MIAMI VALLEY REGIONAL ACTIVE TRANSPORTATION PLAN

FINAL

MIAMI VALLEY
Regional Planning Commission

October 2022

This document is the product of a study financed by the U.S. Department of Transportation (U.S. DOT), the Ohio Department of Transportation (ODOT), and the Miami Valley Regional Planning Commission. The contents of this document reflect the views of the Miami Valley Regional Planning Commission, which is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the views of the U.S. DOT and ODOT. This document does not constitute a standard, specification, or regulation.

Miami Valley Regional Planning Commission
10 North Ludlow Street
Suite 700
Dayton, Ohio 45402

Established in 1964, the Miami Valley Regional Planning Commission promotes collaboration among communities, stakeholders, and residents to advance regional priorities. MVRPC is a forum and resource where the Board of Directors, comprised of elected officials and administrators from public agencies, identifies priorities and develops public policy and collaborative strategies to improve quality of life throughout the Miami Valley Region. MVRPC performs planning and research functions for our region that ensure livable and equitable communities; clean air and water; robust roadway, transit, and active transportation options; and strategic community plans that chart the course for member communities and partners. As the designated Metropolitan Planning Organization (MPO), MVRPC is responsible for transportation planning in Greene, Miami and Montgomery Counties and parts of northern Warren County. MVRPC's areawide water quality planning designation encompasses five (5) counties: Darke, Preble plus the three MPO counties.

MIAMI VALLEY
Regional Planning Commission

The Miami Valley Regional Active Transportation Plan was developed with guidance from the Active Transportation (AT) Steering Committee which included respresentatives from local governments, public transit agencies, parks districts, ODOT Office of Transit, and disability, walking and bicycling advocates:

AT Plan Steering Committee:

Andrew Aidt, City of Kettering
Tom Arnold, ODOT District 8
Rick Bailey, Greater Dayton Regional Transit Authority
Robert Blue, Dayton Cycling Club
Dan Boron, City of Springboro
Randy Burkett, City of Beavercreek
Tim Davis, City of Troy
Laura Estandia, Bike Miami Valley
Kyrsten French, City of Piqua
Mary Hoy, ODOT District 7
James Saleem Muhammad, Bike Miami Valley
Scott Myers, Miami County Park District
DeAndra Navratil, Greene County Regional Planning
Abbey Pettiford, Dayton Children's Hospital
Eric Sauer, Five Rivers MetroParks
Jeffrey Sheridan, Village of West Milton
Wanda Sloan, National Federation of the Blind
Alvin Tucker, Major Taylor Cycling Club
Susan Vincent, City of Dayton
Shannon Webster, Greene CATS Public Transit
Keeghan White, City of Dayton
Mark Yandrick, City of Centerville

The Miami Valley Regional Active Transportation Plan was adopted by the MVRPC Board of Directors on October 6, 2022:

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RESOLUTION 23-009
ADOPTION OF THE MIAMI VALLEY REGIONAL ACTIVE TRANSPORTATION PLAN

WHEREAS, the Miami Valley Regional Planning Commission (MVRPC) serves as a forum where regional partners identify priorities, develop public policy, and implement collaborative strategies to improve the quality of life and economic vitality throughout the Miami Valley;

WHEREAS, the MVRPC is designated as the Metropolitan Planning Organization (MPO) by the Governor acting though the Ohio Department of Transportation in cooperation with locally elected officials for Greene, Miami, and Montgomery Counties including the jurisdictions of Franklin, Carlisle, and Springboro in Warren County; and

WHEREAS, the MVRPC's Board of Directors serves as the policy and decision making body through which local governments guide the MVRPC's regional planning activities for the Dayton Metropolitan Area; and

WHEREAS, the MVRPC's Board of Directors recognizes the importance of non-motorized transportation for its mobility, health and environmental benefits; and

WHEREAS, the MVRPC Board of Directors approved the Bike Plan Update 2015 in November 2015; and

WHEREAS, many projects and programs have been completed since 2015 to make our Region more bike friendly; and

WHEREAS, planning for active modes has evolved on a national and international basis, with much greater emphasis being given to the health, environmental and place making benefits of active transportation; and

WHEREAS, the Miami Valley Region has invested heavily in our systems of Regional Bikeways and Public Transit; and

WHEREAS, in order to leverage that investment as part of the broader transportation network, increased attention must be given to non-motorized facilities and their connections to and from these systems; and

WHEREAS, the content of the Regional Active Transportation Plan provides guidance, recommendations and resources that local governments and other organizations can use to plan, seek funding for and implement non-motorized transportation facilities and programs; and

WHEREAS, MVRPC followed the MVRPC Public Participation Policy (June 2020) in creating the regional Active Transportation Plan and the included recommendations;

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NOW THEREFORE BE IT RESOLVED that the Board of Directors of the Miami Valley Regional Planning Commission adopts the *Regional Active Transportation Plan* and the recommendations contained therein.

Brian O. Martin, AICP
Executive Director

Greg Simmons, Chairperson
Board of Directors of the
Miami Valley Regional Planning Commission

10-6-2022
Date

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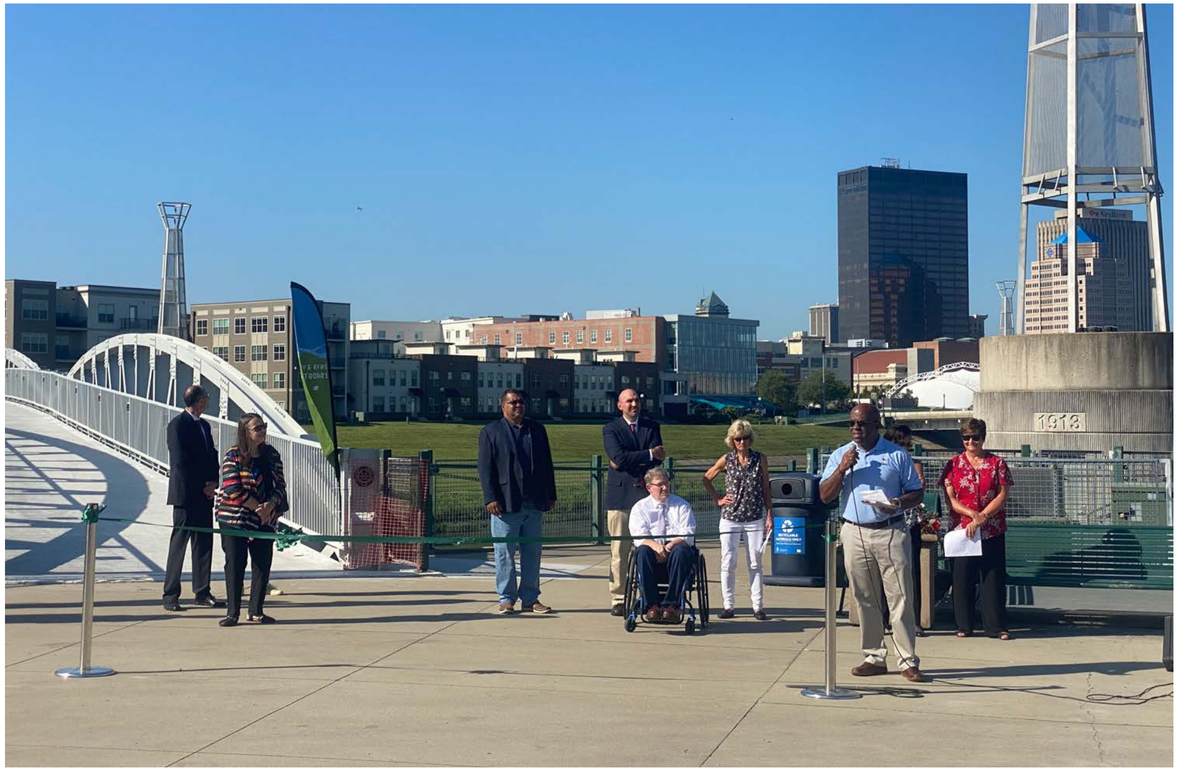


CHAPTER 1 :

Introduction

Miami Valley Regional Planning Commission

The Miami Valley Regional Planning Commission (MVRPC) has served the planning needs of the Miami Valley in Southwest Ohio since 1964. MVRPC serves as the Metropolitan Planning Organization for Greene, Miami, and Montgomery Counties, plus a portion of northern Warren County. MVRPC policies guide agency interactions in many areas including the implementation of project funding, public participation in the planning process, public records retention and access, and non-discrimination.

Founded upon the principles of regional collaboration, cooperation, and consensus building, the MVRPC serves as the common ground where area partners come together to work toward a shared vision across the Region. Together, public and private partners develop and implement innovative and sustainable strategies that enhance the Region's quality of life and economic vitality. The agency's strategic plan guides the implementation of this vision.

The Miami Valley Regional Planning Commission (MVRPC), as the Metropolitan Planning Organization (MPO) for the Miami Valley Region, is responsible for development of regional plans for surface transportation in the Dayton metropolitan area, and for allocation of federal funding to support implementation of the projects, programs and policies in the regional transportation plans.

The plans take many forms, including:

- Human Services Transportation Coordination, which fosters communication and coordination among the many public and private entities that provide transportation services to older adults, people with disabilities and low income individuals.
- Regional Bikeways planning, which envisions a regional network of multi-use paths, along with connecting local routes (both on- and off-street), that form a comprehensive non-motorized transportation system.
- Transit system planning, conducted by separate agencies in each county that provide reliable public transit services in a variety of forms.
- Freight planning, which supports truck and rail transport and the growing logistics industry in the Miami Valley.
- Highway planning, the focus of the MVRPC Long Range Transportation Plan (LRTP), which provides direction for the on-going development and maintenance of arterial roadways in the Miami Valley.

All of the above transportation plan components are included in the LRTP, forming a comprehensive transportation framework for the Region.

Active Transportation Plan

The Regional Active Transportation Plan (AT Plan) for the Miami Valley updates and expands on past planning work for regional bikeways by including, for the first time, examination of walking infrastructure and also how walking and biking infrastructure serves residents accessing public transit. It is the intent of this plan to study the connectivity and accessibility of infrastructure supporting non-motorized modes and to recommend projects, policies and approaches to develop a system of facilities that achieve the AT Plan Vision:

Active Transportation Plan Vision:

The Miami Valley's Active Transportation network provides safe and equitable walking, biking and transit connections which enhance access to opportunity, well-being, environmental benefits, and quality of life for all.

The inclusion of pedestrian infrastructure in the AT Plan broadens the populations directly served by the outcomes of this plan. The previous bikeway plans served only individuals who ride bicycles. The AT Plan serves everyone, because virtually all trips, even those primarily taken in a private automobile, will include walking.

Increasingly in medium and large cities, a new technology is available to the public for making short trips and last mile connections to public transit services: “Micromobility.” Systems of shared bicycles and scooters are offering short-term rentals of personal vehicles as a form of quick and convenient transportation within prescribed geographic areas. Bike sharing (Link Dayton Bike Share) and shared scooters (Spin and Bird) have been available in the Miami Valley Region beginning in 2015.

Micromobility offers benefits to the communities they serve. An analysis of anonymized personal trips by INRIX concluded in 2019 that as many as 48 percent of car trips could be served by micromobility in congested urban areas.[1] While not all potential micromobility trips are realized, each trip that replaces a car trip results in congestion, air quality, and local economic benefits. Bike Miami Valley, the operator of Link Dayton Bike Share, has reported an average of over 24,500 bike share trips and 4,000 users per year between 2015 and 2021. Spin reported over 52,800 scooter trips in Dayton by over 14,500 users in 2021.

However, shared micromobility operations have led to operational and policy concerns. Common issues raised include concerns of where vehicles may operate (bike infrastructure, motor vehicle lanes, pedestrian infrastructure) and where they may be parked (docks, hubs, or virtually anywhere). In locales where micromobility operations are permitted, they are almost universally allowed to use bicycle infrastructure and are very often prohibited on sidewalks. Micromobility devices are best understood as a form of “bicycle” and therefore the development of connected, safe, and convenient bicycle infrastructure will improve the safety and utility of micromobility trips where operations are permitted. More connected and safe bike lanes may serve to draw future micromobility usage off sidewalks, where an Insurance Institute for Highway Safety (IIHS) study indicated nearly 60 percent of scooter crashes occur.[2] Aesthetic, safety and accessibility concerns have been raised concerning parking micromobility devices on public sidewalks, sometimes in a disorderly way that may impede an accessible path.

In the Miami Valley, communities can be categorized in three different approaches to micromobility operators: Bans, regulations, and not yet addressed. As of fall 2022, the communities of Beavercreek and Oakwood have banned such operations within their limits. Dayton, Kettering and Xenia have adopted ordinances that allow and regulate such operations. Other communities, when contacted, had not taken any position on this issue. With divergent approaches across the Region, it is premature for this Active Transportation Plan to recommend a single regional approach to shared micromobility devices. As communities begin to address policy on these services, MVRPC can share examples of code language either banning or regulating these operations.

It should also be noted that “pedestrian” infrastructure also serves residents who do not “walk” in the strictest sense of that term. Accessible sidewalks serve individuals who ambulate by means of a mobility assistance device, such as a scooter or motorized chair. They also benefit those using a stroller or personal shopping cart.

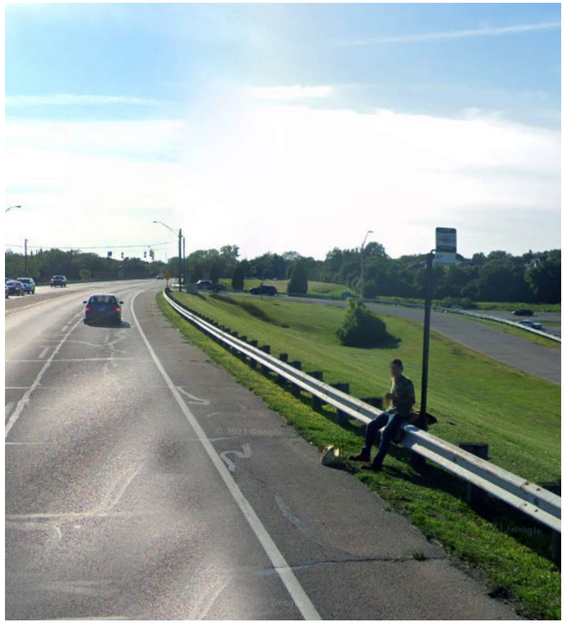
Active transportation as defined in this AT Plan includes walking, travel by means of a mobility device, and bicycling for reaching destinations and/or for accessing transit. Specifically, this plan addresses the presence, connectivity, and accessibility of sidewalks as facilities for pedestrians and people with disabilities, serving their mobility need to reach destinations. This plan also addresses the presence and connectivity of bicycle facilities, including signed and sharrow routes, bike lanes of various designs, and multi-use paths, acknowledging that some, but not all of these facilities also serve pedestrians and people with disabilities. Finally, these bike and pedestrian facilities are assessed for their utility in providing access to the public transit systems in the Miami Valley Region.

The presence and quality of active transportation infrastructure at both ends of a transit trip are important factors in the utilization and patronage of transit as a transportation choice.

The interaction of walking and biking infrastructure with public transit services is critical to transit operations. Greater Dayton Regional Transit Authority (GDRTA) reports that as many as 30 percent of all paratransit service riders require this specialized service because of the lack of an accessible path between their home or destination and the nearest access point for the fixed route transit system.

The inclusion of transit access in the AT Plan provides a more complete evaluation of the accessibility of the regional network. Many past bikeways plans have assessed bicycle access to the Miami Valley Trails network. New to this plan is an assessment of the connectivity and accessibility of fixed and flex transit routes to pedestrian and bike infrastructure.

30% of paratransit riders require specialized service because of lack of accessible paths to access transit.



What is Included in the Plan

In general terms, MVRPC's transportation plans are limited to the agency's designated MPO area: Greene, Miami, and Montgomery Counties, plus municipalities of Springboro, Franklin, and Carlisle, and Franklin Township in northern Warren County (Figure 1). At a practical level, most infrastructure for non-motorized travel is located within the urbanized area, the more densely developed portion of the Region. Even more specifically, MVRPC's planning and funding authorities cover only certain classifications of roads – the busier arterials and collector roads within the Region. There are many safe and attractive places to walk and bike in our communities which are not on roads MVRPC has any planning and/or funding role. Rather, they are planned, maintained and improved by local jurisdictions.

Also, biking and walking are inherently local activities. The Miami Valley Trails network makes it possible to walk to work between for instance Troy and Piqua, but it is unreasonable to expect that many would. It is conceivable that some may make that commute by bicycle. But where pedestrian and/or bike networks connect commuters to transit services, one can begin to see a practical, non-motorized transportation system that serves the needs of a broader portion of the people in the Miami Valley. So, while recognizing the limited overlap between MVRPC's planning geography and the locations of non-motorized infrastructure, it is intended that this AT Plan, in coordination with local planning and projects by MVRPC member jurisdictions, will foster a robust, safe, convenient and accessible system for non-motorized transportation throughout the Miami Valley.

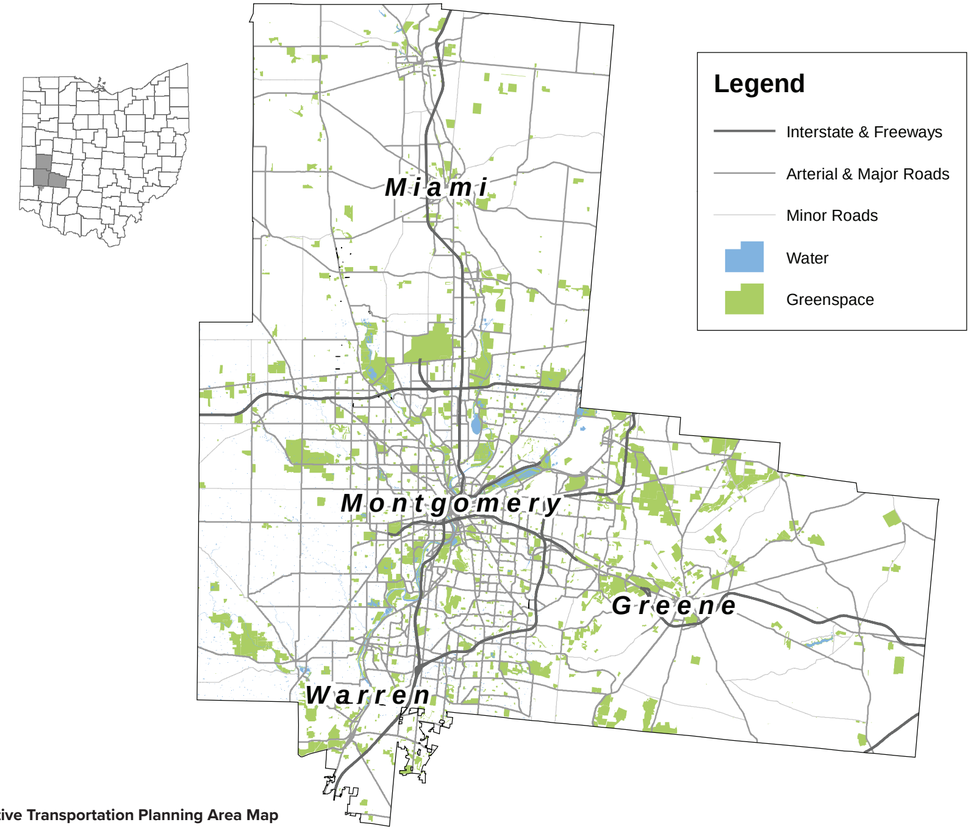


Figure 1: Active Transportation Planning Area Map

Project Timeline

The AT Plan was developed with guidance from the Steering Committee which represented various perspectives and voices of the regional active transportation system. The Steering Committee assisted with the following tasks:

- Establishing the vision and goals of the plan
- Designing the public engagement process
- Shaping the project prioritization process
- Reviewing and commenting on the draft and final versions of the plan report

The AT Plan development process kicked off in the summer of 2021, with an assessment of existing conditions and a review of other relevant plans and studies. Public input and technical analysis provided a foundation for proposed projects and the Steering Committee assisted with the prioritization of the plan recommendations.

1. Develop plan vision and goals
2. Review of existing conditions by collecting data, reviewing existing plans, policies and programs
3. Engagement with the community through public surveys, meetings, events, etc.
4. Development of project, program, and policy proposals
5. Prioritization of project, program, and policy proposals
6. Finalize plan through public comment periods for draft and final plan
7. Adopt plan

Alignment with Other Plans

Like the Miami Valley Trails network, the vision for the development of the active transportation network in the Miami Valley is expected to occur over the course of many years. Most MVRPC planning documents consider a twenty-year planning horizon. The segmented nature of transportation projects can result in piecemeal development at first as the components of the system are implemented. This AT Plan is no different, envisioning implementation over the next 20 years, with recommended updates to this plan occurring every five years.

There are several inter-agency alignments made possible through this evolution of MVRPC's bikeways planning process. At the local level, an AT Plan can be leveraged to directly support the work of our transit agency partners: Greene CATS Public Transit, Miami County Public Transit, Warren County Transit Service, and Greater Dayton Regional Transit Authority (GDRTA) to carry out their missions as providers of transportation services throughout the Miami Valley. The AT Plan is also aligned with the state-level bicycle and pedestrian plan, Walk.Bike.Ohio (WBO), which was developed and adopted by the Ohio Department of Transportation in 2021. It is also aligned with Miami Valley Coordinated Public Tranist-Human Services Transportation Plan and Council as it supports first and last mile connections to public transit systems. Finally, this AT Plan will better position the Miami Valley Region to secure funding for bicycle, pedestrian and transit access that will become available under the federal Infrastructure Investment and Jobs Act of 2021 - this includes development of a "Complete Streets Prioritization Plan" as described in this legislation.

The intention with this plan is to better align MVRPC planning and project selection with the goals of the WBO policy plan. There are six WBO goals which are designed to guide state investments in bike and pedestrian transportation infrastructure and programs and seeks to ensure that the benefits of non-motorized transportation are available to all Ohio residents to benefit their health, safety, and overall mobility. The six WBO goals are: equity, network utilization, network connectivity, safety, livability and preservation.

Longer term, this AT Plan will result in better alignment with the U.S. Department of Transportation's National Roadway Safety Strategy (NRSS)[3]. Announced in January of 2022, the NRSS adopts a "Safe System Approach" to reduce roadway fatalities and serious injuries to zero. The federal actions called for in the NRSS will take years to achieve and more years beyond that to be felt on the ground, but many proposed actions can be expected to have beneficial effects for active transportation.

Key goals related to active transportation in the NRSS include:

- Encourage states and MPOs to use planning funds to develop Complete Streets policies and prioritization plans.
- Updates to the Manual on Uniform Traffic Control Devices (MUTCD) "to promote the safety, inclusion, and mobility of all users and provide for the protection of vulnerable road users."
- Incorporate Complete Streets criteria in Federal grant opportunities.
- Incorporate lighting as a key design factor for roadway upgrades into Complete Streets implementation.
- Involve transit providers in Complete Streets implementation activities to support safe walking, biking, and rolling to stops and stations.
- Revise FHWA guidance and regulations to take into account the safety of all users by encouraging the setting of context-appropriate speed limits and creating roadways that help to "self-enforce" speed limits.
- Develop and improve the information available for setting speed limits through Proven Safety Countermeasures and the MUTCD, providing a range of methodologies depending on the context of the roadway.

Over time, the Safe System Approach will change the default planning and design approaches and result in safer, complete streets. Ideally, the Miami Valley Region and individual local governments will be better positioned to meet new federal requirements emerging from the NRSS and access federal funding with the priorities and policies recommended in this AT Plan.

Walk.Bike.Ohio

Walk.Bike.Ohio (WBO)[4] is Ohio's first statewide pedestrian and bicycle plan, which provides a roadmap for overcoming challenges and capitalizing on opportunities as the state moves towards creating a more walkable and bikeable Ohio. WBO documents the current performance of Ohio's transportation system with respect to active modes of transportation (walking and bicycling) and outlines goal areas that set the stage for increased collaboration between the Ohio Department of Transportation (ODOT) and its partners. For the first time, this plan defines short-term activities (strategies and actions items) that ODOT will provide resources and leadership in advancing, impacting transportation policies, investments, infrastructure and programs for years to come.

CHAPTER 2

Vision & Goals

Vision

Through a facilitated process with the AT Plan Steering Committee, MVRPC staff developed a comprehensive vision statement for the plan, and four goals by which to measure success of the plan and its implementation over the coming years. The vision statement describes the intended outcome of successful implementation of the AT Plan. The Steering Committee came to consensus on the following vision statement for this plan:

The Miami Valley's Active Transportation network provides safe and equitable walking, biking and transit connections which enhance access to opportunity, well-being, environmental benefits, and quality of life for all.

Members of the AT Plan Steering Committee were surveyed to inform the development of the vision statement themes and concepts they felt were most important for the plan. Figure 2 reflects the survey options and the results of the exercise. The top four results were used as concepts to develop the vision statement for the plan.

KEY CONCEPTS THAT SHOULD BE INCLUDED IN THE VISION:

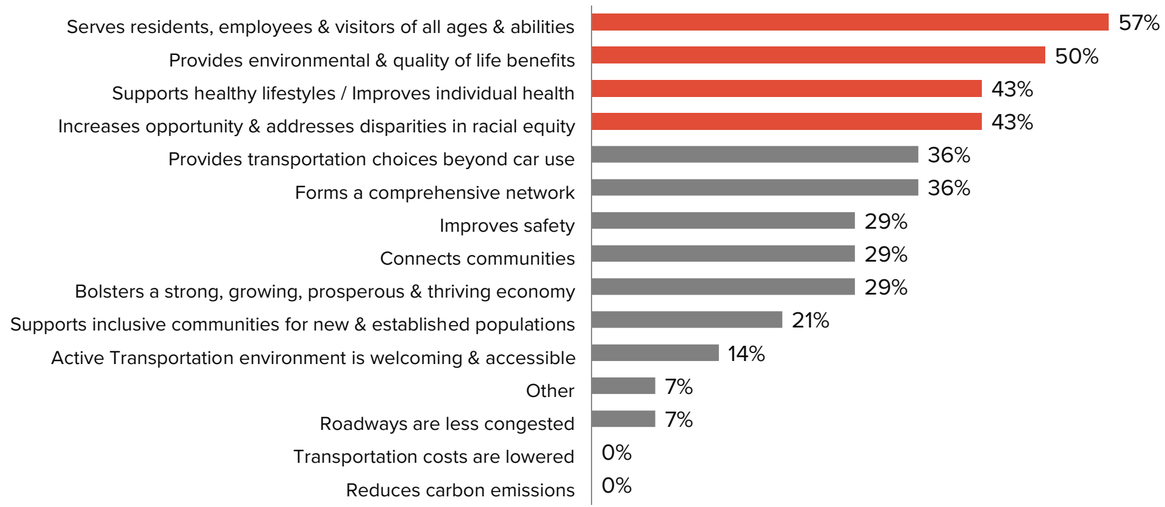


Figure 2: AT Plan Steering Committee Survey Results

Goals

The plan's vision and goals were established to guide the planning process and to direct implementation of the plan. The goals reflect specific target areas with performance measures to monitor the progress towards achieving each goal. Figure 3 reflects the four key concepts identified by the AT Plan Steering Committee which helped establish the vision statement and inform the development of the goals of the plan:

KEY CONCEPT	MEASURABLE GOAL	DATA SOURCE & BASELINE
Serves residents, employees & visitors of all ages & abilities	Increase accessible pedestrian and bicycle routes in areas identified as "High Demand" for active transportation infrastructure	**Walk.Bike.Ohio High Demand Analysis:** See Existing Conditions analyses for bike and pedestrian facilities in Chapter 5
Provides environmental & quality of life benefits	Increase the sum of walk, bike and transit commute mode shares	**American Community Survey:** Sum of walk, bike and transit commute mode shares identified by the 2019 American Community Survey (ACS)[5] is 2.4%
Increases opportunity & addresses disparities in racial equity	Increase accessible pedestrian and bicycle routes in areas identified as "High Need" for active transportation infrastructure	**Walk.Bike.Ohio High Need Analysis:** See Existing Conditions analyses for bike and pedestrian facilities in Chapter 5
Supports healthy life styles / improves individual health	Reduction of chronic disease rates (by county), and fatality/injury rates resulting from bike and pedestrian crashes (regionally)	**2019 Community Health Needs Assessment & MVRPC 2017-2019 Crash Analysis:** 235 bicycle-motorist and 487 pedestrian-motorist crashes for the 2017-2019 period. The regional CHNA[6] has the most recent chronic disease and health outcome data to compare across counties in the Miami Valley Region

Figure 3: Regional Active Transportation Goals

Serves residents, employees & visitors of all ages & abilities

The plan will focus on serving residents, employees and visitors of all ages and abilities by increasing accessible pedestrian and bicycle routes in areas identified by WBO as “High Demand” areas for active transportation infrastructure. The WBO High Demand Analysis completed a very detailed review of multiple factors to establish areas of high active transportation demand at the Census block group level. “Demand” in this case references the density of destinations that are located in the block group that can be expected to attract active transportation trips. Proximity of educational facilities, retail/commercial job centers, and parks were factors in this ODOT-led analysis. This goal will track the development of active transportation infrastructure in the “High Demand” locations within the Miami Valley. For more information about the WBO High Demand Analysis, see Chapter 5.

Provides environmental & quality of life benefits

In order to improve environmental and quality of life benefits for the Region, the plan will focus on increasing the sum of walk, bike and transit commute mode shares identified by the 2019 American Community Survey (ACS); therefore increasing the total active transportation commute modes for the region. The Miami Valley is a very automobile-dependent region. Journey to work data from the 2019 five year ACS shows fully 83 percent of commutes within the Miami Valley were accomplished by driving alone in an automobile. Carpooling represented 8.1 percent of commutes; public transportation represents 1.9 percent of commutes; and 3.7 percent worked from home. Walking, biking and transit combined represents only 5.5 percent of commutes in the Miami Valley. While daunting, the high percentage of single-occupant-vehicle (SOV) commutes represents an opportunity to move the needle for active transportation in the Miami Valley. At 1.9 percent of commute trips, transit use in the Miami Valley also comes in below the national and Ohio statewide average for transit mode share. This goal will assess trends in active transportation mode use for Miami Valley.

Increases opportunity & addresses disparities in racial equity

A key priority of the plan is to increase access to opportunity and address disparities in racial equity for the regional active transportation network. In order to improve both access and equity within the Regional network, the plan will target adding accessible pedestrian and bicycle routes in areas identified by WBO as “High Need” areas for active transportation infrastructure. The WBO Needs Assessment completed a very detailed analysis of multiple factors to establish areas of high active transportation need at the Census block group level. “Need” in this case references the density of populations of Ohio residents that have been historically disadvantaged or are otherwise considered vulnerable to unsafe, disconnected, or incomplete active transportation networks. Block group based estimates of populations such as minority groups, youth, older adults, people living in poverty, people with limited English proficiency, people without a high school diploma and zero-car households were factors in this analysis. This goal will track the development of active transportation infrastructure in the locations where populations identified as high need live in the Miami Valley. For more information about the WBO High Demand Analysis, see Chapter 5.

Supports healthy lifestyles / improves individual health

To support both healthy lifestyles and improve individual health, the plan will target a reduction of chronic disease rates by county and bike and pedestrian crashes and fatalities for the entire region. A key benefit of strong active transportation system is overall health improvements derived from regular physical activity and a reduction of many chronic disease conditions especially through increased physical activity in daily tasks. Therefore increasing access to active transportation for personal trips can be an easy, time-saving path to getting recommended levels of physical activity each week. This goal will monitor trend data regarding chronic disease, traffic injuries and deaths to document broad public health benefits across the Miami Valley through tracking pedestrian-motorist crash trends and monitoring local community health assessments.

CHAPTER 3 :

Benefits of Active Transportation

Benefits of Active Transportation

Active transportation, such as walking and biking, has multiple benefits not only to the individual but to the community as a whole. Creating a more walkable and bikeable community directly aligns with traditional goals and metrics of metropolitan transportation planning such as reducing traffic congestion and reducing air pollution, while providing health, economic and mobility benefits for the entire Miami Valley Region.

Traffic Congestion Reduction

The MVRPC Long Range Transportation Plan (LRTP) includes congestion management strategies intended to reduce and minimize the duration and extent of traffic congestion throughout the Miami Valley. The plan specifically suggests the development of a connected and accessible bicycle and pedestrian network which provides High Suitability as a congestion management strategy for the Miami Valley Region.[7] Transit is also indicated as an important tool for managing traffic congestion.

Walk.Bike.Ohio estimates that an increase in walking and biking at just 1.1 percent would reduce total automobile trips by over 2.3 billion trips over a twenty year period, thereby reducing vehicle miles traveled by over 5.4 billion miles.[8] Walkable and bikeable places have a more compact development pattern which increases the mode share for active transportation and reduces vehicle miles traveled.[9]

Walk.Bike.Ohio estimates **increase in walking and biking by just 1.1% would reduce total vehicle miles traveled by more than 5.4 billion miles** over the next twenty years.

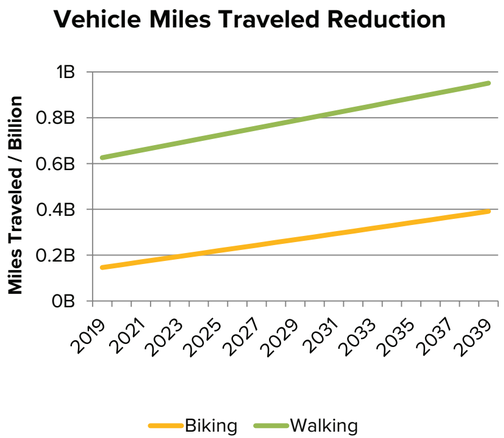


Figure 4: Walk.Bike.Ohio Economic Impact Analysis

Air Quality Improvements

A central requirement of metropolitan transportation planning in regions experiencing poor air quality is that the transportation plan must not contribute to worsening air quality over the life of the plan. This air quality conformity analysis has been a feature of MVRPC's LRTP for many years. Improvements in emissions technology on cars, fleet turnover, and congestion reduction strategies are the major players in reducing overall emissions from the transportation system.

Air pollution emitted from transportation contributes to smog, and to poor air quality, which has negative impacts on the health and welfare of U.S. Citizens. Pollutants that contribute to poor air quality include particulate matter (PM), nitrogen oxides (NOx), and volatile organic compounds (VOCs). PM of 10 microns or less are inhalable into the lungs while VOCs and NOx are poisonous gases emitted in the air. The transportation sector is responsible for over 55 percent of NOx total emissions inventory in the U.S. Additionally, mobile sources are responsible for less than 10 percent of VOCs and airborne particulate matter PM2.5 and PM10 emissions in the U.S.[10]

Transportation sources contribute 29 percent of greenhouse gas emissions in the U.S. – the largest single sector share in our economy, where 98 percent of GHG emissions comes from CO2.[11] Active transportation trips, to the degree they can replace car trips, are emission-free modes that increase mobility without increasing air emissions. The U.S. Environmental Protection Agency (U.S. EPA) estimates that if just half of all car trips shorter than a mile were accomplished by walking and biking vehicle miles traveled would be reduced by 5 billion miles, reducing emissions of CO2 by 2 million metric tons per year.[12]

U.S. EPA estimates that if 1/2 of all short car trips were accomplished by walking & biking, **vehicle miles traveled would be reduced by 5 billion miles, or 2 million metric tons of CO2 per year.**

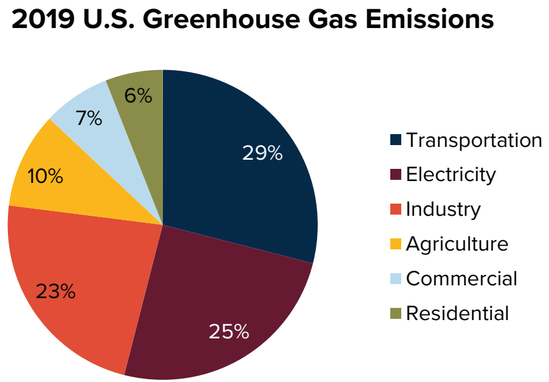


Figure 5: U.S. EPA GHG Emissions by Sector

Health Improvement

The Centers for Disease Control and Prevention (CDC) recommends adults get 150 minutes per week of physical activity. This activity can be broken up into smaller chunks of time throughout the week. Walking and biking are activities the CDC lists specifically as providing at least moderate intensity activity.

Active transportation creates an opportunity to integrate physical activity into individuals' daily activities, by doing something as simple as taking a bike or walk trip instead of a car trip several times per week. Surveys and studies have linked active transportation use with improved mental health as well. In addition to the mental health benefits of physical activity, a Portland study found that bicycle commuters had less commuting stress, due to reduced experience of congestion, higher commute satisfaction, and less arrival time anxiety.[13]

The local community health needs assessments for each county has the most recent chronic disease and health outcome data which were used to compare across counties in the Miami Valley Region. The Figure 6 includes data from the four counties, where Miami and Montgomery Counties experiences the highest rates of obesity, diabetes and heart disease.[14] These chronic disease rates will serve as baseline data for the fourth AT Plan goal as described in Chapter 2.

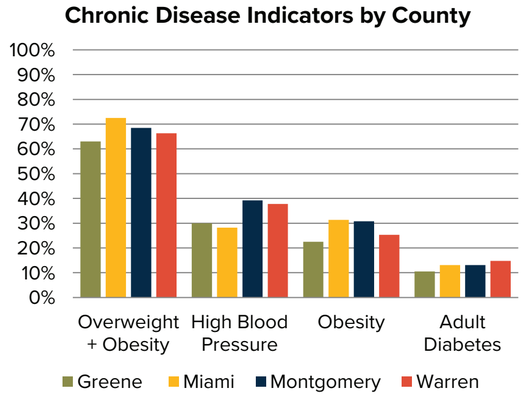


Figure 6: County Community Health Assessments

Economic Benefits

There are monetary benefits to a robust active transportation system to household budgets, community property values and economic activity. If access and use of strong active transportation network enables many households to reduce the number of vehicles owned, the savings can be substantial.

A February, 2021 Move.org report[15] estimates an annual national average car ownership cost at over $5,200. The annual cost of car ownership in the Miami Valley Region is slightly higher than national average, creating a significant expense for households. The Center for Neighborhood Technology's Housing and Transportation Affordability Index (H+T Index)[16] for the Miami Valley Region estimates the annual cost of $5,441 to own the vehicle and $1,713 to use a vehicle. The true cost of vehicle ownership is around $7,154 annually. Transportation costs account for around 25 percent of household income. If a household reduces the number of cars they own and adds active transportation to their transportation mix, this could offer real savings for residents.

The Redfin real estate article from February 2020[17] reviewed over one million home sales and found walkable homes were valued 23.5 percent more than non-walkable homes. Walkable was defined as having a walk score of 51 or greater. The premium averaged out to $77,668 nationally. A previous study from the same organization found in 2016 that, on average, each additional walk score point raised a home sale price by 0.9 percent.[18] The effect of additional walk score points is greater at the higher end of walkability.

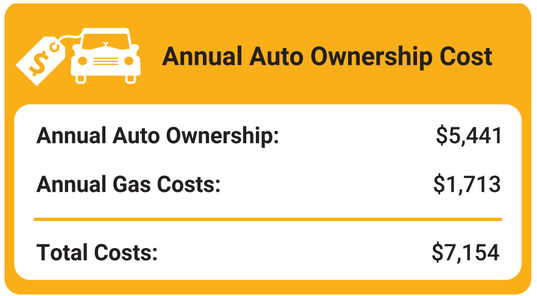


Figure 7: Center for Neighborhood Technology Index

The National Complete Streets Coalition (NCSC) published a broad analysis of the outcomes of 37 Complete Streets projects in 2015.[19] For a subset of these projects, data were available about employment, business impacts, private investment, and property values. From the projects and communities with available data, NCSC found that employment levels rose, and communities reported a net increase in new businesses along complete streets. Eight of ten communities reported an increase in property values after a complete street project and eight communities reported that complete street projects were at least partly responsible for increased private investment in a corridor.

Public investments in active transportation infrastructure, accessible sidewalks, bike facilities, transit facilities and services, can result in positive economic outcomes for the community.

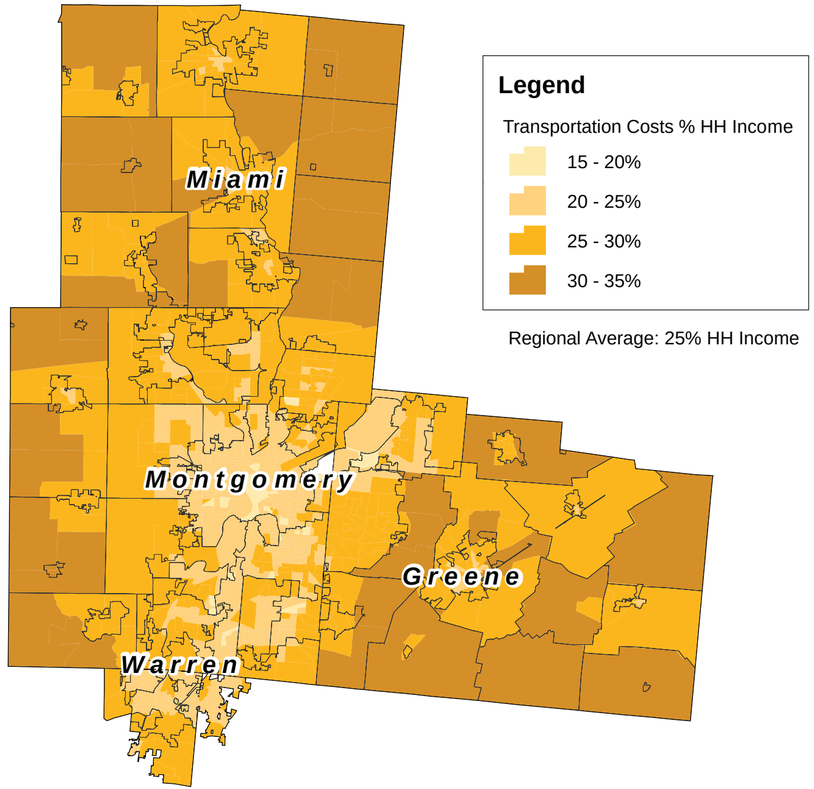


Figure 8: Center for Neighborhood Technology Index

Increased Mobility

Active transportation is a universal transportation option which is especially critical for those who cannot or are unable to drive such as children, individuals with disabilities, older adults who cannot or are unable to drive, as well as families who cannot afford a vehicle. Active transportation will continue to be a critical mobility option as we prepare for changing demographic and cultural shifts in our future.

For the first time in history, there are more older adults over age 65 than children under 18. By 2030, 1 out of 5 individuals will be 65 or older in the U.S.[20] Aging can cause the ability to drive independently to be difficult due to slowed reaction time, increased health conditions and decreased financial resources. Additionally according to the Federal Highway Administration, from 1983 to 2014, the share of 16-year-olds with a driver's license dropped 47 percent reflecting a sharp decline and interest in young people getting their driver license.[21] Therefore the increase in the population of older adults, combined with fewer young drivers getting drivers licenses, reflects there is an increasing need for alternative transportation options such as transit and active transportation.

By 2030, 1 out of 5 individuals will be 65 and older, reflecting older adults will outnumber children for the first time in history.

Demographic Shift of Miami Valley Region

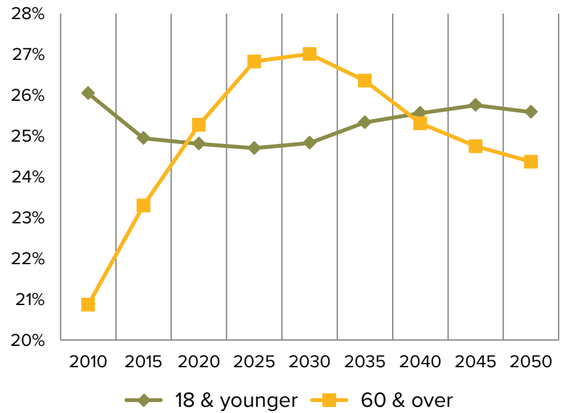


Figure 9: Miami University Scripps Gerontology Center Data

CHAPTER 4 :

Community Engagement

Public Engagement

The Miami Valley Regional Planning Commission conducted a month-long series of public input meetings and focus groups to receive public input regarding current conditions and proposed improvements for walking, bicycling and transit access.

The majority of the public input sessions were conducted in an open house format at public libraries across the Region, supplemented with maps and an online survey, as well as a focus group with the Miami Valley Chapter of the National Federation of the Blind to learn more about their specific needs.

Dates and locations of input sessions:

- November 1, 2021 Trotwood Branch Library
- November 3, 2021 Springboro Public Library
- November 5, 2021 Regional Bikeways Committee
- November 8, 2021 Centerville Public Library
- November 8, 2021 Troy-Miami County Public Library
- November 9, 2021 Fairborn Community Library
- November 16, 2021 Dayton Metro Main Library
- November 23, 2021 Xenia Community Library
- November 30, 2021 Milton-Union Public Library
- December 8, 2021 National Federation of the Blind

Online Survey

An online public opinion survey was designed to provide opportunities for residents across Greene, Miami, Montgomery and northern Warren County to share their perception of walking, cycling and transit access in their communities. The survey was distributed widely as a flyer on public buses and transit facilities, local libraries, senior centers and other local institutions, as well as published in major news sources and local social media platforms across the Region. Despite the outreach efforts, the public opinion survey produced only 62 responses. As a result, it is hard to draw strong conclusions from the sample size. A summary of the full survey results can be found in the Appendix on page 137.

The Active Transportation Survey asked respondents to identify their primary sources of transportation and why they may choose to walk or bike. The general results indicated respondents identified bicycling as a more practical form of transportation than walking. Conversely, the respondents consider walking to be an activity more related to health or fitness.

The survey asked respondents what are your primary source(s) of transportation, providing multiple choices to pick from (Figure 10). It also provided a list of destination types and asked how often the respondent walked or biked to those destinations. Parks, stores, transit, personal visits, and school/daycare were more popular destinations to walk to than to bike, while work/school, errands, and faith-based communities were the more popular biking destinations. The results of the survey indicates the important role of walking and biking in daily travel which is often not recognized by the general public as a mode of travel.

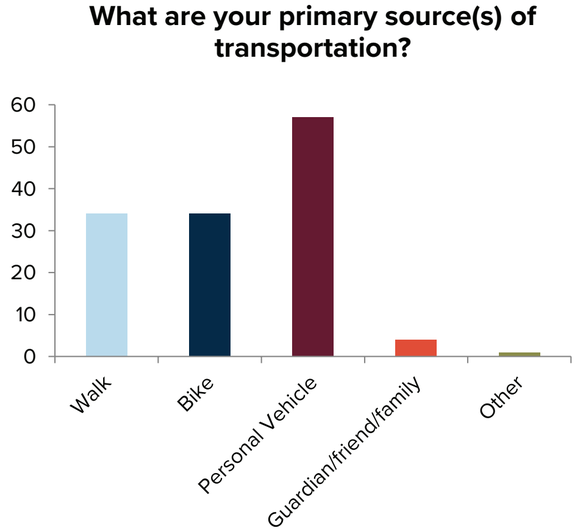


Figure 10: Survey Results - Primary Source of Transportation

Another series of questions asked what would encourage respondents to walk or bike more. The top responses for increasing both walking and biking is providing better lighting and maintained sidewalks, adding more bike lanes on busy streets and neighborhoods and adding more destinations within walking or biking distance.

Suggestions related to walking – lighting and sidewalk repair – are elements that can be included in transportation projects, which may increase use of pedestrian infrastructure on the Region's roads. Roadway lighting is specifically addressed in U.S. Department of Transportation National Roadway Safety Strategy as a critical intervention to increase safety (page 148).

Other suggestions related to biking speak to bicyclists' preference for separation from motor traffic. This was clearly indicated by the public survey conducted for the Miami Valley Bike Plan Update 2015. The hierarchy of preferences – from separated bike paths, to bike lanes on busy streets, to more routes on neighborhood streets – speaks to the desire for safety that separation from traffic provides. Finally, "slower vehicle traffic" is also a direct call to improve safety for cycling from the survey respondents. The complete set of survey responses can be found in the Appendix of this plan.

Suggestions relating to both walking and biking – more destinations within walking or bike distance – touch on land use planning. The Going Places Land Use Visioning process conducted by MVRPC recommended a "concentrated development" pattern to minimize infrastructure investment and protect natural resources, such as prime farmland and open space. Concentrated development would also facilitate active transportation use by shortening distances between destinations.

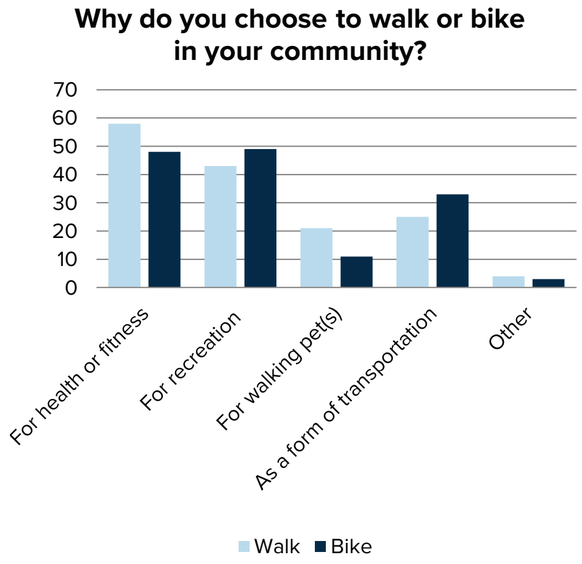


Figure 11: Survey Results - Why You Choose to Walk or Bike

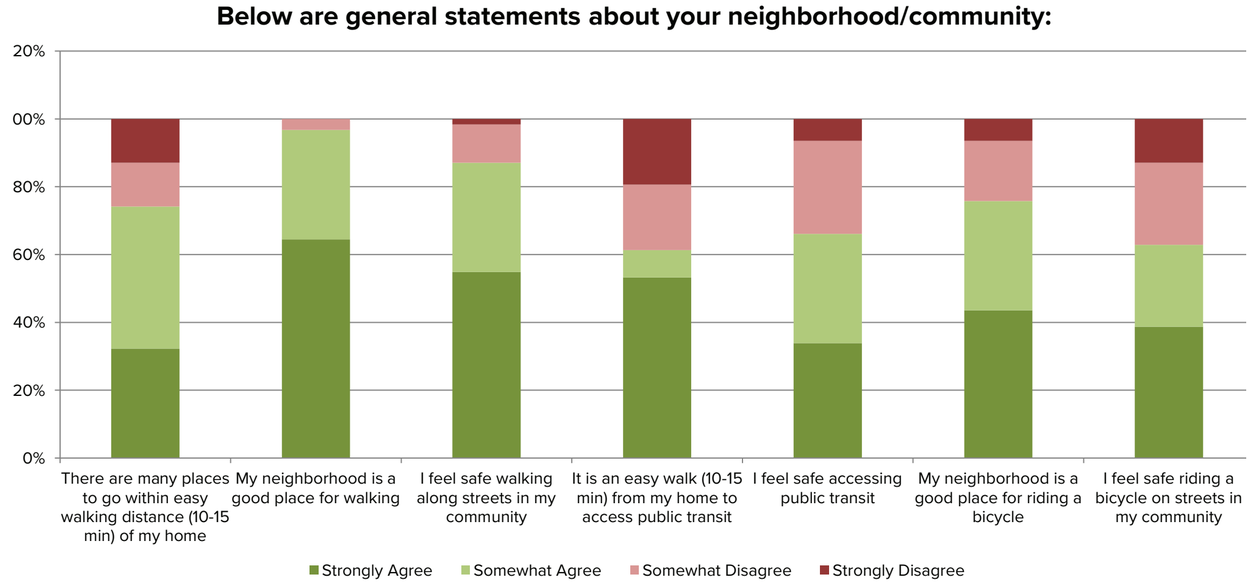


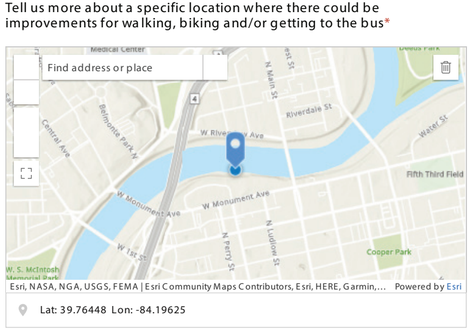
Figure 12: Survey Results - General Statements About Your Community

Online Comment Map

An online comment map provided through ArcGIS Survey 123 was created as a supplement to the online survey and in person input sessions. The comment map was designed to allow respondents to highlight location-specific issues and make improvement recommendations for walking, biking and/or getting to the bus. Those using the online survey were able to select a category that described the nature of the input being provided. General categories such as improving safety, adding signage could apply to either mode. Inputs collected in the physical maps were added to a GIS geodatabase, categories were assigned as appropriate by MVRPC staff, and later created into project recommendations. Inputs collected on the physical maps at the public input sessions were added to a GIS geodatabase, categories were assigned as appropriate by MVRPC staff, and later contributed to development of project recommendations.

A total of approximately 185 unique mapped comments were received, where duplicate comments have been combined in to single comments. Verbal comments received during the National Federation of the Blind focus group session were also translated into mapped locations.

The majority of the map inputs by the public were comments related to bicycling infrastructure, which is intuitive due to the local nature of walking for transportation, compared to cycling which can serve trips between communities. By contrast, many of the transit access-related comments were pedestrian focused.



Summary of the mapped public comments

- Comments and suggested improvements came from all parts of the MVRPC transportation planning area (MPO area).
- Most comments reflected conditions within the urbanized area of the Region, in locations where active transportation is more likely to occur.
- Pedestrian related comments for new infrastructure were equally divided between “Add sidewalk” and “Add crosswalk,” indicating crossings are as important to pedestrians as walking along corridors.
- Bicycle related comments for new infrastructure were decidedly in favor of separated facilities. Comments indicated preference for separate bike paths while only a handful recommended adding a bike lane.
- Overwhelmingly, inputs suggesting safety improvements were associated with pedestrian facilities.
- The ODOT Walk.Bike.Ohio process developed data at the Census block group level to identify “High Need” areas where populations are likely to be more reliant on active transportation. Of the public input suggestions the majority of project recommendations are located within block groups in the highest quartile (top 25 percent) of need.
- MVRPC staff compared submissions from the public to the intersections and segments analyzed in the Pedestrian Crash Risk Assessment (PCRA). Half of the suggestions were at higher risk score intersections or segments. Another quarter of the suggestions were at along higher risk score segments or included higher risk score intersections.

Comments by County

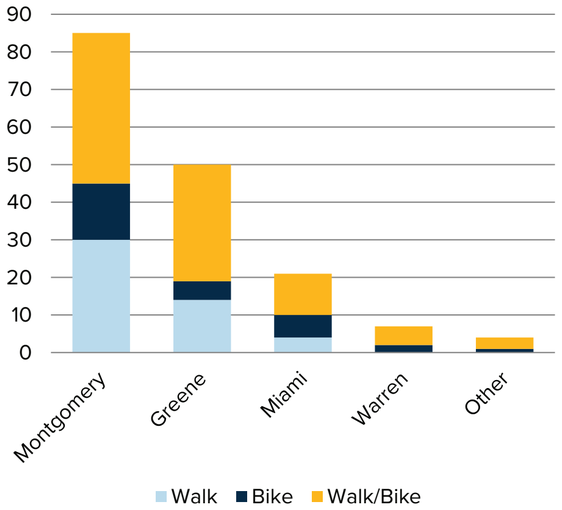


Figure 13: Online Map Comments by County

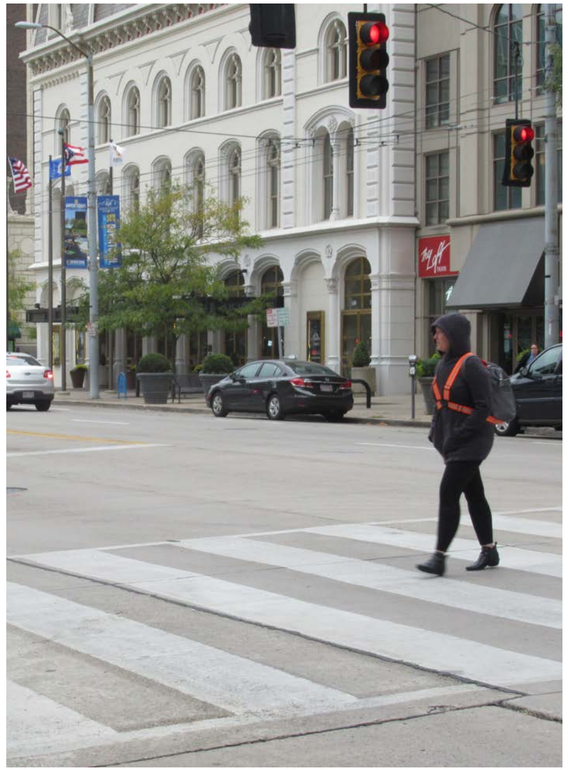
Broad themes from the public input process were used to guide project and policy prioritization for the overall AT Plan:

Urban/Rural

The urbanized area of the Region is where most active transportation trips are likely to take place. Continued and increased emphasis of the importance of complete streets elements in future projects in these areas will have better return on active transportation investment. That said, safety and connectivity of local pedestrian networks in rural villages, and continued development of connecting bikeways in rural parts of the Region will benefit all, as well.

Pedestrian Facilities

It will be important in the future to emphasize pedestrian crossings equally with sidewalks and paths in evaluating projects and roadway design.



Bicycle Facilities

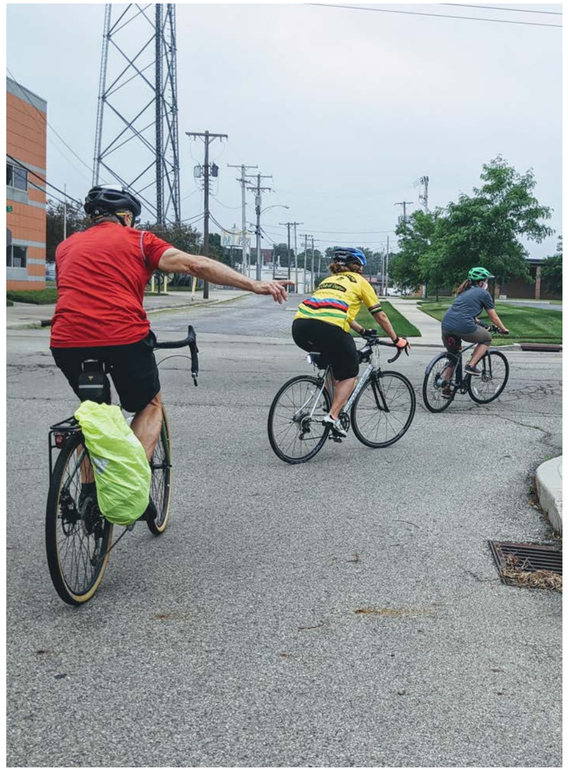
Building on findings from the Miami Valley Bike Plan Update 2015, we see a continued preference for separated facilities for bicycling. Protected bike lanes, shared use paths and side paths in some contexts should be incorporated preferentially into complete streets project designs as opposed to shared lanes or ordinary bike lanes.

Safety

Safety concerns can be a barrier to walking. As of 2021, there was a 13 percent increase in pedestrian roadway fatalities caused by cars and trucks compared to 2020 according to U.S. DOT.[22] Design choices that give preference to safety over vehicle speed or congestion reduction should be emphasized to reduce safety concerns.

Populations

Locations with the highest proportions of people who rely on active transportation garnered a disproportionate share of the suggestions from the public input process. Census block groups identified as having high active transportation need should receive increased active transportation infrastructure investment to improve safety and convenience of active modes.



Trail User Survey

In partnership with ten trail managing agencies or advocacy groups across the greater Miami Valley, MVRPC coordinated a month-long trail user survey at various locations along the Miami Valley Trails in August and September 2021. In total 1,715 responses to the survey were received, of which 1,158 were from respondents who reported residing in Greene, Miami, Montgomery, or northern Warren County.

The Trail User survey is specific to residents using the shared use path system within the Region. Given the preponderance of cycling use on these trails, the survey is weighted towards cyclists. However, there are survey responses with some applicability to this Active Transportation Plan (AT Plan).

Responses to the demographic questions in the trail user survey highlight the fact that the Region's trail users are a particular subset of the Region's overall population. Nearly two-thirds (60 percent) of trail user survey respondents reported their age as 46 or older. American Community Survey (ACS) data from 2019[23] estimates that in Greene, Miami, Montgomery and northern Warren County, the share of the population aged 45 or older is 43 percent. Similarly, among trail user survey respondents who responded to the question asking to identify their race, 89 percent reported White, while the ACS 2019 estimate shows the Region as 79 percent White. Reported household income showed a similar result. Sixty percent of trail user survey respondents reported a household income of $75,000 or more. ACS data indicates that the median household income in the Dayton-Kettering Metropolitan Statistical Area (MSA) is $57,631. Overall, these survey responses indicate that the typical trail user is older, has a higher income and more likely to be White than the average resident of the Region. It is reasonable to infer the relative lack of trail access in the areas of the Region where households with low income or persons of color live may contribute to this difference in demographics for trail users. An emphasis on adding trail and improving access in these areas is one way this AT Plan can contribute to shifting these differences towards greater equity.

A total of 6 percent of survey respondents from the MPO counties indicated that "Commuting" was among the reasons they used the Miami Valley Trails. This group of commuting trail users reported using the trails more frequently than the survey population as a whole (74 percent reported using the trails "3 to 5 days per week" or "Daily" versus 50 percent for all respondents) while reporting more short duration trips on the trails (7 percent reported using the trail for 30 minutes or less compared to 3 percent of the full survey population). Even with the shorter usage, these Trail Commuters are likely accomplishing a large part (if not all) of the recommended weekly physical activity simply by getting to work or school. More than half of MPO residents surveyed (55 percent) got to the trail by an active transportation mode – biking (413), walking (214), or transit (8). Also, more than half of MPO residents (63 percent) who bike on the Miami Valley Trails reported that they also bike on roads.

Finally, among all respondents, 34 percent took the survey in a county different from the county in which they live. Of course, some trail users drive to another county to use the trails. When looking only at those respondents who got to the trail by an active mode (walk, bike, or transit) that figure drops to 28 percent. Still, roughly two out of seven trail users are using the trails for county-to-county trips.

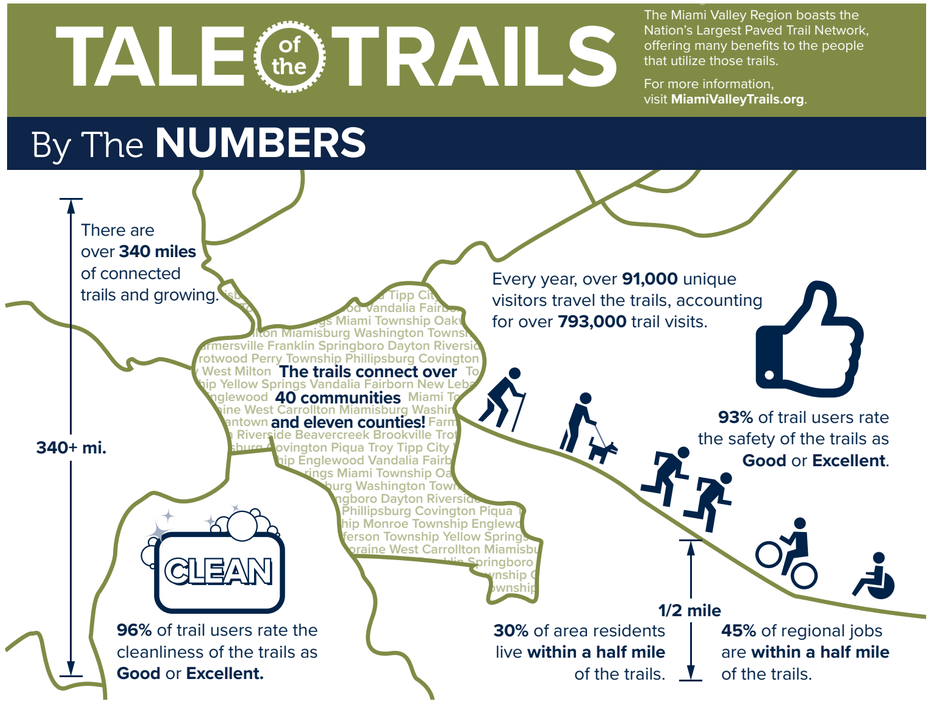


Figure 14: MVRPC Trail User Survey Infographic 2017

CHAPTER 5 :

Existing Conditions & Network Analysis

Existing Conditions

The AT Plan for the Miami Valley Region includes counties in southwest Ohio covering Montgomery, Miami, Greene and northern Warren Counties, including the municipalities of Carlisle, Franklin, Springboro, and Franklin Township. This chapter examines our Region's active transportation ecosystem including existing active transportation infrastructure, plans and policies and from various perspectives including equity, safety, and connectivity.

Pedestrian Network

Sidewalks are consistently present along most centerline streets miles within the urbanized area. An analysis of current MVRPC sidewalk data indicates that approximately 70 percent of street and road centerline miles within the urbanized area have sidewalk on at least one side. This figure excludes limited access highway miles where pedestrians are not permitted. Communities with significant roadway miles that are not served by sidewalk include Beavercreek, Clayton, Harrison Township, Miami Township (Montgomery County) and Washington Township. Additionally, the portion of Jefferson Township that is in the urbanized area has very few roads served by sidewalks.

Not unexpectedly, sidewalk infrastructure in the region's rural areas is only found within village boundaries. Cedarville, Covington, Farmersville, Germantown, Jamestown, New Lebanon, and Yellow Springs are villages with well-developed sidewalk networks. Even some of the very smallest villages in the Region – Bowersville, Casstown, Fletcher, Laura, Ludlow Falls, Potsdam, and Spring Valley have some sidewalk to serve internal mobility. The distances between these rural communities makes inter-village pedestrian travel impractical; non-motorized travel between these locations is more sensibly a bicycle trip.

This AT Plan sets measurable goals for development of pedestrian facilities (see Chapter 2) within the High Need and High Demand locations as developed by the Ohio Department of Transportation's Walk.Bike.Ohio (WBO) process. Based on the current set of sidewalk data, this goal will be tracked using total miles of sidewalk in the areas scoring three or four in the WBO analyses. Baseline figures for this goal are as follows:

- Based on currently available sidewalk data, there are a total of 2,294 miles of sidewalks within the WBO High Need Census block groups. The majority (61 percent) of these miles are found in the level three High Need areas. (see Figure 17: WBO High Need Map)
- Within the WBO High Demand Census block groups sidewalk miles total 2,432. Sidewalks in the High Demand areas are more common in the level three areas, where 61 percent of these sidewalk miles are found. (see Figure 18: WBO High Demand Map)

MVRPC staff developed simple sidewalk line data in 2016 from aerial photography. No comprehensive update of this data has been conducted since, though some localized additions have been made. For purposes of tracking these goals, MVRPC will undertake a review and update of Regional sidewalk data as an implementation step for the AT Plan. This data does not include characteristics such as width and condition, which would be needed to describe the quality of the sidewalks in various communities in the Region.

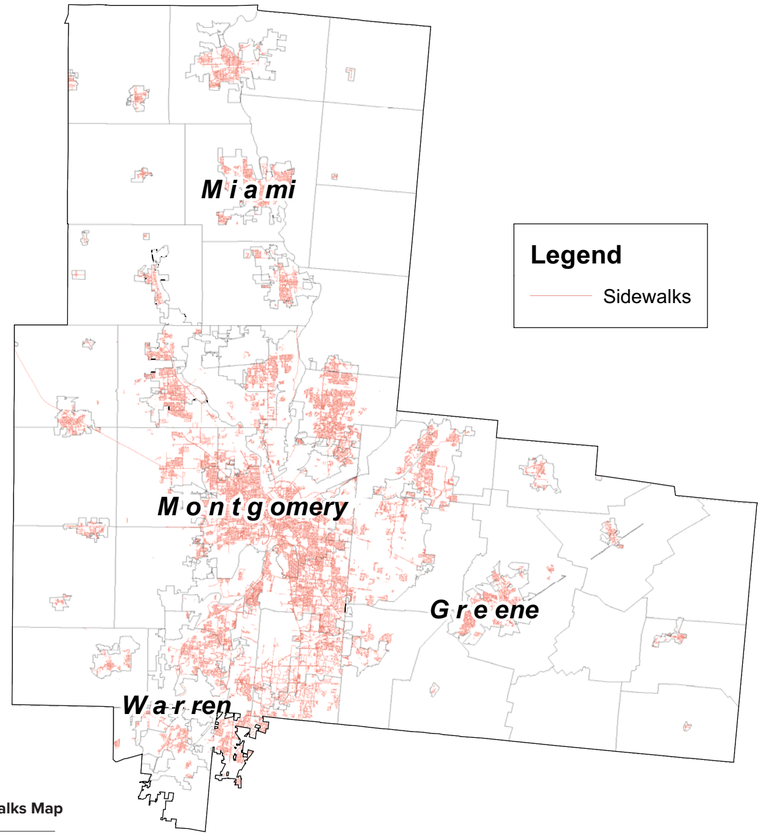


Figure 15: Existing Sidewalks Map

Bicycle Network

The regional network of shared use paths and regional on-road bike routes, commonly known as the Miami Valley Trails, serves communities in all counties of the region. Totaling over 350 miles of bikeways these routes include rail-trails, river-corridor trails and more recently, on-road routes that make critical connections where separated facilities were not an option.

MVRPC staff tracks development of local bike facilities, particularly those connecting to the regional bikeways network. Existing local bikeways total over 255 miles of facilities across the planning area. These include bike lanes, sidepaths, “sharrow” routes and signed bike routes. In addition, MVRPC tracks over 150 miles of proposed local bike facilities. These facilities are in differing levels of planning with some already funded and others which are proposals without a timeline or identified funding.

This AT Plan sets measurable goals for the development of bicycle facilities (see Chapter 3, Vision and Goals) within the High Need and High Demand locations as developed by the WBO process. Based on the current bikeway GIS data, this goal will be tracked using total miles of existing bikeways in the areas scoring three or four in the WBO analyses. Baseline figures for this goal are as follows:

- There are a total of 204 miles of bikeways in the within the WBO High Need Census block groups. The majority (61 percent) of these miles are located in level three High Need areas. (see Figure 17: WBO High Need Map)
- Within the WBO High Demand Census block groups bikeway miles total 209. Blkeways in the High Demand areas are more common in the level three areas (57 percent). (see Figure 18: WBO High Demand Map)

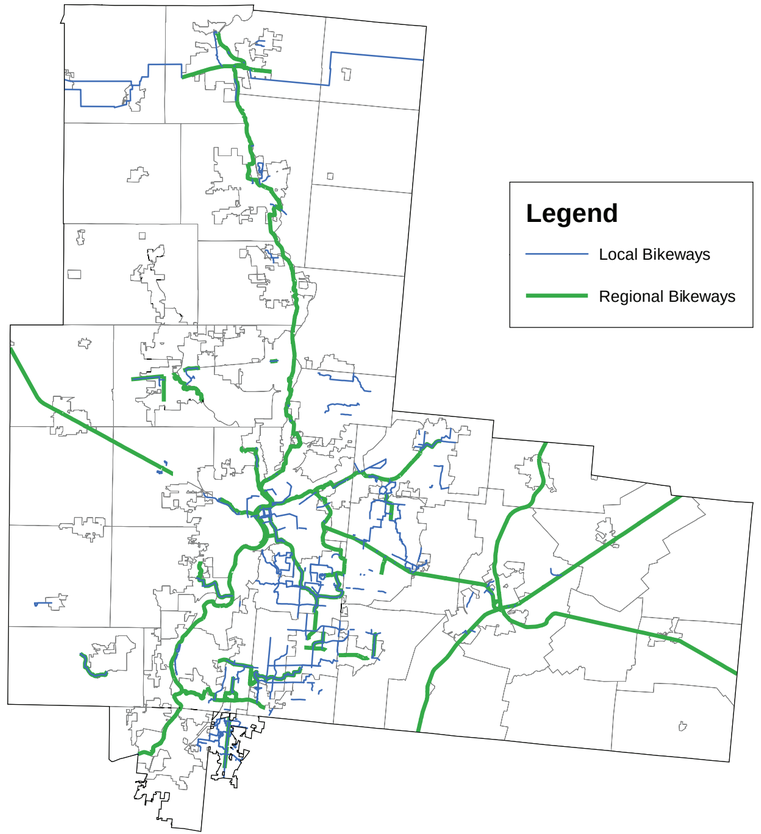


Figure 16: Existing Bikeways Map

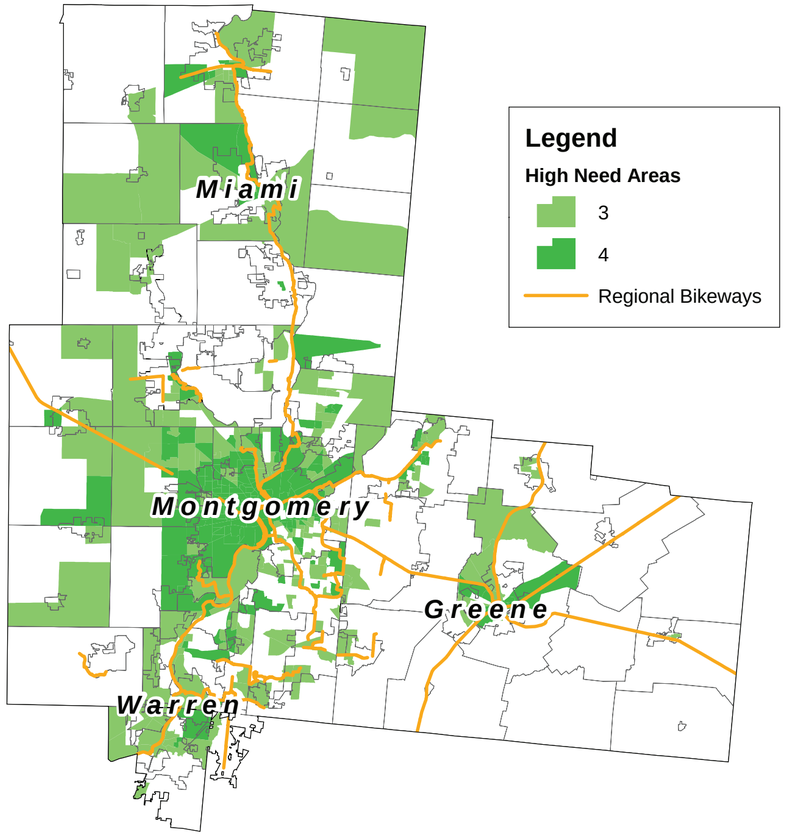


Figure 17: WBO High Need Map

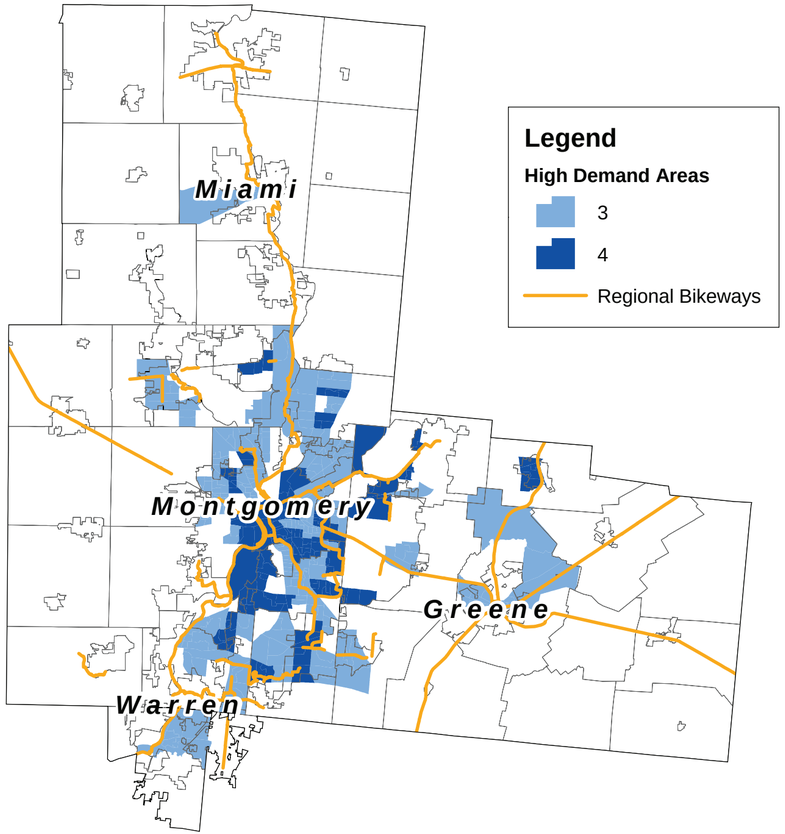


Figure 18: WBO High Demand Map

Public Transit Network

Transit services in the MVRPC region significantly vary from county to county. Warren and Miami County use demand-response, door-to-door services. Demand-response services also exist in Greene County, including service into neighboring counties. Also, a flex route system is in operation serving much of the urbanized western half of Greene County with extensions into Montgomery County. Greater Dayton Regional Transit Authority operates a comprehensive fixed-route transit system, along with complementary paratransit services, in a service area that covers most of urbanized Montgomery County and extends into Greene County.

Greater Dayton Regional Transit Authority (GDRTA)

Greater Dayton RTA completed a comprehensive transit network redesign plan in 2020 called What Drives You. The current system is primarily on a fixed-route hub-and-spoke system where most transfers occur in downtown Dayton. Additionally, Greater Dayton RTA provides county-wide paratransit services, providing services three-quarters of a mile off fixed-route services, and has recently launched an on-demand door-to-door service in unserved and underserved areas. The future system redesign will focus on improving fixed-route connections from north to south and east to west, providing more direct trips and less transfers for passengers. It is anticipated Greater Dayton RTA will continue to implement many aspects of the plan in the coming years.

Greene CATS Public Transit

The current Greene CATS Public Transit system is a combination of traditional demand-response service and flex-route services. Flex-routes are defined routes with scheduled time points where an individual can flag a bus down by standing on the street and waving at the driver in locations where speed limits are 35 miles per hour or less. All of Greene CATS Public Transit services are wheelchair accessible and serves a mix of fare-paying and contract riders for various human service organizations. In addition, the Greene County Transit Board works with local social services agencies through its Mobility Management Program to help coordinate social service transportation and provide a wider range of transportation options to riders. Greene CATS Public Transit continues to see increasing demands for Non-Emergency Medical Transportation and continues to grow other contracts with various human service agencies across Greene County.

Miami & Warren County Transit

Both Miami County Transit & Warren County Transit Systems provide demand-response services for Miami and Warren Counties. Miami County Transit provides continued increases in benefits for local human service organizations. Many of these organizations have the opportunity to utilize Miami County Transit as a method of expanding existing programs. Miami County Transit has in the past looked into the option to create a county-wide flex route and if funds are available and there is a demand to sustain the need, may be a viable option in the future.

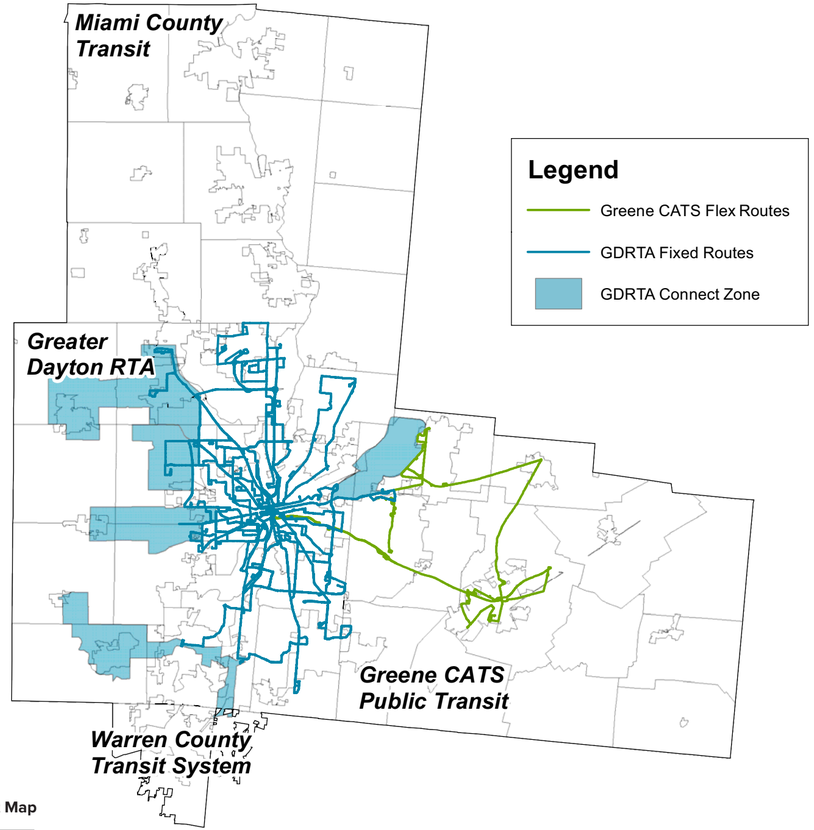


Figure 19: Existing Transit Map

Local Plans & Policies

The AT Plan builds on prior plans and policies developed by local jurisdictions in the Miami Valley. The plan reviews project recommendations and conditions data from local plans such as comprehensive plans, bike and pedestrian plans, ADA transition plans and Safe Routes to School Travel Plans. It also identifies and promotes local policies or supportive programs such as complete streets policies which are designed to promote and enhance active transportation systems.

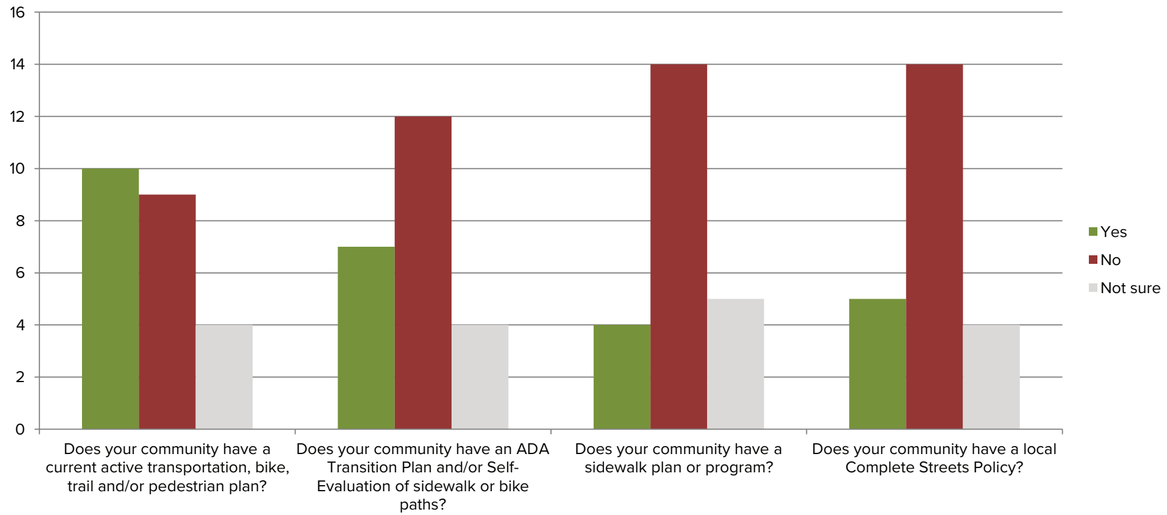


Figure 20: Local Plans & Policies Survey Results

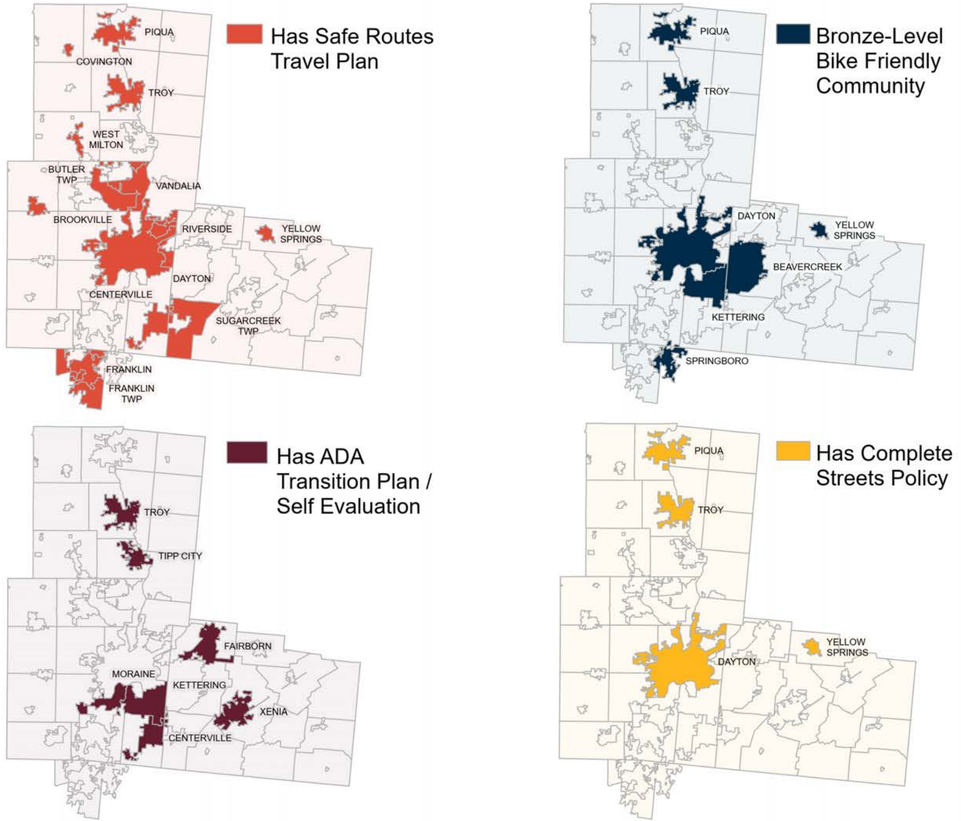


Figure 21: Local Plans & Policies Map

Bike & Pedestrian Plans

Bicycle and pedestrian plans establish a framework to increase walking and biking and improve connectivity of non-auto paths and trails in local communities. Plans typically include policies and planning methods to encourage active transportation.

Plans reviewed

Centerville Create the Vision Plan (2004)

Dayton Bicycle Action Plan (2011)

Fairborn Bikeway Plan (2017)

Kettering Bicycle Task Force Report (2013)

Piqua Placemaking Initiative (2016)

Springboro Bike & Pedestrian Plan (2020)

West Carrollton Bicycle Friendly Community Action Plan (2009)

Yellow Springs Active Transportation Plan (2019)

GREENE COUNTY PARKS & TRAILS

Greene County Master Trails Plan[24]

The Greene County Master Trails Plan is a long-range plan that takes a comprehensive approach to improving connectivity of the trail network across multiple jurisdictions in Greene County. The plan was developed through a process of broad public engagement, a review of existing plans and policies to identify key priorities for the county such as infrastructure projects, policies and programs. Such recommendations include encouraging local jurisdictions to adopt Complete Streets policies, engage local business owners and chambers of commerce to encourage trail use, improve trail wayfinding, and encourage projects, partnerships and programming that prioritize walking and biking as a viable form of transportation throughout Greene County.

Comprehensive Plans

A comprehensive plan is a long-range plan usually covering a 10 to 20 year planning period which generally is designed to guide the future development of a community. It presents a vision for the future and establishes long-range goals and objectives to work towards the future vision.

Thoroughfare plans are less comprehensive in scope, but provide an inventory of transportation facilities and list intended improvements or development of the facilities over a given time horizon.

Plans reviewed

Beavercreek Thoroughfare Plan (2019)

Bellbrook Comprehensive Plan (2019)

Clayton Comprehensive Plan (2018)

Fairborn Comprehensive Plan (2016)

Greene County Master Trails Plan (2021)

Huber Heights Brandt Pike Revitalization Plan (2017)

Kettering Comprehensive Plan (2002)

Miami County Trail Plan (2017)

Piqua Historic East Plan (2015)

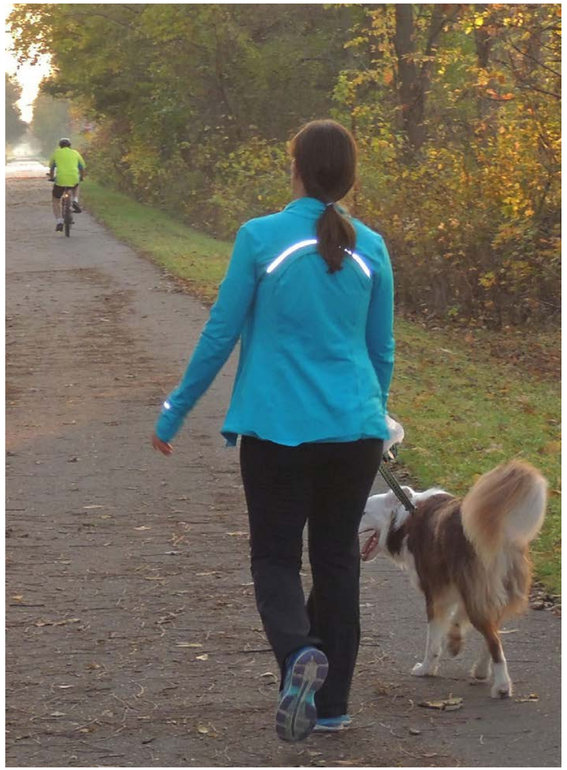
Springboro Draft Master Plan (2021)

Tipp City Thoroughfare Plan (2018)

Xenia Comprehensive Plan - X-Plan (2013)

Vandalia Comprehensive Plan (2020)

West Carrollton West Central Ave. Strategic Plan (2018)



ADA Self-Evaluation & Transition Plans

This Americans with Disability Act (ADA) Self-Evaluation and Transition Plan is intended to identify deficiencies in policies, procedures, practices and physical assets in community efforts to ensure programs, services, and facilities are all accessible. The ADA Transition Plan also provides guidance for the removal of accessibility barriers, outlines progress to date and identifies steps necessary to bring the community programs into compliance with ADA regulations.

Any construction or alteration of a public facility that provides access to pedestrians must be made accessible to persons with disabilities. Projects that alter the use of the public right of way that affects or could affect access, circulation, or use by affecting the structure, grade, or use of the roadway must incorporate pedestrian access improvements within the scope of the project to meet the requirements of the ADA. Alterations include reconstruction, major rehabilitation, widening, resurfacing, signal installation and upgrades, and projects of similar scale and effect.

Plans reviewed

Centerville ADA Transition Plan (2020)

Fairborn ADA Transition Plan (2021)

Kettering ADA Transition Plan (2016)

Moraine ADA Transition Plan (2020)

Tipp City ADA Transition Plan (2020)

Troy ADA Transition Plan (2020)

Xenia ADA Transition Plan (2019)

Springboro Bicycle + Pedestrian Plan[25]

The City of Springboro has a comprehensive local bicycle and pedestrian planning program including an active Bike/Pedestrian Advisory Committee, encouragement rides, walks and events, and educational programming in the winter months. Springboro updated its 2013 Bike and Pedestrian Plan in July 2020. With the 2020 plan, the city embraced the challenge of connecting residents and businesses to the Miami Valley Trails network by envisioning the “Springboro Central Greenway” – a trail corridor through the city linking to both the Great-Little Trail and the Great Miami River Trail (through Franklin). This local plan also addresses recreational cycling interests in the city with the “Boro Enduro” – a set of four off-road cycling experiences in city parks including BMX, a pump track, mountain biking, and a cyclo-cross course. Local plans like Springboro’s enable communities to assess and meet the active transportation needs of their residents in a direct way, with greater detail than the regional AT Plan can deliver.

Safe Routes to School Travel Plans

The Ohio Department of Transportation funds the development of the Safe Routes to School (SRTS) School Travel Plans. Any school building that houses instruction for kindergarten through high school students is eligible for funding to implement projects found in an approved School Travel Plan. The following communities or school districts have approved School Travel Plans within the Miami Valley planning area: Brookville, Centerville, Covington, Dayton, Franklin, Piqua, Riverside, Sugarcreek, Troy, Vandalia-Butler, West Milton, and Yellow Springs. MVRPC staff is participating in the planning process for a new School Travel Plan for the Beavercreek Schools. For the purposes of the AT Plan, only plans adopted in the past 5 years were reviewed.

Plans reviewed

Brookville SRTS Travel Plan (2018)

Dayton SRTS Travel Plan (2018)

Sugarcreek Township & Bellbrook SRTS Travel Plan (2018)

Yellow Springs SRTS Travel Plan (2019)

Bike Friendly Communities

The League of American Bicyclists manages a national program to recognize states, communities, universities and businesses that have adopted policies, programs and projects to become friendlier to bicycle use. Recognitions are at four levels, from Bronze to Platinum. Within the Miami Valley Region the following communities have been recognized as Bronze-level Bicycle Friendly Communities: Beavercreek, Dayton, Kettering, Piqua, Troy, Springboro, and Yellow Springs. There are no silver or higher communities in Ohio.

All of the bike friendly communities, except one, are situated along the Miami Valley Trails. The trails serve as a centerpiece of a community's efforts to encourage active transportation and healthy living. The exception, Springboro, is an excellent example of a community using planning and outreach to enhance bicycle networks in the city and develop connections to the Miami Valley Trails through coordination and cooperation with neighboring communities.

Bronze-Level Bike Friendly Communities

Beavercreek

Dayton

Kettering

Piqua

Springboro

Troy

Yellow Springs

Human Services Transportation Coordination (HSTC) Plan[26]

An MVRPC led effort to develop a regional action plan for improving transportation options for people with disabilities, older adults and people of low income. The HSTC Plan is designed to both enhance transportation for these populations and to increase coordination among public and private providers, expand services and resources, and improve public awareness of transportation options in Greene, Miami, Montgomery and northern Warren Counties. As the age and makeup of the Region's population continues to change, MVRPC and the Human Services Transportation Coordination (HSTC) Council will continue to work to meet ongoing and new needs.

Complete Streets

Local complete streets policies complement the MVRPC Regional Complete Streets Policy by ensuring consideration of all users and abilities in transportation designs on all roads – not just the roads for eligible for MVRPC funding. MVRPC encourages member jurisdictions to adopt a complete streets policy locally to ensure a consistent complete streets approach to local planning decisions and designs. MVRPC is aware of local complete streets policies in the following jurisdictions: Dayton, Piqua, Troy, and Yellow Springs. In addition, some community plans call for the adoption of a local complete streets policy, such as those of Bellbrook, Springboro, and Vandalia.

Plans reviewed

Piqua Complete Streets Policy (2013)

Troy Complete Streets Policy (2017)

Yellow Springs Complete Streets Policy (2017)

Photo credit: Austin Transportation Department

Network Analysis

The AT Plan is designed to review the existing active transportation system to better understand the safety, connectivity and equity of the network. Having an overall understanding is critical for ensuring project recommendations leads to network that provides safe and equitable walking, biking and transit connections which enhance access to opportunity, well-being, environmental benefits, and quality of life for all.

Review of crash trends and patterns identifies where there are crash risks and/or crashes that are currently occurring, which can lead to projects that have the greatest likelihood of improving safety for pedestrians and bicyclists. The Pedestrian Crash Risk Assessment and Pedestrian & Bicycle Crash Data analyses are especially important because in the Miami Valley and Ohio, bicycle and pedestrian fatalities have been increasing in recent years.

Additionally, the Level of Traffic Stress analysis provides an understanding of which types of roadways bicyclists feel comfortable in order to promote building a safe, convenient, and well-used network. Bicycle networks should be continuous, connect seamlessly across jurisdictional boundaries, and provide comfortable bicycle connections to destinations in order to continue to promote bicycling as a alternative mode of transportation. As such, planning connected low-stress bicycle networks is not achieved by simply avoiding motor vehicle traffic, rather planners should identify solutions for lowering stress along higher traffic corridors so that bicycling can be a viable transportation option.

As part of its statewide bicycle and pedestrian plan, Walk.Bike. Ohio (WBO), the Ohio Department of Transportation (ODOT) performed an Active Transportation need and demand analysis for the entire state. Areas of high need and high demand are prioritized for bicycle and pedestrian improvements because residents in these areas likely rely more heavily on active transportation options for getting around.

Pedestrian Crash Risk Assessment

MVRPC staff partnered with ODOT to complete a Pedestrian Crash Risk Assessment (PCRA) in 2020. The PCRA is a systemic safety analysis to identify risk for pedestrian crashes on intersections and segments (arterials and collectors) on the regional road network. Using a variety of data impacting pedestrian crashes, risk factors were used to identify the priority network — locations where conditions exist for pedestrian crashes to occur on arterial and collector facilities for both intersections and segments. The full data developed for this project are presented on an online map available on the MVRPC website.[27]

For the AT Plan analysis, MVRPC selected the intersections and segments with risk scores in the highest 30 percent of scores (above 7.0 for intersections and above 6.0 for both arterial and collector segments). These locations determined to have the highest risk for a pedestrian crash were compared to the block groups with the highest active transportation need, as developed by ODOT for WBO.

The data show that locations with high risk of pedestrian crashes are disproportionately located in areas with high active transportation need. As a reminder, the high need block groups are the top 25 percent of block groups as evaluated by ODOT. For example, intersections with the highest crash risk scores were only 108 out of 876 evaluated intersections (12.3 percent, roughly one out of eight). However, 91 percent (98) of the 108 high risk intersections were located within high need block groups. A similar pattern is seen for the arterial and collector segments though not as extreme. The arterial segments with the highest risk scores represented 22.7 percent (500 of 2199) of all evaluated segments, and of those 53 percent (265 of 500) were in or partially in high need block groups. For collector segments, 7.8 percent (175 of 2239) had the highest risk scores and 76 percent of those (133 of 175) were in the high need block groups.

Given the tendency for locations with higher pedestrian crash risks to be located within areas with more active transportation needs, the AT Plan prioritizes pedestrian safety elements within projects that include higher pedestrian crash risk intersections and segments.

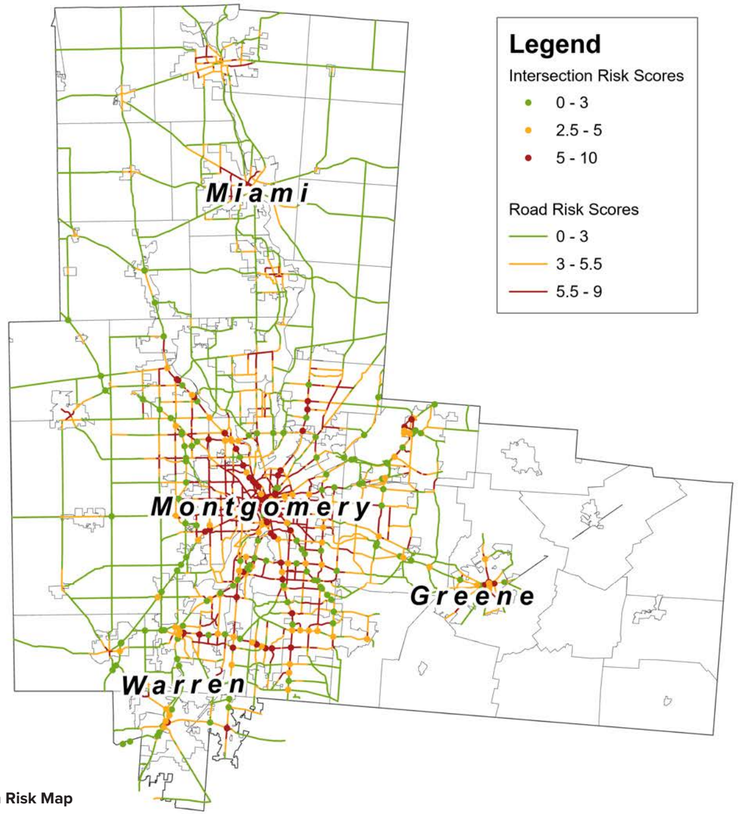


Figure 22: Pedestrian Crash Risk Map

Pedestrian & Bicycle Crash Data

From 2010 to 2019 injuries and fatalities associated with bike-related vehicle crashes has been trending downward. In contrast, pedestrian-related injuries and fatalities have remained constant over these years in the Miami Valley Region and also Statewide. The year 2019 marked a recent low point for both pedestrian and bike injuries and fatalities in the Region. Data from ODOT on the years since, indicate an increase in both bike and pedestrian injuries and fatalities in 2020 and in 2021. Nationally, U.S. DOT released data in May 2022 which indicated 2021 was one of the worst years for highway safety in the last two decades. Pedestrian fatalities were up 13 percent and bicyclist fatalities were up 5 percent.

From 2015 through 2019, there have been 1,447 bicycle or pedestrian crashes in the Miami Valley. Approximately 35 percent of these crashes were bicycle crashes and the remaining 65 percent were pedestrian crashes. While bike and pedestrian crashes make up a small portion of all crashes in the Region, less than 2 percent, these crashes are more likely to result in injuries or fatalities. Over 92 percent of bicycle or pedestrian crashes result in an injury or fatality. The table below breaks out the numbers for the 2015 to 2019 period.

Crash Type	Fatal	Injury	Property Damage
Pedestrian	54	843	45
Bicycle	10	426	69
Total	**64**	**1,269**	**114**
%	**4.4**	**87.7**	**7.9**

Bike and pedestrian crashes are more likely to have occurred in "High Need" areas identified in Walk.Bike.Ohio. In areas with the highest 25 percent of need, 45 percent of all pedestrian crashes and 40 percent of all bicycle crashes occurred.

Certain corridors tended to have a lot of bike and pedestrian crashes. State Route 48 was the site of 115 bike or pedestrian crashes – nearly eight percent of all such crashes. These State Route 48 crashes are concentrated in two jurisdictions – Dayton and Harrison Township – where 70 percent occurred. Other corridors with more than 25 bicycle and/or pedestrian crashes included:

- Wright Brothers Parkway – Harrison Township, Dayton, Riverside and Kettering
- Salem Avenue/West Second Street – Dayton, Harrison Township and Trotwood
- Wayne Avenue/Wilmington Pike – Dayton and Kettering
- County Road 25A/North and South Dixie Drive/Dayton-Cincinnati Pike – Miamisburg, West Carrollton, Kettering, Dayton, Harrison Township, Butler Township, Vandalia, Tipp City, Troy, Concord Township and Piqua

The top eight corridors for bike and pedestrian crashes were the location of one of every five bike or pedestrian crashes during the 2015 to 2019 period. Given the dire consequences for pedestrians and bicyclists involved in crashes, all jurisdictions should factor the safety of vulnerable road users into their planning and project design. Emphasis on safety in these identified corridors provides an effective approach to reducing injuries and fatalities.

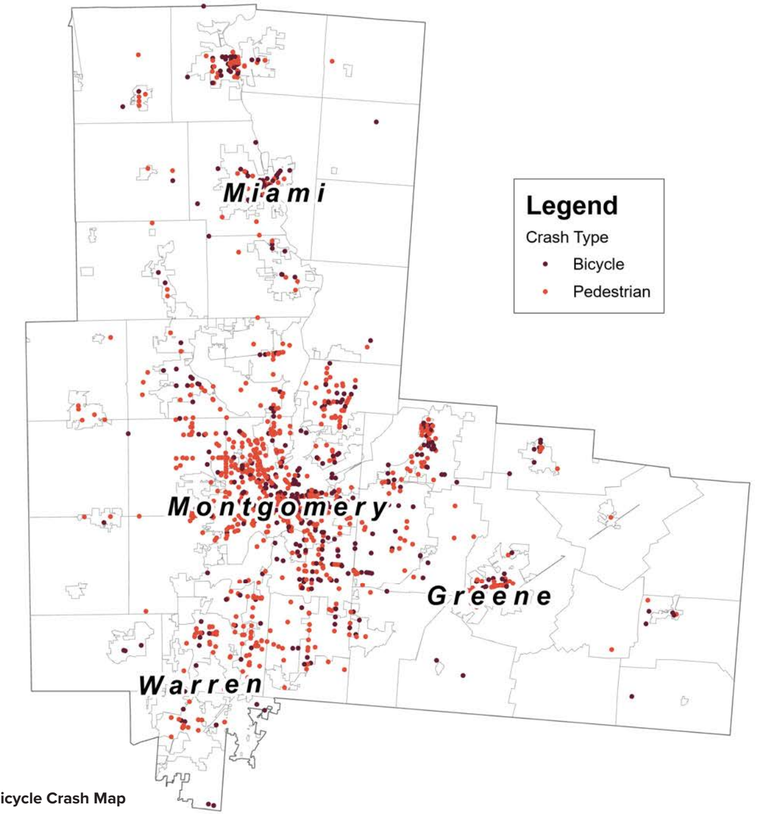


Figure 23: Pedestrian & Bicycle Crash Map

Level of Traffic Stress

Level of Traffic Stress (LTS) is an analysis of a roadway from the perspective of a bicyclist. The process assesses how stressful it is to travel on the roadway by bicycle. Ratings are made from one (least stressful) to four (most stressful). The graphic below correlates the level of stress of a roadway with the type of cyclists who may feel comfortable on such facilities.

In general, LTS1 facilities are locations where almost anyone should feel comfortable riding, regardless of age or confidence. These would include the Miami Valley Trails network, residential neighborhood streets, and some sidepaths. LTS2 streets have moderate speeds and traffic volumes, some with bike lanes; cyclists described as “interested but concerned” will be comfortable on these streets. The lack of separation from motor traffic, and higher speeds and volumes make LTS3 and LTS4 roadways locations where only the most confident and experienced bicyclists will be willing to ride.

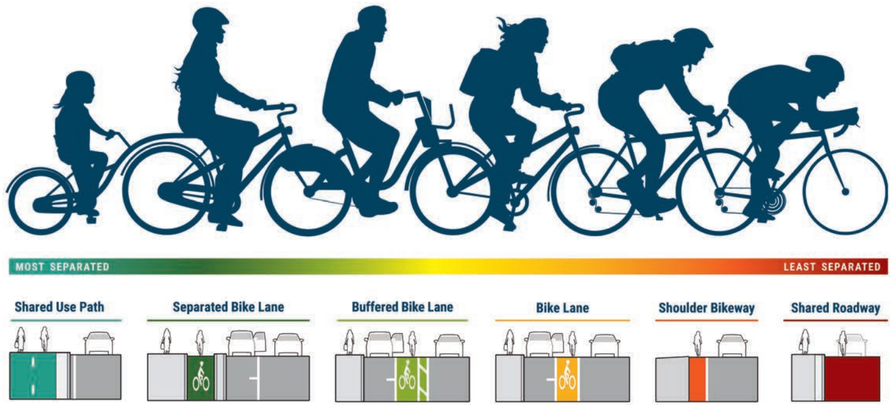


Figure 24: Walk.Bike.Ohio Level of Traffic Stress Infographic

For the Miami Valley Bike Plan Update 2015, MVRPC staff conducted a simplified bicycle level LTS analysis for the roadway network. Since that time, the ODOT has developed an LTS procedure for the evaluation of the Ohio State Bicycle Routes and the U.S. Bike Routes in Ohio. With this AT Plan report, we present an updated LTS analysis for the MVRPC region using the ODOT developed data methodology for the regional network roadways. For this analysis limited access highways are excluded as Ohio law forbids bicycle riding on those facilities. In addition, trails and some sidepaths (as separated facilities) were assigned a rating of LTS1. For the balance of the region’s streets, MVRPC used an iterative approach based on land use and roadway functional class. The methodology employed is described in the appendix to this plan. The updated LTS analysis data is available from MVRPC in ArcGIS format.

This updated LTS analysis indicates areas within the planning region with low stress (LTS1 or LTS2) connections to the Miami Valley Trails network. The regional trails provide community-to-community low stress non-motorized mobility within the region. Increasing access to the trails leverages the region’s more than fifty year investment in building the trails to serve transportation, health and quality of life.

Not surprisingly, most of the Regional roadway network, the arterials and collectors through the MVRPC planning region, are higher stress roads. Just over 94 percent of these roads (leaving limited access highways out of the calculation) are LTS3 or LTS4 roads. Often these network roadways are the most convenient route to important destinations. As high stress routes, designs for bicycle facilities along these routes should emphasize separation to allow for lower stress and greater utilization for active transportation.

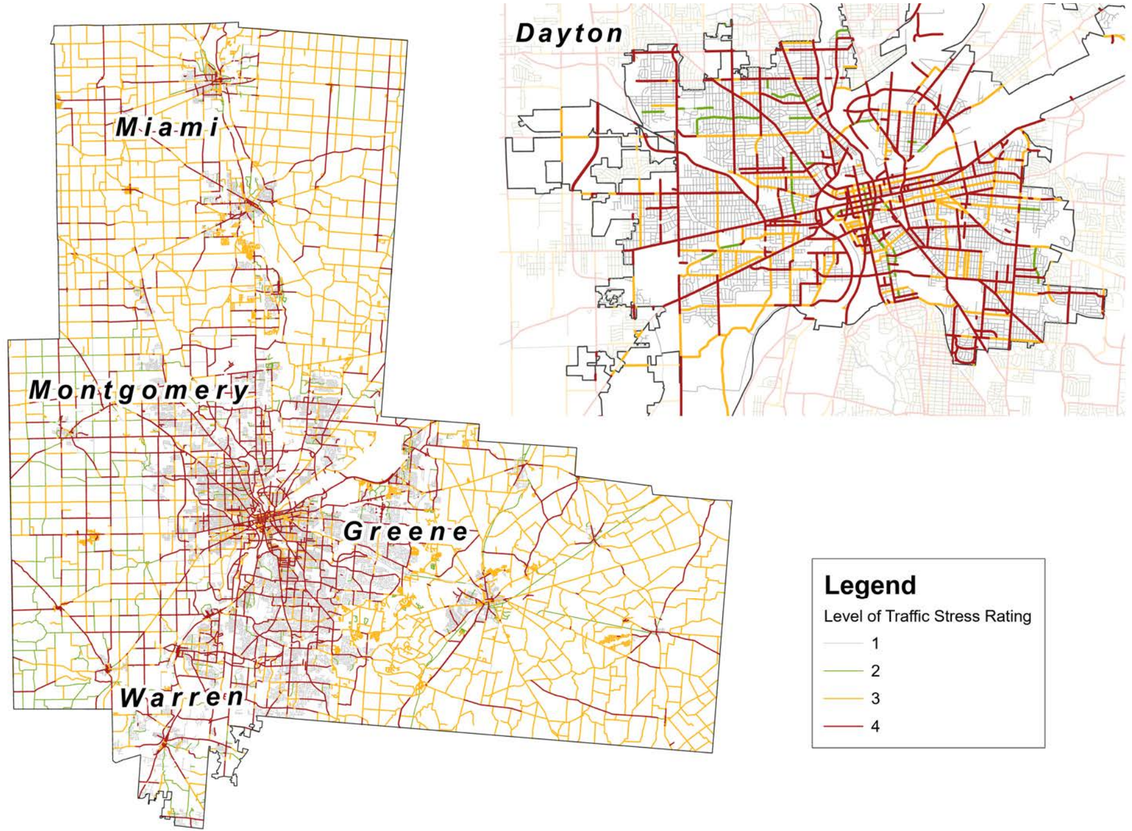


Figure 25: Level of Traffic Stress Map

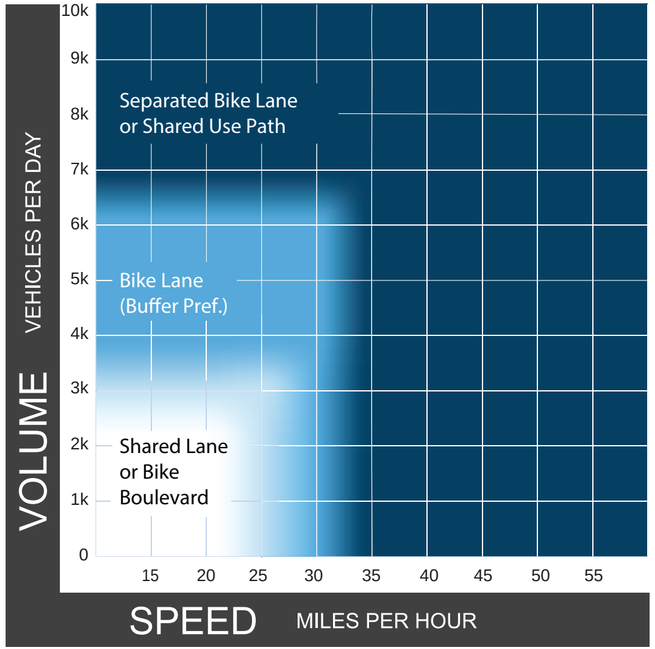


Figure 26: FHWA Bikeway Facility Matrix: Preferred Bikeway Type for Urban, Core, Suburban and Rural Town Contexts

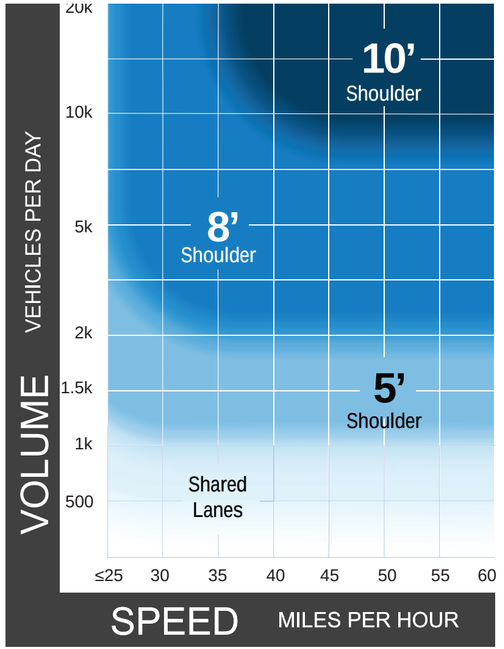


Figure 27: FHWA Bikeway Facility Matrix: Preferred Shoulder Widths for Rural Roadways

Pedestrian Access to Transit Stops

Assessing pedestrian accessibility to transit services was a separate process for Greene County and Montgomery County. Pedestrian accessibility analysis was not performed for Miami or Warren counties due to the door-to-door nature of their services.

Montgomery County

MVRPC staff assessed the proximity of sidewalk infrastructure to each bus stop within the RTA system (as of December 2021). This analysis screened for bus stops that were within 50 feet of sidewalk; this size buffer was considered large enough to account for placement errors that may be present in both the sidewalk and bus stop data. The analysis found that just over 83 percent of GDRTA bus stops are served by sidewalk. The map depicts corridors of significant length where multiple stops were found to be not served by sidewalk. In certain cases, this issue was found to be that sidewalk was present only on one side of the road, while bus stops were on both sides.

Locations with significant length (greater than 9,000 feet) lacking sidewalks along GDRTA bus routes include:

- North Main Street (SR 48) from Shiloh Springs to Sweet Potato Ridge
- Old Troy Pike from Stanley to Needmore
- Denlinger Road/Garber Road from Free Pike to Honeybrook
- Linden/Spinning/Burkhardt in Dayton and Riverside
- Springboro Pike (SR 741) from Miamisburg-Centerville to Cobblegate
- Valley Street/Harshman Avenue from Valleycrest to Brandt
- Turner Road/Shoup Mill Road/Needmore Road from Klepinger to Frederick Pike
- Nicholas Road from Elsie to Dryden and Edwin C. Moses from Dryden to I-75
- Dryden Road from Northlawn to Edwin C. Moses
- Along the path of RTA Route 16 Northbound along Riverside, Theodore, Wampler and Old Riverside

An additional seven corridors measure greater than one mile in length. There are a total of 26 identified locations with significant sidewalk gaps along GDRTA transit routes.

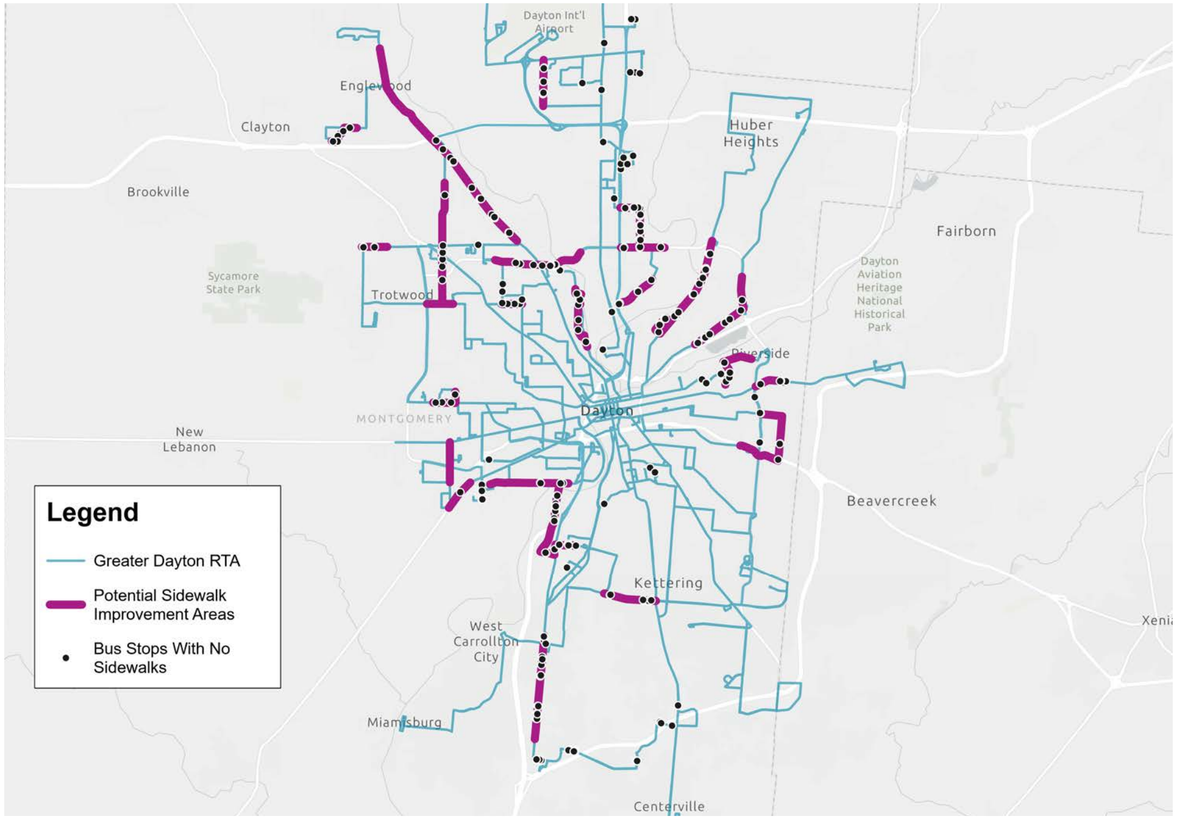


Figure 28: Greater Dayton RTA Sidewalk Analysis Map

Greene County

Along the Flex Routes, Greene CATS Public Transit invites riders to “flag” down the bus to board the system along portions of the routes where the speed limit is 35 miles per hour or less. The Map highlights the portions of the flex routes where flagging is permitted. These portions of the routes were assessed for proximity to sidewalk in the MVRPC sidewalk data. The analysis found that most of the flex route flag areas are served by sidewalk. Isolated exceptions include:

- Funderberg Road in Fairborn from Hamilton to Rice
- Colonel Glenn in Fairborn from Funderberg to Kauffman
- Kauffman Ave in Fairborn from Colonel Glenn to Montgomery
- U.S. 68 on the south end of the Village of Yellow Springs from Brookside Drive to the south corporate limit
- Dayton-Xenia Road in Xenia from Progress to Richard
- U.S. 42 in Xenia from Church (traffic circle) to Radar

It is worth noting again that MVRPC sidewalk data does not have accessibility or condition information about sidewalks, so this analysis cannot deliver a complete assessment about the accessibility of bus stops along the GDRTA routes shown to be served by sidewalks. The same can be said for the flagging portions of the Greene CATS flex routes.

Roadways served by transit but lacking pedestrian infrastructure should be prioritized for future improvements. Addition of needed pedestrian infrastructure should be incorporated into the next projects on these corridors. If no future projects are within the jurisdiction’s planning horizon, consideration should be given to a stand-alone sidewalk project to facilitate full access to transit service on these roads.

Miami & Warren County

The Miami County Transit System and the Warren County Transit System provide demand-responsive service in Miami and Warren Counties. Because both transit systems do not offer prescribed dedicated routes, MVRPC did not assess sidewalk access because riders are picked up and dropped off curb-to-curb.

Figure 29: Greene CATS Public Transit Sidewalk Analysis Map

CHAPTER 6 :

Recommendations

Project Prioritization

MVRPC staff reviewed the current MVRPC Long Range Transportation Plan, the Miami Valley Bike Plan Update 2015, an extensive set of local plan documents, public input, and conducted additional planning analyses to develop a master list of projects for consideration for inclusion in the AT Plan. In total, the project list included over 170 potential bike, pedestrian or transit access projects across all counties in the MVRPC planning area. The full list of considered projects can be found in the Appendix on page 113.

Staff worked with the AT Plan Steering Committee to refine the project list and, more significantly, to develop a scoring matrix to rank and prioritize projects within the plan. The Steering Committee considered a list of fifteen factors for consideration of each project, and had an opportunity to add or delete factors from the final list. Then further, the Steering Committee considered alternative schemes for weighting the factors, based on different areas of emphasis, such as equity, safety, or connectivity. The committee provided valuable feedback, adding and modifying factors. The Steering Committee developed consensus that the vision and goals would be best served with an emphasis on equity and safety in the weighting of factors. The resulting ranking rubric is presented in the table on page 81.

The factors listed are areas for which every project considered was rated on a Yes/No providing different weight scales for each factor. The next column shows the weighting scheme used to prioritize the projects. There are many Connectivity factors, so they were given low weight each. The fewer Equity and Safety factors are given higher weight. Safety plus Equity represent more than two-thirds of the available points in this approach.

Every project was scored on the basis of all factors and then a rank score was calculated based on the weighting scheme. The ranked scores resulting from the rubric were again shared with the Steering Committee members as an opportunity to review the outcome of the matrix and to discuss if adjustments were needed. The complete scoring table for every project by county is available in the Appendix on page 113.

Priority Projects by County

The results from the scoring methodology were then re-shared with communities in each county which would be the necessary project sponsors for the projects. The purpose of this activity was to learn from the communities whether these high scoring projects were projects they would have the interest and capacity to develop and apply for funding (to MVRPC and other programs). This was an effort to increase the likelihood that the priority projects would proceed to implementation.

The tables in this chapter reflect the top projects prioritized from the complete project prioritization process by county. The tables also provide a project description, source of the project and a simple cost estimate. Cost estimates were developed with assistance from the Ohio Department of Transportation.

Project Prioritization Method:

	Factors	Weight	Notes
Connectivity Factors	A. Contributes to the Long Range plan regional bike-ways network	1	Can only get point for A or B, not both.
	B. Connects to the regional bikeways network	1	Can only get point for A or B, not both.
	C. On fixed or flex transit route	1	Can only get point for C or D, not both.
	D. Connects to fixed or flex transit route (last mile connections)	1	Can only get point for C or D, not both.
	E. On the MVRPC regional roadway network	1	
	F. Crosses the Urbanized Area boundary (rural-urban connection)	1	
	G. Along State or US Bike Route	1	In the Region most of these routes are on the Miami Valley Trails (*i.e.* already built). The exceptions are State Route 36 across northern Miami County, Wolf Creek Trail gap, and GMR trail north from Piqua to-ward Shelby County.
	H. In a local plan	2	
	I1. In WBO High Demand area (4) I2. In WBO High Demand area (3)	1 0.5	Full point in highest demand area; half point for next highest demand area. Can get both points.
	J. Multi-jurisdictional	1	
Safety Factors	K. Addresses high Pedestrian Crash Risk Assessment location	2	
	L. Addresses high LTS location – improves LTS score	3	
	M. Addresses High Bike Ped Crash location	3	
Equity Factors	N1. In WBO High Need area (4) N2. In WBO High Need area (3)	3 1.5	3 points in highest need area; 1.5 points for next highest need area. Can get both points.
	O. Is both a bike and pedestrian project	3	
	P. Project addresses an ADA deficiency	3	
	Q. Housing density within 0.5 miles of project	3	Will determine median density. If area near project is above median, project will receive points.

Cost Assumptions:

To develop project cost estimates, the cost factors below were used to calculate material costs for these facilities. Each road crossing for sidewalk or sidepath was assumed to be a one-leg intersection. The total material costs were multiplied by a factor of 2.436 to account for maintenance of traffic, erosion control, clearing and grubbing, landscaping, drainage, environmental review, utility relocation, mobilization, survey and staking, engineering design and a 30 percent contingency. Long term maintenance is not included in these estimates. The resulting cost estimates are for planning purposes only, and should not be relied upon for project funding applications. Detailed engineering cost estimates must be developed as these projects are undertaken.

Item	Cost	Unit	Source
Asphalt Sidepath – 12’	$226,707	Mile	Greene County MTP (2021)
4’ concrete walk	$15.78	SqFt (design assumption is 5’ wide)	ODOT award data for District 7 & 8, 2021
Intersection – One Leg	$7,860	Each	Greene County MTP (2021)
Intersection – Two Leg	$15,720	Each	Greene County MTP (2021)
Pedestrian Signal – One Leg	$5,878	Each	Greene County MTP (2021)
4’ Bike Lane Line	$2,800	Mile	ODOT bid data 2021
Bike lane symbol	$355	Each (assume 20 per mile)	ODOT bid data 2021
Sharrow marking	$395	Each (assume 20 per mile)	ODOT bid data 2021
Green pavement for bike lanes	$17.85	Square foot	ODOT bid data 2021
Bike box	$4,890	Each	ODOT bid data 2021

Streetscape Projects:

Past “streetscape” projects (funded through Transportation Alternative funds) were researched to develop an average cost per mile. The types of elements included in the projects include curb bump outs, landscaping, intersection re-alignments, lighting, benches, sign posts, brick pavers, sidewalk widening, street trees and tree grates, bus stops, trash receptacles, bike racks, and wayfinding signs. The average of these projects is $2,430,000 per mile. This figure was derived from the streetscape projects in the table below.

Const Year	City	Road	Limits	Length (Miles)	Construct (Sold)	Non-Construct	Total	Cost Per Mile
2007	Tipp City	State Route 571	Tippecanoe Dr to Hyatt St.	0.35	$ 1,056,494	$ 161,000	$ 1,217,494	$ 3,478,554
2011	Tipp City	State Route 571	Intersections of Tippecanoe, Garber and Hyatt	0.15	$ 546,761	$ 1,000	$ 547,761	$ 3,651,740
2014	Kettering	E. Stroop Rd	East of Shroyer to west of Royal Oak	0.13	$ 738,418	$ 10,000	$ 748,418	$ 5,757,063
2014	Xenia	W. Main St.	S. Church to S. King	0.22	$ 321,000	$ 10,000	$ 331,000	$ 1,504,545
2014	Dayton	Watervliet	Mundale to Bellaire	0.4	$ 296,000	$ 36,000	$ 332,000	$ 830,000
2016	Piqua	N. Main	Greene to North St.	0.07	$ 425,000	$ 75,000	$ 500,000	$ 7,142,857
2016	Fairborn	Main St.	Pleasant Ave to Dayton Dr.	0.19	$ 560,000	$ 60,000	$ 620,000	$ 3,263,158
2017	Beavercreek	Dayton-Xenia Rd.	Ken Klare to W. Lynn	0.18	$ 274,000	$ 98,000	$ 372,000	$ 2,066,667
2018	Dayton	Troy St.	SR4 to Leo	0.75	$ 435,000	$ 26,000	$ 461,000	$ 614,667
2019	Dayton	W. Third St.	P.L. Dunbar to orchard	0.57	$ 374,000	$ 30,000	$ 404,000	$ 708,772

Greene County Priority Projects:

ATPID	Communities	Description	Modes	Details	Cost estimate
GRE56	Xenia	REACH Xenia	Bike & Pedestrian	Widen bike/pedestrian path on Upper Bellbrook Road from S. Progress to Colorado Dr, bike lanes/ sharrows/path on Colorado and Bellbrook Avenue, connecting to Little Miami Scenic Trail	$5,879,585 (Source: Xenia RAISE grant application)
GRE03	Beavercreek	Indian Ripple Sidewalks/ Sidepath	Bike & Pedestrian	Complete Sidewalks along Indian Ripple Road from Narrows Reserve to The Greene (intermittent)	$2,421,413
GRE18	Greene County	Fairborn to Yellow Springs	Bike & Pedestrian	Shared use path/sidepath along Yellow Springs Fairfield Rd from Fairborn corp limit to Yellow Springs corp limit	$2,430,000 (Source: Greene County Master Trail Plan)
GRE45, GRE46	Xenia	Streetscape in Xenia	Pedestrian	9 suggested crosswalk improvements, transit stop improvements, and signage	Estimate to be developed with further project scoping
GRE09	Bellbrook	Wilmington Pike Sidepath South	Bike & Pedestrian	New SUP/Sidepath from Ambridge Ln to Alex Bell, with crossing at Bellemeade	$281,367

ATPID	Communities	Description	Modes	Details	Cost estimate
GRE02	Beavercreek	Bellbrook-Fairborn	Bike & Pedestrian	Sidepath along Fairfield Rd from Jonathan to Seejay; Old Mill to Lawson	$682,200
GRE11, GRE12, GRE13	Fairborn	Complete sidewalks in Greene CATS flex route flagging areas in Fairborn	Pedestrian	Complete sidewalks in Greene CATS flex route flagging areas in Fairborn: Funderberg Rd from Hamilton to Rice; Colonel Glenn from Funderberg to Kauffman; Kauffman Ave from Colonel Glenn to Montgomery	$1,572,230
GRE38	Xenia	Xenia-Jamestown Connector	Bike	Intersection re-design and Bike lanes from Xenia Station hub to X-J Connector across 68 along Washington Street	$2,770,000 (Source: City of Xenia)
GRE26	Greene County	Trebein Rd Sidepath	Bike & Pedestrian	Sidepath/shared use path along Trebein Road, including access to Glen Thompson Reserve	$6,301,806 (Source: GCMTP)
GRE39	Xenia	Dayton-Xenia Road in Xenia from Progress to Richard to Church	Bike & Pedestrian	Add Sidepath in Greene CATS flex route flagging areas Progress to Richard, Bike lanes and Sidewalk Richard to Church	$771,771

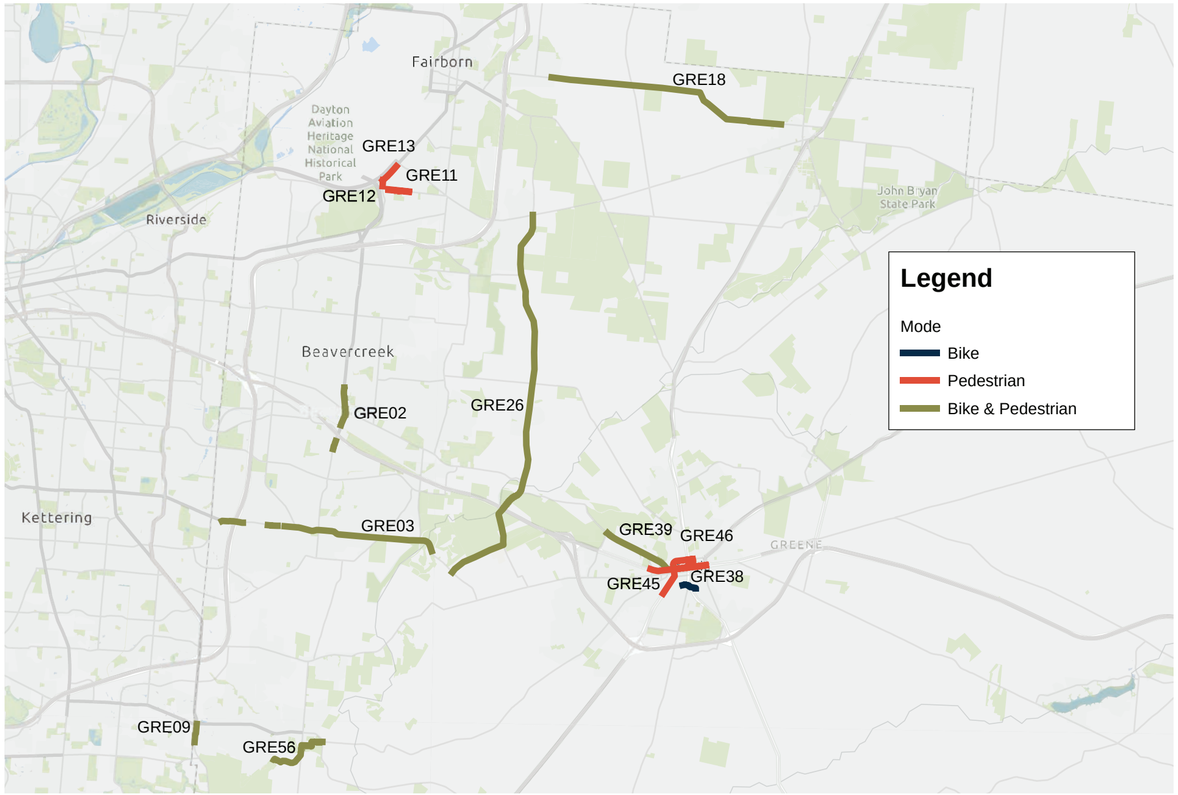


Figure 30: Greene County Priority Projects Map

Miami County Priority Projects:

ATPID	Communities	Description	Modes	Details	Cost estimate
MIA18	Tipp City	Tipp City Bikeways	Bike & Pedestrian	Bikeways along Evanston, 25-A, SR 571, and Kessler-Cowlesville connecting residential areas to Great Miami River Trail	$3,832,790
MIA13	Piqua	RR Bridge Improvements in Piqua	Bike & Pedestrian	New decking, railing and accessible access on west end of RR Bridge along Ohio-to-Indiana Trail in Piqua	Deck: $735,258 (source: City of Piqua) ADA access: $864,742 (source: City of Piqua)
MIA24	Miami County Engineer	Carriage Hills Connector	Bike	Connect Carriage Hills with New Carlisle via widened shoulders on 202, Singer, Palmer, 571, Dayton-Brandt, and SUP on former RR ROW	$5,086,326
MIA02, MIA03	Miami County Park District	Ohio-to-Indiana Trail	Bike & Pedestrian	Follow the Conrail ROW westward from Spiker Road to North McMaken Road then proceed northward to Ingle Road; on Ingle Road proceed west and then southerly along Ingle Road to its most southeasterly point; then commencing at that point in a southwesterly direction along the Covington Tributary to the Conrail ROW; then proceeding west along the Conrail ROW to Range Line Road; then on Range Line Road proceed northward to Covington Bradford Road; then on Covington Bradford Road proceed west to the Village of Bradford. Shared use path from High St, Covington then east on railroad right-of-way to Piqua	$4,979,644

Miami County Priority Projects:

ATPID	Communities	Description	Modes	Details	Cost estimate
MIA06	Miami County Park District	Laura-Troy Connector	Bike & Pedestrian	Shared use path along SR 55 from Laura to Troy	$7,202,730
MIA14	Piqua	North Sunset Drive	Pedestrian	Extend sidewalk and add crosswalk & curb ramps at Alpha & Sunset Drive	$476,257
MIA05, MIA25	Piqua	GMR Trail/ Roadside Park Bridge	Bike & Pedestrian	Bridge across canal feeder stream into Johnston Farm & Indian Agency property; North from Piqua/Johnston Farm to Shelby County Line	$456,557 (source: 2050 LRTP) $1,151,276 (ATP)
MIA22	West Milton	West Milton School Campus to Downtown	Bike	Bike route on local streets between Milton Union School campus to downtown West Milton	$48,111
MIA12	Piqua	Piqua Bike Hub	Bike & Pedestrian	Trailhead and trail user services hub in Piqua	$875,000
MIA21	Troy	McKaig Avenue	Bike & Pedestrian	Sidepaths along McKaig Avenue from Dorset to Stanfield	$2,537,116

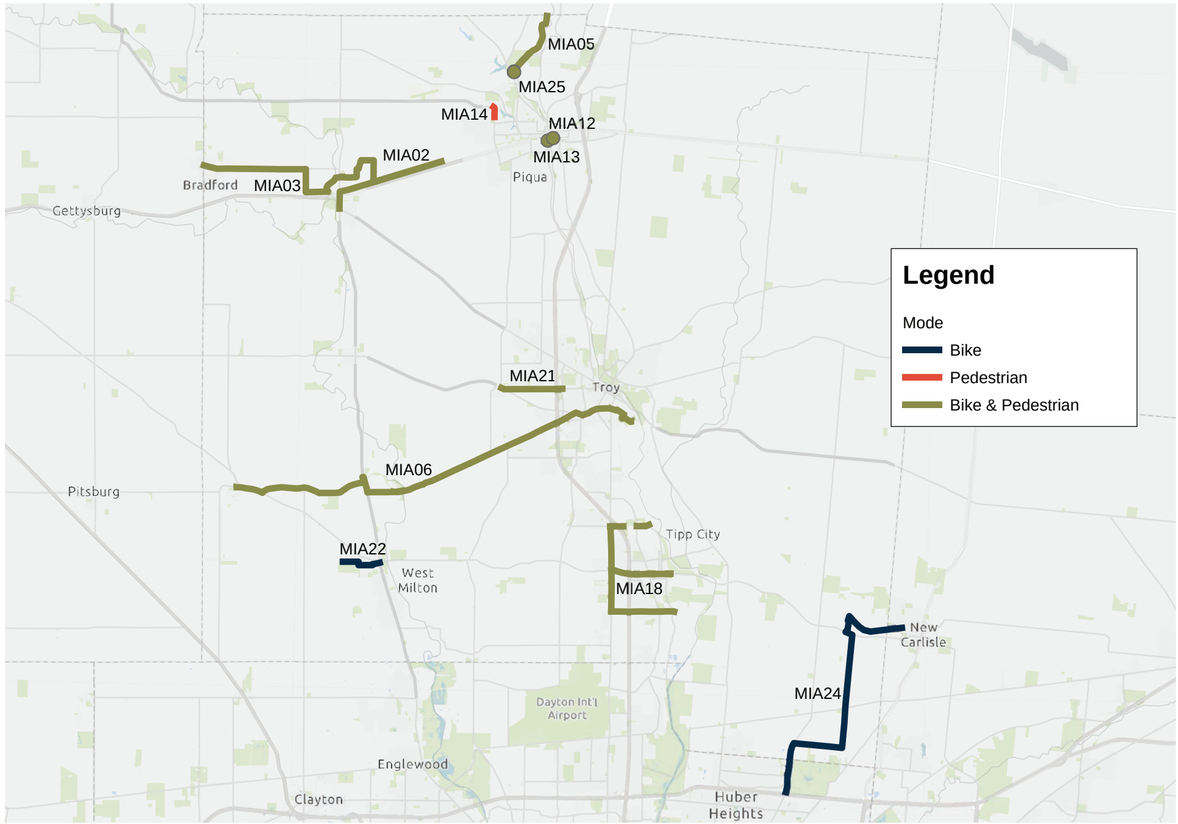


Figure 31: Miami County Priority Projects Map

Montgomery County Priority Projects:

ATPID	Communities	Description	Modes	Details	Cost estimate
MOT48, MOT59	Miami Township, Montgomery County Engineer, Miamisburg, West Carrollton, Moraine	SR 741 Bike/Ped Facilities	Bike & Pedestrian	Continuous sidewalk from Ferndown to South Dixie Ave on both sides of the road. 8' or 10' width on one side of road. Ped facility is priority where width cannot accommodate a bike facility	$6,457,543
MOT41	Huber Heights	Brandt Pike Improvements	Bike & Pedestrian	Intersection geometry fixes, improved signals, crosswalks, mid-block crossings, pedestrian-oriented lighting, 2-way cycle track with road diet and enhanced transit stop amenities	Estimate to be developed with further project scoping
MOT61	Five Rivers MetroParks, West Carrollton, Miami Township, Washington Township, Montgomery County Engineer, Centerville-Washington Park District, Centerville	Great Miami River-Centerville Connector	Bike	Route/shared use path from West Carrollton to Bellbrook via Cox Arboretum, Yankee Park, Grant Park Pleasant Hill Park	$3,516,412 (assumes 3.33 miles of sidepath, 3.09 miles of shared roadway and 2 miles of Shared use path in parks)
MOT81	Dayton	Fifth/Burkhardt Safety Enhancements	Bike & Pedestrian	Traffic calming or other safety enhancements along this corridor	Estimate to be developed with further project scoping
MOT32	Five Rivers, Trotwood	Wolf Creek Trail	Bike & Pedestrian	Shared use path from Hickorydale Park to Wolf Creek Trail terminus in Trotwood	$5,767,616 (source: FRMP)
MOT34	Five Rivers MetroParks	Stillwater River Trail	Bike & Pedestrian	From existing trail on Shoup Mill Road to Grossnickle Park	$13,602,880 (source: FRMP)
MOT95	Clayton, Montgomery County Engineer, Brookville	Westbrook Road Sidepath	Bike & Pedestrian	Sidepaths along Westbrook Road and Dog Leg Road from the Wolf Creek Trail to the Stillwater River Trail	$4,882,921
MOT17	Dayton	Traffic Calming on Third in Dayton	Bike & Pedestrian	Traffic calming enhancements from Keowee to Linden on Third Street, including a protected bike lane	$1,596,169
MOT27	Dayton	Traffic Calming On Philadelphia	Bike & Pedestrian	Traffic calming enhancements on Philadelphia from James H. McGee to N. Main	$8,899,729
MOT54	Harrison Township, Montgomery County Engineer, Clayton, Englewood	North Main Street Sidewalks	Pedestrian	Complete sidewalks along SR 48, North Main Street from Shiloh Springs to Sweet Potato Ridge	$5,536,330 (assumes 10,871 missing feet on west side, 17,934 missing feet on east side)
MOT62	Englewood, Five Rivers	Old National Road Trail	Bike & Pedestrian	Shared use path/sidepath from Englewood MPO to Centennial Park in Englewood	$600,134
MOT14	Dayton	The Flight Line	Bike & Pedestrian	Shared use path along railroad right-of-way from Creekside Trail to Fourth St in Dayton	$4,033,820 (source: City of Dayton)

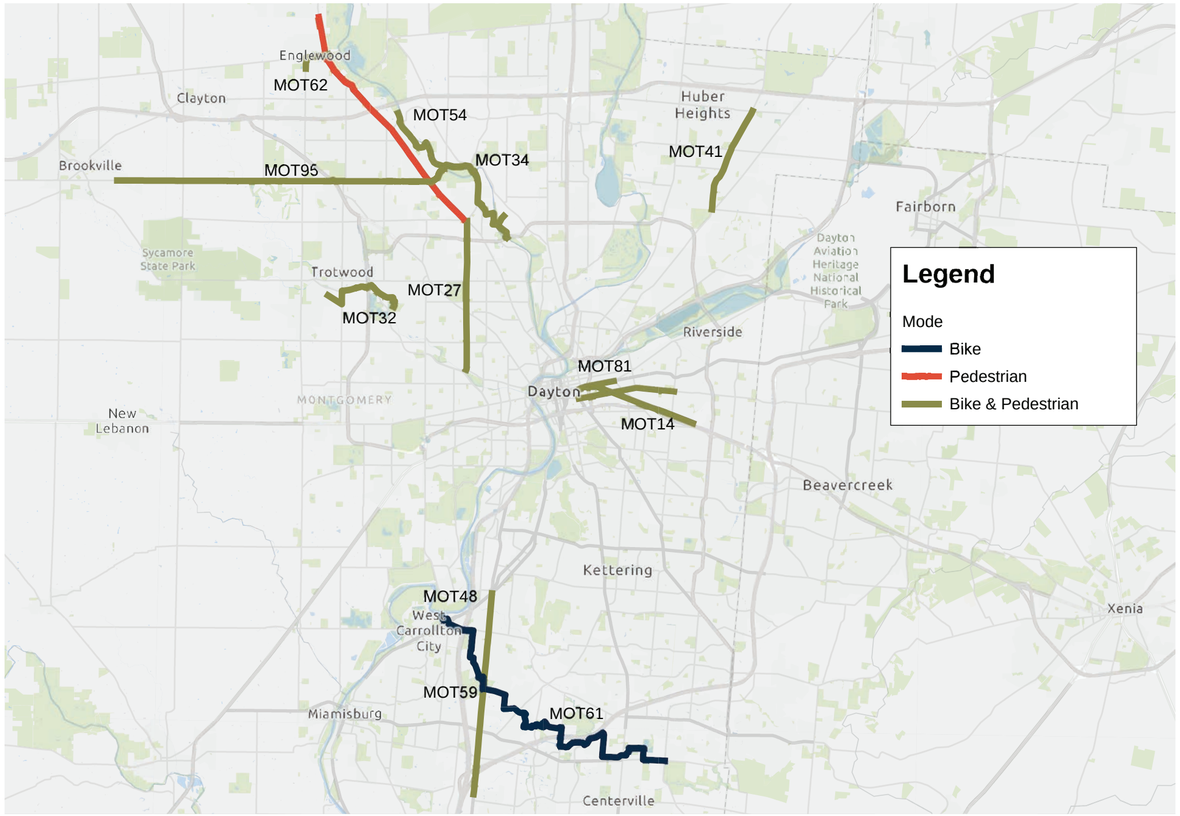


Figure 32: Montgomery County Priority Projects Map

Warren County Priority Projects:

ATPID	Communities	Description	Modes	Details	Cost estimate
WAR08 MOT84	Springboro	Springboro Central Greenway	Bike & Pedestrian	Running SW to NE in City of Springboro connection from Great Miami River Trail (via Franklin) to Great-Little Trail	$3,749,967
WAR04	Franklin	Great Miami Little Miami Connector	Bike & Pedestrian	Shared use path along SR 123 and Clear Creek from downtown Franklin to west side of I-75	$1,360,973 (source: LRTP)
WAR02	Springboro	SR 73 in Springboro	Bike & Pedestrian	Sidewalks and bikeways along SR 73 (assumes 4,678 feet of 8’ side path and 3,118 feet of 5’ sidewalk)	$2,038,141
WAR05	Springboro	Great Miami Little Miami Connector	Bike & Pedestrian	Shared use path along south side of Clear Creek Park between Clear Creek and Lower Springboro Rd	$680,487 (source: LRTP)
WAR06	Warren County	Great Miami Little Miami Connector	Bike	Widen shoulders on Lower Springboro Rd from proposed Clearcreek Trail to US 42	$2,984,977 (source: LRTP)

Figure 33: Warren County Priority Projects Map

Regional Bikeways

The AT Plan has developed eleven updates to the recommended regional bikeways network for the MVRPC planning area. These changes were developed from new or updated alignments in local plan documents, consultations with member jurisdictions, plus plan review by MVRPC staff.

The most significant regional change is to recommend separated bicycle facilities. Past MVRPC bikeway recommendations have been neutral as to facility type so that as projects develop the advantages and disadvantages of various facility designs could be considered. With this AT Plan, MVRPC recognizes multiple forms of input that indicate strong preference for separated facilities to accommodate bicycle travel. Shared use paths, sidepaths, protected cycle tracks and protected bike lanes consistently are preferred in surveys of the public. Such facilities are preferred in recent local planning across the Region, and are now preferred in the Regional plan as well.

Facilities with less (or no) separation remain in the planning and design toolbox. Facilities such as ordinary striped bike lanes, widened shoulders, wide outside lanes, sharrow markings and signed routes have applicability, particularly along routes already demonstrated as low stress for cycling. However, these facility types are unlikely to be perceived by the majority of the public to significantly improve comfort or safety on a high stress roadway, and are of little utility on LTS3 or LTS4 roadways. Separated facilities are more likely to garner increased use and return on investment as a component of complete streets projects, particularly along regional network roadways.

Therefore, the descriptions for the proposed regional bikeways routes, particularly in rural areas of the region have been updated to indicate separated facilities, where applicable. This can be seen, for example in the south and east portions of Greene County, where the facility type was updated to match that of the Greene County Master Trails Plan. Similar facility type updates were made for routes in western Montgomery County and western Miami County.

This AT Plan also updates the alignment of some regional routes to reflect public input and local planning. Examples include:

- In Greene County, route selection from Fairborn to Yellow Springs, Yellow Springs to Clifton and Clifton to Cedarville has been updated to match priorities expressed in the Greene County Master Trails Plan.
- Trebein Road from Yellow Springs-Fairfield Road to the Creekside Trail: this route has been added to the regional bikeways network based on its inclusion in the Greene County Trails Master Plan and input from the public. This project is the top priority of the Greene County Master Trails Plan.

- The North-South route through Centerville and Washington Township to connect the Iron Horse Trail to the Great-Little Trail: this route was updated to align with recent planning discussions with the jurisdictions.
- Springboro Central Greenway: this route developed by the City of Springboro includes connections to the City of Franklin and the Great Miami River Trail to the west and the Great-Little Trail to the north to the regional bikeway network. As this creates a new trail-to-trail connection this route was added to the regional bikeway network in consultation with the affected jurisdictions.
- Stillwater Trail gap between Shoup Road and Englewood MetroPark: the alignment of this project has been updated to reflect planning and property acquisitions conducted by Five Rivers MetroParks.
- Additional route in Western Montgomery County: a route to connect the municipalities of Brookville, New Lebanon, Farmersville, and Germantown. Added based on consultation with the affected jurisdictions and the Montgomery County Engineer's Office.
- Ohio-to-Indiana Trail in Northern Miami County: this route was updated to align with the Northern Miami County Trail Report developed by Miami County Park District in 2017.
- Cardinal Trail: this route alignment is no longer supported by stakeholders in Miami County. Internet searches for the route were unsuccessful. The Cardinal Trail has been removed from the Regional Bike Routes and replaced with Ohio State Bicycle Route 36. State bicycle routes have been developed by ODOT to connect all cities within the state with populations of 50,000 or greater.

Programs and Policies

For communities

- As required by law, Communities must conduct an American's with Disabilities Act (ADA) Self Evaluation of its current services, policies, and practices, and the effects thereof, that do not or may not meet the requirements of the ADA and, to the extent modification of any such services, policies, and practices is required, the public entity shall proceed to make the necessary modifications.
- Communities with fifty or more employees are required and communities with fewer than fifty employees are recommended to develop an ADA Transition Plan setting forth steps necessary to achieve program accessibility, including active transportation infrastructure.
- Communities are strongly encouraged to develop local Compete Streets Policies to ensure that an inclusive approach that addresses the needs of non-motorized uses of transportation facilities is used for all community projects – not just the ones seeking MVRPC-attributable funds.
- Safe Routes to School Travel Plans and local Active Transportation Plans are an excellent way to envision your community through a new lens. Projects can contribute to a safer, more walkable and bike-friendly community. Such projects may also be incorporated into larger regional plans and enables projects to become eligible for specific funding opportunities through ODOT. ODOT and MVRPC can provide technical assistance to communities developing such plans to enhance the active transportation environment for their residents.

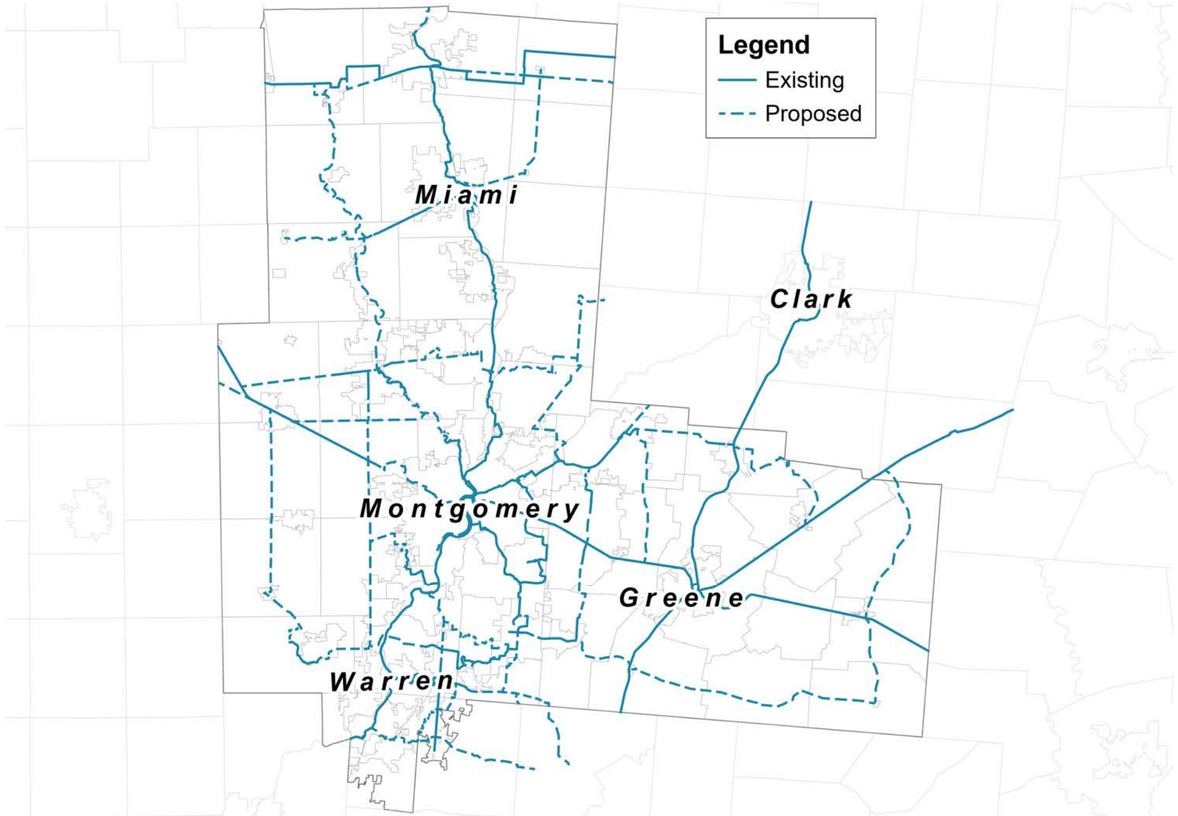


Figure 34: Proposed Regional Bikeways Map

» Communities are strongly encouraged to develop a sidewalk maintenance program to ensure ADA compliance, regular inspection, and timely maintenance of pedestrian facilities within their boundaries.

For MVRPC

» MVRPC should prioritize complete streets designs in projects on streets with LTS3 or LTS4, or high crash priority. Exceptions to the Complete Streets policy on such roads should be rare.

» MVRPC should consider periodic funding programs for retrofitting transit accessibility, bicycle and pedestrian facilities into roads, modeled after the very successful “Simple Repaving Program” offered periodically.

» MVRPC should review the Project Evaluation System for “Bikeways” projects and update the application, as needed, to address bicycle, pedestrian and transit access (“Active Transportation”) projects holistically.

» MVRPC should develop a “Complete Streets Priority Plan” in compliance with US DOT requirements once such requirements are developed. Such plan will serve as an opportunity to consider updates to the Regional Complete Streets Policy, adopted in 2011.

» MVRPC should monitor national-level incentives or requirements to develop a regional systemic safety plan, often known as a “Vision Zero” plan, and be prepared to engage member jurisdictions and advocates on effective and applicable strategies to reduce bicycle and pedestrian injuries and fatalities to zero over time.

CHAPTER 7 :

Implementation

Implementation

This AT Plan for the Miami Valley establishes a clear and simple vision for the Region through the AT Plan Vision Statement found in “Chapter 2 : Vision & Goals”. Implementation of this plan will involve the development of active transportation projects which change the fabric of the built environment and provides a step-by-step process to achieve the AT Plan Vision and Goals. The Miami Valley Regional Planning Commission (MVRPC) will commit to the Programmatic Steps listed below, support the development of complete streets projects, continue to strive to allocate funding for such projects, and reinforce requests for outside funding to implement projects.

Ultimately, however, MVRPC can only fund the projects for which we receive applications. Therefore, it is critical that communities within the Region continue to foster partnerships that support and encourage regional active transportation projects. The AT Plan highlights the equity implications of incomplete transportation facilities and is designed to encourage and promote the importance and awareness of active transportation in the Region. It is anticipated that active transportation projects will be developed and result in funding applications in the future.

Programmatic Steps

The Miami Valley Regional Planning Commission will undertake the steps listed below to support the development of our members' priority active transportation projects.

- MVRPC will, at the invitation of our members, facilitate and administratively support working groups related to development of multi-jurisdictional active transportation projects. Sections of the proposed Regional Bikeways Network are especially good candidates for this service.
- MVRPC will establish, and maintain on an appropriate schedule, an Active Transportation "dashboard" to monitor the metrics of this Active Transportation Plan and plan implementation generally.
- MVRPC will evolve the current "Regional Bikeways Committee" in ways that will support the broader active transportation goals and modes emphasized in this plan. This evolution will be conducted in consultation with the current participants in the Bikeways Committee to ensure continuity, while bringing new initiatives and collaboration to the committee.
- MVRPC will look for synergies between the goals and recommendations of this plan and potential new funding streams, particularly new federal funding programs related to climate change, environmental equity, and safety that can apply to complete streets and active transportation projects.
- MVRPC will continue to promote active transportation commuting options, tools and resources to make those options easier to understand and utilize such as the GOhio Commute platform which integrates transit, bicycle commuting and carpooling into one easy interface.
- MVRPC will continue coordination and collaboration with the transit agencies in our region to promote transit accessibility and use.
- MVRPC will continue to support promotion of the Miami Valley Trails as a regional transportation corridor, as well as a recreational and tourist destination serving the health and economy of our Region. Publication of the Miami Valley Bikeways maps and support of the companion web site will continue. Partnerships with advocates, trail managing agencies, public health agencies, and the Great Miami Riverway will raise awareness of the reginoal bikeways and safe community connections to and from the trails.
- MVRPC will participate in a Regional effort to develop a Strategic Funding Plan to foster development of Active Transportation networks.

Funding Strategies

Active transportation projects comprise a fraction of overall transportation network construction and maintenance. While pedestrian and bicycle infrastructure generally does not serve as many users as highways, bridges, and other critical infrastructure, it can have a substantial positive effect on local economies. Additionally, providing opportunities for active living promotes public health and may reduce the burden on tax-payer funded healthcare systems over time. Therefore active transportation infrastructure is a critical component of a complete transportation network and results in a positive return on investment for communities that fund such projects.

Several state and federal funding sources can be used to supplement local funding sources to build out the active transportation network and fund related programming efforts. In addition, ODOT and the Ohio Department of Health (ODH) have developed an Active Transportation Funding Matrix.[28] Communities may use this tool to search for additional potential funding sources to support infrastructure and non-infrastructure projects that advance walking and bicycling. As part of the statewide WBO Plan, ODOT published a Funding Overview Report that provides more details on types of funding available, schedules, and eligibility requirements.

MVRPC will work in a cooperative effort among potential project sponsors, transit agencies, and active transportation advocates to develop a timeline of funding applications and project construction. Working together to identify project sequencing, and avoid areas of possible overlap in grant applications provides a strategic approach to network development and assists project sponsors in budget planning for local match. A strategic funding plan is not included in this Active Transportation Plan, however MVRPC will participate with regional stakeholders to develop such an approach as a component of the AT Plan Implementation.

Surface Transportation Program (STP)

The STP program provides flexible funding that may be used by State and local governments for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals. In the Miami Valley Region, these funds are sub-allocated to MVRPC for project selection. In 2012, MVRPC introduced a Simple Resurfacing Program, which will be used for paving projects that have no right-of-way or environmental needs. The amount of “set aside” for these resurfacing projects will be determined on an annual basis. MVRPC will provide up to 80% (federal) of the project cost, and the applicant provides a minimum of 20% (non-federal) as matching funds. MVRPC generally solicits for new STP projects annually.

Congestion Mitigation/Air Quality (CMAQ)

The CMAQ provides a flexible funding source to State and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (non-attainment areas) and for former non-attainment areas that are now in compliance (maintenance areas). The Ohio Department of Transportation (ODOT) sub-allocates the CMAQ funds to the 8 largest Metropolitan Planning Organizations (MPO) through a Statewide CMAQ Program. In the MVRPC area, CMAQ funds will provide up to 80% (federal) of the project cost, and the applicant provides a minimum of 20% (non-federal) as matching funds. MVRPC generally solicits for new CMAQ projects every other year.

Transportation Alternatives (TA)

The TA program provides funding for projects defined as transportation alternatives, including on and off road pedestrian and bicycle facilities; infrastructure projects for improving non-driver access to public transportation and enhanced mobility; community improvement activities; environmental mitigation; recreational trail program projects; and safe routes to school projects. MVRPC will provide up to 80% (federal) of the project cost, and the applicant provides a minimum of 20% (non-federal) as matching funds. MVRPC generally solicits for new TA projects annually.

Infrastructure Investment & Jobs Act (IIJA) Section 11403 Carbon Reduction (CR) Program

The IIJA, passed in 2021, established a new Carbon Reduction Program that provides funding to states and MPOs to invest in projects that support a reduction of transportation emissions (defined as carbon dioxide emissions from on-road sources). Eligible projects include alternative fuel infrastructure, public transportation improvements, bicycle and pedestrian facilities, and efficient street lighting and traffic control equipment, among other viable carbon reduction projects. MVRPC will provide up to 80% (federal) of the project cost, and the applicant will provide a minimum of 20% (non-federal) as matching funds. MVRPC will start soliciting for CR projects annually in the fall of 2022.

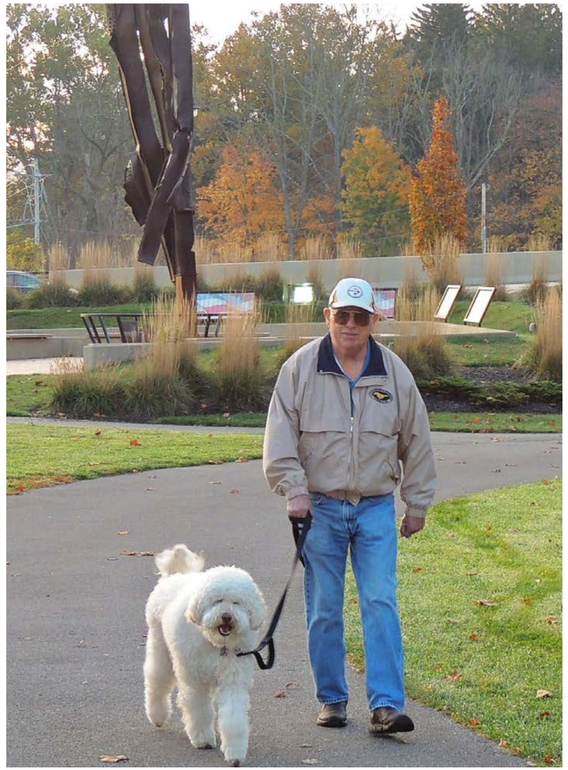
Priority Development and Advocacy Committee (PDAC)

The Miami Valley Regional Planning Commission works with the Dayton Regional Priority Development and Advocacy Committee (PDAC), and other organizations throughout the region to identify projects that may be eligible for federal and state funding. The purpose of this process is to establish a list of mature and eligible projects which benefit the region and to present the list in a timely fashion in a format that is useful to the federal and state elected officials. The list will be categorized to help guide the officials on regional needs.

While PDAC does not itself allocate funding to projects, it can produce positive results for projects recommended by the process. The partnership of MVRPC and other regional agencies has successfully obtained over $61 million dollars in funding, through this process. PDAC can be a viable route to secure funding through the State Capital Budget, for instance.

Transportation Review Advisory Council (TRAC)

Transportation Review Advisory Council (TRAC) assists the Ohio DOT in developing a project selection process for ODOT’s largest investments. The TRAC, chaired by ODOT’s Director, also approves Major New projects (cost more than $12 million) for funding. TRAC looks at applications more systemically, as part of a multi-modal transportation system. The scoring criteria are designed to more readily consider projects of various modes – highways, bridges, passenger rail, transit, and freight projects



– to compete for funding. Realistically, given the minimum project cost for TRAC consideration, only larger complete streets projects or transit projects may be a fit for the TRAC process.

Safe Routes to School (SRTS)

The Safe Routes to School program provides resources, technical assistance and project funding to encourage and enable students in grades K-12 to walk or bicycle to school. A comprehensive approach to SRTS includes both infrastructure and non-infrastructure countermeasures and programs.

This program, administered through the ODOT is funded at $4 million annually for projects in 5 categories: Engineering, Encouragement, Education, Enforcement and Evaluation. Funds are available for:

- Infrastructure projects within two miles of schools serving K-8 students. ODOT will reimburse up to 100% of eligible costs for all phases, including preliminary engineering, detailed design, right-of-way, construction, and construction engineering. Project limit: $400,000.
- Non-infrastructure activities such as education, encouragement, enforcement or evaluation. Non-infrastructure funding may be requested for assistance with the development of plans. ODOT will reimburse up to 100% of eligible costs for items such as training and materials, program supplies, small safety and education incentives, and public awareness campaigns. Project limit: $60,000.

Projects must be in an approved SRTS School Travel Plan or Active Transportation Plan to be eligible for SRTS funding. ODOT also provides some assistance for the development of SRTS School Travel Plans.

Clean Ohio Trails Fund (COTF)

The Clean Ohio Trail Fund (COTF) seeks to improve outdoor recreational opportunities for Ohioans by funding trails for outdoor pursuits of all kinds. Local governments, park and joint recreation districts, conservancy districts, soil and water conservation districts, and non-profit organizations are eligible to apply for land acquisition for trail or for new trail and connector trails. State of Ohio will reimburse up to 75 percent of eligible costs under Clean Ohio Trail Fund with a grantee match of 25 percent.

Recreational Trails Program (RTP)

RTP is a federally funded trails program administered in Ohio through the Ohio Department of Natural Resources. Cities and villages, counties, townships, special districts, state and federal agencies, and nonprofit organizations are eligible to apply for projects including development of urban trail linkages, trail head and trailside facilities; maintenance of existing trails; restoration of trail areas damaged by usage; improving access for people with disabilities; acquisition of easements and property; development and construction of new trails; purchase and lease of recreational trail construction and maintenance equipment; environment and safety education programs related to trails. This program requires a federal/local cost split of 80/20 percent, and ODNR caps the federal contribution per project at $150,000.

Federal Transit Administration (FTA) Section 5310

This program (49 U.S.C. 5310) provides formula funding to states for the purpose of assisting private nonprofit groups in meeting the transportation needs of older adults and people with disabilities when the transportation service provided is unavailable, insufficient, or inappropriate to meeting these needs. The program aims to improve mobility for seniors and individuals with disabilities by removing barriers to transportation service and expanding transportation mobility options. Eligible projects include both “traditional” capital investment and “nontraditional” investment beyond the Americans with Disabilities Act (ADA) complementary paratransit services. Non-traditional Section 5310 project examples include building accessible paths to access transit stops, including curb-cuts, sidewalks, accessible pedestrian signals or other accessible features.

Safe Streets For All (SS4A)

This program was established by the Bipartisan Infrastructure Law, signed in 2021. The Act allocates $200 million per year for the new Safe Streets and Roads for All grant program, which will fund projects and plans aimed at reducing traffic fatalities and injuries in communities throughout the U.S. These grants will be available to cities, counties, metropolitan planning organizations (including MVRPC) and tribal governments.

This program will specifically fund developing comprehensive safety action plans or “Vision Zero” plans. Planning, design, and project development on low-cost, high-impact elements of a safety action plan, or construction or implementation of those

projects are also eligible uses of these funds. MVRPC will study whether this AT Plan plus other existing plans and safety studies collectively constitute a systemic safety action plan, resulting in eligibility for SS4A funding. Notably, $200 million each year will not construct a great deal of infrastructure across the US, but the hope is that supporting local communities will ensure Vision Zero action plans will establish actionable and fundable projects from future federal and state funding allocations.

Rebuilding American Infrastructure & Sustainability & Equity (RAISE)

RAISE Grants are awarded by the U.S. DOT on a competitive basis for investments in surface transportation infrastructure that will have a significant local or regional impact. RAISE Grant Funds were authorized under the Local and Regional Assistance Program in the Infrastructure Investment and Jobs Act, known as the Bipartisan Infrastructure Law (BIL). Eligible projects include transit, multimodal and regional trail projects, among more traditional surface transportation project types.

Highway Safety Improvement Program (HSIP)

The purpose of the program is to reduce traffic deaths and serious injuries on all public roads, including pedestrian and bicyclist injuries and deaths. ODOT dedicates about $158 million annually for engineering improvements at severe crash locations or locations with the potential for severe crashes – one of the largest state investments in the nation. This funding is available to both ODOT and local governments, and it can be used to make improvements on any public roadway.

ODOT funds safety projects through three channels. Systemic Safety improvements address problems occurring statewide, such as roadway departure and pedestrian safety. The Pedestrian Safety Improvement Program, started in 2019, is designed to address the rising numbers of pedestrians killed and injured by cars and trucks by implementing low and medium-cost countermeasures along arterials and collectors such as curb ramps, raised crosswalks, pedestrian islands, streetlights, Rapid Flashing Beacons, and crosswalks. The Abbreviated Safety program funds low-cost projects (typically under $250,000) to quickly implement safety improvements at locations with a crash pattern and safety concern. Finally, the Formal Safety channel funds development of higher cost, complex, safety improvements that require a detailed review.

AT Plan Development Assistance

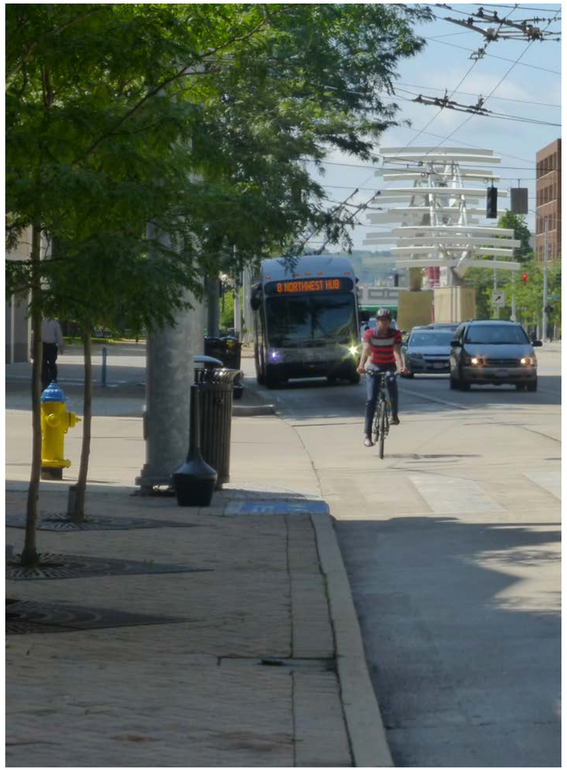
In 2022 the Ohio DOT offered a competitive funding opportunity for cities, villages, townships and counties to support the development of local Active Transportation plans. ODOT will provide consultant assistance to support the selected local governments with the development of a standalone AT Plan, in conjunction with the AT Plan Development Guide and AT Plan Template.[29] These local AT Plans will outline the strategies needed to support safe, convenient, and accessible active transportation options. This funding may only be used for planning. Should Ohio DOT offer this funding source in the future, it would serve as an opportunity for communities in the Miami Valley to develop local AT Plans for their residents.

Facility Design Guidance

In the spring of 2022, ODOT released a Multimodal Design Guide[30] as a consolidated resource for planners and designers implementing pedestrian and bicycle facilities in the state of Ohio. The guide consolidates and updates bicycle and pedestrian transportation guidance and research from across the Ohio Department of Transportation. It is intended to supplement resources such as the Ohio Traffic Engineering Manual, Location and Design Manual, Bridge Design Manual, Ohio Manual of Uniform Traffic Control Devices, and State Highway Access Management Manual. According to ODOT, the guide will be used by the state agency to review local agency designs for state- and federally-funded projects.

The guide aligns with the state's Walk.Bike.Ohio plan, and also the strategic Highway Safety Plan's goal to achieve zero traffic deaths on our roadways. It includes content on the planning, design and maintenance of pedestrian, bicycle and transit facilities.

Miami Valley communities can refer to the ODOT Multimodal Design Guide when planning local and regional transportation networks to make sure they are following best practices in accommodating all roadway users. The guidance in the document helps planners and designers make decisions about where pedestrian and bicycle facilities are needed, and identify what facilities are appropriate to improve the comfort and safety of vulnerable roadway users. Communities also may consider adopting the guide, or portions of it, as their local design criteria, such as through a Local Complete Streets Policy or other local



plan. Miami Valley communities are strongly encouraged to access and incorporate the ODOT Multimodal Design Guide into their local active transportation planning and design processes.

The guide can also be a reference for community members, advocates, elected officials, and other stakeholders interested in advancing multimodal transportation planning and design practices in Ohio.

Maintenance Strategies

The long-term performance of bicycle and pedestrian networks depends on both the construction of new facilities and an investment in continued maintenance. Maintaining bicycle and pedestrian facilities is critical to ensuring those facilities are accessible, safe, and functional.

The first step to approaching maintenance is to understand how often maintenance should be performed. Many activities, such as signage updates or replacements, are performed as needed, while other tasks such as snow removal are seasonal. Creating a winter maintenance approach is important to encourage year-round travel by walking and biking. One key component of this approach should be identifying priority routes for snow removal. More information on winter maintenance such as types of equipment needed for different facility types and how to consider snow removal in the design of facilities can be found in Toole Design's Winter Maintenance Resource Guide.[31]

Many jurisdictions struggle with confusion around which entity – city, village, township, county, or state – is responsible for the maintenance of trails and other active transportation facilities. Frequently there is no documentation showing who is responsible for maintenance of existing facilities, which can prolong unsafe conditions for users. Coordination between the government agencies is key for effective maintenance programs. Intergovernmental agreements (IGAs) are used to codify the roles and responsibilities of each agency regarding ongoing maintenance. For example, a local government may agree to conduct plowing, mowing, and other maintenance activities on trails in its jurisdiction that were built by another agency. Clarifying who is responsible for maintenance costs and operations ensures that maintenance problems are resolved in a timely manner.

Different facility types require different types of strategies to be maintained. The table on page 111 breaks down recommended maintenance activities and strategies for each by facility type.

Facility Type	Maintenance	Strategy
Shared Use Paths/ Separated Bike Lanes	Pavement Preservation	Develop and implement a comprehensive pavement management system
	Snow and Ice Control	Include clearing ice and snow from bicycle facilities at the same time the motor traffic lanes are treated/cleared
	Drainage Cleaning/ Repairs	Clear debris from all drainage devices to keep drainage features
		Check and repair any damage to trails due to drainage issues
	Sweeping	Implement a routine sweeping schedule to clear shared-use paths of debris
		Provide trail etiquette guidance and trash receptacles to reduce need for sweeping
	Vegetation Management	Implement a routine vegetation management schedule to ensure user safety
		Trim or remove diseased and hazardous trees along trails
		Preserve and protect vegetation
	ADA Requirements	Conduct walk and bike audits to assess accessibility; MVRPC can assist with these audits.
		Ensure that ADA compliance is incorporated into the design of new facilities
Paved Shoulders/ Bike Lanes	Pavement Markings	Routinely inspect pavement markings and replace or repair as needed
		Consider preformed thermoplastic or polymer tape on priority bikeways
	Snow and Ice Control	Clear all signed or marked shoulder bicycle facilities after snowfall on state-owned facilities that do not have a maintenance agreement with a local government
	Sweeping	Implement a routine sweeping schedule to clear high-volume routes of debris
Bicycle Boulevards	Sign Replacement	Repair or replace damaged or missing signs as soon as possible
Sidewalks	Pavement Preservation and Repair	Conduct routine inspections of high-volume sidewalks and apply temporary measures to maintain functionality (patching, grinding, mudjacking)
		Consider using public agency staff or hiring contractors for sidewalk repairs, rather than placing responsibility on property owner (property owner can still be financially responsible)
	Snow and Ice Control	Educate the public about sidewalk snow clearance
		Require sidewalk snow clearance to a width of five feet on all sidewalks
		Establish required timeframes for snow removal
		Implement snow and ice clearing assistance programs for select populations

APPENDIX

Greene County Projects

Number	ATPID	County	Project Name	Mode	Description
1	GRE39	Greene	Dayton-Xenia Road in Xenia from Progress to Richard to Church	Bike & Ped	Add sidepath in Greene CATS flex route flagging areas Progress to Richard Rd - bike lanes and sidewalks Richard to Church Rd
2	GRE45	Greene	Streetscape Improvements in Downtown Xenia	Ped	East and West Main, S. Church and Cincinnati Ave (intermittent)
3	GRE56	Greene	REACH Xenia	Bike	Widening/bike/pedestrian path on Upper Bellbrook Road from S. Progress to Colorado Dr, bike lanes/ sharrows/path on Colorado and Bellbrook Avenue, connecting to Little Miami Scenic Trail
4	GRE03	Greene	Indian Ripple Sidewalks/ Sidepath	Bike & Ped	Complete sidewalks along Indian Ripple Road from Narrows Reserve to The Greene (intermittent)
5	GRE10	Greene	Fairborn to Yellow Springs		Widen sidewalk or add sidepath along Yellow Springs Fairfield Rd within city
6	GRE18	Greene	Fairborn to Yellow Springs	Bike & Ped	Shared use path/sidepath along Yellow Springs Fairfield Rd
7	GRE22	Greene	WB Huffman Prairie Trail	Bike & Ped	NE from Fairborn along railroad right-of-way towards Enon
8	GRE46	Greene	Point Locations in Xenia	Bike & Ped	9 suggested crosswalk improvements, transit stop improvements, and signage
9	GRE09	Greene	Wilmington Pike Sidepath South	Bike & Ped	New Shared use path/sidepath from Ambridge Ln to Alex Bell, with crossing at Bellemeade

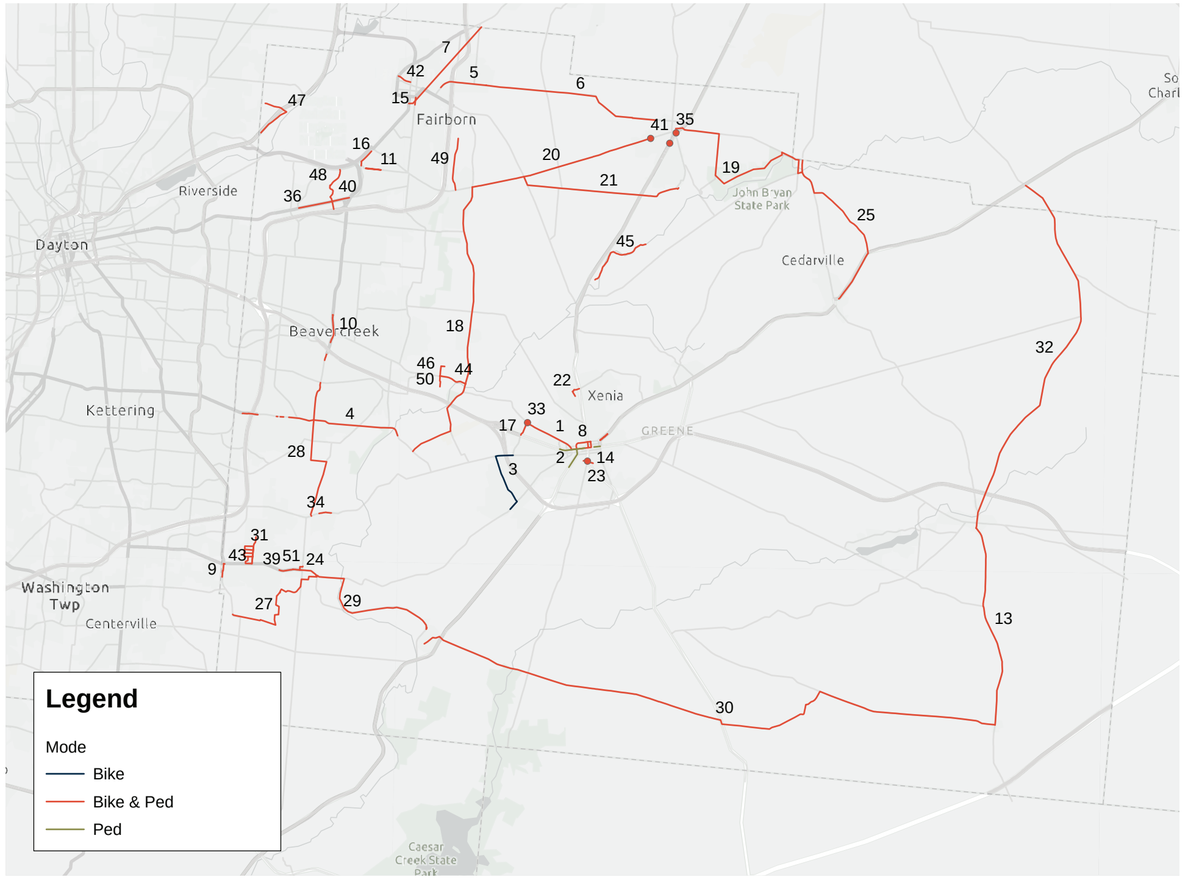
Number	ATPID	County	Project Name	Mode	Description
10	GRE02	Greene	Bellbrook-Fairborn	Bike & Ped	Sidepath along Fairfield Rd from Kemp to Upper Bellbrook Rd
11	GRE11	Greene	Funderberg Road in Fairborn from Hamilton to Rice	Bike & Ped	Complete sidewalks in Greene CATS flex route flagging areas
12	GRE12	Greene	Colonel Glenn in Fairborn from Funderberg to Kauffman	Bike & Ped	Complete sidewalks in Greene CATS flex route flagging areas
13	GRE24	Greene	Bowersville-Cedarville Connector	Bike & Ped	Shared use path/sidepath along 72 from Bowersville to Jamestown Connector
14	GRE38	Greene	Xenia-Jamestown Connector	Bike & Ped	Bike lanes from Xenia Station hub to X-J Connector across 68 along Washington St
15	GRE40	Greene	U.S. 42 in Xenia from Church (traffic circle) to Radar	Bike & Ped	Complete sidewalks in Greene CATS flex route flagging areas
16	GRE13	Greene	Kauffman Ave in Fairborn from Colonel Glenn to Montgomery	Bike & Ped	Complete sidewalks in Greene CATS flex route flagging areas
17	GRE42	Greene	Progress Drive Sidewalks	Bike & Ped	Add sidewalk on the west side of Progress Dr
18	GRE26	Greene	Trebein Rd Sidepath	Bike & Ped	Sidepath/shared use paths along Treibein Road, including access to Glen Thompson Reserve
19	GRE52	Greene	Yellow Springs to Clifton	Bike & Ped	Shared use path along 343 then along park roads in John Bryan Park to connect Yellow Springs to Clifton

Number	ATPID	County	Project Name	Mode	Description
20	GRE27	Greene	Dayton-Yellow Springs Road sidepath	Bike & Ped	New shared use path/sidepath along Dayton Yellow Springs Road
21	GRE28	Greene	Hyde Road bike way	Bike & Ped	New shared use path along Hyde Road from Fairborn to Yellow Springs
22	GRE43	Greene	Alameda/Hollywood Drives	Bike & Ped	Bike Lanes /Sharrows to connect Fairgrounds with Little Miami Scenic Trail
23	GRE44	Greene	US 68 @ Kinsey	Bike & Ped	Bike/pedestrian crossing improvements: high visibility crosswalk, bike boxes, bike loop detectors.
24	GRE07	Greene	Germantown-Bowersville	Bike & Ped	Route through historic Bellbrook from Little Sugar Creek to Sackett Wright Park
25	GRE19	Greene	Clifton to Cedarville	Bike & Ped	Shared use path/sidepath on 72 and Fishworm Rd from Clifton to Cedarville
26	GRE06	Greene	Germantown-Bowersville	Bike & Ped	Bike/pedestrian bridge crossing Little Sugar Creek
27	GRE53	Greene	Great-Little Alternate	Bike & Ped	Extend trail from Bill Yeck Park (or from terminus of the project above) through Sugarcreek MetroPark and to the Little Miami Trail
28	GRE23	Greene	Bellbrook-Fairborn	Bike & Ped	From existing bikeway on Upper Bellbrook, Sidepath along Feedwire, Alpha Bellbrook, Stutsman, Fairfield to Shakertown
29	GRE20	Greene	Germantown-Bowersville	Bike & Ped	Shared use path from Sackett Wright Park to the Little Miami Scenic Trail

Number	ATPID	County	Project Name	Mode	Description
30	GRE21	Greene	Germantown-Bowersville	Bike & Ped	Shared use path/sidepath along Spring Valley-Paintersville, Paintersville-New Jasper, and Hussey to Bowersville
31	GRE35	Greene	Complete Sidewalk Network in Stephen Bell Elementary Neighborhood	Bike & Ped	Multiphased project (6 phases) to complete the sidewalk infrastructure in the neighborhood west of Stephen Bell Elementary
32	GRE25	Greene	Bowersville-Cedarville Connector	Bike & Ped	From Jamestown Connector to Ohio-to-Erie Trail along New Jasper Station, Old 35, Straley, Hopping, Federal, Wilmington
33	GRE41	Greene	Dayton Xenia Rd @ Progress Dr.	Bike & Ped	Pedestrian signal and high visibility crosswalk
34	GRE33	Greene	Upper Bellbrook bike connection	Bike & Ped	New bikepath from Upper Bellbrook/Feedwire/Pine CT Intersection to Kable's Mill Drive to Seton Hill Drive
35	GRE51	Greene	LMST Crossing Improvements in YS	Bike & Ped	Safety improvements at Little Miami Scenic Trail crossings of US 68 and Dayton St in Yellow Springs
36	GRE14	Greene	Colonel Glenn crossings near WSU	Bike & Ped	Review and improve crossing safety/convenience along Colonel Glenn in University district
37	GRE04	Greene	Germantown-Bowersville	Bike & Ped	Along SR 725 from Wilmington Pike to 0.02 miles east of Wilmington
38	GRE54	Greene	Maple Ave. Sidewalks	Bike & Ped	Complete sidewalks along Maple Ave in Greene CATS flagging areas

Number	ATPID	County	Project Name	Mode	Description
39	GRE05	Greene	Germantown-Bowersville	Bike & Ped	Along SR 725 from Vemco Dr to Little Sugar Creek, widen 5' sidewalk to 8' or 10' sidepath
40	GRE36	Greene	Bellbrook-Fairborn	Bike & Ped	Wright State Way bridge to University Blvd. Route along Center Park Blvd and Loop Road
41	GRE48	Greene	Intersection Improvements in Yellow Springs	Bike & Ped	Safety and operational improvements at interesections along Dayton St and Xenia Ave (US 68) in Yellow Springs
42	GRE16	Greene	Hebble Creek Path	Bike & Ped	Trail along Hebble Creek from Broad to Central in Fairborn
43	GRE34	Greene	North Belleview Drive	Bike & Ped	New sidewalks along existing ditch with curb and gutter closed drainage on the east side of Belleview from SR 725 to Tareyton Drive
44	GRE29	Greene	Dayton-Xenia Road Multiuse Path in Bevercreek	Bike & Ped	New multiuse path along north side of Dayton-Xenia Road to include marked crosswalks and ADA accomodations
45	GRE17	Greene	Jacoby Canoe Launch Connection	Bike & Ped	New shared use path/Sidepath to Jacoby Canoe / Camping area from Little Miami Scenic Trail
46	GRE30	Greene	Ankeney Road Multiuse Path	Bike & Ped	New multiuse path along Ankeny to softball fields to include marked crosswalks and ADA accomodations
47	GRE01	Greene	Bike Safety Improvements Union Rd, Lower Valley Rd	Bike & Ped	Bike facility or other improvements along Union Rd and Lower Valley Rd to improve access to MetroParks Mountian Biking Area

Number	ATPID	County	Project Name	Mode	Description
48	GRE37	Greene	Bellbrook-Fairborn	Bike & Ped	Widen sidewalk on University Blvd to a consistant 8’ or 10’ width to Kauffman Ave.
49	GRE15	Greene	Walking and Biking routes to new Fairborn High School	Bike & Ped	New High School to be constructed on Commerce Center Drive
50	GRE31	Greene	Connection to Beavercreek Bikepath from Jacob Coy Middle School	Bike & Ped	Add connection to bikepath across Dayton-Xenia Road at Ankeney Road
51	GRE08	Greene	Bellbrook-Fairborn	Bike & Ped	Signed route along West and Walnut to bikeway at Bellbrook Park
52	GRE55	Greene	Huffman MetroPark/ Huffman Flying Field Access	Bike & Ped	New vehicular entry to provide access to the Mad River Trail, Huffman Flying Field, Huffman MetroPark

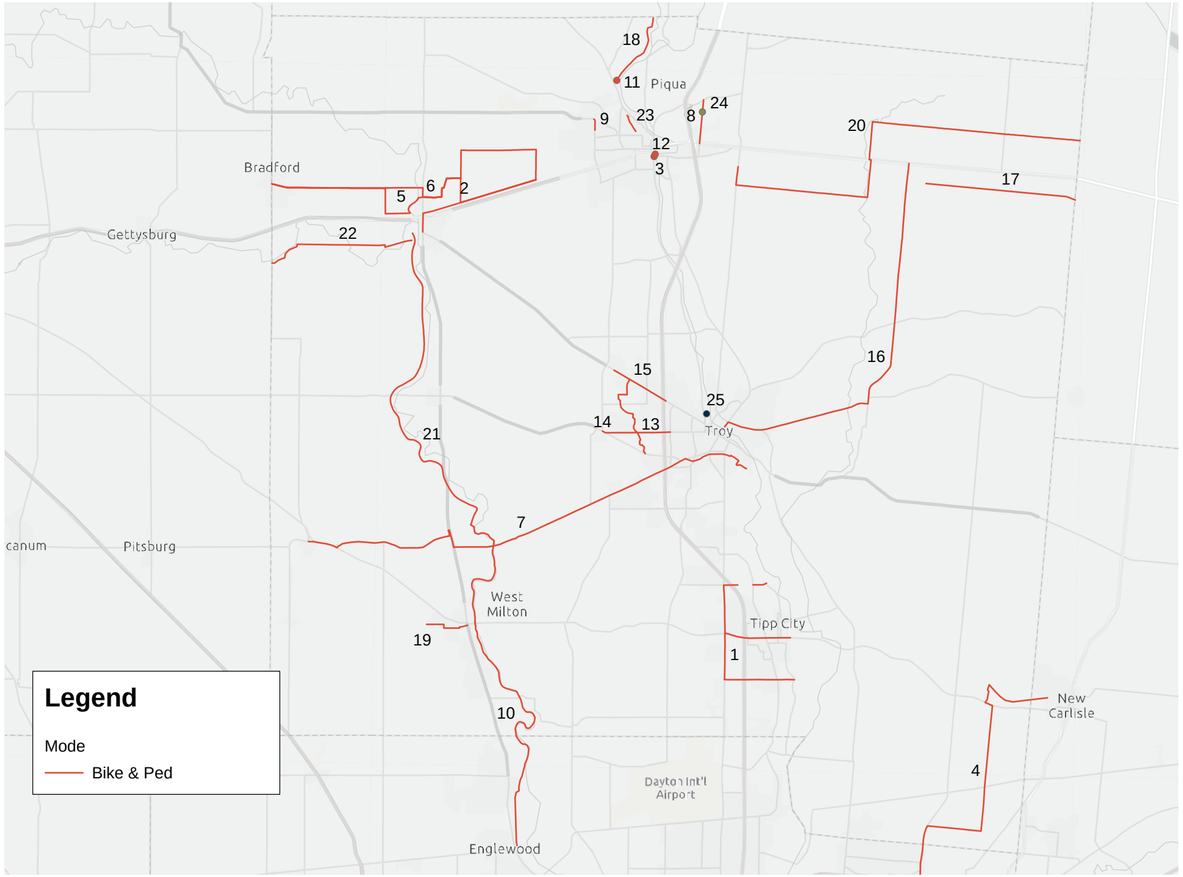


Miami County Projects

Number	ATPID	County	Project Name	Mode	Description
1	MIA18	Miami	Tipp City Bikeways	Bike & Ped	Bikeways along Evanston, 25-A, SR 571, and Kessler-Cowlesville connecting residential areas to Great Miami River Trail
2	MIA02	Miami	Ohio-to-Indiana Trail	Bike & Ped	Shared use path from High St, Covington then east on railroad right-of-way to Piqua
3	MIA13	Miami	Railroad Bridge Improvements in Piqua	Bike & Ped	New decking, railing and accessible access on west end of railroad Bridge along Ohio-to-Indiana Trail in Piqua
4	MIA24	Miami/ Montgomery	Carriage HIlls Connector	Bike & Ped	Connect Carriage Hills with New Carlisle via widened shoulders on 202, Singer, Palmer, 571, Dayton-Brandt, and shared use path on former railroad right-of-way
5	MIA03	Miami	Ohio-to-Indiana Trail	Bike & Ped	Follow the Conrail right-of-way westward from Spiker Road to North McMaken Road then proceed northward to Ingle Road; on Ingle Road proceed west and then southerly along Ingle Road to its most southeasterly point; then commencing at that point in a southwesterly direction along the Covington Tributary (that feeds into the Stillwater River) to the Conrail right-of-way (between Face and East Lindsey Streets in Covington); then proceeding west along the Conrail right-of-way to Range Line Road; then on Range Line Road proceed northward to Covington Bradford Road; then on Covington Bradford Road proceed west to the Village of Bradford

Number	ATPID	County	Project Name	Mode	Description
6	MIA26	Miami	State Bike Route 36 West of Piqua	Bike & Ped	State Designated route for route 36 in Miami County. Share the road signage, widened shoulders, other safety treatments as needed.
7	MIA06	Miami	Laura-Troy Connector	Bike & Ped	Shared use path along former railroad right-of-way from Laura to Troy
8	MIA17	Miami	Looney Road	Bike & Ped	Create a road diet to lower corridor from four lanes to three
9	MIA14	Miami	North Sunset Drive	Bike & Ped	Extend sidewalk and add crosswalk & curb ramps at Alpha & Sunset Drive
10	MOT82	Miami/ Montgomery	Stillwater River Trail	Bike & Ped	Englewood to West Milton
11	MIA25	Miami	Roadside Park Bridge	Bike & Ped	Bridge across canal feeder stream into Johnston Farm & Indian Agency property
12	MIA12	Miami	Piqua Bike Hub	Bike & Ped	Trailhead and trail user services hub in Piqua
13	MIA28	Miami	Miller Trib Connector	Bike & Ped	Shared Use Path from West Main to Arthur Road along tributary creek
14	MIA21	Miami	McKaig Ave in Troy	Bike & Ped	Complete bike/pedestrian connection along McKaig Ave from I-75 west to Stanfield
15	MIA19	Miami	West Main Street in Troy	Bike & Ped	Bike/Ped facilities along West Main from I-75 to Carriage Crossing Way.

Number	ATPID	County	Project Name	Mode	Description
16	MIA08	Miami	Troy-Fletcher Connector	Bike & Ped	Widen shoulders on SR 55 and SR 589 connecting Troy, Casstown and Fletcher
17	MIA04	Miami	Ohio-to-Indiana Trail	Bike & Ped	Shared use path between N Casstown Sidney Road and Champaign County Line
18	MIA05	Miami	GMR Trail	Bike & Ped	North from Piqua/Johnston Farm to Shelby County Line
19	MIA22	Miami	West Milton School Campus to Downtown	Bike & Ped	Bike route on local streets between Milton Union School campus to downtown West Milton
20	MIA27	Miami	State Bike Route 36 East of Piqua	Bike & Ped	State designated route for route 36 in Miami County. Share the road signage, widened shoulders, other safety treatments as needed.
21	MIA23	Miami	Stillwater River Trail	Bike & Ped	West Milton to Covington
22	MIA09	Miami	Cardinal Bike Route	Bike & Ped	Widen shoulders along Covington-Gettysburg Rd from Covington and the Darke County Line
23	MIA15	Miami	Nicklin Avenue	Bike & Ped	Replace sidewalk, improve crosswalks, add new school zone signage, remove islands to widen
24	MIA16	Miami	Looney Road Crosswalk	Ped	Install a marked crosswalk and rapid flashing beacon mid-block
25	MIA20	Miami	Troy Bike Hub	Bike	Trailhead and trail user services hub in Troy



Montgomery County Projects

Number	ATPID	County	Project Name	Mode	Description
1	MOT59	Montgomery	SR 741 Bike/Ped Facilities	Bike & Ped	Continuous sidewalk from Ferndown to South Dixie Ave on both sides of the road - 8' or 10' width on one side of road; pedestrian facility is priority where width cannot accommodate a bike facility
2	MOT41	Montgomery	Brandt Pike Improvements	Bike & Ped	Intersection geometry fixes, improved signals, crosswalks, mid-block crossings, pedestrian-oriented lighting, 2-way cycle track with road diet and enhanced transit stop amenities
3	MOT48	Montgomery	Springboro Pike (SR 741) from Miamisburg-Centerville to Cobblegate	Ped	Complete sidewalks (or shared use path) along areas with GDRTA bus stops (intermittent)
4	MOT61	Montgomery	Great Miami River-Centerville Connector	Bike	Route/shared use path from West Carrollton to Bellbrook via Cox Arboretum, Yankee Park, Grant Park Pleasant Hill Park
5	MOT81	Montgomery	Fifth/Burkhardt Safety Enhancements	Bike & Ped	Traffic calming or other safety enhancements along this corridor
6	MOT32	Montgomery	Wolf Creek Trail	Bike & Ped	Shared use path from Hickorydale Park to Wolf Creek Trail terminus in Trotwood
7	MOT34	Montgomery	Stillwater River Trail	Bike & Ped	From existing trail on Shoup Mill Road to Grossnickle Park
8	MOT95	Clayton, Montgomery County Engineer, Brookville	Westbrook Road Sidepath	Bike & Ped	Sidepaths along Westbrook Road and Dog Leg Road from the Wolf Creek Trail to the Stillwater River Trail
9	MOT17	Montgomery	Traffic Calming on Third in Dayton	Bike & Ped	Traffic calming enhancements from Keowee to Linden on Third Street, including a protected bike lane.
10	MOT27	Montgomery	Traffic Calming On Philadelphia	Bike & Ped	Traffic compling enhacements on Philadelphia from James H. Mcgee to N. Mian
11	MOT54	Montgomery	North Main Street Sidewalks	Ped	Complete sidewalks along SR 48, North Main Street from Shiloh Springs to Sweet Potato Ridge
12	MOT62	Montgomery	Old National Road Trail	Bike & Ped	Shared use path/sidepath from Englewood MPO to Centenial Park in Englewood
13	MOT39	Montgomery	Turner Road/Shoup Mill Road/Needmore Road from Klepinger to Frederick Pike	Ped	Complete sidewalks along areas with GDRTA bus stops
14	MOT58	Montgomery	Germantown-Bowersville	Bike	Widen shoulders on Lowwer Miamisburg/Riverview/Maue between SR4 and Alexandersville
15	MOT72	Montgomery	Old National Road Trail/ Airport Access	Bike	Shared use path along US 40 from Frederick to Bohanan; improve bicycle access to Dayton International Airport for employee access

Number	ATPID	County	Project Name	Mode	Description
16	MOT38	Montgomery	Siebenthaler Sidewalks	Ped	Complete sidewalks and W Siebenthaler from Salem to N Main
17	MOT51	Montgomery	Wolf Creek Connector	Bike	Widening shoulders on Union Road for N-S route on the west side of Montgomery County
18	MOT71	Montgomery	US 40 (National Road) @ Dixie Enhancements in Vandalia	Bike & Ped	Downtown active transporttion enhancements, potentially including, road diet, traffic calming, bike lanes, transit stop enhancements, improved pedestrian signal timing, bike parking, speed limit reduction,
19	MOT14	Montgomery	The Flight Line	Bike & Ped	Shared use path along railroad right-of-way from Creekside Trail to Fourth St in Dayton
20	MOT20	Montgomery	Riverside Road Diet	Bike	Road diet on Patterson/Riverside in Dayton
21	MOT79	Montgomery	Loop Road Bridge	Bike & Ped	Improved facilities for bikes and Peds on Loop Road Bridge over 675
22	MOT64	Montgomery	Linden/Spinning/Burkhardt in Riverside	Ped	Complete sidewalks along areas with GDRTA bus stops (intermittent)
23	MOT91	Montgomery	Clyo Road Bikeway	Bike & Ped	Shared use path/sidepath on Clyo Road from Alex Bell to Spring Valley
24	MOT60	Montgomery	Taylorsville-Carriage Hill Connector	Bike & Ped	Shared use path and on street path between Taylorsville MetroPark and Carriage Hill MetroPark
25	MOT50	Montgomery	Possum Creek-Jefferson Twp	Bike & Ped	Shared use path from Possum Creek MP to Arthur Fisher Park and along Dayton Liberty Rd to Union Rd

Number	ATPID	County	Project Name	Mode	Description
26	MOT55	Montgomery	Western Montgomery County N-S Route	Bike	Connecting Brookville, New Lebanon, Farmersville and Germantown
27	MOT26	Montgomery	Valley Street/Harshman Avenue from Valleycrest to Brandt	Ped	Complete Sidewalks along areas with GDRTA bus stops
28	MOT68	Montgomery	Denlinger Road/Garber Road from Free Pike to Honeybrook	Ped	Complete sidewalks along areas with GDRTA bus stops
29	MOT69	Montgomery	Sidewalks on Shiloh Springs	Ped	Complete sidewalks along Shiloh Springs Rd in Trotwood and Harrison Twp (intermittent)
30	MOT19	Montgomery	N Main in Dayton	Ped	Safety enhancements on SR 48 (Delaware to Hillcrest)
31	MOT57	Montgomery	Main Street Bridge in Moraine	Bike & Ped	Create safe bike and pedestrian connection to the bike stairs along the bridge over I-75/river - connect to bikeway at Elter Dr
32	MOT65	Montgomery	Sidewalks along Free Pike	Ped	Complete sidewalks along Free Pike in Trotwood
33	MOT52	Montgomery	Great Little Trail	Bike & Ped	Shared use path/sidepath along Social Row Rd. from Robert Mays Park to Dayton-Wilmington Road (then connection to Lttle Miami Scenic Trail)
34	MIA24	Montgomery/ Miami	Carriage HIlls Connector	Bike & Ped	Connect Carriage Hills with New Carlisle via widened shoulders on 202, Singer, Palmer, 571, Dayton-Brandt, and shared use path on former railroad right-of-way

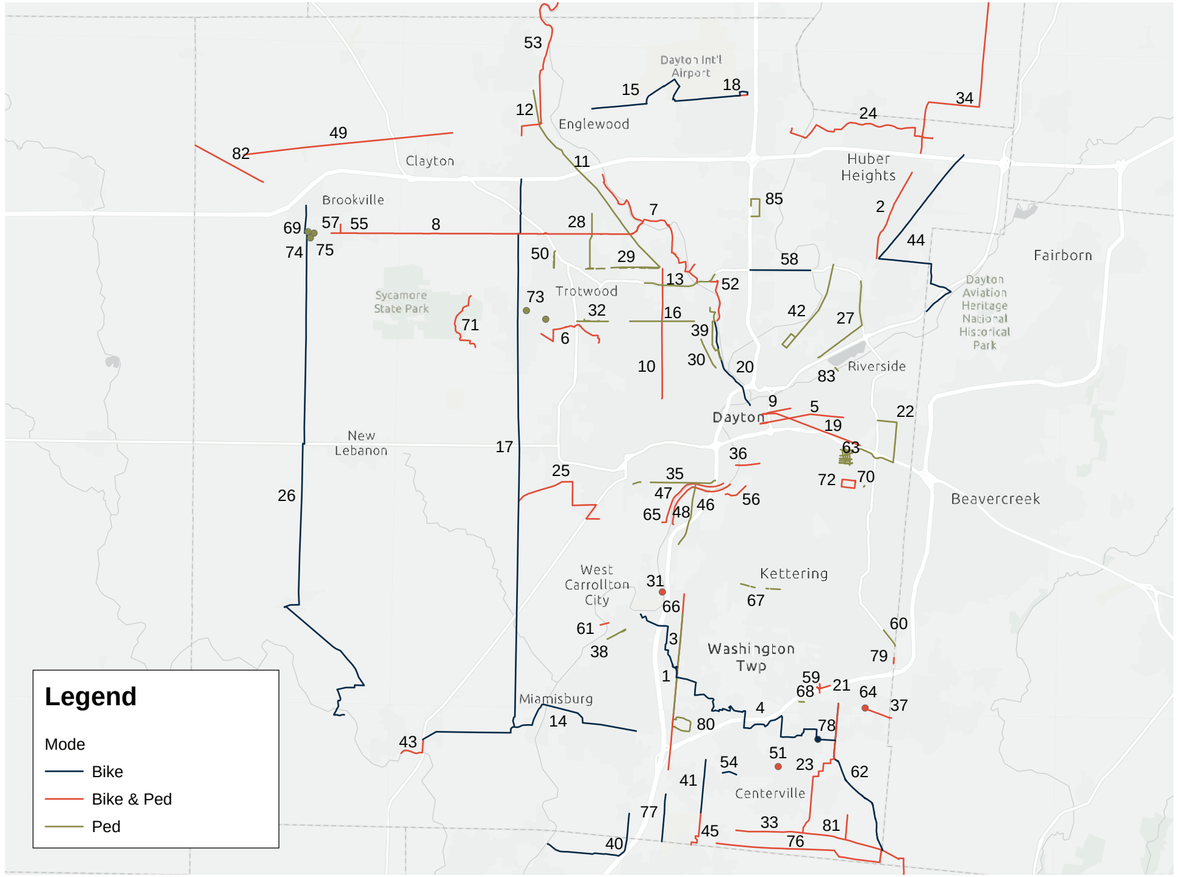
Number	ATPID	County	Project Name	Mode	Description
35	MOT15	Montgomery	Nicholas Road from Modena to Dryden and Edwin C. Moses from Dryden to I-75	Ped	Complete sidewalks along areas with GDRTA bus stops (intermittent)
36	MOT16	Montgomery	Stewart Street Bikeway	Bike & Ped	Safety improvements from Great Miami River Trail to Brown Street including no turn on red at intersections
37	MOT06	Montgomery	Alex Bell Hiker-Biker Extension	Bike & Ped	Sidepath along 725 from Marwyck to Wilmington Pike
38	MOT76	Montgomery	W Central Avenue in West Carrollton	Ped	Pedestrian and crossing enhancements
39	MOT24	Montgomery	Along the path of RTA Route 16 Northbound along Riverside, Theodore, Wampler and Old Riverside	Ped	Complete sidewalks along areas with GDRTA bus stops
40	WAR07	Montgomery/ Warren	Medlar Bypass Route	Bike	Connection from Great Miami RiverTrail to Great-Little Trail along Pennyroyal, Clearcreek-Franklin and Wood
41	MOT92	Montgomery	Yankee Bikeway	Bike	Signed bikeway/bike lanes along Yankee from Route 12 to Austin Pike
42	MOT25	Montgomery	Troy Pike from Stanley to Needmore	Ped	Complete sidewalks along areas with GDRTA bus stops
43	MOT37	Montgomery	Germantown-Bowersville	Bike & Ped	Shared use path along Twin Creek between Main St and SR4/SR725 Intersection
44	MOT77	Montgomery	Carriage HIlls Connector	Bike	Connect Carriage Hills MetroPark to Huffman MetroPark via Union School House, Baker, Kitridge, and Bellefontaine.

Number	ATPID	County	Project Name	Mode	Description
45	MOT84	Montgomery	Springboro Central Greenway	Bike & Ped	Running SW to NE in City of Springboro connection from Great Miami River Trail (via Franklin) to Great-Little Trail
46	MOT56	Montgomery	Dryden Road from Northlawn to Nicholas	Ped	Complete sidewalks along areas with GDRTA bus stops
47	MOT12	Montgomery	GMR Trail	Bike & Ped	Shared use path on west bank of Great Miami River from current trail terminus to W River Road
48	MOT47	Montgomery	GMR Trail enhancements	Bike & Ped	Improve amenities on Great Miami River Trail from Carillon Park south to River Road
49	MOT53	Montgomery	Old National Road Trail	Bike & Ped	Shared use path/sidepath along US 40 from Wolf Creek Trail to Northmont Schools Property
50	MOT66	Montgomery	Sidewalks on Olive	Ped	Complete sidewalks on Olive Rd in Trotwood
51	MOT88	Montgomery	Stubbs Park Access	Bike & Ped	Access to Stubbs Park from Peachcreek with new curbcut and pavement
52	MOT28	Montgomery	Stillwater River Trail	Bike & Ped	Wegerzyn Road repaving for portion that is also the Trail
53	MOT82	Montgomery/ Miami	Stillwater River Trail	Bike & Ped	Englewood to West Milton
54	MOT74	Montgomery	Germantown-Bowersville	Bike	Bike lanes on Spring Valley Pike from Yankee to McEwen
55	MOT01	Montgomery	Westbrook Road	Bike & Ped	Multiuse trail connection from Wolf Creek Trail to Wolf Creek Street & intersection improvement
56	MOT29	Montgomery	Old River Trail	Bike & Ped	New shared use path through National Cash Register Old River property

Number	ATPID	County	Project Name	Mode	Description
57	MOT02	Montgomery	Albert Road Bike Connection	Bike & Ped	Multiuse trail connection from Albert to Wolf Creek Trail
58	MOT40	Montgomery	Needmore Rd Bike Way	Bike	Bikeway along Needmore Road
59	MOT10	Montgomery	Extend Iron Horse Trail	Bike & Ped	From current southern terminus to Village South Park and Loop Road
60	MOT43	Montgomery	Wilmington Sidewalks	Ped	Complete sidewalks on east side of wilmington from Brown to Arrowhead
61	MOT85	Montgomery	Bridge over Great Miami River in West Carrollton	Bike & Ped	Bike/pedestrian bridge over the Great Miami River on or parallel to Farmersville-West Carrollton Road bridge
62	MOT07	Montgomery	Iron Horse Trail	Bike	Extend Iron Horse Trail from Alex Bell Rd to Social Row Rd
63	MOT18	Montgomery	Add Neighborhood Sidewalks	Ped	Neighborhood bounded by Linden, Smithville, Corinth and the Iron Horse Trail is nearly 100% without sidewalks.
64	MOT89	Montgomery	Crossing Alex Bell @ Marwyck	Bike & Ped	Crossing/lighted signs & crosswalk to cross Alex Bell at Marwyck to reach trail on north side of Alex Bell
65	MOT13	Montgomery	Great Miami River Trail	Bike & Ped	Shared use path along W. River Road to Sunwatch
66	MOT45	Montgomery	Moraine Bike Stair replacement	Bike & Ped	Replace bike stairs at Main Street in Moraine with ADA compliant connection between the bridge and the Great Miami River Trail
67	MOT44	Montgomery	Stroop Rd Sidewalks	Ped	Complete gaps in sidewalks along W. Stroop Road (both sides)

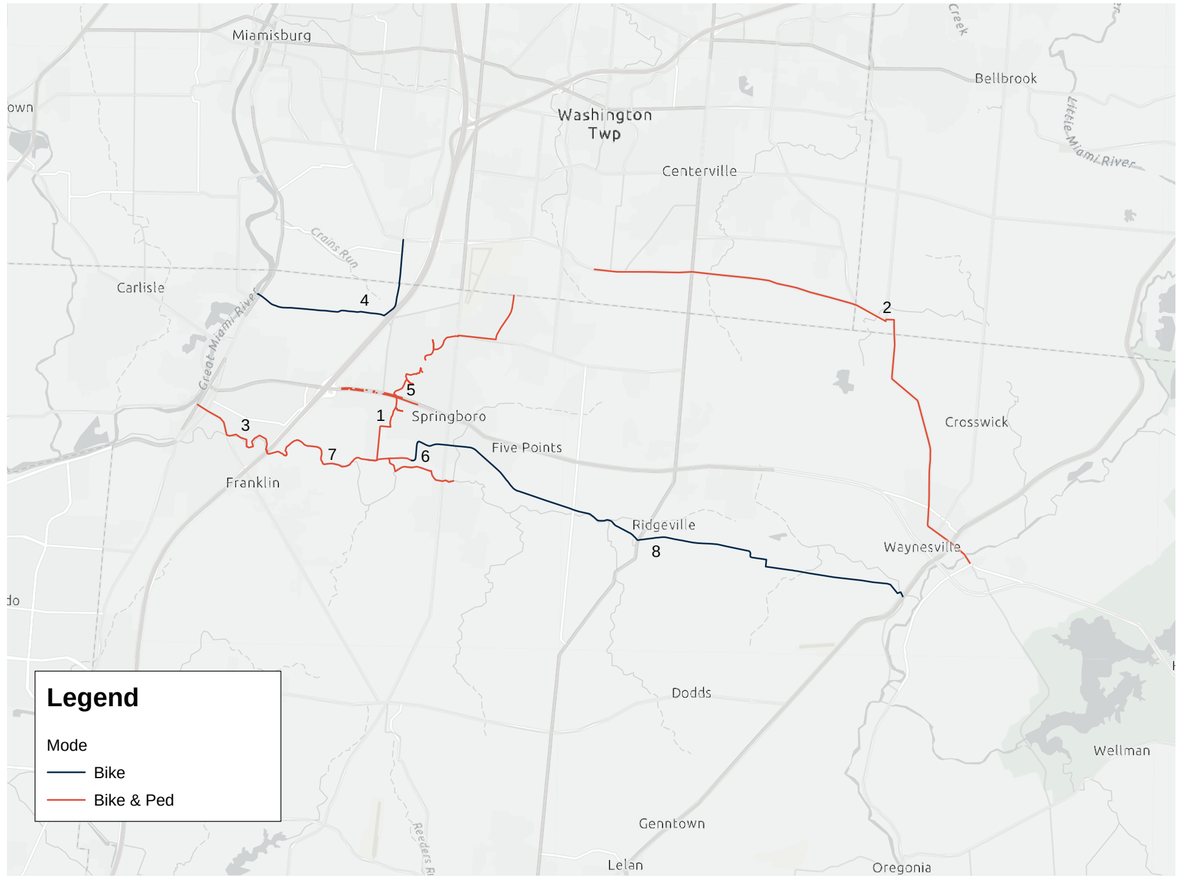
Number	ATPID	County	Project Name	Mode	Description
68	MOT09	Montgomery	Sidewalks on Alex Bell from Cross Pointe to Paragon	Ped	Add sidewalks (or sidepath) and transit stop improvements along Alex-Bell Road in vicinity of SR 48
69	MOT03	Montgomery	Johnsonville Brookville Road	Ped	New sidewalks along east side of road and intersection improvements
70	MOT35	Montgomery	Woodman Fen Access	Ped	Access from Iron Horse Trail into Woodman Fen
71	MOT86	Montgomery	Wolf Creek Trail- Spring Run MetroPark Connector	Bike & Ped	Shared use path from Wolf Creek Trail through Sycamore State Park to Spring Run MetroPark (Former Larchtree Golf Course)
72	MOT80	Montgomery	Belmont Park Sidewalks, bike parking	Bike & Ped	Streets surronding Belmont Park - add sidewalks and bike parking
73	MOT67	Montgomery	Point locations in Trotwood	Ped	Pedestrian improvements in vicinity of Library and in North Broadway Park
74	MOT04	Montgomery	Intersection of Westbrook and Johnsville Brookville Road	Ped	Install a marked crosswalk and rapid flashing beacon, curb extension and sidewalk extension to fix staggered crosswalk
75	MOT05	Montgomery	Intersection at Westbrook Road at Western	Ped	Upgrade and fix intersections
76	MOT11	Montgomery	Great-Little Alternate	Bike & Ped	Study feasibility of trail along utility right of way along southern Montgomery County border from Yankee to Oak Grove Park to Clyo. Alternative to Great-Little Trail alignment on Social Row
77	MOT78	Montgomery	SR 741 Bike Lanes	Bike	Continue bike lanes north from Springboro to entrance to Waldruhe Park

Number	ATPID	County	Project Name	Mode	Description
78	MOT90	Montgomery	Safety Signage at Centerville High School	Bike	Add “Share the Road” signage along Franklin in front of Centerville High School
79	MOT83	Montgomery	Wilmington Pike Sidepath North	Bike & Ped	New shared use path/sidepath on Wilmington from Whipp to Dille
80	MOT49	Montgomery	Pedestrian Improvements around Dayton Mall	Ped	Add sidewalk along Mall Ring Road and improved paths from Mall Ring to the mall entrances
81	MOT75	Montgomery	Park Connector: Oak Grove to Schoolhouse Park in Washington Twp	Bike & Ped	Shared use path on separate right-of-way between Oak Grove and Schoolhouse Park
82	MOT33	Montgomery	Wolf Creek Trail	Bike & Ped	Shared use path from Wolf Creek Trail near Dodson to Preble County Line
83	MOT36	Montgomery	Eastwood MetroPark bridge/mountain biking area	Ped	Bridge over Mad River along former railroad right-of-way to an area for MTB development
84	MOT87	Montgomery	Intersection of Western and Blue Pride	Ped	Upgrade and fix intersections
85	MOT73	Montgomery	Pedestrian enhancements Poe Ave	Ped	Pedestrian enahcements in light industrial park between Poe and Homestretch in Vandalia
86	MOT23	Montgomery	Point locations in Dayton	Ped	10 locations suggested for traffic calming, new crosswalks, signage, longer signal timing at various locations
87	MOT22	Montgomery	Walnut Hills Belmont Bike Route	Bike	Bike route on low stress streets for climbing up through Walnut Hills and Belmont neighborhoods in Dayton
88	MOT31	Montgomery	Old National Road Trail	Bike & Ped	Shared use path through Englewood Metropark



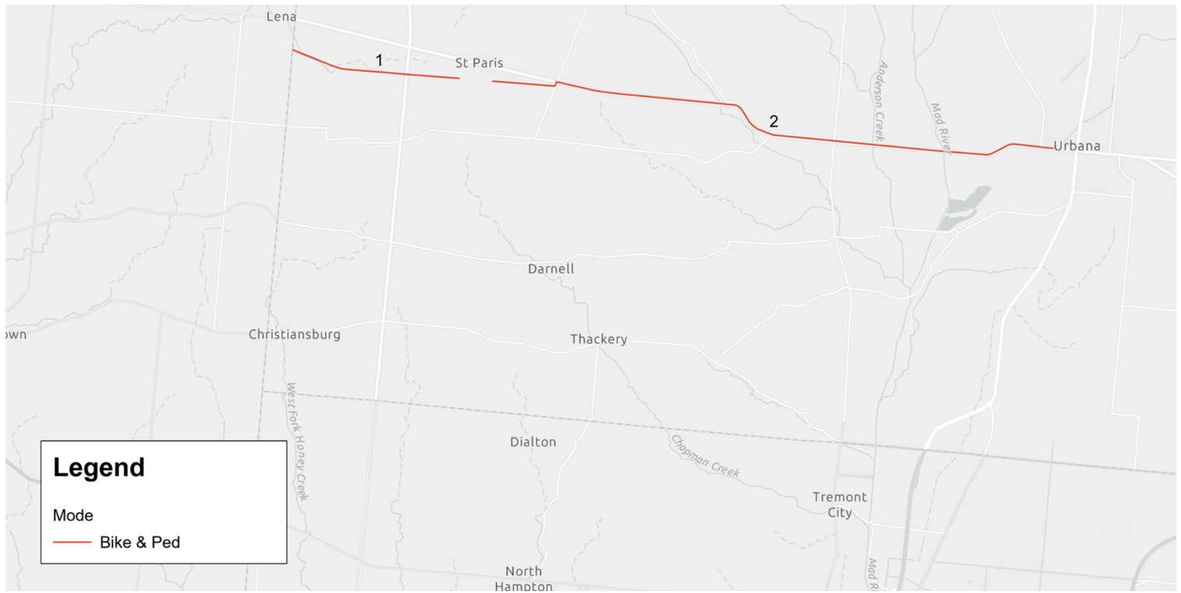
Warren County Projects

Number	ATPID	County	Project Name	Mode	Description
1	WAR08	Warren	Springboro Central Greenway	Bike & Ped	Running south-west to north-east in City of Springboro connection from Great Miami River Trail (via Franklin) to Great-Little Trail
2	MOT52	Montgomery/ Warren	Great Little Trail	Bike & Ped	Shared use path/sidepath along Social Row Rd. from Robert Mays Park to Dayton-Wilmington Road (then connection to Lttle Miami Scenic Trail)
3	WAR04	Warren	Great Miami Little Miami Connector	Bike & Ped	Shared use path along SR 123 and Clear Creek from downtown Franklin to west side of I-75
4	WAR07	Warren/ Montgomery	Medlar Bypass Route	Bike	Connection from Great Miami River Trail to Great-Little Trail along Pennyroyal, Clearcreek-Franklin and Wood
5	WAR02	Warren	SR 73 in Springboro	Bike & Ped	Sidewalks and bikeways along SR 73
6	WAR01	Warren	Great Miami Little Miami Connector	Bike & Ped	Shared use path along Clear Creek from Hazelwood Park to Community Park
7	WAR05	Warren	Great Miami Little Miami Connector	Bike & Ped	Shared use path along south side of Clear Creek Park between Clear Creek and Lower Springboro Rd
8	WAR06	Warren	Great Miami Little Miami Connector	Bike	Widen shoulders on Lower Springboro Rd from proposed Clearcreek Trail to US 42

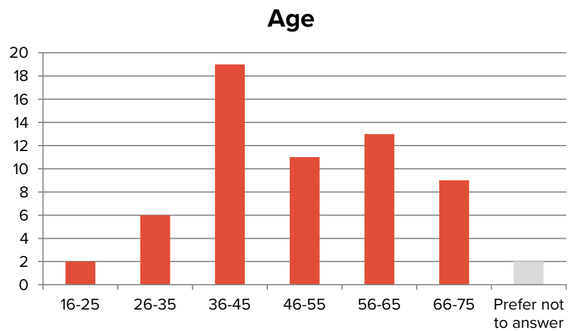


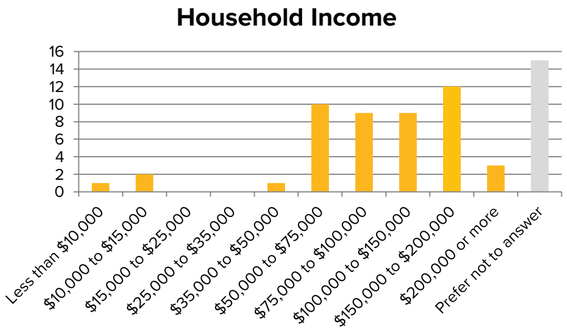
Other Projects

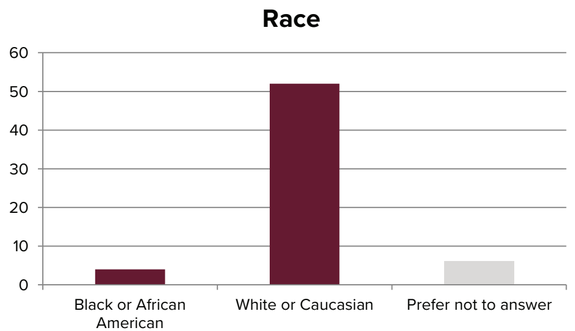
Number	ATPID	County	Project Name	Mode	Description
1	CHA01	Champaign	Ohio-to-Indiana Trail	Bike & Ped	Miami/Champaign County Line to St. Paris
2	CHA02	Champaign	Ohio-to-Indiana Trail	Bike & Ped	St. Paris to The Depot in Urbana

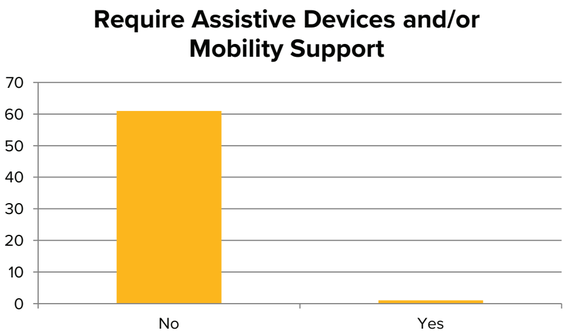


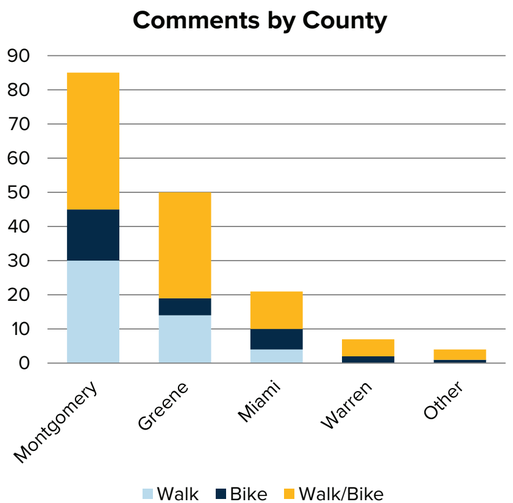
AT Plan Survey Results



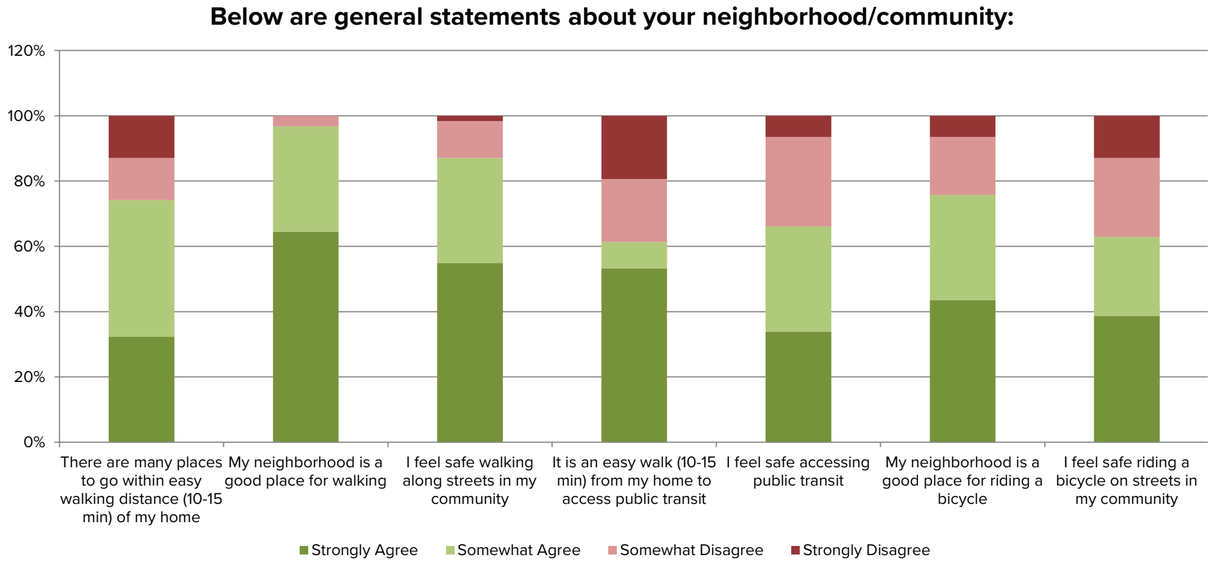




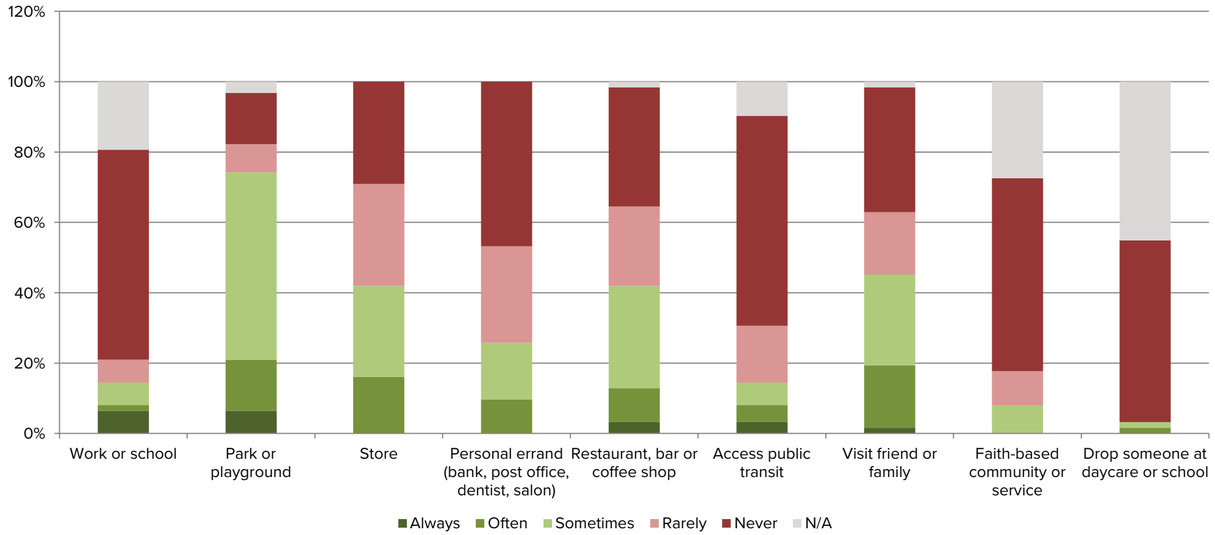



Comments by County
90
80
70
60
50
40
30
20
10
0
Montgomery
Greene
Miami
Warren
Other
Walk
Bike
Walk/Bike

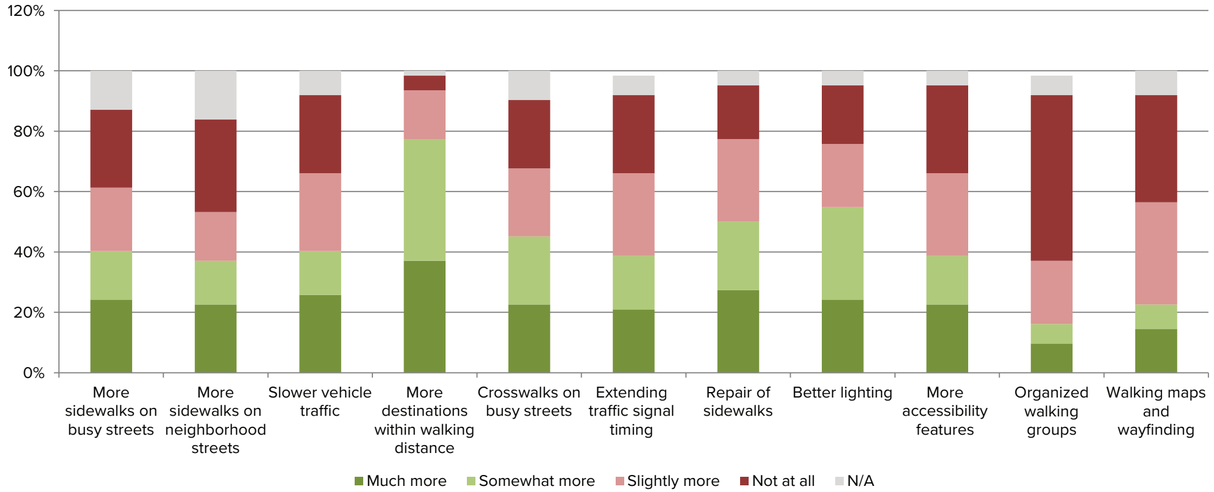

Why do you choose to walk or bike in your community?
70
60
50
40
30
20
10
0
For health or fitness
For recreation
For walking pet(s)
As a form of transportation
Other
Walk
Bike


Below are general statements about your neighborhood/community:
120%
100%
80%
60%
40%
20%
0%
There are many places to go within easy walking distance (10-15 min) of my home
My neighborhood is a good place for walking
I feel safe walking along streets in my community
It is an easy walk (10-15 min) from my home to access public transit
I feel safe accessing public transit
My neighborhood is a good place for riding a bicycle
I feel safe riding a bicycle on streets in my community
Strongly Agree
Somewhat Agree
Somewhat Disagree
Strongly Disagree

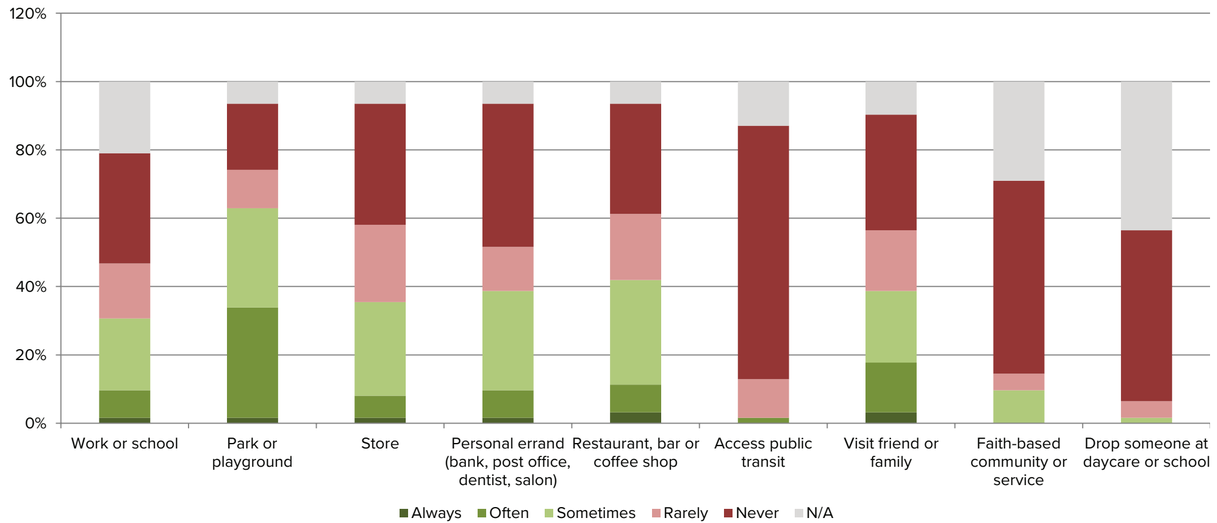
How often do you walk to the following places?



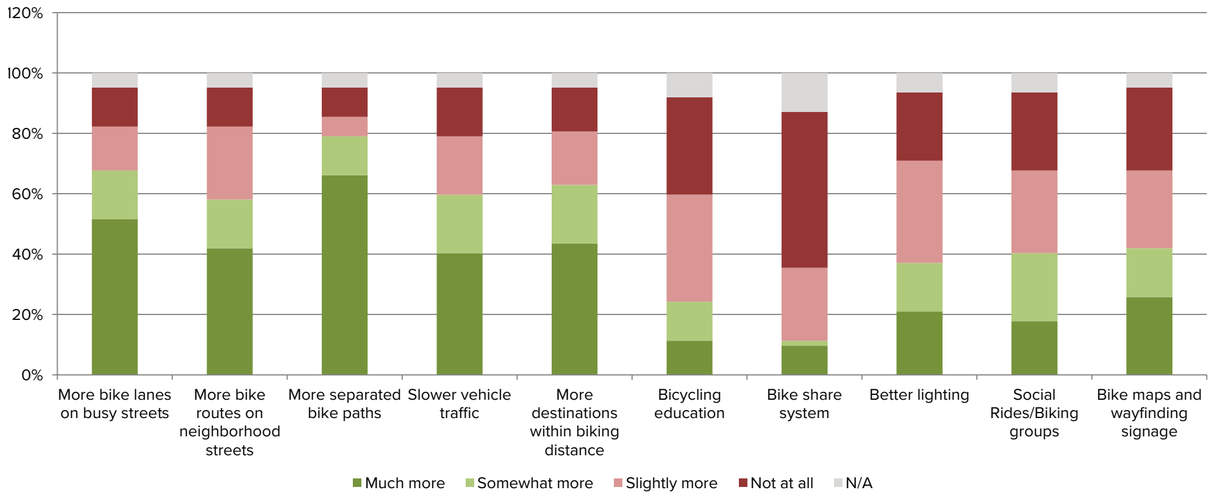
To what extent would any of the following make you more likely walk around your community?

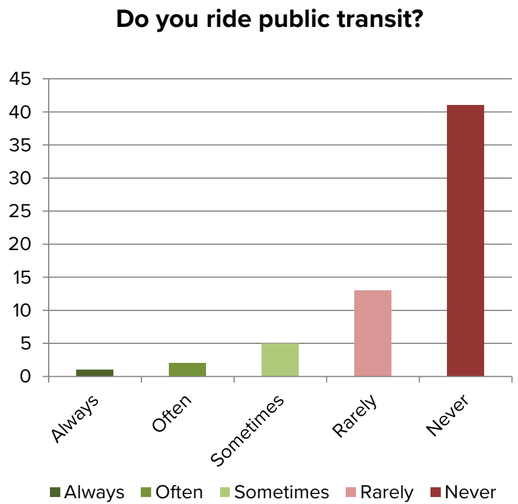


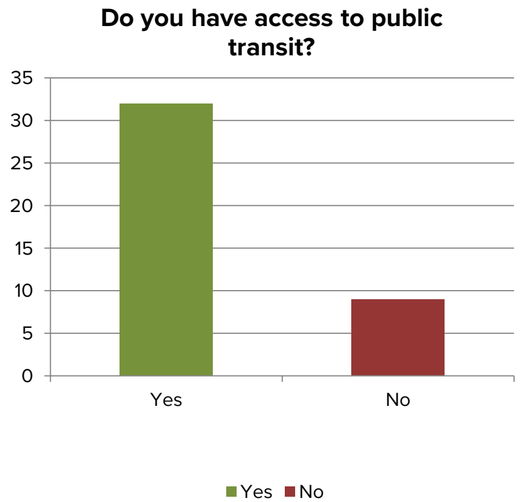
How often do you bike to the following places?

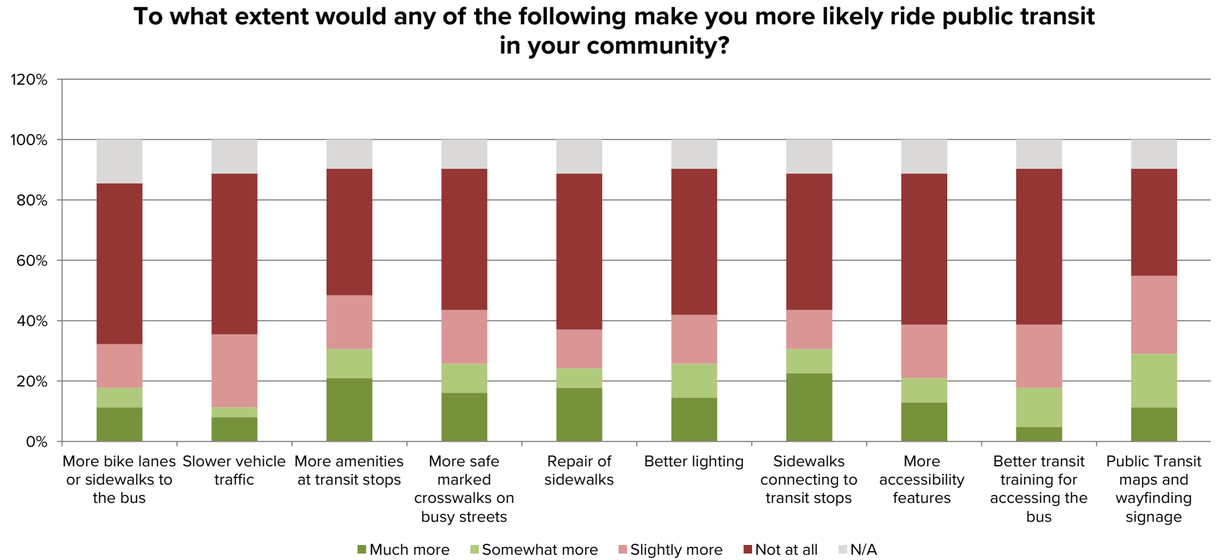


To what extent would any of the following make you more likely bike around your community?




Do you ride public transit?
45
40
35
30
25
20
15
10
5
0
Always
Often
Sometimes
Rarely
Never
Always
Often
Sometimes
Rarely
Never


Do you have access to public transit?
35
30
25
20
15
10
5
0
Yes
No
Yes
No


To what extent would any of the following make you more likely ride public transit in your community?
120%
100%
80%
60%
40%
20%
0%
More bike lanes or sidewalks to the bus
Slower vehicle traffic
More amenities at transit stops
More safe marked crosswalks on busy streets
Repair of sidewalks
Better lighting
Sidewalks connecting to transit stops
More accessibility features
Better transit training for accessing the bus
Public Transit maps and wayfinding signage
Much more
Somewhat more
Slightly more
Not at all
N/A

Level of Traffic Stress Methodology

MVRPC developed a Level of Traffic Stress (LTS) analysis for the Bike Plan Update 2015. The LTS analysis was highly modified from the original methodology developed by the Mineta Transportation Institute in 2012[32], because of data limitations at a regional scale for the Regional Active Transportation Plan.

In 2015, the Ohio Department of Transportation developed a methodology for LTS assessment of the State Bicycle Routes and U.S. Bike Routes in Ohio. This methodology is established in a Technical Memo developed by Arcadis under ODOT PID #107921, which was provided to MVRPC by ODOT and served as the basis for updating the LTS analysis for our region. The Technical Memo method only worked for assessments to the regional network roadways in the MVRPC region. Lack of specific data on local streets resulted in illogical LTS ratings for many low speed, neighborhood streets. The project was therefore divided into two processes: network road analysis and local road analysis. The processes used for each are described in the following sections.

Network Road Analysis

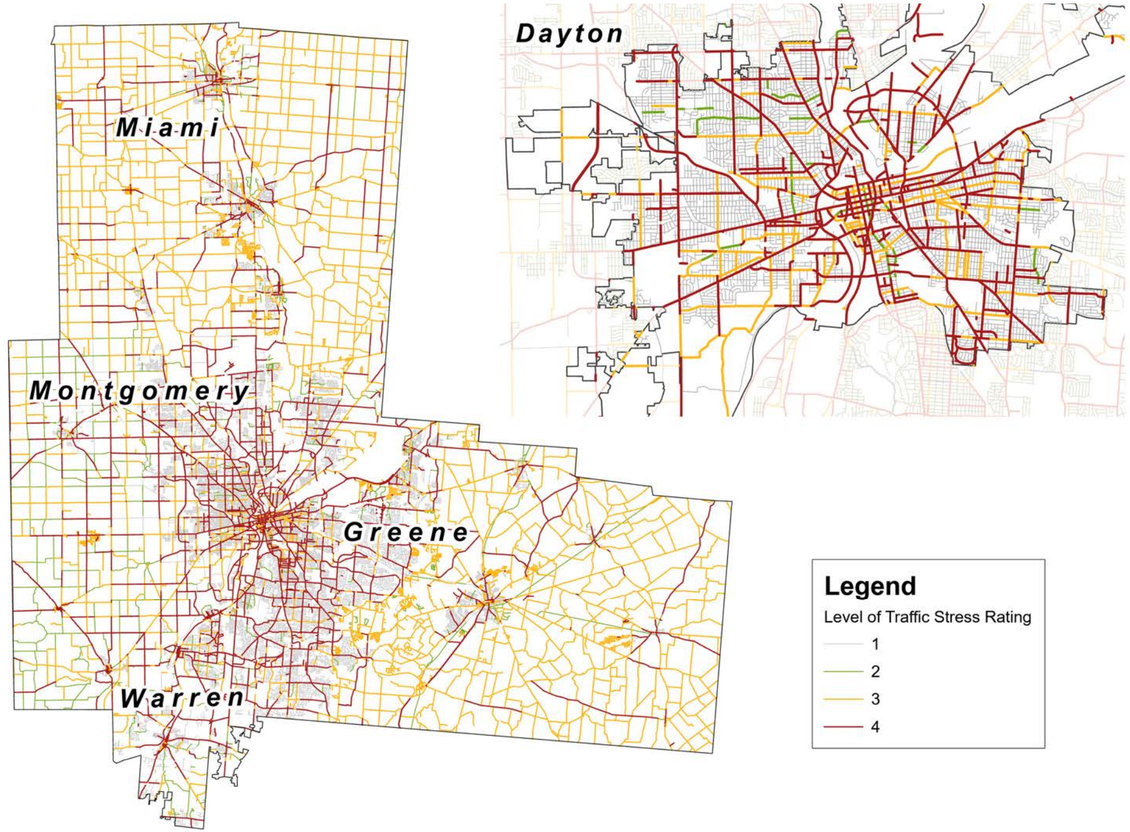
Using data from the ODOT Technical Information Mapping System (TIMS) database[33], the current Road Inventory and Traffic Count Segments under the Roadway Information tab were downloaded.

The final map provided the closest thing to a comprehensive base map using ODOT's method for assigning LTS attributes. Approximately 85 percent of the final map categorized efficiently using ODOT's assignment criteria, most falling inside the Dayton and urban areas along the regional network. The remaining data, predominantly found along the rural, non-network portion of our Region was manually categorized by strategically assigning values based on the Federal Highway Administration (FHWA) Functional Class system and urban/rural classification when speed limits or lane data was missing.

Local Road Analysis

Roads classified by the as being local that had speed limits equal to or less than 25MPH and within urban boundaries were given a LTS rating of 1. Local roads within urban boundaries with speed limits greater than 25MPH were given a LTS rating of 2. All other Functional Class values (Interstates, Freeways, Arterial and Collector Roads) within urban boundaries were assigned an LTS rating of 3.

Roads outside the urban boundaries that is classified as being local or a minor collector road were assigned LTS values based on their proximity to residential or agricultural land use. A majority of the local and minor collector roads fell between road segments that had been accurately assigned an LTS value using ODOT's criteria, and was also used to help determine LTS values. LTS values of 3 were assigned to road segments closer to more residential land use, and LTS value of 4 closer to agricultural land use.



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