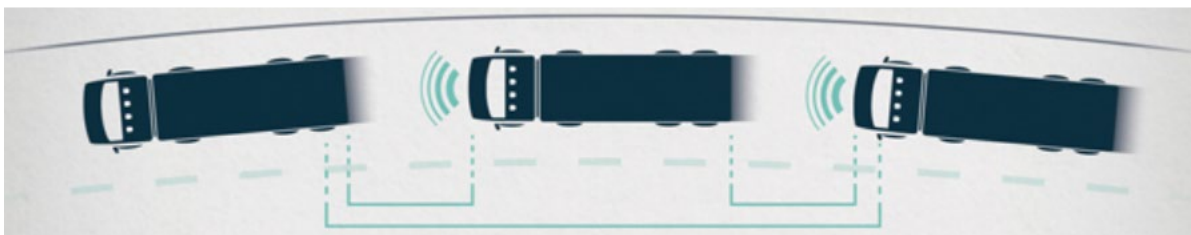
Figure 4-23
Example of How Technology
Can allow for Communication among Modes of Travel



Drones, or remote-controlled aircrafts, have been explored by retail businesses on how to use them to deliver goods to customers. Videographers and photographers are using them to capture unique perspectives of landscapes. Drones are under the complete control and jurisdiction of the Federal Aviation Administration (FAA). The Jackson County Airport specifically addresses drone operations on its website, though the operation is not limited to airports. Drone hobbyists are referred to review the FAA's "Know Before You Fly" campaign, along with following the recommended federal safety guidelines.

The delivery of goods via automated truck convoy, or platooning, has also been under development for nearly a decade. Recent improvement in technologies has made this idea more likely for deployment in the near term, much like CAVs. This will change the appearance and operations of how truck freight will travel on the road network. Platooning will look like a number of trucks have joined a road train, but act as a single unit. This will make freight delivery via trucks cleaner by reducing emissions, safer due to less brake time needed, and more efficient use of resources. Automation may make interacting with human-driven, connected, and automated vehicles more predictable.

Figure 4-24
Freight Platooning



Understanding how CAVs will relate to pedestrians and bicyclists has yet to be deeply researched. Experts are raising a number of issues as to how these modes will interact. The Pedestrian and Bicycle Information Center, which is supported by the Federal Highway Administration (FHWA) and the National Highway Traffic Safety Administration (NHTSA), have identified key issues on this topic.

- Address how CAVs will be able to detect and predict the movement of pedestrians and bicyclists.
- Determine the ways that pedestrians and bicyclists will identify and communicate to CAVs.
- Address how CAVs will accommodate yielding to pedestrians and bicycles.
- Consider how CAVs will adapt to the varying speed at which bicycles operate and pedestrians move in various environments.
- Since vehicle speed is a critical factor in crashes with non-motorized modes and mortality rates, consider how CAVs will be instructed to operate within environments at which the posted speed limit is not appropriate.

Recommendations

Full deployment of CAVs in Jackson is years away, however, they may be within the planning horizon. Models, engineering projects, and local policies have not yet begun to consider their role within the community. Things to start considering:

In the near term:

- Reduce minimal parking standards
- Consider how new streetscape design specification and standards will accommodate pick-up and drop-off areas
- Track how CAVs will reshape road right-of-way and access management
- Review how the Complete Streets policy could accommodate the needs of CAVs

Over the mid-term:

- Encourage R2PC to account for CAVs in long range transportation plans
- Work with public transit to investigate the role of CAVs as part of the transit network
- Encourage the state to update the travel demand model and roadway design manuals to take CAVs into account
- Attend regional and state trainings, meetings, and seminars where the impact of CAVs are discussed

Over the long-term:

- Consider policies and pricing that encourages shared use of automated vehicles
- Continue to work with public transit agencies to consider how to integrate shared automated vehicle programs with mass transit
- Manage transportation facilities in terms of people throughput, not vehicle throughput
- Consolidate transportation markets at a regional level

More information on CAVs will be revealed as engineers, government officials, and the public gain experience with this emerging technology. Local communities should consider staying abreast of and following current state-level conversations to understand how CAVs will impact local communities.