Chapter 4: System Management

Chapters 2 and 3 described the growing demands being placed upon the transportation system and how the existing system is currently serving Central Ohio travelers. Looking to the future, most important is ensuring the existing system is maintained and operated as efficiently and safely as possible.

This chapter focuses on preserving and managing the existing transportation systems. The MTP strategies and projects in this chapter focus on keeping the existing system in a state of good repair, managing the system through the use of technology and innovation, and making the system as safe and secure as possible.



4.a SYSTEM PRESERVATION & MAINTENANCE

Activities focused on preserving, maintaining, and operating the transportation system are an important component of the MTP. The most recent federal legislation, the Bipartisan Infrastructure Law (BIL), places emphasis on system preservation and maintenance. This includes projects related to operation of the transportation system (e.g., plowing, mowing, painting, and traffic control), bridge replacement/rehabilitation, road resurfacing and reconstruction.

Spending on preservation, maintenance, and operations historically is one of the largest categories of what the region spends on the transportation system. Even as the needs of the MPO planning area continue to grow, there is a limit to how many resources can be directed toward building new facilities. The existing system needs to be maintained and operated efficiently to ensure the health, safety, and welfare of the region.

While operations, maintenance, and system preservation in aggregate are significant, the individual projects are often so small they seem regionally trivial. Consequently, the MTP does not individually identify these types of projects.

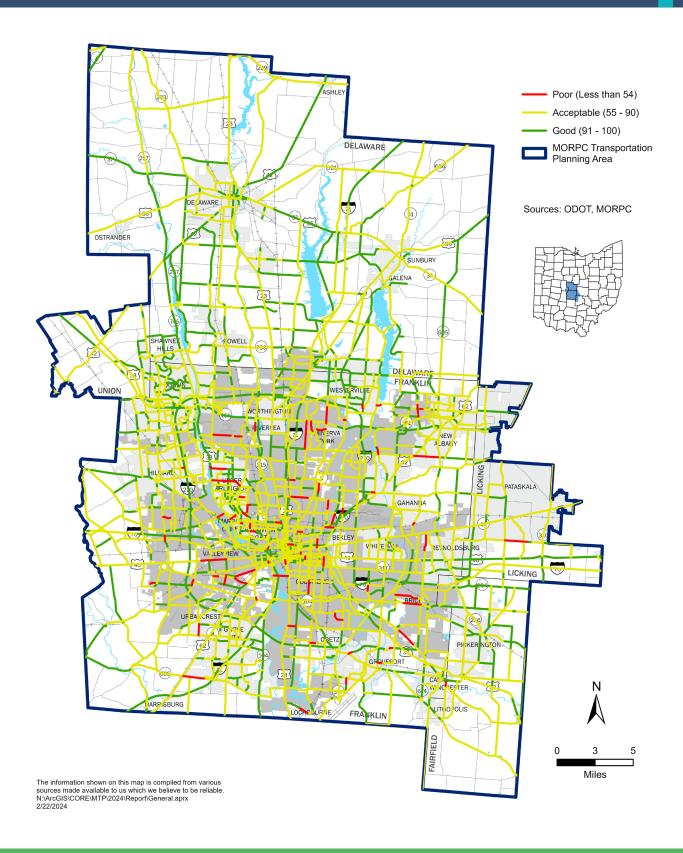
Historically, Ohio has provided adequate resources to preserve and maintain its roads and bridges. Significant portions of federal, state, and local budgets fund system preservation and maintenance activities. Often funding used on regional system expansion projects, such as those identified throughout the MTP, address system preservation through the rehabilitation of existing facilities when adding capacity.

MORPC has worked with many local governments to gather the information necessary to estimate future spending. Spending on maintenance and operations comes in no standardized or detailed form. For example, some activities are obscured in general operating budgets. Consequently, without better information, the MTP assumes adequate funding for operations, maintenance, and preservation, as described in the Preservation and Maintenance Strategies section of this chapter.

SYSTEM MANAGEMENT ACTIVITIES

As part of its Transportation Information Management System, ODOT collects pavement condition rating (PCR) data, which uniformly measure conditions on roadways classified as collector and above in Central Ohio, as shown in Figure 4.1.

Additionally, the federal performance management procedures require the pavement conditions of National Highway System (NHS) be monitored and reported. As part of this process, MORPC reports





Pavement	Percent in Good	MTP Target for Good	Percent in	MTP Target for
Subsystem	Condition	Condition	Poor Condition	Poor Condition
Interstate System	60%	>50%	1.7%	<1%
Non-Interstate NHS	29%	>35%	3.1%	<1%
Federal-aid Non-	33%	>50%	6.1%	<5%
NHS				

Table 4.1

the pavement conditions for various levels or subsystem of the roadways, including NHS and non-NHS to have an understanding of the condition of the comprehensive system. Table 4.1 shows what portion of each subsystem currently meets the "good" PCR criteria and the corresponding 2050 targets.

Ohio law requires an annual inspection for all bridges. This law applies to all bridges in the state, regardless of who owns them. In general, bridge conditions change slowly. Dramatic, year-to-year fluctuations are rare.

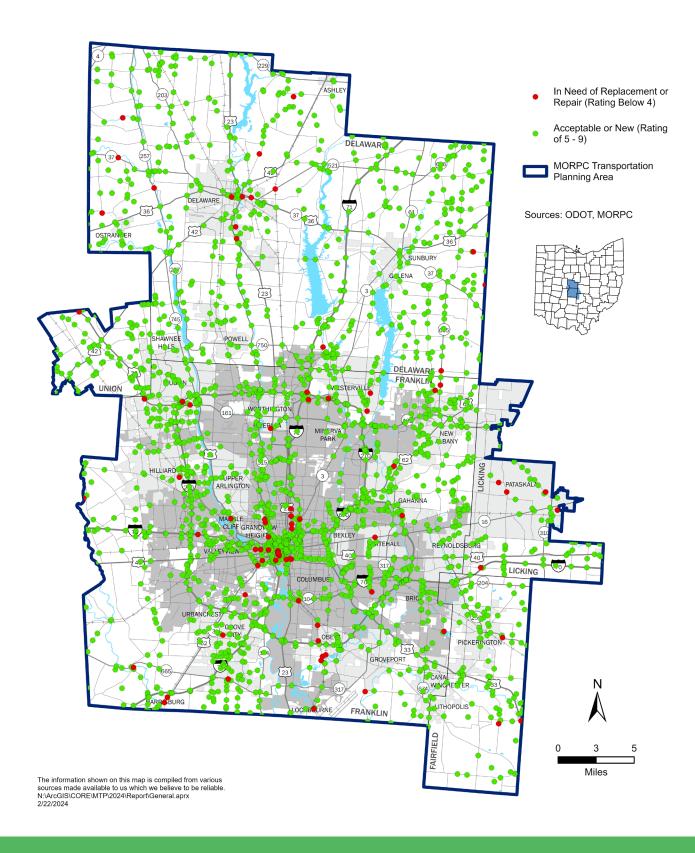
Similar to PCR, the federal performance management process also includes bridge condition measures on NHS bridges, and monitors those in good condition and poor condition, expressed as percentage of deck area. The current condition of bridges within the planning area are shown in Figure 4.2. The MTP sets a 2050 targets for bridges carrying the NHS system, and bridges carrying non-NHS facilities.

PHYSICAL PRESERVATION STRATEGIES AND PROJECTS

As the owner of the most traveled roadways, ODOT is committed to building on the tradition of preserving, maintaining, and modernizing one of the most well-regarded transportation systems in the nation. ODOT promotes "Fix it First" programs. "Fix it First" includes ODOT's Transportation Asset Management Plan, which emphasizes making steady, systematic improvements rather than waiting to make repairs until the asset needs major reconstruction. "Fix it First" also includes the Pavement & Bridge Preservation Program. The local jurisdictions, responsible for maintaining the remainder of the system, take a similar approach of allocating significant portions of their transportation funding to maintaining the system.

Strategies presented throughout the MTP may help preserve and maintain the transportation system. Strategies and projects to expand the system will also improve the condition of the system. However, the following strategies and projects specifically address system preservation and maintenance.

- Repair or replace bridges in poor physical condition
- ▶ Repave or reconstruct roads in poor physical condition
- Repave or reconstruct sidewalks and bikeways in poor physical condition





State and local officials are encouraged to employ cost-effective preservation strategies and to optimize every dollar spent. It is important to develop training for low-cost, long-term treatment strategies, forecasting for program budgets and optimization of expenditures. A number of programs at the state level focus on maintaining the existing system. These include:

District Pavement & Bridge Preservation Program

- Provides funding for the preservation and rehabilitation of the Priority, Urban and General System pavements and the state-maintained bridge structures.
- The goal is to maintain pavements and bridges at "steady state" conditions, or a relatively low and stable level of deficiencies where a predictable rate of preventive maintenance and regular repairs can efficiently sustain the system conditions.

ODOT Major Bridge Program

- Provides a source of funds separate from each ODOT district's bridge allocation.
- For high-cost bridge rehabilitation and replacement, typically projects over one million dollars.

Multi-Lane Major Rehab Program

• Focuses on almost 3,000 miles of multi-lane roadways in the state.

County Bridge Program

- Provides funds to counties for bridge replacement or rehabilitation.
- The County Engineers Association of Ohio (CEAO) serves as the program manager and is responsible for project selection, funding criteria and program priorities.

Local Major Bridge Program

• Provides funds to counties and municipalities for bridge replacement or major bridge rehabilitation projects that have County Maintenance Responsibility.

Municipal Bridge

• Provides funds to municipalities for bridge replacement or rehabilitation.

ODOT Bridge Partnership Program

- Funds eligible bridges with 100% federal dollars and requires no local match.
- Reduces inventory of structurally deficient county and municipal bridges across the state.

Urban Paving Program

• Provides funds for eligible surface treatment and resurfacing projects on state and U.S. routes within municipal corporations.

State Capital Improvement Program (SCIP)

- Administered by the Ohio Public Works Commission (OPWC).
- Funds road, bridge, water, storm, and sanitary sewers.
- Carries a statutory requirement for districts to give priority to projects that repair or replace existing infrastructure.
- OPWC also administers the Local Transportation Improvement Program (LTIP). LTIP is available only for road and bridge projects.

Local Capital Improvement Programs

· Document spending in local government operating budgets.

4. Replace transit vehicles that are beyond their useful life

- The Federal Transit Administration (FTA) determines the minimum service-life for various types of transit vehicles. For Heavy Duty-Large Buses, this is 12 years or 500,000 miles, 10 years or 350,000 for Heavy-Duty Small Buses, 7 years for medium-duty and purpose-built buses, 5 years or 150,000 miles for light-duty mid-size buses, and 4 years or 100,000 for Light Duty Cutaways or Modified Vans.
 - 5. Repair or replace transit facilities in poor physical condition

FTA Section 5339

- Bus and Bus-Related discretionary and formula grants
- Can be used to purchase buses and bus-related assets.

CMAQ-M

- At ODOT's discretion, MORPC has had a certain amount of CMAQ funds available. These are typically used for transit bus replacements, intersection improvements, minor arterial widening projects, travel demand management programs and air quality awareness programs.
 - 6. Utilize advanced material and techniques to maximize life of transportation system components

Every Day Counts

Ohio's contribution to the Every Day Counts - Regional Models of Cooperation initiative highlights 11 examples of collaborative, multi-jurisdictional planning processes currently occurring within the state. MORPC tracks projects completed utilizing this initiative through the regional performance measures (refer to Chapters 1 and 9).

ODOT's Research Initiative for Locals (ORIL)

Ohio's research program for local public agencies. The purpose of ORIL is to provide research support for local agencies to address problems specific to the local roadway system.

7. Continue to evolve consistent data collection and analysis procedures to rate the physical condition of the transportation system components

Although ODOT collects data on the majority of the most important roadways, there are data gaps. When it comes to the local agencies, how they collect transportation data differs greatly. Such disparity impedes having a complete and accurate set of regional data. In order to standardize such processes, local governments are encouraged to account for their road and bridge infrastructure network using the "modified approach" permitted by the General Accounting Standards Board (GASB) when completing their Comprehensive Annual Financial Report (CAFR).

The asset management system would have to provide an up-to-date inventory of the infrastructure. It also must perform a condition assessment of the network at least every three years. It must estimate the annual amount each year required to maintain and preserve the asset network at the established minimum condition level. Using this methodology, only the costs of network additions and capacity improvements are capitalized.

MORPC has worked in coordination with local jurisdictions to create and maintain a uniform Location-Based Response System (LBRS) roadway centerline and Sidewalk Inventory Geographic Information System (GIS) files.

PHYSICAL PRESERVATION THROUGH 2050

MORPC estimates approximately \$8.4 billion in federal, state, and local funds will be expended through 2050 to preserve the transportation system in the MPO planning area. Section 7.2 has detailed information about the financial forecast for the MPO planning area. As listed above, a number of agencies provide federal, state, and local funding to address the maintenance and preservation of the existing transportation system in the region. Depending on the agency, the programs address separate, but sometimes overlapping, portions of the transportation system.

4.b INTELLIGENT TRANSPORTATION SYSTEMS

Intelligent transportation systems (ITS) is a "system of systems," envisioned to evolve using communication technologies and real-time coordination to allow for more effective operations/use of the transportation system without adding pavement. ITS refers to an assortment of technologies, systems, and transportation management concepts. ITS plays a key role in a safe, efficient, and innovative transportation system for all travelers. A key aspect of ITS is providing information to travelers because when travelers know traffic conditions in real-time, they can make more informed travel decisions. Examples of ITS technologies include coordinated signal systems, dynamic message signs, portable changeable message signs, ramp meter signals on freeways, CCTV traffic cameras that monitor traffic flow and incidents, connected and autonomous vehicles, and transit-related systems such as the Automated Vehicle Locator (AVL), which helps determine the real-time location of public fleet vehicles.

ITS enables collaboration, communication and cross-jurisdiction/agency system integration. ITS is a proven solution to reduce congestion, increase traffic flow, enhance safety and improve air quality. It is imperative to create one transportation system that works across jurisdictions and agencies and utilizes limited resources most efficiently. Terminology often heard today is the word "Smart." This is under the umbrella of ITS and generally refers to more advanced technology enabling more real time data available about the transportation system to the public, communication of information between vehicles and the transportation infrastructure, and more advanced algorithms to use that data to better manage the system including autonomous vehicles.

BACKGROUND

FHWA developed the national ITS architecture to provide a unifying framework for ITS infrastructure deployment. As the MPO for the region, MORPC houses and maintains the regional ITS architecture. ITS has been and will continue to be an integral part of transportation planning in Central Ohio.

The Central Ohio Regional ITS Architecture is available online at: http://morpc.org/itsArchitecture/. The website displays all existing and planned systems and demonstrates the information flow between them. The regional ITS architecture serves as a tool to educate both professionals and the public of the importance of ITS and information exchange. The architecture ensures that institutional agreements and technical integration for the implementation of ITS projects are in place. Its primary goal is to facilitate the efficient deployment and use of ITS equipment, networks and management structures to create a safer and more efficient transportation system across jurisdictions. All ITS projects using federal funding must conform to the Regional ITS Architecture.

The System Today

There are two ways MORPC looks at the extent of the ITS system. First is to inventory how many of the roadways classified as minor arterial and above employ ITS to coordinate signals, utilize ramp meters or message signs, all of which optimize the traffic flow. Second is to inventory how many of the principal arterials and above have coverage by video surveillance to monitor and respond to incidents or other changing travel conditions.

The extent of the ITS coverage is shown in Figures 4.3 and 4.4. These corridors are regionally significant because they accommodate a high volume of through traffic. The MTP sets a target to have 90% of functionally classified Principal Arterials and above utilizing coordinated ITS technologies by 2050. The City of Columbus continues to talk to neighboring jurisdictions about opportunities to connect their signals to the regional system. MORPC will continue to work with its member jurisdictions and through the Columbus Traffic Signal System update to establish multi-jurisdictional partnerships.

SMART STREETS POLICY

Background: Technology is rapidly changing transportation infrastructure

Purpose:

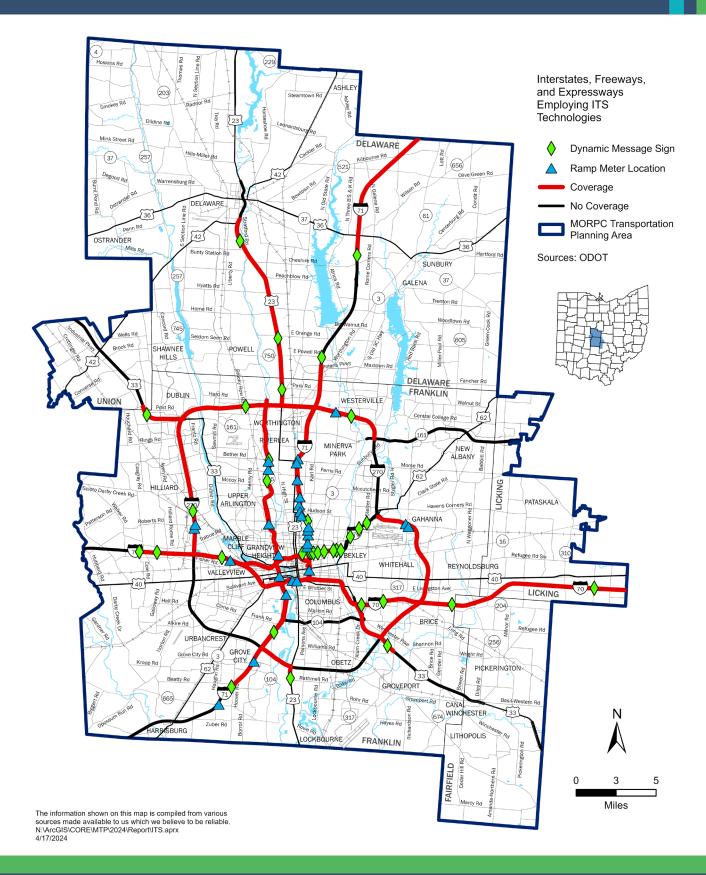
Ensure investment in public infrastructure advances a "smart region"

Vision:

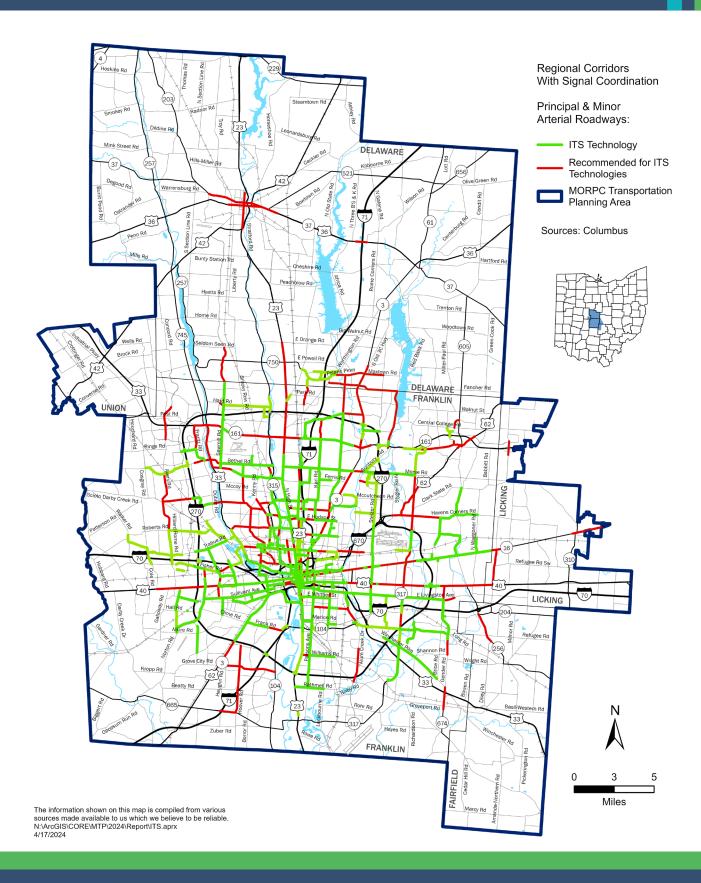
- Connected
- Inclusive
- Secure
- Resilient
- Improved Quality of Life

MORPC approved a Smart Streets Policy that leverages current and emerging technologies and data to provide a digital infrastructure network. Digital connectivity and data are fundamental to delivering an efficient and complete connection of streets that will improve the quality of life of Central Ohio residents.

The policy seeks to incorporate the Smart Streets concept into the planning, programming, scoping, design, implementation, maintenance, and performance monitoring of all transportation infrastructure projects awarded funding through MORPC. It further recognizes that while future technology is unknown, communities need to be flexible and prepared for the next evolving technology. The policy also includes recommendations for communities to adopt their own Smart Streets Policy.









ITS Strategies and Projects

Along with continued deployment of existing ITS technologies, new ITS technology, such as autonomous and connected vehicles, has the potential to significantly alter the demands placed on the region's transportation system. Since opportunities for system integration and operational coordination extend beyond jurisdictional boundaries, it is important to have collaboration in planning for both system and inter-jurisdictional integration. MORPC will continue to work with its stakeholders to implement the following strategies and projects:

1. Collect, develop, and maintain data on roadway, transit, bike and pedestrian conditions and other modes and share the data and information through technology.

MORPC will continue to monitor development in transportation system management and operations and evolving transportation technologies in order to improve traffic flow in our region. New technologies are being investigated at federal, state, and regional levels. MORPC fosters system integration and agency cooperation concerning ITS technologies. Working together across agencies and jurisdictions is important in order to reduce overall costs by combining and sharing resources and information.

ODOT Statewide Traffic Management Center (TMC)

The ODOT Statewide TMC operates the traffic management and traveler information system on Ohio's interstates, freeways, expressways, and state highways. The mission of the TMC is to increase transportation safety, reduce congestion, and increase efficiency on Ohio's state highways. The Statewide Traffic Management Center is located at ODOT's Central Office. The TMC has dedicated operators who monitor traffic in each major metropolitan area across the state including Akron/Canton, Cincinnati/Northern KY, Cleveland, Columbus, Dayton/Springfield, and Toledo. The operators can control cameras, post messages to DMS, HAR, and the Buckeye Traffic website, etc. The operators are monitoring more than 500 traffic cameras around the state in all the major metro areas and also a couple in the more rural areas

2. Broaden the existing transportation system managed in a coordinated manner through ITS technologies.

Since funding is limited, the region must prioritize ITS projects based on the over-all need and the ability to integrate them with other projects to maximize regional value. Columbus Traffic Signal System (CTSS). The City of Columbus' Computerized Traffic Signal System is a significant ITS system in the Central Ohio region. Established in the 1980s, the system has control of nearly 1,000 intersections in Columbus and surrounding areas and is considered a backbone for the region's ITS network due to its size and the investment that has been made. The city is implementing a multiphase project to create a modern, open-architecture, computerized traffic signal system and communications network. The work includes new central control system hardware and software,

as well as fiber optic and wireless communications infrastructure. Columbus has contacted neighboring jurisdictions to better understand their signal plans and to see if there are opportunities to connect their signals to the regional system.

US 33 Smart Corridor

MORPC and respective local and regional planning partners started to move the US 33 Intelligent Corridor (US 33 from Marysville to Dublin) project forward in 2016. The US 33 corridor uniquely ties the physical assets of the Transportation Research Center (TRC) and many companies along the corridor to the abundance of physical and intelligence assets available at The Ohio State University. The intelligent corridor project includes the installation of next generation ITS. Improvements may include fiber-optic extensions in the public right-of-way, dedicated short-range communication technology (DSRC) fixtures, and enhanced cellular infrastructure to allow for the deployment of test-bed connected vehicles, or partial autonomous vehicles.

Central Ohio ITS Committee

MORPC reinitiated the ITS Committee for the Central Ohio region in January 2014. The Central Ohio ITS Committee will allow for collaboration and coordination between various stakeholders on regional traffic operations investments and practices in the Central Ohio region. Its main purpose is to coordinate ITS activities in Central Ohio and assist MORPC in maintaining and updating the regional ITS architecture and ensuring compliance with it.

Regional ITS Architecture

In 2021, MORPC completed the fifth update to the Regional ITS Architecture. MORPC based this update on the National ITS Reference Architecture (also known as ARC-IT) Version 8.3.

MORPC continually keeps the ITS architecture up to date (as opposed to periodic major updates). The ITS Architecture identifies all entities (device types) and how they interface among agencies. The regional ITS architecture should be used to verify that all ITS projects fall in line with the existing structure. If the project includes a new interface that isn't already identified within a stakeholder's inventory, then the stakeholder should reference the ODOT Traffic Engineering Manual (TEM), Part 1301-2, to identify the required steps that need to be taken to qualify for ITS funding. It is in the best interest of the project stakeholders to keep the ITS architecture updated, by communicating any changes to ODOT and MORPC.

Transportation Improvement Program (TIP)

The Transportation Improvement Program (TIP) lists the various ITS projects with allocated funding. All ITS projects using federal funding in Central Ohio must conform to the Regional ITS Architecture and be included on the TIP.

3. Implement managed lanes along additional freeway corridors

ODOT Active Traffic & Demand Management (ATDM)

At the state level, ODOT's ATDM study examined potential pilot programs for the Central Ohio area and other regions in the state to improve travel time reliability, reduce vehicle delays and improve safety through the utilization of strategies other than typical highway expansion projects. ATDM is the dynamic management, control, and influence of travel demand, traffic demand, and traffic flow of transportation facilities. ATDM strategies can provide significant capacity benefits at a fraction of the cost to build traditional capacity projects. Some examples of ATDM are Ramp Metering, Hard Shoulder Running (HSR), Variable Speed Limits, and Dynamic Lane Assignment. In 2019, ODOT implemented HSR and variable speed limits on eastbound I-670 between 4th St. and I-270 (east outerbelt). Additional corridors, including parts of SR-315 and I-71 are identified in the MTP for ATDM strategy by 2050.

4. Apply access management along arterial and collector corridors

Access management is a set of techniques that state and local governments can use to control access to highways, major arterials, and other roadways. The benefits of access management include improved movement of traffic flow, reduced crashes, and fewer vehicle conflicts. Access management projects are identified in this MTP on US-23 between the Franklin/Delaware County line and the City of Delaware, and on US-36/SR-37 between City of Delaware and I-71.

5. Improve connections and coordination among transit system operators

MORPC meets quarterly with COTA, DCT and LCT to discuss service changes, current and future connections. Relationships have been established in the region to develop solutions with local governments, transit systems, and employers. Work continues to explore locations, policies and funding to connect outside of typical service areas.

6. Expand transit signal priority along additional roadway corridors

MORPC works with local jurisdictions and transit service providers on signal project development to identify transit priority needs. As high capacity transit develops in the region, signal priority can be incorporated in the project scope.

7. Improve demand response transit service

COTA Mainstream

COTA Mainstream is a shared-ride public transportation service providing origin-to-destination transportation for people whose functional limitations prevent them from riding COTA's fixed-route buses for some or all of their trips.

COTA//Plus

In recent years, COTA has initiated On-Demand transportation services in select parts of its service area, allowing riders to request on-demand rides within defined mobility zones via a mobile application or telephone call. As of 2024, COTA//Plus service operates in Grove City, Westerville, and the South Side of Columbus. COTA plans to expand this service in the coming years to other zones within its service area.

8. Manage, improve and coordinate human service, private and public transportation, to better meet the needs and fill the gaps

Based on the needs and gaps identified in MOPRC's 2018 Coordinated Plan for Delaware and Franklin counties, MORPC administers FTA 5310 funding in the Columbus area to manage, improve, and coordinate transportation with capital and operating projects.

Mobility Management. In 2020 MORPC began a mobility management function to further support and enhance the coordination of mobility services. MORPC's Mobility Manager works to coordinate programs among public, private, and non-profit transportation providers with regional mobility managers that serve older adults, people with disabilities and individuals with lower incomes. Mobility Management will focus on ongoing mobility service and planning efforts throughout the region. MORPC engages stakeholders on best practices to address gaps and needs to increase transportation capacity. Facilitate the development of technology that coordinates inventoried transportation systems with mode eligibility and trip arrangement for users

.

Staff also incorporates urban and rural barriers that lead to mobility challenges. MORPC will work with existing mobility mangers in the MORPC MPO area, Licking County, the Central Ohio Rural Planning Organization (CORPO) counties, ODOT's Human Service Transportation Coordination Regions (HSTCR) 5 and 6 and ODOT's Office of Transit for a more regional multi county approach to update the next Coordinated Plan. There will be an initial focus on the MORPC MPO area that will evolve into a more regional approach as ODOT oversees Coordinated Plans around Human Service Transportation Coordination Regions.

9. Implement vehicle to infrastructure and vehicle to vehicle communications

DriveOhio

DriveOhio is the state's new center for smart mobility, and serving as the hub for all things autonomous and connected in Ohio. Supported by the Ohio Department of Transportation, DriveOhio also works to ensure Ohio's regulatory environment and public policies are conducive to the development of the infrastructure and technologies needed for smart mobility. As the single point of contact for all of Ohio's smart mobility initiatives and advancements, DriveOhio fosters cooperation and collaboration, offers faster access to resources by breaking down government barriers, and improves efficiencies for people and organizations that want to be part of this industry.

- 9. Modify lane configurations of roadways, where appropriate, to safely match vehicle, transit, bike and pedestrian demand
- 10. Implement curbside management to facilitate package delivery and mobility as a service pick-up and drop-off while minimizing impact on transportation system operations

The curb space is where the various transportation systems merge. Pedestrians, bicycle storage, passenger drop-offs, deliveries, and parked cars all utilize the curbside. There are opportunities to incorporate curbside management policies into Active Transportation Plans, Complete Streets Policies, and other policy tools at the regional and local level. The City of Columbus initiated a pilot project in 2020 to test dynamic curb lane management zones at select locations with high demand for commercial loading, food delivery, etc. This pilot and other efforts in the region look to use technology to facilitate more safe and efficient activity in curb lanes.

12. Facilitate multi-jurisdictional dialogue to improve opportunities for collaboration

4.c TRANSPORTATION SAFETY

Traffic crashes continue to be among the leading causes of death in the United States and Central Ohio. During the five-year period between 2017 and 2021, 177,409 people across the U.S. died in a motor vehicle crash – every 15 minutes, an individual's life was lost while using our transportation system. In that same time frame, 32,674 pedestrians were killed while walking in their communities. This is an increase of over 25% compared to the previous five-year span. Central Ohio has seen similarly concerning trends. The MPO planning area had 162,384 crashes reported over the five years between 2018 and 2022 that involved 402,302 individuals. However, of the individuals involved, 691 lost their lives and 4,223 suffered serious, life-changing injuries. While the total number of crashes decreased by nearly 20% compared to the previous five-year span, the proportion of individuals who were seriously injured increased by 21% and the proportion of those who died increased by a staggering 62%. These trends indicate that when crashes occurred in recent years, they were significantly more severe than they had been in the past.

These figures underscore the need to center the Safe System Approach in the investments being made to our regional transportation system, recognizing that traffic deaths and serious injuries are entirely preventable, and that safety must be prioritized in order to achieve improved outcomes and a more equitable mobility environment. In doing so, we can sustain past improvements while progressing toward achieving our ultimate goal of zero deaths and serious injuries on the regional transportation system.

LEGISLATIVE BACKGROUND

In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP), structured and funded to make significant progress in reducing the occurrence of fatalities and serious injuries on all public roadways. It stressed a data-driven, strategic approach to improving highway safety and nearly doubled the funds allocated for safety-related infrastructure projects. With its focus on performance, SAFETEA-LU also required states to develop a Strategic Highway Safety Plan (SHSP).

In 2012, The Moving Ahead for Progress in the 21st Century Act (MAP-21) continued the primary features of HSIP, including the requirement for a comprehensive, data-driven, approach to transportation safety that is intended to underscore any defined goals and strategies. MAP-21 further required MPOs, like MORPC, to coordinate with state departments of transportation on setting a minimum of four safety performance targets for the region: number of fatalities, number of serious injuries, fatality rate and serious injury rate. The Fixing America's Surface Transportation (FAST) Act, signed into law in 2015, continued this same level of programming with only minor changes.

The 2021 passage of the Infrastructure Investment and Jobs Act (IIJA) – also known as the "Bipartisan Infrastructure Law (BIL) – allocated \$550 billion over the fiscal years 2022-2026 in new investments in roads, bridges, mass transit, and other vital infrastructure. Like its predecessors, it continues the tradition of providing a data-driven framework for reducing fatalities and serious injuries, with a renewed prioritization of transportation equity and environmental justice. Importantly, the BIL also maintained current funding levels of the HSIP and added new requirements prioritizing Vulnerable Road User safety.

With the passage of the SAFETEA-LU, MORPC began to engage more directly in activities surrounding the improvement of transportation safety within the Columbus region. This resulted in the creation of a dedicated Transportation Safety Program in 2006. Today, transportation safety is among the top priorities at both the state and regional levels and continues to see significant attention and funding. MORPC's Transportation Safety Program is based on a model of cooperation within the State of Ohio and aims to deliver the resources and information our partners need to create a safer region. MORPC works closely with the Ohio Department of Transportation (ODOT) in its development and implementation of the Ohio Strategic Highway Safety Plan (SHSP) and released a regional plan, the Central Ohio Transportation Safety Plan, in 2019 to focus on strategies for improving safety on locally-maintained roadways.

SAFETY STRATEGIES AND PRIORITIES

In early 2022, the USDOT announced the National Roadway Safety Strategy (NRSS) in response to the ongoing national roadway safety crisis. This new strategy established an official vision for the safety of our roadways and set zero as the only acceptable goal for the number of deaths and serious injuries resulting from traffic crashes. The NRSS is a comprehensive approach for the USDOT and traffic safety partners to reduce the number of deaths and serious injuries, and it formally adopted the Safe System Approach to guide those actions. Going forward, MORPC will collaborate with regional partners to implement the Safe System Approach throughout all transportation planning activities, policies, and projects.

While the strategies discussed below represent actions to directly impact transportation safety, additional strategies that impact transportation safety are included in other chapters. These include strategies to promote multimodal mobility and alternatives to motorized travel. Greater use of alternative modes along with other strategies that reduce motorized as well as single-occupancy vehicle travel would reduce the overall amount of vehicle miles traveled. This, in turn, could result in fewer crashes and fatalities. Chapter 6 includes many activities that advance these strategies. Chapter 5 focuses on all opportunities to reduce single-occupancy vehicle travel.

1. Collect, develop, maintain, and analyze crash data to identify regional safety emphasis areas and priority safety locations, with an emphasis on eliminating fatal and serious injury crashes.

MORPC stresses a data-driven, strategic approach to improving roadway safety and making informed investment decisions. The data generated through motor vehicle crash reporting are fundamental aspects of any program seeking to reduce the number of fatalities and serious injuries resulting from these crashes. MORPC will continue to work both locally and statewide to pursue investments in the accuracy and timeliness of regional crash data and ensure relevant crash data and information are available and useable by all of our partners.

Participate in the Ohio Strategic Highway Safety Plan (SHSP) Steering Committee

MORPC, serving as a representative for the Ohio Association of Regional Councils, is one of several stakeholders involved in the SHSP Steering Committee. This statewide committee brings together relevant federal, state, regional, and local agencies to support implementation of the plan and track progress toward the established goals. The committee meets quarterly to discuss ongoing efforts to reduce fatalities and serious injuries and to review crash trends.

Participate in the Ohio Traffic Records Coordinating Committee (TRCC) Technical Council

MORPC, serving as a representative for the Ohio Association of Regional Councils, is one of several stakeholders involved in the TRCC Technical Council. This statewide committee brings together agencies from across the state that are involved in the collection, maintenance, and use of traffic-safety related data. This includes agencies that fall within any of the following core areas: crash, vehicle, driver, roadway, citation & adjudication, and injury surveillance. TRCC members "support data improvements at all levels of government in an effort to minimize duplication, improve uniformity, advance electronic data collection, and facilitate data access and use. The goal of this coordinated effort is to work towards zero fatalities on Ohio's roadways."

2. Collect, develop, maintain, and analyze data on transit safety.

Public Transportation Agency Safety Plans

FTA requires certain operators of public transportation systems that receive federal funds under FTA's Urbanized Area Formula Grants, including the Central Ohio Transit Authority (COTA) and Delaware County Transit (DCT), to develop safety plans that include the processes and procedures to implement safety management systems and safety performance targets.

3. Implement countermeasures that address priority safety locations with an emphasis on eliminating fatal and serious injury crashes.

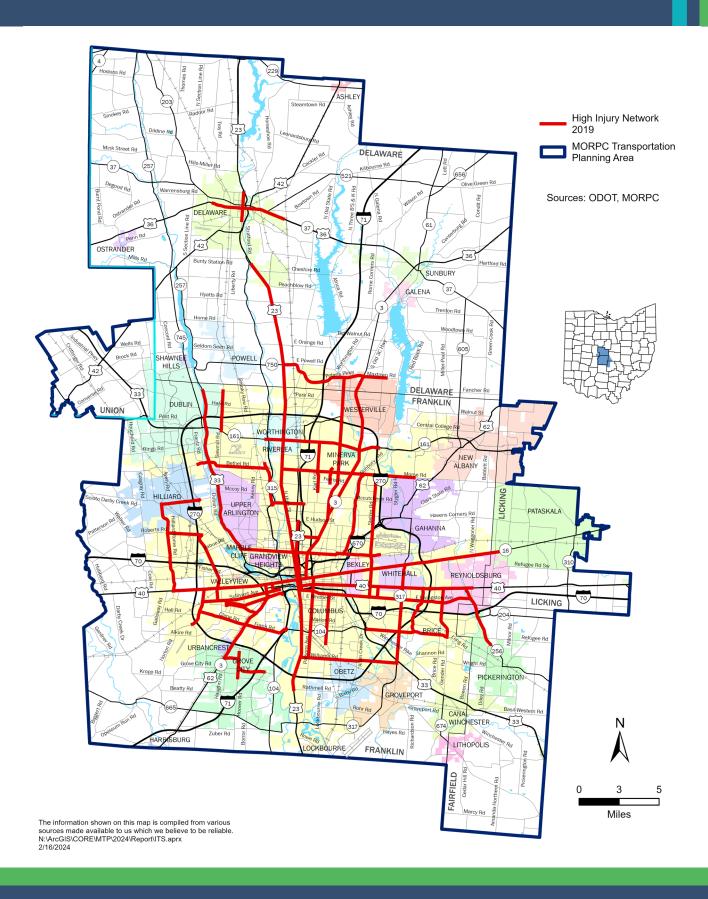
As noted earlier, the HSIP requires the allocation of federal funds through a data-driven process to make the best use of these limited resources. The process of identifying and working with our partners to address priority safety locations is central to MORPC's Transportation Safety Program. By providing local jurisdictions with a better understanding of where priority safety locations exist throughout the region, MORPC can better collaborate with partners to further assess and address those locations

Identification of Regional Priority Safety Locations

The Central Ohio Transportation Safety Plan (COTSP), which was released in September of 2019, identifies regional priority safety locations based on crash data from the 2013-2017 time period. The regional priority safety locations identified primarily include locations throughout the region that have experienced a high frequency of fatal and serious injury crashes. As a result, this plan established the first Regional High Injury Network for the MPO planning area, illustrated on the map in Figure 4.5. These priority safety locations help us to prioritize funding, technical assistance, and related efforts throughout the region to mitigate the most serious crashes. The identified locations serve as a starting point for the identification and resolution of traffic safety issues in the region. MORPC continues to work with relevant partners to further understand the crash patterns at a given location and identify specific strategies and resources to improve them. These regional priority safety locations will be updated on a regular basis as part of the update process for the COTSP.

Develop and Implement Systemic Safety Improvement Projects

In 2013, MORPC and ODOT's Highway Safety Program launched a pilot project to develop and implement a replicable process for the identification of locations with a high risk of severe crash types (i.e., pedestrian, intersection crashes) and address them using low-to-medium cost proven safety countermeasures. This pilot with MORPC ultimately led to ODOT developing a formal Systemic Safety program within the larger Highway Safety Program. The portion of funding designated for this program is dedicated to projects that proactively address common safety issues throughout the entire roadway system, whether or not a particular location has a history of crashes. MORPC regularly coordinates with local agencies to develop and support applications to this program to implement systemic safety projects in regional priority safety locations.





Safety Projects & Studies

MORPC continues to work with local jurisdictions to help secure the resources and expertise needed to address the safety issues with which they are confronted. This includes assistance with safety funding applications, project-level crash data analysis, site-specific safety audits, as well as development of local safety plans. Specifically, MORPC offers direct technical assistance on safety planning projects and fulfills requests for crash data analysis. The evaluation techniques used reflect those currently used at the state level, as well as other national best practices.

4. Implement countermeasures that address transit safety issues.

Safe Access to Transit

MORPC is an active partner in a critical new regional transit and mobility initiative called LinkUS. This initiative is primarily being led by COTA and the City of Columbus and is focused on the development of high-capacity transit corridors in Central Ohio. An additional, and equally important, aspect of the initiative revolves around developing transit supportive infrastructure (TSI) to better enable access to this proposed new transit. MORPC has been leading collaborative committees formed with the intent to identify projects that would quality as transit supportive infrastructure and then develop a capital improvement plan and budget to implement those projects. The identified projects will be implemented with the sole purpose of getting people safely and comfortably to and from transit services in Central Ohio.

5. Advance educational initiatives that address regional safety emphasis areas with an emphasis on eliminating fatal and serious injury crashes.

MORPC also engages in various efforts to support and encourage safe road user behavior. Through these activities, MORPC recognizes that safety is a shared responsibility; we all have a role to play to achieve the goal of zero deaths and serious injuries. This includes designing a system that enables safe use, and also educating users on how to best use that system safely.

Ongoing Regional Safety Education

In 2020, MORPC hosted the first regional safety forum for Central Ohio. This virtual event brought together traffic safety partners from around the region to hear from national, state, and local experts on traffic safety issues and best practices. It also provided an opportunity for participants to discuss their safety priorities and challenges and share with peers. The event has since become an annual feature of MORPC's Transportation Safety Program and is now hosted in person to provide more opportunity for education, resource sharing, and regional collaboration.

Throughout the year, MORPC also coordinates with the Ohio Department of Public Safety (ODPS) and other local partners on the promotion of national safety initiatives within the MPO area. MORPC also supports regional/state safety campaigns on local issues through in-kind contributions and technical assistance.

Additionally, MORPC regularly promotes national best practices, professional development opportunities, and other resources that come available.

Franklin County Fatality Review Board

The Franklin County Fatality Review Board meets once per month to review all fatal crashes that occur in the county. These meetings provide an opportunity for law enforcement, engineers, planners, and public health professionals to better understand fatal crashes and develop countermeasures, discuss needs related to safety education, and make suggestions for crash reporting improvements. MORPC works closely with these partners to implement recommended countermeasures wherever possible.

Franklin County Safe Communities Coalition

The Franklin County Safe Communities coalition promotes traffic safety through partnerships with local law enforcement, medical professionals, trauma programs, engineers/planners, traffic safety professionals, injury prevention specialists, and community organizations. The goal of the coalition is to reduce traffic-related injuries and fatalities within Franklin County. Members partner on a variety of projects to provide traffic safety education, change policy, change the built environment, and improve safety for all modes of transportation in our community. This coalition meets quarterly and MORPC is an active participant.

SAFE Delaware County Coalition

The mission of SAFE (Safety Awareness For Everyone), Delaware County, is to serve as a county wide network that joins community partners, maximizes resources, and provides leadership to prevent injury and fatalities in Delaware County. The purpose of this coalition is to provide injury prevention awareness programs related to traffic safety and child safety. Support for these two programs comes from the Safe Communities grant from the Ohio Department of Public Safety, and the Safe Kids Worldwide grant program. This coalition meets quarterly and MORPC is an active participant.

6. Advance legislative initiatives that address regional safety emphasis areas.

MORPC works with policy makers at the federal, state, and local levels to ensure an understanding of the safety implications of adopting, or not adopting, specific pieces of transportation legislation. MORPC will continue legislative tracking of key transportation legislation and will advocate for legislative changes to improve the safety of the transportation system.

Statewide Legislative Initiatives

MORPC actively participated in and supported efforts to enact a statewide Distracted Driving Law that was adopted in January 2023 and took effect in April 2023. The new law made using a cell phone while driving a primary offense. MORPC continues to collaborate with local and state partners to get the word out about the new law and educate drivers on the importance of focusing on driving when behind the wheel.

Local Legislative Initiatives

MORPC works closely with local government agency partners to adopt policies, resolutions, and ordinances regarding Complete Streets, Distracted Driving, and other critical safety-related issues. Templates and other resources are made available on MORPC's website, and technical assistance is also provided to develop more specific local policies.

7. Facilitate multi-jurisdictional dialogue to collaborate on the implementation of the Safe System Approach in all transportation planning activities, policies, and projects.

As highlighted by the Safe System Approach, collaboration is key to achieving the goal of zero deaths and serious injuries. Collaboration and resource-sharing has long been a core aspect of MORPC's Transportation Safety Program. This involves bringing various agencies and organizations to the table, including law enforcement, emergency responders, state transportation officials, local transportation officials, political leaders, and the public, but also vehicle manufacturers, injury prevention specialists, public health professionals, and more. As a result, MORPC's approach to safety planning involves substantial collaboration and is multi-jurisdictional and cross-sector in nature.



Figure 4.6 Safe System Approach Diagram

Maintain and Update the Central Ohio Transportation Safety Plan

The Central Ohio Transportation Safety Plan (COTSP) is a comprehensive safety plan for the Central Ohio region that identifies the most significant causes of serious injuries and fatalities on the local roadway system. The plan establishes a series of goals and benchmarks for safety improvements, identifies existing trends and critical safety priorities, and sets up a framework for how collaboration can improve safety throughout the region. This plan was developed by MORPC in collaboration with local, state, and private sector organizations with a wide array of expertise on transportation safety in Central Ohio. MORPC will again work with these (and new) partners to significantly update the COTSP in 2025.

Local Transportation Safety Action Plans and Initiatives

MORPC provides technical assistance and support to local agencies working to develop and implement local road safety plans, safety action plans, Vision Zero plans, etc. Most recently, this included the development of a Safety Action Plan for the City of Delaware, Ohio, as well as participation in the implementation of Vision Zero Columbus 2.0. MORPC supported the City of Columbus through the development of their initial Vision Zero plan and High Injury Network, which identified critical roadway segments and corridors for safety investment. MORPC will also be a stakeholder and advisor in the process to develop local safety action plans for the City of Sunbury and Franklin County, both being MPO-area recent recipients of Safe Streets and Roads for All (SS4A) planning grants.

Additionally, MORPC has been contributing to and supporting local agencies in their efforts to obtain federal discretionary funding for critical safety projects. MORPC regularly assists with crash data analyses and project evaluations for these grant applications to help agencies understand the safety implications of their proposed projects. One recently successful example of this regional collaboration on a local discretionary grant application is the City of Columbus Livingston Avenue project, which was awarded an FY22 SS4A Implement grant.

Central Ohio Alliance for Safe Transportation

The Central Ohio Alliance for Safe Transportation (COAST) is a newly established coalition of safety professionals from various sectors and areas of expertise. This group was formed collectively through a partnership between MORPC and the Ohio State University (OSU) Injury Biomechanics Research Center (IBRC). The coalition invites members from the insurance industry, local and state government agencies, vehicle manufacturers, injury prevention research entities, public health organizations, and other critical partners to share information and resources and collaborate on priority safety issues and solutions. A primary goal of the coalition is to identify opportunities to collaborate on projects or initiatives that could have significant impacts on reducing fatalities and serious injuries on our roadways.

4.d TRANSPORTATION SECURITY & RESILIENCE

Security planning involves monitoring the transportation system to ensure against infrastructure failures. It also requires preparation to deal with situations where the roadway network could fail. Commerce and quality of life in communities require functioning regional transportation networks. During emergencies, these networks allow first responders to reach the event site and to stage and manage their operations. Regional transportation agencies support traffic control, damage assessments and the restoration of critical services. Effective public safety objectives for these agencies range from alternate routing around an incident scene, to evacuations, to long-term mode shifts during recovery.

BACKGROUND

Central Ohio is home to various threats, such as floods, tornadoes, dam failures, severe thunderstorms and winter storms. Rare and extreme weather events are becoming more common, and we are experiencing greater variation in precipitation events and warmer temperatures. The unexpected and complex nature of these natural and human caused incidents requires extensive coordination, collaboration and flexibility among all the agencies and organizations involved in the planning, mitigation, response and recovery.

Regional cooperation and coordination are essential to security and emergency preparedness. No significant event is truly local, as political boundaries are permeable and local critical infrastructure may serve the entire region. No jurisdiction stands alone. The high-risk, well-resourced municipality may be as dependent on a smaller jurisdiction for support in an emergency as the smaller jurisdiction is on the larger ones. The complexity of the region, with a range of potential events, presents significant challenges to coordinating and implementing effective homeland security programs.

MORPC'S ROLE IN SECURITY & RESILIENCE

MORPC has no direct role in responding to emergencies. MORPC has federally mandated transportation planning functions, which it should maintain despite the results of a natural or human created event. Various other organizations carry the primary responsibility for security planning and response. MORPC's role must enhance security planning and activities already in place. To do so, MORPC helps the region coordinate planning in preparation for and anticipation of potential future incidents. It plays a similar role helping to coordinate public information dissemination strategies.

MORPC works with leaders in the Central Ohio region to increase the security of the transportation system for motorized and non-motorized users through initiatives that reduce or eliminate system

deficiencies and enhance the integration and connectivity of the transportation system for the purposes of safety, security, and emergency evacuation.

MORPC can serve as a forum for cooperative decision-making outside the immediate urgency of emergencies. MORPC can help fund regional transportation strategies and projects related to security. MORPC has capabilities in technical analysis of the transportation network that can play a critical role in emergency preparedness and security planning. These activities summarized in the strategies identified below.

SECURITY STRATEGIES AND PROJECTS

Recommendations presented throughout the MTP may help improve transportation security. MORPC and security partners will continue to implement the following strategies and projects.

1. Promote and strengthen security, including response and recovery plans for cyber security.

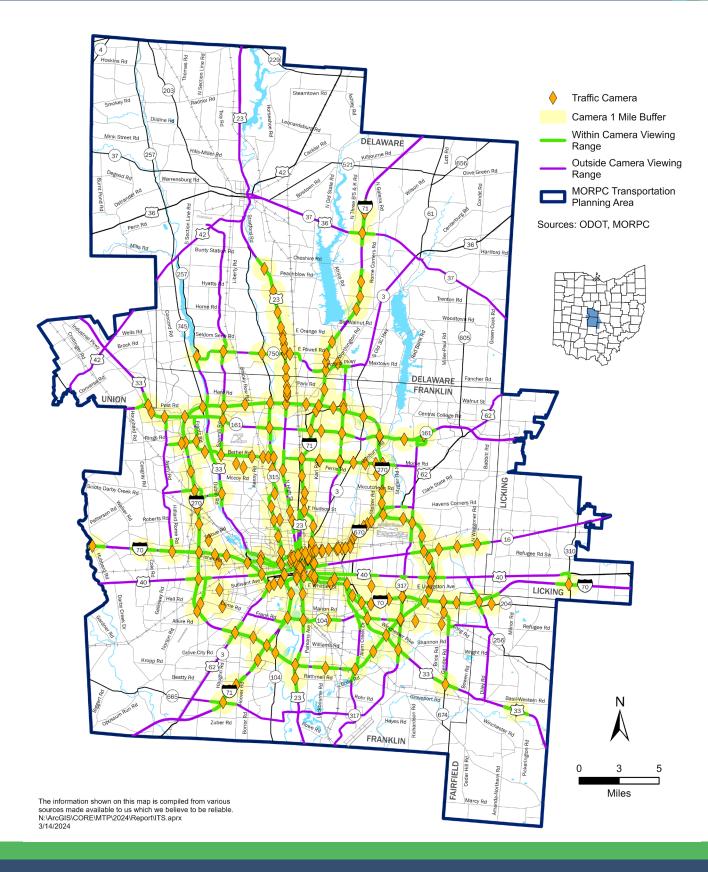
Intelligent Transportation Systems

The region will continue to deploy ITS technologies that enhance transportation security, such as the dynamic message signs that share important information about incidents to roadway users (as shown in Figure 4.3). MORPC will promote the use of ITS for transportation security. The Regional ITS Architecture will help integrate emergency preparedness components into ITS projects. See Section 4.2 for more information on ITS. ODOT Statewide Traffic Management Center (TMC).

Also described in Section 4.2, the ODOT Statewide TMC operates traffic management and traveler information system on Ohio's interstates, freeways, expressways, and state highways. The TMC has dedicated operators who monitor traffic in each major metropolitan area across the state. The operators can control cameras, post messages to DMS, HAR, and the Buckeye Traffic website, etc. The operators are monitoring more than 500 traffic cameras around the state in all the major metro areas and also a couple in the more rural areas. The MTP sets a target for 90% of functionally classified arterials and above to be under video surveillance by 2050. Figure 4.6 shows the 40% of arterials and above that are currently monitored by video surveillance.

Transit Operations Video Surveillance

Video surveillance on transit vehicles and at transit stops or stations creates a safer environment for transit users. For the safety and security of employees and customers, the Central Ohio Transit Authority utilizes video surveillance equipment on all of its fixed-route buses and facilities. The Delaware Area Transit Agency does not currently employ video surveillance on any of its vehicles or facilities. The MTP sets a target for 100% of transit vehicles and facilities to have surveillance capabilities by 2050.





2. Promote and strengthen emergency preparedness efforts.

Homeland Security Advisory Council

The director of ODPS convenes the Homeland Security Advisory Council (HSAC) to discuss security issues with a variety of state agencies and first responders. MORPC represents the Ohio Association of Regional Councils (OARC).

Chemical Emergency Preparedness Advisory Council

The Chemical Emergency Preparedness Advisory Council (CEPAC) serves as the official local emergency planning committee (LEPC) for Franklin County.

Franklin County Emergency Management and Homeland Security (FCEM&HS)

Franklin County Emergency Management & Homeland Security coordinates and prepares for countywide all-hazards disaster planning, community education, warning, training, grant funding, response, and recovery efforts in order to prepare and protect the citizens of Franklin County before, during, and after natural and man-made disasters.

Natural Hazards Mitigation

FCEM&HS updated the Franklin County Natural Hazards Mitigation Plan in 2012. This plan guides the mitigation actions communities in the region take to reduce or eliminate the impact of natural hazards. This plan is federally mandated. It allows Franklin County to receive federal funding for mitigation projects. MORPC participated in the update with multiple agencies and jurisdictions and will assist as necessary with ongoing implementation.

Strategic Highway Network

The Strategic Highway Network (STRAHNET) routes within the MORPC region are essential to accommodate the movement of military supplies and personnel in times of national emergency. STRAHNET routes include the National Interstate System, as well as key non-interstate routes, such as connectors to ports and military installations. MORPC, through its planning processes, identifies the operation and maintenance needs of the interstate and state highway systems within the MPO area, including STRAHNET.

Automated Critical Asset Management System

The Ohio Department of Public Safety (ODPS) Homeland Security Division maintains the state Constellation/Automated Critical Asset Management System (ACAMS). ACAMS is a web-based system of tools, resources and related training to assist in protecting critical infrastructure and key resources. MORPC continues to work with stakeholders to inventory critical facilities in and elements of the transportation system (e.g., transit system, rails, airports, Interstate system, National Highway

System routes, etc.).

Regional, State and National Security Efforts

MORPC will continue to monitor state and federal legislation for its impact on Central Ohio's transportation security efforts. In addition to these efforts, MORPC will continue to participate in regional groups as appropriate, such as Meta-Leadership, Citizen Corps, and Metropolitan Medical Response System.

While "security" refers to managing and reducing risk, "resiliency" is the ability to adapt to changing conditions. As the region experiences changes in population and demographic make-up, climate, energy supply, and technology, the following strategies will be essential for regional resiliency.

3. Collect, develop and maintain data and information to improve decision making.

Local Government Energy Partnerships

MORPC's Local Government Energy Partnership is a collaborative program offering ocal governments a variety of programs and services to advance energy saving opportunities. Together we are creating a sustainable region that: Reduces the costs of government, Attracts businesses and encourages their growth, and promotes responsible stewardship of our resources.

The program aims to bring together stakeholders to catalyze a sustainable energy transformation in Central Ohio. The partnership serves as the nexus between local governments the utilities serving these areas, residents and businesses.

Sustaining Scioto

MORPC's Sustaining Scioto Implementation Plan, developed with stakeholder input during 2019, includes strategies to address the potential impacts of climate change on the region's water resources.

The initial study, completed in 2015, used a science-based approach to affirm that the Central Ohio region is experiencing higher temperatures and higher variability in precipitation. Several threats and vulnerabilities have been identified for a variety of sectors including energy, public health, and transportation. Informed decision making is a central component of the Sustaining Scioto Implementation Plan, which is supported by strategies to create, update and maintain data and tools to help support planning and implementation initiatives.

4. Facilitate multi-jurisdictional dialogue to improve opportunities for collaboration.

MORPC's programming and committee structure provide opportunities for multi-jurisdictional dialogue and collaboration. We take pride in bringing communities together and convening stakeholders from diverse backgrounds and experiences to collaborate on best practices and plan for the future of our growing region.

Sustainability Advisory Committee

The Sustainability Advisory Committee, a top-level committee that reports to the MORPC Board, serves as advisors for MORPC's sustainability-focused programming. Several working groups and committees report to the Sustainability Advisory Committee, including the Energy & Air Quality Working Group, Sustaining Scioto Board, and Central Ohio Greenways Board.

Sustainable2050

MORPC's Sustainable2050 program supports our members in their sustainability efforts through direct technical assistance, collaboration, and recognition. Members are invited to participate in quarterly forums to learn about local initiatives, collaborate on best practices, and exchange ideas. MORPC also works with county emergency management agencies (EMAs), such as Franklin County Emergency Management and Homeland Security (FCEM&HS). MORPC participated as FCEM&HS updated the Risk Assessment for Franklin County. MORPC participates in a variety of other councils and committees on issues related to security and the transportation system.

5. Create plans and partnerships to attract investment in alternative fuel vehicles and infrastructure

MORPC is one of many partners, including ODOT, Clean Fuels Ohio, and MPOs across the state working to expand the FHWA Alternative Fuel Corridor designations. The primary goal is to minimize range anxiety that can inhibit the adoption of alternative fuel vehicles. This designation supports the expansion of an alternative fuel and charging network and will include signage to inform the public of fueling locations across the corridor.

Together, Smart Columbus, Clean Fuels Ohio and MORPC provided outreach to local government members to encourage EV adoption for public fleets by making information and resources available. MORPC has also provided technical services, policy support, and EVSE planning guidance for member governments. MORPC will continue developing partnerships and new opportunities to attract investment in alternative fuel vehicles and infrastructure.

6. Implement best management practices for storm water runoff and implementation of green infrastructure.

Green Infrastructure Best Management Practices

Changes in our climate, development pressures, stormwater impacts to water quality, and interest in fiscal sustainability have resulted in communities being interested in learning about best practices for green infrastructure when retrofitting and constructing transportation facilities. In order to assist Central Ohio communities with building an environmentally and fiscally sustainable transportation infrastructure network, MORPC is compiling information on best practices for green infrastructure for communities to reference when planning and designing transportation projects. The resource will include local examples of best practices so that its users can visit green infrastructure sites for handson learning and ease of communication with those projects' managers for information to help them implement similar best practices.