2050 LONG-RANGE TRANSPORTATION PLAN

Spring 2024 000 **McHenry County**

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1. INTRODUCTION

1.1 OVERVIEW OF MCHENRY COUNTY MOVES 2050

This plan is a county-wide long-range transportation plan for the future of transportation in our community!

THE PROCESS

The plan was developed through a broad public input process, and through a parallel data review and evaluation process that led to the development of projects and policies that address transportation access, mobility, and needs of McHenry County residents and businesses through 2050. There were three (3) phases of engagement and plan analysis that went into developing the plan.

Look at all the ways people and goods move in our area

Provide a wide range of safe, equitable, sustainable, and convenient travel choices Create an enhanced vision for transportation in our area

Make it easier for everyone, and everything, to get where they need to go

1.2 PREVIOUS PLANNING EFFORTS

McHenry County Moves 2050 builds off previous planning efforts led by the County and strives to connect these various plans together through an LRTP that is multimodal and all encompassing.

The main planning efforts that informed McHenry County Moves 2050 included:

- McHenry County 2040 Long Range Transportation Plan
- The McHenry County Connection Pedestrian, Bicycle and Trails Master Plan
- McHenry County Transit Plan
- Chicago Metropolitan Agency for Planning (CMAP) ON TO 2050 Comprehensive Regional Plan



2. REGIONAL SNAPSHOT

Data presented here is included in the County's 2050 Comp Plan

2.1 DEMOGRAPHIC SUMMARY

McHenry County had a 2020 population of 310,229, comprising 3.2% of the total population of the Chicago Metropolitan Statstical Area (MSA). The county's median age of 40.2 is higher than the Chicago MSA (37.7). The average household size for McHenry County (2.7) is higher than the Chicago MSA (2.63). McHenry County's 2020 median household income of \$90,014 is higher than the Chicago MSA. It is \$15,393 higher than the Chicago MSA (\$74,621). Each of these summary data points is discussed further in this demographic profile.



CATEGORY (2020)	McHENRY COUNTY	CHICAGO MSA
Population	310,229	9,618,502
Median Age	40.2	37.7
Households	118,900	3,856,019
Average Household Size	2.7	2.63
Median Household Income	\$90,014	\$74,621

Source: US Census 2020 ACS 5-Year Estimates

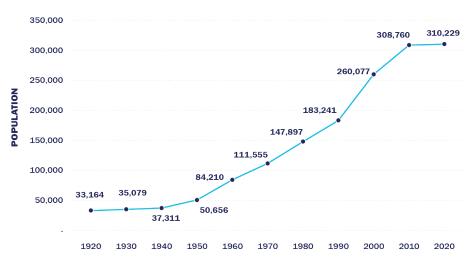
2.1.1 Population

Key takeaway:

McHenry County grew rapidly between 2000 and 2010, but recent growth has slowed. The county is growing at a slower pace compared to Kane County and the Chicago MSA.

According to the 2020 US Census, McHenry County's population is 310,229. Between 1990 and 2010, McHenry County grew by more than 68%, adding 125,000 residents over 20 years. Since 2010 however, the population has grown by just 0.5% (1,469 residents). Over the same period, Kane County grew by 5.8% while the Chicago MSA grew by 1.7%.

Population Over Time McHenry County (1920-2020)



Source: U.S. Decennial Census and Chicago Metropolitan Agency for Planning

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2.1.2 Age

Key takeaway:

The median age is rising in McHenry County with the population over the age of 35 making up a slightly greater proportion of the population compared to the Chicago MSA. An aging population indicates the need for future infrastructure and uses based on the median age of the population.

Median Age Over Time

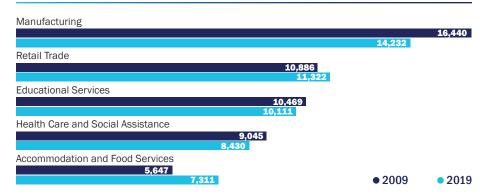


Source: 2000, 2010, and 2020 ACS 5-Year Estimates

2.1.3 Jobs and Employment Sectors

Key takeaway:

The number of jobs in McHenry County decreased from 2009 to 2019, as McHenry County reported 85,811 jobs in 2019, a 2.5% decrease from the 88,021 jobs reported in 2009. The five (5) employment sectors with the highest number of jobs include the Manufacturing, Retail Trade, Educational Services, Health Care and Social Assistance, and Accommodation and Food Services sectors.

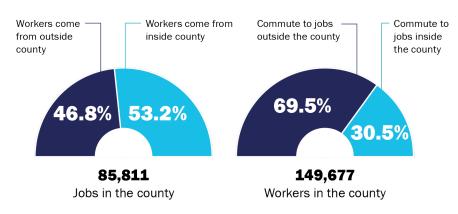


2.1.4 Commute and Labor Shed

Most residents in McHenry County and the Chicago MSA spend between 30 to 59 minutes commuting to work daily.

As of 2019, there are 85,811 people who work in McHenry County. Out of the people employed in the county, 53.2% (45,648) also live in the county. The number of residents who live and are employed in McHenry County increased by 6.3% in the past 10 years. The number of residents who are employed in McHenry County but live elsewhere increased by only 2.2% in the past 10 years. The number of McHenry County residents who are employed outside of the county increased by 13.1% in the past 10 years.

Within McHenry County, the major job centers are in Crystal Lake, Woodstock, and McHenry. Specifically, Crystal Lake has 6,603 (7.7%) jobs for McHenry County residents while Woodstock has 5,403 (6.3%) jobs for McHenry County residents. Additionally, 4,195 (4.9%) of McHenry County residents work in the City of McHenry. Nearly half, or 48.5%, of McHenry County residents travel less than 10 miles to work while 27.7% of McHenry County residents travel between 10 to 24 miles to work. Approximately 16% of McHenry County residents commute more than 60 minutes to work one-way.



3. PUBLIC ENGAGEMENT

3.1 ENGAGEMENT SUMMARY

McHenry County hosted three phases of engagement for the McHenry County Moves 2050 Long-Range Transportation Plan. The input received helped us create solutions that will make it easier for everyone, and everything, to get where they need to go.

PHASE 1: **FALL 2021 — JANUARY 2022**

FOCUS

We focused on asking community members about all the ways they get around, their transportation concerns and priorities, and ways we can improve the current system.

WHAT WE DID

We hosted a self-paced virtual engagement session, live virtual presentations, virtual stakeholder workshops, and attended community events. The team also placed sidewalk stickers and yard signs at various locations, sent dozens of stakeholder emails, met with local businesses, agencies, and engaged with local high school students and MCRide users. A zip code targeted social media campaign reached over 141,000 people in the community!











Photo from Pop Up Event at the City of McHenry Downtown Holiday Walk

DIGITAL SURVEY

665 Responses

PAPER SURVEY

45 Responses

VIRTUAL **WORKSHOPS**

65 comments

ONLINE MAP

15 Comments

TOTAL SURVEY RESPONSES





PHASE 2: **spring 2022 – SUMMER 2022**

FOCUS

We focused on asking community members about all the ways they get around, their transportation concerns and priorities, and ways we can improve the current system.

WHAT WE DID

Our team attended community events, hosted an in-person open house and virtual engagement opportunities, sent dozens of emails to our followers and stakeholders, and promoted the engagement on social media.





DIGITAL SURVEY

397 Responses

EMAIL COMMENTS

2 Comments

POP-UP AND OPEN HOUSE BOARDS

688 Interactions*

ONLINE MAP

104 Comments

MAP BOARDS

139 Comments*

SELF-PACED VIRTUAL ENGAGEMENT

748 Interactions*



^{*}Number of sticker dots or live polling responses, not unique interactions

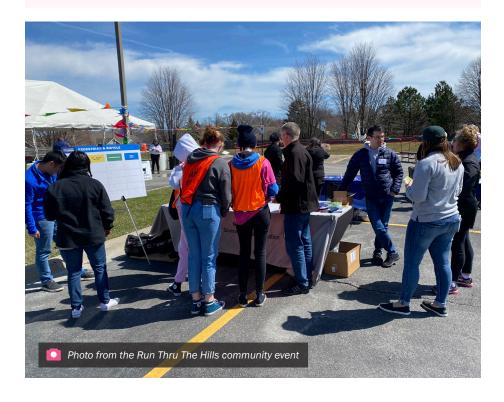
PHASE 3: SPRING 2023

FOCUS

We focused on asking community members to provide feedback on elements of the draft Plan.

WHAT WE DID

Our team hosted virtual stakeholder workshops, an in-person open house and virtual engagement opportunities, sent dozens of emails to our followers and stakeholders, and promoted the engagement on social media.





DIGITAL SURVEY

75 Responses

IN-PERSON COMMENT FORMS

6 Forms

VIRTUAL WORKSHOPS

119 interactions*

MAP BOARD

20 Comments*



See Appendix X for the engagement summaries.

4. PLAN VISION, GOALS, AND OBJECTIVES

4.1 VISION STATEMENT

McHenry County envisions a future multimodal transportation system that is **complete, connected,** and **safe** for users. The system is **accessible** by all, and people and goods move to, from and through the county **efficiently** and **reliably**. The transportation improvements made to achieve this future system also need to **protect** our most important environmental resources.



4.2 GOAL AREAS AND OBJECTIVES

Goal areas and objectives for McHenry County's 2050 Long Range Transportation Plan (LRTP) were developed based on guidance from County staff, the County Board Transportation Committee, input received from residents during the public engagement process, and insight into current transportation issues uncovered during the existing conditions analysis. These goal areas and objectives stand at the center of the LRTP as they embody the vision for McHenry County's future transportation system while supporting the stated goals of the Illinois Department of Transportation (IDOT) and the Chicago Metropolitan Agency for Planning (CMAP), the region's Metropolitan Planning Organization.

Consideration of the long-range goals for IDOT and CMAP was an important element contributing to the development of these goal areas and objectives. By demonstrating a commitment to support these goals while concurrently implementing transportation strategies and projects addressing local needs, McHenry County can remain competitive in soliciting transportation funds necessary to realize the future vision.

STAKEHOLDERS RANKED ALL GOALS AT LEAST 4 OUT OF 5, 5 BEING A "GREAT GOAL." HERE'S WHAT THEY SAID:





"Goal 4: appreciate the objective to support additional services to expand reliable affordable and accessible transportation options – beyond bus services"



"Collaborating with other municipalities and local governments is key to meeting these goals."

4.2.1 IDOT Goal Areas

Goals identified by IDOT in the 2019 Statewide Long Range Transportation Plan are:



Economy

Improve Illinois' economy by providing transportation infrastructure that supports the efficient movement of people and goods.



Livability

Enhance the quality of life across the state by ensuring that transportation investments advance local goals, provide multimodal options, and preserve the environment.



Mobility

Support all modes of transportation to improve accessibility and safety by improving connections between all modes of transportation.



Resiliency

Proactively assess, plan, and invest in the state's transportation system to ensure that our infrastructure is prepared to sustain and recover from extreme events and other disruptions.



Stewardship

Safeguarding existing funding and increase revenues to support system maintenance, modernization, and strategic growth of Illinois' transportation system.

4.2.2 CMAP Goal Areas

CMAP's transportation goals identified in the ONTO 2050 Plan are:



A modern multimodal system that adapts to changing travel demand

Harness technology to improve travel and anticipate future impacts, make transit more competitive, and maintain the region's status as North America's freight hub.



A system that works better for everyone

Leverage the transportation network to promote inclusive growth, improve travel safety, and improve resilience of the transportation network to weather events and climate change.



Making transformative investments

Fully fund the region's transportation system, enhance the region's approach to transportation programming, build regionally significant projects.

4.2.3 Performance-Based Planning Approach

The plan establishes performance measures that allow the county to align transportation decision making with its transportation vision and goals. The performance measures were used in the LRTP as a way to screen corridors with issues and advance projects to the list of recommendations. In the long term these measures can provide the County both a way to monitor overall **system performance** and a means of **selecting projects** for inclusion in capital plans.



VISION ZERO - SAFE FOR ALL USERS

McHenry County supports IDOT and Federal goals for zero fatalities or serious injuries for all transportation system users, known as Vision Zero.

IDOT GOALS

CMAP GOALS

E Economy



Mulimodal



Resiliency

Stewardship

Better for Everyone

Transformative Investment

McHenry County Moves 2050 aligns with regional and statewide goals

OBJECTIVES	IDOT GOAL AREAS			PROJECT LEVEL PERFORMANCE MEASURE (How to Pick Projects)	
Reduce crash frequency and crash rates for vehicles, bicyclists, and pedestrians.	ELMRS	MM BE TI	Number of fatalities. Rate of fatalities per 100 million Vehicle Miles Traveled (VMT).	Project or strategy has demonstrated crash reduction factor.	
Implement countermeasures to improve safety at high crash intersections and roadway segments.	ELMRS	MM BE TI	Number of serious injuries. Rate of serious injuries per 100 million VMT.	Project or strategy has demonstrated crash reduction factor.	
Provide physical separation between vulnerable roadway users and motorists as needed per best practice design guidelines.	ELMRS	MM BE TI	Number of non-motorized fatalities and non-motorized serious injuries.	Project includes infrastructure for separated bicycle facilities or pedestrian amenities.	
Provide routine maintenance of system infrastructure and budget for major repairs.	ELMRS	(MM) BE TI	No system measures.	No project measure.	
Use road design and traffic calming techniques to discourage vehicular speeding and reckless driving.	ELMRS	MM BE TI	No system measures.	Project includes traffic calming infrastructure.	
Provide educational services to community members on risks of distracted driving.	ELMRS	MM BE TI	No system measures.	No project measure.	

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COMPLETE AND CONNECTED MULTIMODAL NETWORK

Public input emphasized residents' desire for an expanded multimodal network that offers travelers more opportunities for biking, walking, rolling, and using transit services.

IDOT GOALS

CMAP GOALS

E Economy



Mulimodal



Stewardship

Better for Everyone

R Resiliency

Transformative Investment

McHenry County Moves 2050 aligns with regional and statewide goals

OBJECTIVES	IDOT GOAL AREAS	CMAP GOAL AREAS	SYSTEM PERFORMANCE MEASURE (On-Going Monitoring)	PROJECT LEVEL PERFORMANCE MEASURE (How to Pick Projects)	
Prioritize funding to fill gaps in the County's biking, pedestrian, and transit systems.	E L M R S	MM BE TI	Miles of bicycle and pedestrian infrastructure in the county.	New multimodal network connection where a gap previously existed.	
Identify funding sources for the construction of new facilities.	E L M R S	MM (BE) TI	Mode share for transit, walking and biking.	Project / strategy eliminates gap in the transit system.	
Continue to support local jurisdictions in adopting and implementing complete streets policies.	E L M R S	MM (BE) (TI	Number of complete streets policies in county.	Project incorporates a complete streets element.	
Ensure that transit services connect housing, shopping, recreation, and employment centers.	E L M R S	ММ ВЕ ТІ	Percentage of county jobs and households within 1/4 of fixed route transit services.	Project / strategy connects at least 3 different major land use types.	
Provide links between transit, biking, and pedestrian routes.	E L M R S	мм ве п	Aligns with McHeny County Connections Plan.	New bicycle or pedestrian infrastructure in a transit corridor.	

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EFFICIENT MOVEMENT OF PEOPLE AND GOODS

No one enjoys sitting in a traffic jam, whether it's on their morning commute or during a weekend trip to shop. Not only is congestion irritating, but it also has economic and environmental consequences.

IDOT GOALS

Stewardship

CMAP GOALS





Mulimodal







Transformative Investment

McHenry County Moves 2050 aligns with regional and statewide goals

OBJECTIVES	IDOT GOAL AREAS	CMAP GOAL AREAS	SYSTEM PERFORMANCE MEASURE (On-Going Monitoring)	PROJECT LEVEL PERFORMANCE MEASURE (How to Pick Projects)	
Implement technological solutions to improve traffic operations, with the County's most congested corridors taking priority.	E L M R S	MM BE TI	Peak Hour Excessive Delay (PHED) measure.	Project or strategy would reduce peak period delays in corridor.	
Improve connectivity of the road network to disperse vehicle traffic and facilitate more reliable roadways.	E L M R S	MM BE TI	Level of Travel Time Reliability (LOTTR).	Has potential to improve travel reliability on National Highway System route.	
Construct or selectively expand higher-speed, limited access roadways that promote efficient flow of traffic.	E L M R S	MM BE TI	Miles of high-speed limited access corridors on network.	Project would be a high speed, limited access facility.	
Improve truck mobility through creating or improving existing truck routes that provide reliable access to the Interstate and National Highway systems.	E L M R S	MM BE TI	Truck Travel Time Reliability (TTTR). Miles of designated truck routes.	Has potential to improve freight reliability on truck route. Project could serve as a new truck route.	
Support public transit as a viable transportation option.	E L M R S	MM BE TI	Transit mode share.	Project would enhance transit service levels in county.	



MOBILITY AND ACCESSIBILITY FOR ALL

McHenry County residents who do not have reliable access to a vehicle can experience undue stress planning and traveling to work, healthcare appointments, or even the grocery store. By expanding mobility options and improving accessibility to the transportation system, McHenry County can support a more equitable community.

IDOT GOALS

CMAP GOALS

E Economy



Mulimodal



BE Better for Everyone

R Resiliency

Stewardship

Transformative Investment

McHenry County Moves 2050 aligns with regional and statewide goals

OBJECTIVES	IDOT GOAL AREAS	CMAP GOAL AREAS	SYSTEM PERFORMANCE MEASURE (On-Going Monitoring)	PROJECT LEVEL PERFORMANCE MEASURE (How to Pick Projects)
Coordinate with Pace to identify new routes in areas with the population and employment density to support transit.	E L M R S	MM BE TI	Miles of pace routes and number of boardings/ alightings.	New pace routes and stops.
Connect disadvantaged and lower density populations to key community destinations through new connections to the County's transit, bicycle, and pedestrian systems.	E L M R S	MM BE TI	Overall percentage of community's disadvantaged population with direct transit access.	Project would increase transit access in a diverse community. Project would increase bike and pedestrian access in an identified equity community.
Identify innovative funding and user cost approaches for transportation improvements that minimize financial burden for disadvantaged populations.	E L M R S	MM BE TI	No system measure.	No project measure.
Support more frequent and reliable services through strategies integrating technology and consider private / public partnerships.	E L M R S	MM BE TI	No system measure.	No project measure.



PROTECTED ENVIRONMENTAL RESOURCES

Environmental resources provide society with a wide range of benefits, from the water we drink to the air we breathe. Public engagement highlighted residents' interest in proactive strategies that reduce transportation-related impacts on our natural resources. Further, protection and enhancement of environmental resources will help McHenry County be resilient to climate change.

IDOT GOALS

CMAP GOALS

E Economy





Livability M Mobility

Everyone Transformative

Resiliency Stewardship Investment

McHenry County Moves 2050 aligns with regional and statewide goals

OBJECTIVES	IDOT GOAL CMAP GOAL AREAS AREAS		SYSTEM PERFORMANCE MEASURE (On-Going Monitoring)	PROJECT LEVEL PERFORMANCE MEASURE (How to Pick Projects)
Seek to avoid or mitigate transportation impacts to wetlands, floodways, and other surface water and groundwater resources. This includes potential impacts that can change the quantity or quality of water associated with environmental resources. When impacts are unavoidable, seek ways to address them so that these resources are left better than when they were found.	E L M R S	(MM) BE (TI)	No system measure.	Project relationship to critical environmental resources.
Use green infrastructure techniques for stormwater management whenever practical.	E L M R S	MM BE TI	No system measure.	Project would include green infrastructure.
Relocate or elevate roads out of flood prone areas.	E L M R S	MM BE TI	Percentage of county roads in flood plains.	Project presence in designated flood plain.
Be open to integrating sustainable construction materials into transportation improvements when possible.	E L M R S	MM BE TI	No system measure.	No project measure.
Reduce the number of single-occupancy-vehicle trips through smart land use planning and design of walkable and bikeable communities.	E L M R S	MM BE TI	Share of commute trips not made by SOV.	Project promotes non-SOV travel.
Integrate technological improvements like electric vehicle charging stations and intelligent transportation signal systems into roadway and community design.	E L M R S	MM BE TI	Number of EV Stations and ITS System.	Project includes EV or ITS Infrastructure.
Continue to use road treatments for all seasons which reduce environmental impacts.	E L M R S	MM BE TI	Environmentally friendly materials used.	No project measure.

5. EXISTING CONDITIONS

Existing conditions for McHenry County's multimodal transportation system were analyzed to establish a baseline for understanding current system issues as well as the opportunities available for improving each facet of the system. The existing conditions analysis reviewed the following:



Roadway System:

Locations of traffic operations and safety for the road network



Freight System:

Overview of locations of freight generating industries, and current freight impacts on the multimodal system



Bicycle and Pedestrian System:

Overview of existing facilities and bicycle and pedestrian safety conditions



Transit System:

Overview of transit services and operational trends

Outcomes of the existing conditions analysis will inform Plan recommendations through guiding the development of strategies that address the current issues of McHenry County's transportation system. Additional information about existing conditions can be found in Appendix XX.

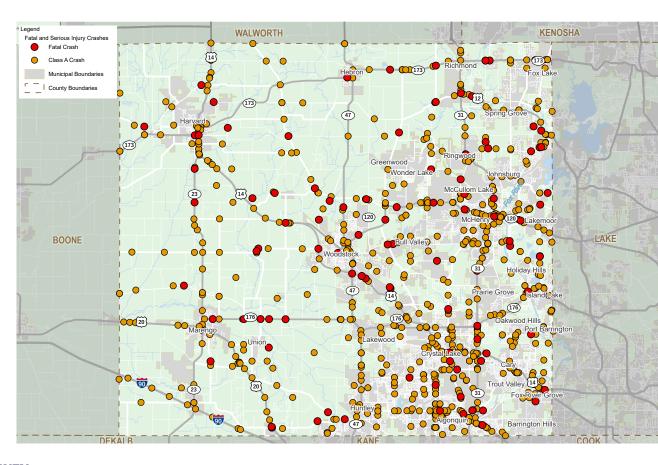
5.1 ROADWAY SYSTEM

5.1.1 Safety

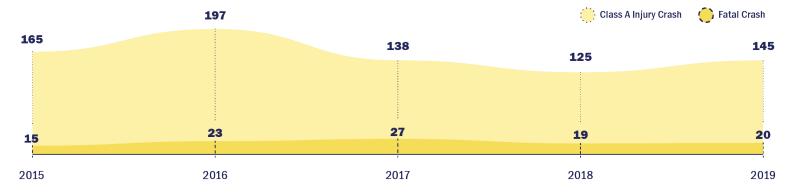
A total of 24,074 crashes occurred in McHenry County between 2015 and 2019.

WHERE ARE CRASHES HAPPENING IN MCHENRY COUNTY?

- 0.3 percent of all crashes at intersections resulted in a fatality
- 0.5 percent of all crashes not at intersections resulted in a fatality
- Crashes occurring at intersections are more likely to result in an injury (31 percent vs. 23 percent)
- 47 percent of urbanized area crashes occur at intersections compared to 29 percent of rural area crashes
- 43 percent of all crashes occurred at intersections. However, intersections accounted for 72 percent of all fatal crashes



TYPES OF CRASHES HAPPENING IN MCHENRY COUNTY



Class A - Incapacitating Injury

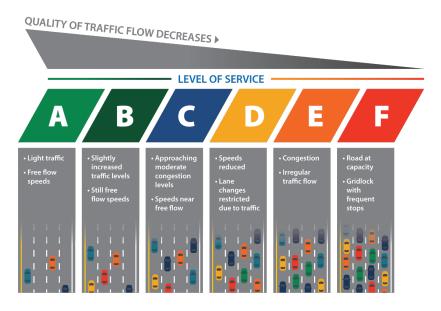
Any injury, other than a fatal injury, which prevents the injured person from walking, driving, or normally continuing the activities he/she was capable of performing before the injury occurred.

This includes severe lacerations, broken/distorted limbs, skull injuries, chest injuries, abdominal injuries

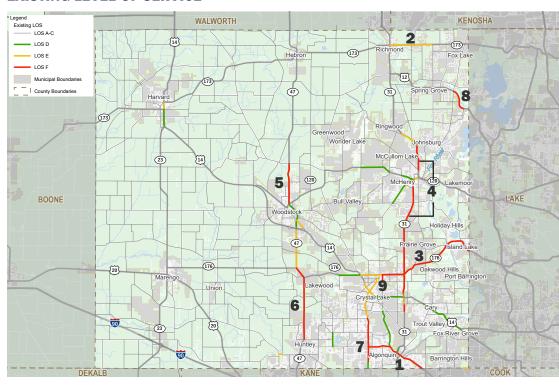
5.1.2 Mobility

The corridors with the most congestion are in southern and eastern McHenry County, which is where the majority of the population resides.

	MCHENRY COUNTY'S	CONGESTED CORRIDORS
1	Algonquin Road / IL Route 62	From: Randall Road To: Lake Cook Road
2	IL Route 173	From: N Main Street To: Winn Road
3	IL Route 176	From: Main Street To: Roberts Road
4	IL Route 31	From: James R Rakow Road To: Barnard Mill Road
5	IL Route 47	From: IL Route 120 To: Charles Road
6	IL Route 47	From: IL Route 176 To: Reed Road
7	Randall Road	From: Ackman Road To: Harnish Drive
8	U.S. Route 12	From: Johnsburg Road To: Fox Lake Road
9	U.S. Route 14	From: Crystal Lake Avenue To: Virginia Road



EXISTING LEVEL-OF-SERVICE

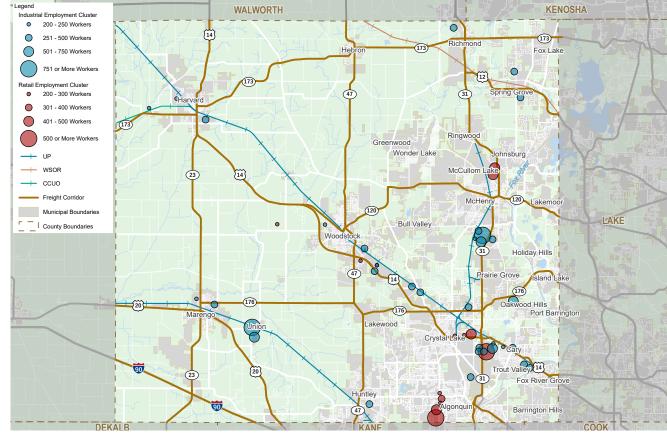


5.2 FREIGHT SYSTEM

5.2.1 Highway Freight

Several major highways form the backbone of the McHenry County highway system. Key highways for freight access include I-90, U.S. 20, U.S. 14, U.S. 12, IL 31, IL 176, IL 47, IL 23, and IL 173. Highways in McHenry County experience a significant amount of truck traffic in terms of both total truck volumes as well as truck percentages of all traffic.

HIGHWAY	AVERAGE TRUCK ADT	AVERAGE ALL ADT	AVERAGE PERCENT TRUCK	
I-90	11,350	53,200	21.3%	
IL 62	2,890	37,700	7.6%	
U.S. 20	1,050	9,940	10.8%	
U.S. 12	U.S. 12 1,425		7.7%	
IL 31	825	9,900	8.3%	
IL 176	I L 176 742		8.7%	
IL 47	724	7,713	9.4%	
IL 23	626	3,480	18.0%	
U.S. 14	595	7,225	8.2%	
IL 173	429	4 ,388	9.8%	



McHenry County's existing freight system is closely connected to its industrial and retail centers as these land uses are key generators of freight activity. By understanding where major industrial and retail destinations are, we can better plan for future investment in freight-supportive infrastructure that removes existing and potential future barriers to freight mobility.

5.2.2 Rail Freight

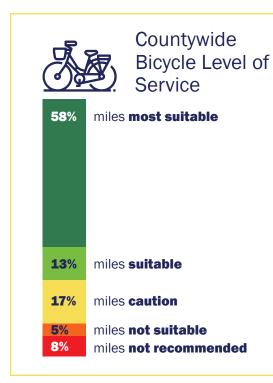
Union Pacific (UP) is the only Class I railroad within McHenry County and operates two lines running from the southeast to the northwest corners of the County.

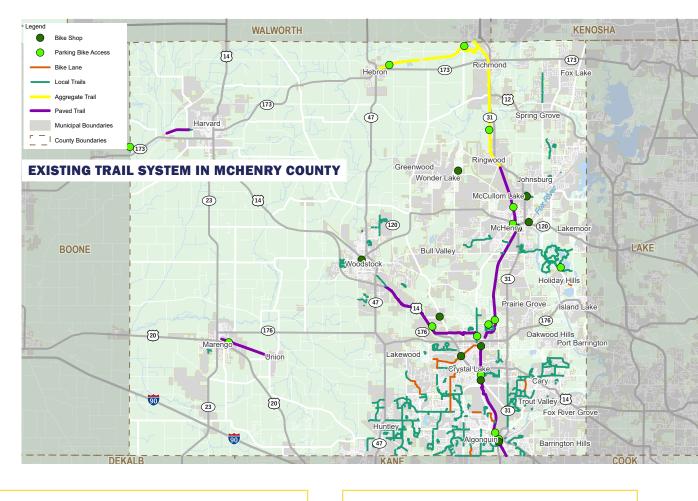
One regional Class II railroad, Wisconsin & Southern Railroad (WSOR), also runs southeast-northwest in the northeastern area of the County next to Spring Grove and U.S. 12.

5.3 BICYCLE AND PEDESTRIAN SYSTEM

While McHenry County has a number of trails that run throughout the County, a limited sidewalk and on-street bikeway network exists. Improving this network would encourage bicycle and pedestrian travel. McHenry County's relatively high vehicle usage and low bicycle or pedestrian usage can be partially attributed to this lack of available bicycle and pedestrian infrastructure and facilities.

EXISTING BICYCLE AND PEDESTRIAN FACILITIES





Bicycle Level of Service is a measure that classifies a street based on its perceived level of comfort for cyclists. The classification is based on a set of criteria related to the roadway facility being analyzed; these criteria include characteristics such as road width, daily traffic volume, posted speed limited, presence of parking lanes, etc.



5.4 TRANSIT SYSTEM

McHenry County's existing transit services includes commuter railroad, suburban bus, and demand response services that operate under the authority of the Regional Transportation Authority (RTA). Commuter railroad service is operated by Metra while Pace operates the suburban bus service; demandresponse service is operated by Pace and administrated through MCRide.

There are also some local rideshare services provided within the county administered by either private volunteer organizations or local government agencies such as townships.



"Having more bus options for students or adults with special needs or an inability to drive would be a welcome to the community."— *Public Participant*

METRA

Commuter Rail Service

PACE

Suburban Bus Service

MCRIDE

Dial-a-Ride Service



Provides commuter rail service for the Chicagoland area, operating within McHenry, Cook, DuPage, Will, Lake, and Kane counties. The Union Pacific Northwest (UP-NW) line serves McHenry County while the communities of Harvard, Woodstock, McHenry, Crystal Lake, Cary, and Fox River Grove have Metra Stations that provide access to the UP-NW line.

Provides suburban bus service for McHenry, Cook, Will, DuPage, Kane, and Lake counties. Pace is one of the largest bus services in the United States, offering fixed-route, express, vanpool, paratransit, and on-demand services. Pace operates 4 fixed routes in McHenry County-550, 806, 807, and 808.

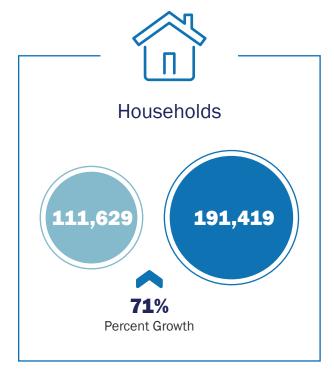
Provides on-demand transit service to users with McHenry County as well as certain locations in Kane, Cook, and Lake counties. Users are able to schedule rides by calling the Pace Call Center between 5:30 AM and 6 PM Monday through Friday and 8:30 AM to 4 PM on Saturdays.

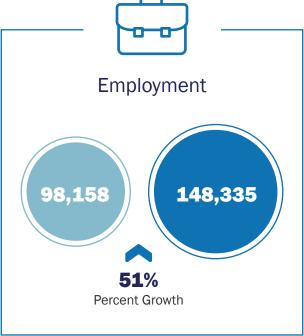
6. FUTURE TRENDS AND NEEDS

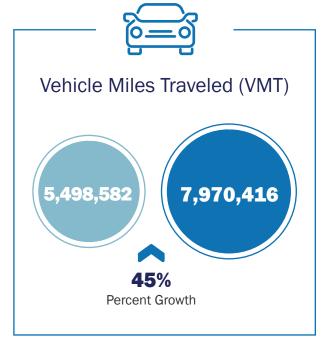
Future conditions for McHenry County's transportation system were analyzed based on growth projections for the County's population and workforce.

6.1 HOUSEHOLD, EMPLOYMENT, AND VEHICLE MILES TRAVELED







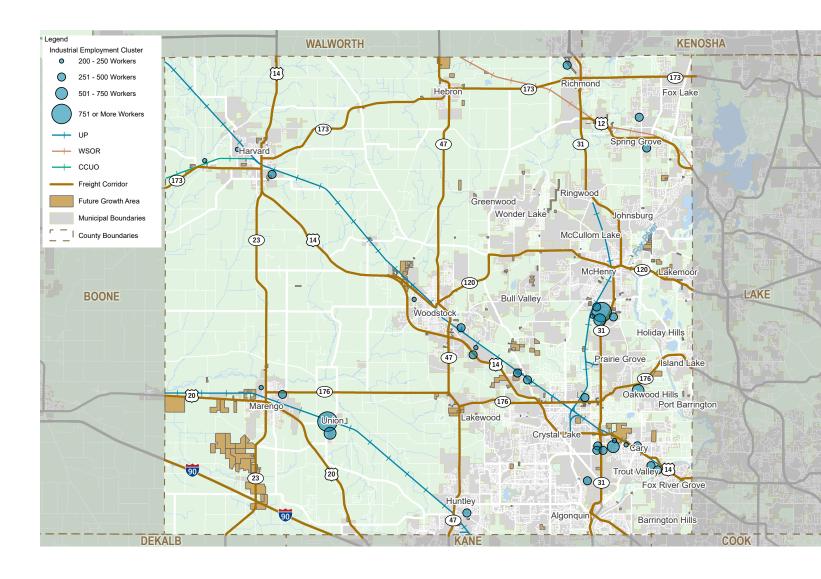


Source: CMAP travel model

6.2 FUTURE FREIGHT SYSTEM

By reviewing today's freight clusters, land use and future zoning we can begin to explore where future freight movements will take place. The largest industrial zoning area is located around and to the north of the recently completed Illinois Route 23 Interchange Project on the Jane Addams Memorial Tollway (I-90) in Marengo, as well as around U.S. 20.

Future growth areas shown in the map exhibit the areas within McHenry County where future industrial and retail land uses are anticipated to develop. These growth areas could pose a future increase in freight demand so understanding where the growth in industrial and retail land uses is expected aids in McHenry County's ability to effectively plan freight-supportive investments.



6.3 FUTURE BICYCLE AND PEDESTRIAN SYSTEM

McHenry County Connection articulates a series of bicycle and pedestrian network improvements that build off the existing system and the needs identified in the Plan's existing conditions analysis. See the map on this page for more information on the recommendations. Read more about the McHenry County Connections Plan in www.mchenrycountyil.gov/departments/transportation/transportation-plans-programs/bicycle-pedestrian-plan.

6.4 FUTURE TRANSIT SYSTEM

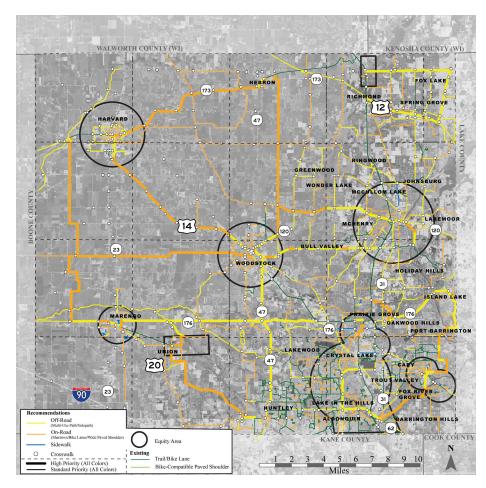
The following potential opportunities to enhance the County's transit system will make it easier for residents to make these trips.

2050 LRTP TRANSIT RECOMMENDATIONS

The recommendations were based on objectives to meet the over-arching three goals:

- Extend the service period for fixed route and MCRide trips to better accommodate non-peak hour travel, moving towards year-round 24 hour service.
- Implement an income-based pay-as-you-can fare structure for MCRide that does not exclude any rider regardless of ability to pay fare.
- Partner with Pace and/ or Transportation Network Companies (TNCs) to develop an app allowing MCRide service to be booked and paid for electronically, adding credit cards and Ventra cards as payment options. Part of this effort

- includes allowing reservations to be made as close as to the time of the ride as possible.
- Strengthen active transportationsupportive infrastructure linking to existing transit stations and on transit vehicles.
- Develop MCRide trip fixed routes between major origin and destination areas, giving users the option to either utilize these routes for a reduced fare or maintain their demand response scheduling options for regular fare.
- Organize a first mile-last mile pilot program with a TNC to supplement MCRide service.





"More walking and biking routes would be wonderful. Connecting many of the paths we already have, too. Both for commuting and recreation."—**Public Participant**

6.5 TRANSPORTATION ISSUES IN MCHENRY COUNTY

ROADWAY ISSUES

The identification of corridors within McHenry County that exhibit operational and safety issues is the first step in the strategies development process of the LRTP. Issues facing today's transportation system were identified through a review of the analyses conducted as part of the existing conditions and public feedback received during public engagement efforts.

The approach used for identifying the LRTP issue corridors was based on the data analyses performed as part of the existing conditions process, which evaluated the current transportation network with the aim of establishing a baseline for evaluating future network scenarios. The existing conditions analysis included reviews of McHenry County's:

Roadway System

Bicycle and Pedestrian System

Freight System

Transit System

Input gained from the public during public engagement efforts related to the LRTP was a second source of data that guided the development of the issue corridors discussed here. Refer to Appendix X for more detail on the data and methods used to identify the Issue Corridors.

Multimodal issue areas that reflect McHenry County's priorities were developed to categorize the Issue Corridors.



"Safety should always be first. And maintaining infrastructure for the greatest life cycle is always fiscally smart as well as provides safety."—**Public Participant**

ISSUE CORRIDOR AREA DESCRIPTIONS



Safety

Corridors whose segments and intersections demonstrate high frequencies of fatal and serious injury crashes and high densities of crash events.



Vehicle Travel

Corridors demonstrating vehicle traffic congestion at LOS E or worse today or are forecasted to perform at LOS E or worse by 2045.



Freight

Corridors anticipated to see an increase in freight demand owing to their proximity to high-freight growth areas.



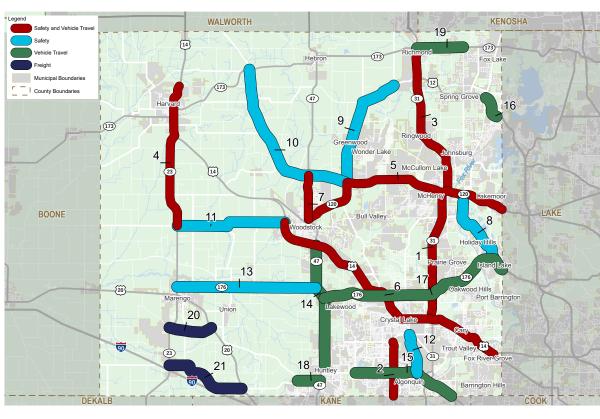
Bridge

County or township bridges found along an Issue Corridor that whose sufficiency ratings determine they are eligible for Federal funds for rehabilitation or replacement.

PINAL PLAN

FUTURE TRENDS AND NEEDS

ID	ISSUE	CORRIDOR	LENGTH (MILES)
1	Safety and Vehicle Travel	IL 31	8.1
2	Safety and Vehicle Travel	Randall Road	3.5
3	Safety and Vehicle Travel	IL 31	10.0
4	Safety and Vehicle Travel	IL 23	9.3
5	Safety and Vehicle Travel	IL 120	14.4
6	Safety and Vehicle Travel	U.S. 14	17.4
7	Safety and Vehicle Travel	IL 47	2.8
8	Safety	River Road	4.7
9	Safety	Greenwood Road	7.7
10	Safety	Alden Road	11.1
11	Safety	Kishwaukee Valley Road	7.1
12	Safety	Pyott Road	2.6
13	Safety	IL 176	8.9
14	Vehicle Travel	IL 47	5.2
15	Vehicle Travel	Algonquin Road	6.7
16	Vehicle Travel	U.S. 12	1.5
17	Vehicle Travel	IL 176	12.8
18	Vehicle Travel	Main Street	1.5
19	Vehicle Travel	IL 173	2.9
20	Freight	W Coral Road	2.8
21	Freight	Harmony Road	5.4





"I would like to see the shoulders on rural roads maintained. It is extremely difficult to move farm equipment on the roads that have continued to be built up and shoulders are now nonexistent."— **Public Participant**

6.6 IMPACTFUL TRENDS AND TECHNOLOGIES

The adoption of emerging technologies has begun to alter the way people and goods move across transportation networks. From vehicles with autonomous and connected features to on-demand mobility services, these technologies are undergoing continual technological and social refinement and development while being leveraged by state and local transportation agencies to address operational, safety, mobility, and other issues within their jurisdictions. Private industry has also begun utilizing emerging transportation technologies within their operations, and their adoption of these technologies could pose additional challenges to transportation planning efforts.

While emerging technologies are impacting how transportation networks function, recent Federal legislation authorized in the 2021 Infrastructure Investment and Jobs Act (IIJA) has impacted the allocation of transportation funding for state and local agencies while articulating new priorities as the nation looks to modernize its transportation system.

Today, emerging transportation trends and technologies are impacting transportation within McHenry County, while additional trends and technologies are poised to impact the County in the future. Given the rapid development of these emerging technologies, planning proactively for strategies and policies related to these impactful trends can aid McHenry County in anticipating the potential challenges associated with them.

IMPACTFUL TRENDS



Accelerating Technological Advancement

Technology advances at an ever increasing rate as it is better understood.



New Mobility

Emerging transportation modes, services, and infrastructure that leverage digital communication platforms and data to connect transportation users with mobility options.



Demographic and Employment Shifts

Slowing population growth, an aging population, and decline in household size is impacting travel demand while a rise in telecommuting and hybrid work schedules is causing a shift in commuting behavior.

6.7 KEY DRIVERS OF TECHNOLOGICAL PROGRESS

Underpinning the major trends of accelerating technological development and new mobility are four key trends driving the progress of impactful transportation technologies. The collective trends of Autonomous, Connected, Electric, and Shared (ACES) have influenced the development of new mobility while enabling the acceleration of technological advancement.

HOW IS AUTONOMOUS TECHNOLOGY IMPACTING MCHENRY COUNTY?

While autonomous vehicle technology is still developing and fully autonomous vehicles are not yet available, they are anticipated to see rapid adoption once the technology is fully formed. The resulting impacts within McHenry County could influence a significant alteration in travel behavior. However, the exact nature of this shift is still uncertain due to how they will be deployed within the County's transportation system.

HOW IS CONNECTED TECHNOLOGY IMPACTING MCHENRY COUNTY?

Efforts by the Illinois Department of Transportation (IDOT) and the Chicago Metropolitan Agency for Planning (CMAP) have seen the development of Intelligent Transportation Systems (ITS) infrastructure within McHenry County and throughout the Chicagoland area.

Additional ITS efforts within McHenry County that have been identified in CMAP's ITS Architecture v4.0 include:

Existing Investments

- » McHenry County Emergency Operations Center (EOC)
- » McHenry County Field Equipment, including County-owned traffic signals, preemption equipment, traffic sensors, and dynamic message signs
- » McHenry County Maintenance Operations
- » McHenry County Oversize-Overweight Permitting
- » McHenry County Sheriff Dispatch

Proposed Investments

» McHenry County Traffic Management Center (TMC)

FUTURE OF TRANSPORTATION TECHNOLOGY



Autonomous

Vehicle automation for the purpose of transporting people and goods that can navigate and operate without assistance from a human driver or operator.



Connected

The ability to communicate real-time information between mobility modes, infrastructure, users, and any other component critical to the movement of people and goods



Electric

Transportation that uses stored or transmitted electricity to power a vehicle instead of traditional internal combustion engines (ICE), usually by means of batteries, ultra-capacitors, or hydrogen fuel cells.



Shared

Transportation services and resources that are shared among users, either concurrently or one after another.

HOW IS ELECTRIC TECHNOLOGY IMPACTING MCHENRY COUNTY?

Looking at McHenry County, electric vehicle ownership trends have demonstrated steady growth as indicated by Figure on the right, which shows registration counts for passenger cars, EVs, and HEVs for the years 2017 through 2022; vehicle registration counts for EVs and HEVs are based on data reported for December of the associated year. During this timeframe, the number of EVs registered in McHenry County increased from 162 to nearly 1,400. The growth in EV registrations during this period is notable, as EV registrations nearly doubled year over year between 2017 and 2022; a continuation of this trend into the next several years would see a substantial increase in EVs registered within McHenry County.

Currently, I-90 is the only Alternative Fuel Corridor (AFC) within McHenry County and therefore the only corridor eligible for funding under National Electric Vehicle Infrastructure (NEVI). Given the limited extent of AFCs within McHenry County, there exists an opportunity for the County and local agencies to explore partnership opportunities with private industry to build off existing efforts and construct additional EV charging infrastructure within the County.

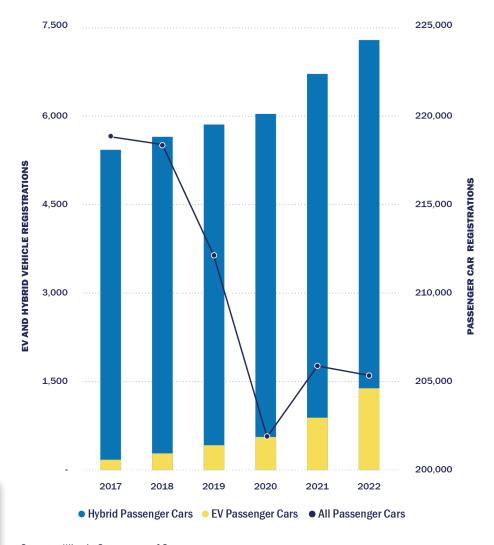
HOW IS SHARED TECHNOLOGY IMPACTING MCHENRY COUNTY?

Shared modes have been operating in McHenry County for decades. Early examples of shared modes include taxicabs and vanpools, which continue to operate within the County today. The introduction of Uber, and later Lyft, to McHenry County established a new approach to mobility in which on-demand rides could be scheduled at the user's convenience. A countywide bikeshare pilot program launched in 2019 and led to the implementation of bikeshare programs within several communities within the County.



"Climate change is a significant issue to address and is at the top of my list for any planning priorities. McHenry County is knowledgable about its water resources. Respect that. Reducing our environmental impact is huge. The time is right to do what is best for the environment and for our finances. Being a leader in this area will greatly benefit our county, state and country. Be leaders with these goals."—*Public Participant*

Passenger Car, Electric Vehicle, and Hybrid Vehicle Registration Counts for McHenry County, 2017 - 2022



Source: Illinois Secretary of State

6.8 STRATEGIES FOR PLANNING THE INTEGRATION OF EMERGING TRENDS AND TECHNOLOGIES

The main takeaways for McHenry County to consider within the planning process are presented in the Table below. Through the consideration of these key observations, McHenry County can be positioned to adopt emerging transportation technologies into the transportation system while adapting to shifting demographic and employment trends impacting travel demand.

Strategies for Adapting to Emerging Transportation Trends and Technologies

TECHNOLOGY	MCHENRY COUNTY STRATEGY	MCHENRY COUNTY ACTION
Autonomous	Monitor trends related to AV/CV fleet penetration to understand how this technology is being deployed Identify strategies that maximize the existing system and reduce need for adding system capacity Evaluate travel demand management strategies and programs for commuters to minimize single-occupant vehicle travel and reduce VMT	Continue coordination with Pace on the development of Autonomous Transit to improve upon the efficiencies of Pace service including MCRide Collaborate with local agencies to develop a county-wide parking management strategy that anticipates potential parking-related impacts of AVs
Connected (('1'))	Continue investing in ITS and other connected infrastructure elements Collaborate with local agencies to understand data and data collection capabilities, and a future road map for data collection and sharing agreements	Develop a Traffic Management Center, or partner with local agencies to integrate County infrastructure into a comprehensive TMC Collaborate with CMAP to update the Regional ITS Architecture Plan to incorporate modern connected technologies Identify priority locations for implementing CAV technologies, such as crash hot spots and locations with 5G connectivity
Electric	Coordinate with Illinois DOT to understand areas of priority for public EV charging infrastructure Evaluate potential for new revenue streams, such as road users charges, to make up for fuel tax shortfalls	Develop a partnership model in which McHenry County incentivizes private industry to provide public EV charging infrastructure along major retail corridors such as Randall Road, IL 47, and IL 23 thereby building off the I-90 charging infrastructure network
Shared	Adopt a Complete Streets Policy that is adaptable to emerging shared modes and other transportation technologies	Collaborate with local agencies to implement a "Slow Lane" pilot program that dedicates right-of-way for bicycles, scooters, and other lower-speed modes to demonstrate the role these modes could play in the future transportation system

7. FUNDING THE COUNTY'S TRANSPORTATION **IMPROVEMENTS**

The funding assessment looked at past transportation funding trends to identify baseline funding levels and forecast transportation revenues that will be available to the County through 2050. There are a range of funding sources the county uses.

County Regional Transportation Authority Sales Tax (RTA Sales Tax)

One-third of collar county proceeds are awarded back to the county in which the tax was collected.

County Bridge Fund

Property tax levy that is earmarked for bridge, culvert, drainage structure, or grade separation projects.

County Matching Fund

Property tax levy that is earmarked for federal aid projects as well as County projects including planning projects.

State Motor Fuel Tax (MFT)

Annual motor fuel tax revenues allocated to the County from the State of Illinois.

County Option Motor

Fuel Tax (Option MFT)

Annual motor fuel tax

revenues collected by

McHenry County.



County Highway Fund

State Statute authorizes the County to collect revenues at a maximum rate of 0.1 percent of taxable assessed value.

These funds help bridge the gap between County revenues and funding needs and come from a range of programs.

Federal, State, and Local

Revenue Sources

Sources of Funding

7.1 TRANSPORTATION EXPENDITURES

FUNDING PRIORITIES

McHenry County articulates funding priorities in its annual 5-Year Transportation Program to guide how transportation funds are allocated each year.

McHenry County Transportation Funding Priorities



PRIORITY 1: PRESERVATION

- Maintenance
- Pavement Preservation
- Bridge Rehab & Replacement



PRIORITY 2: **MODERNIZATION**

- Safety
- Operations
- · Intersection Projects



PRIORITY 3: **EXPANSION**

- Road Widenings
- Road Extensions
- New Interchanges

FUTURE FUNDING CAPACITY

McHenry County's future funding capacity was developed based on the historic revenue analysis and growth assumptions described described in Appendix X.

- **5-Year Program:** programmed revenues for the years 2023 through 2027 as identified in McHenry County's current 5-Year Transportation Program.
- Short-Term: Years 2028 through 2034
- Mid-Term: Years 2035 through 2042
- Long-Term: Years 2043 through 2050

The Baseline Future Funding Capacity includes the potential increase in RTA Sales Tax revenues that could be received by McHenry County through 2050. This potential increase was identified in CMAP's ON TO 2050 Plan as a strategy for increasing transportation revenues across the region; McHenry County recognizes the impact an increase in RTA Sales Tax revenues could have in providing additional resources for transportation improvements both within the County as well as the CMAP region. As such, consideration of the RTA Sales Tax expansion was captured in the Baseline Future Funding Capacity analysis to better understand the potential increase in revenues that could be available to McHenry County.

Baseline Future Funding Capacity by Time Band (\$ in millions)

TIME BAND	MFT	COUNTY OPTION MFT	RTA SALES TAX	EXPANDED RTA SALES TAX SCENARIO	MATCHING	BRIDGE	TOTAL
5-Year Program	\$41.0	\$19.5	\$75.0	\$79.8	\$4.5	\$2.5	\$142.5
Short-Term (2028-2034)	\$63.4	\$29.4	\$126.3	\$149.3	\$6.3	\$3.5	\$228.9
Mid-Term (2035-2042)	\$87.3	\$38.7	\$180.2	\$222.6	\$7.2	\$4.0	\$317.4
Long-Term (2043-2050)	\$106.3	\$44.9	\$228.3	\$295.4	\$7.2	\$4.0	\$390.7
Total	\$298.0	\$132.5	\$609.8	\$747.1	\$25.2	\$14.0	\$1,079.5

7.2 REGIONAL TRENDS IMPACTING TRANSPORTATION FUNDING

CMAP's ON TO 2050 Plan update identified a series of potential future policy changes that could impact regional transportation funding at both the MPO and local level. These policy changes reflect impacts from emerging technologies, such as improved fuel economies and electric vehicles (EVs), and travel behaviors that see trends like diminishing annual vehicle miles traveled (VMT). As motor fuel taxes have played a critical role in providing transportation funds for McHenry County, a decline in these revenues over time could lead to further constraint on revenues available to the County to maintain and / or improve the transportation system.

The policy changes identified by CMAP look at innovative ways for the region to increase future transportation revenues.



"All great ideas but yes I could see how funding could be an issue without raising taxes."—**Public Participant**

Toll Major Highway Reconstructions and New Highway Capacity Projects	Enact tolls on corrdiors of CMAP region's expressway system that are reconstructed or expanded in the future
Replace State Motor Fuel Tax with Road User Charge	Transition from the State motor fuel tax to a road user fee based on a charge per mile traveled
Expand Sales Tax Base to Additional Services	Expand the current RTA sales tax to include taxing services, resulting in a 15 percent increase in the regional sales tax base
Regional Revenue Source	New revenue source that enacts fee on trip fares paid to Transportation Network Companies to supplement Federal funds match, implement regional transportation priorities, and modernization initiatives
Local Parking Price Expansion	Implement pricing of public parking stalls at the municipal level, with the revenues going to local transportation investments

Source: Chicago Metropolitan Agency for Planning, ONTO 2050 Comprehensive Plan

8. STRATEGIES TO ADDRESS THE COUNTY'S **PRIORITIES**

The future of transportation in McHenry County envisions a complete, connected, and safe multimodal system that is accessible by all users and provides efficient and reliable service. The road to this future vision begins with addressing the key issues facing the system today.

Here is how McHenry County plans on kickstarting the way to the future:

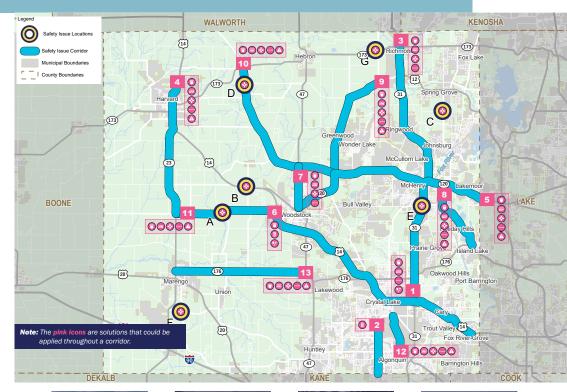
8.1 STRATEGIES FOR A SAFER MCHENRY COUNTY

Strategies for improving transportation safety within McHenry County seek to leverage infrastructure solutions that can address locationspecific safety issues. While numerous safety-related strategies have potential to remedy the safety issues facing the County's roadway system today, further study of each corridor and its associated safety conditions are recommended to assess the optimal location-specific improvements that can be made for each corridor.

As such, each corridor identified as demonstrating safety issues was associated with a "corridor safety improvement" strategy. Those to be implemented are included on this page.



"More use of roundabouts would be great for any places where have 3 or 4 way stops intersections. Traffic signals great to allow for more pedestrian crossings. Bypass routes can be good where there's a lot of truck traffic but can affect econ development." - Public Participant





Rumble Strips





Lighting

Roundabout



Widened/Paved **Shoulders**

Access Management

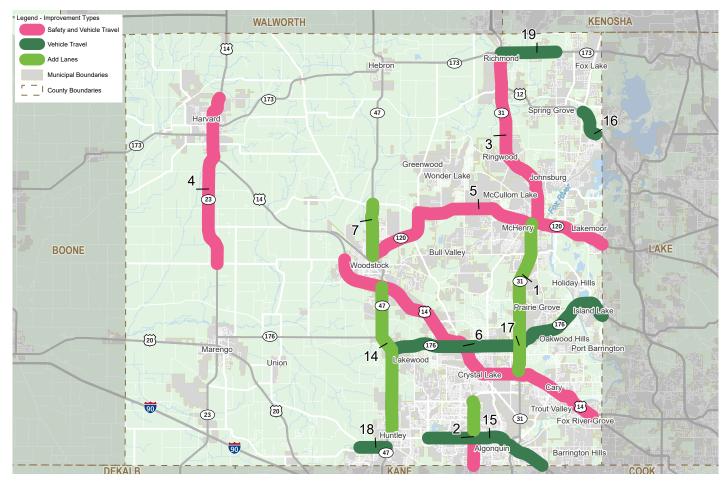
Signal Improvements

Rural Intersection Conflict Warning

8.2 STRATEGIES FOR A MORE EFFICIENT MCHENRY COUNTY

Strategies for improving the efficiency of vehicle travel within McHenry County look to balance improving areas of existing congestion with the need to proactively address locations where future travel demand is anticipated to worsen travel conditions in the future. These infrastructure solutions range from location-specific improvements such as traffic signal optimization to corridorwide lane expansions. The complete menu of strategies identified for improving vehicle travel within McHenry County includes:

- Widening
- Reconstruction
- Turn lanes and channelization
- Roundabouts
- Operations improvements, including signal improvements, signal retiming, traffic incident management, etc.











Access Management

Turn Lanes

Roundabout/Signal

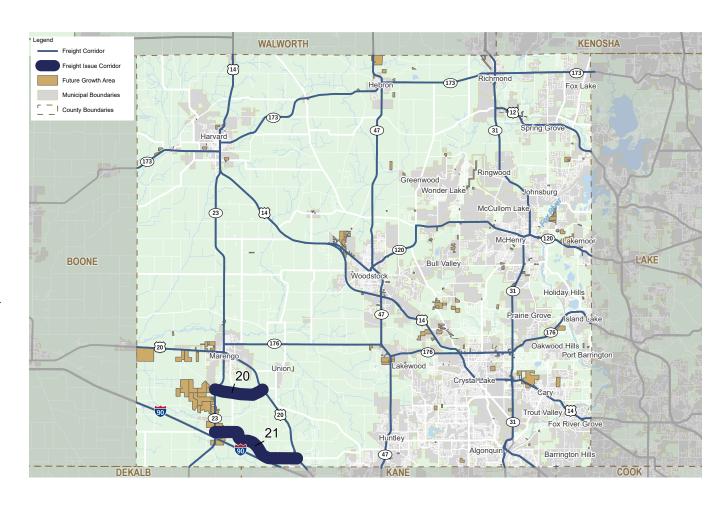
Add Lanes

35

8.3 STRATEGIES TO SUPPORT FREIGHT WITHIN MCHENRY COUNTY

Strategies for improving freight operations within McHenry County are concerned with potential roadway design and classification issues that could impact key corridors that are expected to see increased demand from truck operators owing to their proximity to future freight growth areas. These strategies seek to provide freight-supportive enhancements, including:

- Widen shoulders
- Widen travel lanes
- Turn lanes
- Improve intersection turn radii, related elements to accommodate larger vehicles
- Pavement reconstruction

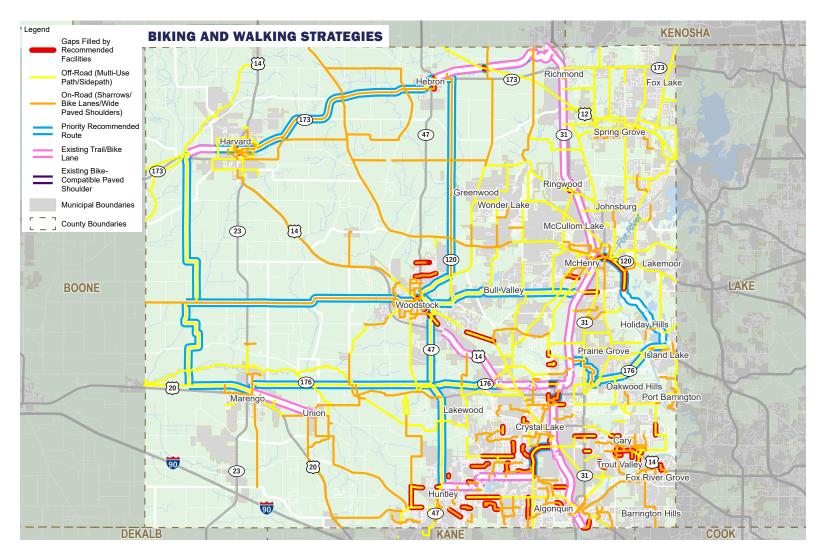


8.4 STRATEGIES TO IMPROVE THE COUNTY'S BRIDGES

Bridges provide critical connections in areas where environmental and infrastructure constraints restrict mobility. Deficient bridges pose a risk to the transportation system as their condition worsens. McHenry County can address deficient structures through pursuing Federal funding for to rehabilitate or replace deficient bridges, and should focus on structures found on Issue Corridors while implementing the improvements to address the safety, vehicle, travel, and/or freight issues currently facing them.

8.5 STRATEGIES TO ENHANCE BIKING AND WALKING IN MCHENRY COUNTY

The McHenry County Connection Master Bicycle and Trails Plan provides a comprehensive and holistic review of existing conditions and assets of the County's bicycle and pedestrian network. This LRTP carries over the recommended network improvements identified in the Connection Plan with the intent of tying these two planning efforts together, thereby ensuring future transportation improvements consider the multimodal nature of the system.



8.6 STRATEGIES TO ENHANCE TRANSIT IN MCHENRY COUNTY

Strategies for enhancing transit within McHenry County blend infrastructure and technological solutions that can provide the conditions necessary to improve the attractiveness of transit through an affordable and efficient way to travel around the County that provides access to major destinations.



Prioritize the construction of sidewalks near transit stations and bus routes, while ensuring transit vehicles can accommodate bicycles



Extend the service period for fixed route and MCRide trips to better accommodate non-peak hour travel, moving towards year-round 24-hour service



Develop MCRide trip fixed routes between major origin and destination areas, giving users the option to either utilize these routes for a reduced fare or maintain their demand response scheduling options for regular fare



Implement an income-based pay-as-you-can fare structure for MCRide that does not exclude any rider regardless of ability to pay fare



Partner with Pace and/or Transportation Network Companies (TNCs) to develop an app allowing MCRide service to be booked and paid for electronically, adding credit cards and Ventra cards as payment options



Continue to promote the future passenger rail service connecting Chicago and Rockford. This is a new transit option through the partnership between IDOT, Amtrak, and Metra that is anticipated to begin operating in late 2027



Organize a first mile-last mile pilot program with a TNC to supplement MCRide service

8.7 NEW TRANSPORTATION NETWORK CONNECTIONS

Many things can change between now and 2050 that could result in the need for new transportation corridors to be considered. Here are the corridors our team is recommending the County continue to plan for its future transportation needs.

