



LEBANON-TURTLECREEK TRAILS INITIATIVE



A BIKE PLAN & VISION FOR 2040



**BOARD OF COUNTY COMMISSIONERS
WARREN COUNTY, OHIO**

Resolution

Number 15-1631

Adopted Date October 13, 2015

Certification to County Recorder

I hereby certify that the foregoing is a true and accurate copy of the Lebanon-Turtlecreek Trails Initiative, which is an amendment to the Warren County Comprehensive Plan, as finally adopted by the Warren County Board of County Commissioners pursuant to Resolution Number 15-1631 on October 13, 2015, and is being presented to the Warren County Recorder pursuant to O.R.C. Section 713.27.



Stan Williams, AICP
Executive Director
Warren County Regional Planning Commission

APPROVE AMENDMENT TO THE WARREN COUNTY COMPREHENSIVE PLAN TO ADOPT AND INCLUDE THE LEBANON-TURTLECREEK TRAILS INITIATIVE

WHEREAS, this Board met this 13th day of October, 2015 in the Commissioners' Meeting Room to consider an amendment to the Warren County Comprehensive Plan to adopt and include the Lebanon-Turtlecreek Trails Initiative; and

WHEREAS, this Board has considered all testimony both in favor of and in opposition to said amendment; and

NOW THEREFORE BE IT RESOLVED, to approve an amendment to the Warren County Comprehensive Plan to adopt and include the attached Lebanon-Turtlecreek Trails Initiative.

Mrs. South moved for adoption of the foregoing resolution, being seconded by Mr. Grossmann. Upon call of the roll, the following vote resulted:

Mr. Young - yea
Mr. Grossmann - yea
Mrs. South - yea

Resolution adopted this 13th day of October 2015.

BOARD OF COUNTY COMMISSIONERS


Tina Osborne, Clerk

ACKNOWLEDGMENTS

The Warren County Regional Planning Commission gives a special thanks to the individuals listed below for their valuable input, guidance, and support in making this Plan possible. Numerous meetings and countless hours were spent developing a long-term vision, ambitious goals, and genuine strategies to make the local bike network the best that it can be moving forward.

TRAILS ADVISORY COMMITTEE

Scott Brunka
City of Lebanon

Mike Carroll
Countryside YMCA

Marge Cunningham
Turtlecreek Township Citizen

Sam Hill
City of Lebanon

Larry Hollingshead
Premier Health Board &
Countryside YMCA Marketing Committee

Richard Jones
Warren County Convention & Visitor's Bureau

Matt Obringer
Warren County Regional Planning Commission

Greg Orosz
Historic Downtown Lebanon Incorporated

Jonathan Sams
Turtlecreek Township Trustee

Mike Shaffer
Turtlecreek Township Citizen

K-C Stallings
Trek Bicycle Stores of Cincinnati

Kurt Weber
Warren County Chief Deputy Engineer

Kimpton Williams
Jos. M. Williams Realty

Stan Williams
Warren County Regional Planning Commission

Steve Wilson
Warren County Port Authority & Harmon Civic Trust

Joe Yurasek
Warren County Historical Society

HONORABLE MENTIONS

Dan Arthur, Chrissy Avery, Fred Bay, Andrea Beach, Janie Bicknell, John Bissman, Jeff Blazey, Chase Bodkin, Dan Boron, Ben and Sharon Campbell, Kevin Chesar, Dan Cunningham, John Davies, Larry Easterly, Randy Fuson, Vanessa Glotfelter, Bill Hardie, Homer Hendrickson, Ted and Pam Hennis, Frank Henson, Dawn Johnson, Wade Johnston, Dan Jones, Lyle Jones, Marty Kohler, Hans Landefeld, Brian Lazor, Matt Lindsay, Faith and Jose Lugo, Adam Mathews, Dave McCandless, John McMinn, Sharon Miller, Wendy Monroe, Paul Morgan, Deborah Mulford, Scott Nash, Stein Penderon, Keith Rodenhauser, Stephen Schultz, Joel and Frances Sodano, Casey Sparks, Duane Stansbury, Jason Starner, Joe Steiner, Jim VanDeGriff, Shannon Wooten, and Barney Wright

WARREN COUNTY REGIONAL PLANNING COMMISSION

Stan Williams, *Executive Director* | Matt Obringer, *Senior Planner* | Zach Moore, *Planner II (Maps)* | Mike Kettler, *Intern* | Sabrina Wyrick, *Intern*

TABLE OF CONTENTS

Resolution.....	i
Acknowledgements.....	ii
Table of Contents.....	iii
Executive Summary.....	iv
Chapter 1: Introduction	1
Introduction.....	2
Public Participation Process.....	4
Focus Area.....	5
Key Destinations.....	5
Vision & Goals.....	9
Trail Benefits.....	10
Challenges.....	10
Chapter 2: Existing Plans	11
Introduction.....	12
Statewide Plans.....	12
Regional Plans.....	13
County Plans.....	14
Local Plans.....	15
Chapter 3: The Plan	19
Introduction.....	20
Trail Design.....	20
Potential Trailheads.....	22
Trail Priorities.....	24
Chapter 4: Implementation	29
Implementation Tables.....	30
Goal 1: Trail connections.....	31
Goal 2: Pleasant and safe trails.....	32
Goal 3: Trailheads and facilities.....	35

MAPS, FIGURES, TABLES, & BOXES

Chapter 1: Introduction

Map 1.1: Regional Vicinity.....	3
Map 1.2: Destinations.....	7
Box 1.1: Economic Benefit Studies.....	10

Chapter 2: Existing Plans

Figure 2.1: Ohio's Statewide Planned Trails.....	12
Figure 2.2: Regional Bike Plans.....	13
Figure 2.3: Warren County Parks, Recreation, and Open Space Plan.....	14
Figure 2.4: Gateway Plan – West.....	15
Figure 2.5: Lebanon Comprehensive Plan.....	16
Figure 2.6: Local Comprehensive Plans.....	17

Table 2.1: County Parks Plan Recommendations.....	14
Table 2.2: Lebanon Trails Cost Estimates.....	16

Box 2.1: Economic Benefit Studies.....	10
--	----

Chapter 3: The Plan

Map 3.1: Proposed Trails.....	21
Map 3.2: Trail Priorities.....	23
Map 3.3: Aerial View.....	25
Map 3.4: Topography.....	26
Map 3.5: Natural Features.....	27

Figure 3.1: Trail Types.....	20
------------------------------	----

Table 3.1: Proposed Trailhead Amenities.....	22
Table 3.2: List of Specific Improvements Needed.....	24

Chapter 4: Implementation

Table 4.1: Funding Resources.....	33
Box 4.1: Implementation Tables Guide.....	30

EXECUTIVE SUMMARY

MISSION

The Lebanon-Turtlecreek Trails Initiative enhances the quality of life of residents, employees, and visitors through careful planning and implementation of trails.

VISION

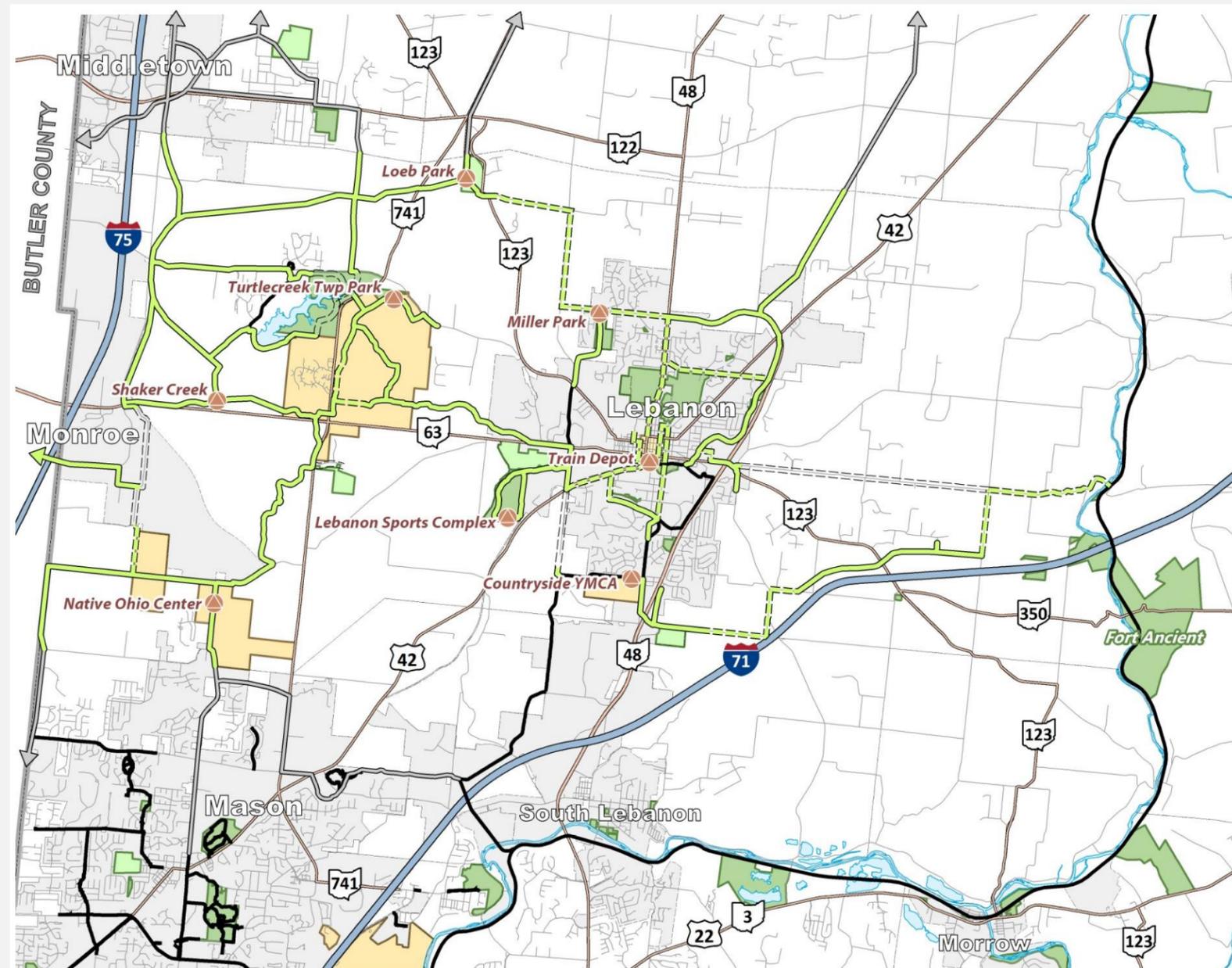
“We are known for our trails, a cherished amenity that links us to our scenic river, our beautiful countryside, our parks, our neighborhoods, our cultural centers, and our historic past.”

GOALS

- 1) A bicycle network that links Lebanon's historic core to growth areas and destinations within Turtlecreek Township and surrounding communities.
- 2) Trails and bicycle routes that are pleasant and safe.
- 3) Trailheads and bicycle facilities that adequately serve user needs.

KEY RECOMMENDATIONS

- Establish right-of-way and easements for planned trails.
- Utilize grants for purchase of right-of-way, construction, and trail facilities (e.g. Clean Ohio Trails Fund, Transportation Alternatives Program, and Surface Transportation Program).
- Provide safe areas for pedestrians and cyclists to cross busy roadways (e.g. SR 63, SR 741, and the SR 48 bypass).
- Establish primary trailhead locations at Union Village, downtown Lebanon, the Countryside YMCA, and the Native Ohio Center.
- Establish an identifiable wayfinding system and brand.



Legend

SUGGESTED TRAIL TYPES

- Multi-Purpose Trail
- - - - On-Street Bike Lane
- - - - Shared Road

OTHER TRAILS

- Outside Connections
- Existing Trails

Destinations

- Destinations
- Existing Parks
- Planned Parks

Trailheads

- ▲ Trailheads



The Little Miami Trail heading north toward South Lebanon and Lebanon from Loveland.

CHAPTER 1 INTRODUCTION

“For a cyclist, if you can get to the Little Miami Trail you can connect to the world. You can go all the way to Lake Erie on the trail, but you first have to get to it.”

Steve Wilson

Introduction

The bike trails here in the region are a hidden 'gem.' Many may take the trails for granted and some may not be familiar with them at all. The reality is that the trails in Warren County are a part of the nation's largest network of paved trails; over 330 miles in total! The Little Miami Scenic Trail through Warren County links Cincinnati to Xenia and from there bicyclists can get to Dayton, Columbus, and beyond. However, to access the trail, many have to drive to it and there are many destinations within Warren County that have no access to any trails. This Plan offers strategies to address this issue.

Purpose & Mission

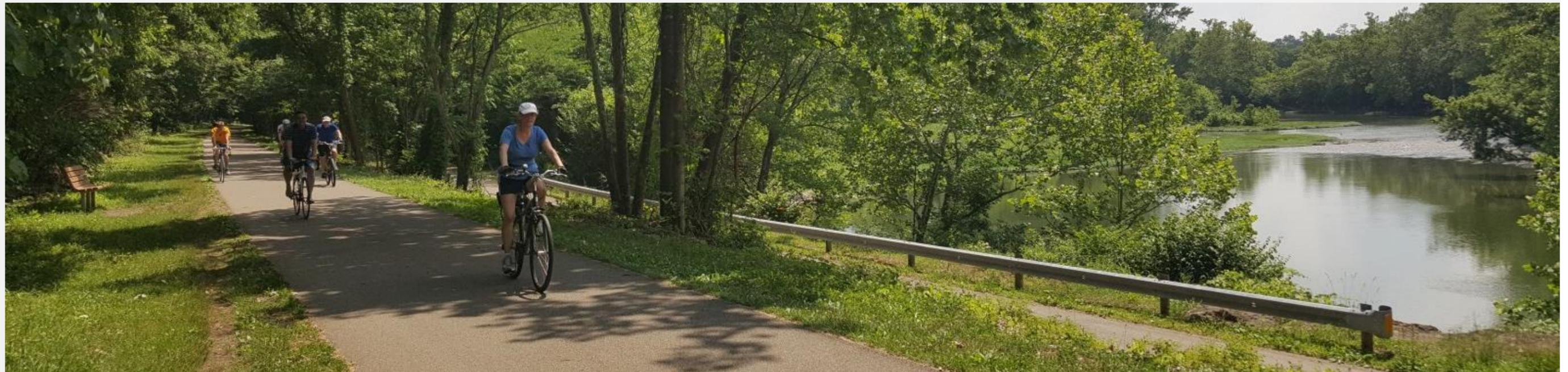
This document serves as a tool to facilitate the implementation of a multi-use trail network (see mission statement below). First and foremost, this document is a plan. It provides the vision for

what the local trail network should be and how it should be designed. Secondly, this document will be used in grant applications to actively implement the Plan. This includes grants that will establish right-of way or easements for trails and construction.

Authority for the Plan

The Lebanon-Turtlecreek Trails Initiative is an addition to the Warren County Comprehensive Plan. The Warren County Regional Planning Commission has the authority to make such comprehensive plans including maps, studies, and reports through enabling legislation in the Ohio Revised Code (ORC 713.23). Some of the specific powers and duties given to regional planning commissions include setting regional goals, objectives, and strategies; preparing transportation plans; and preparing long-range programming and financing of capital projects. The Lebanon-Turtlecreek Trails Initiative will address all of these things.

The Lebanon-Turtlecreek Trails Initiative enhances the quality of life of residents, employees, and visitors through careful planning and implementation of trails.



The Little Miami Trail and Little Miami Scenic River.

Public Participation Process

Community input is a valuable aspect of the trails initiative. Without input from local leaders, property owners, residents, and business owners, the plan would not truly represent the values and aspirations of the community. In January 2015 the Trails Advisory Committee (see page ii), a group of 16 dedicated individuals came together to discuss relevant issues and opportunities related to the local bike network. This included discussions about linking communities and destinations together, locating feasible routes, prioritizing routes, and determining funding strategies. The TAC had five total morning meetings held in the Warren County Administration Building in the City of Lebanon. All meetings were open to the public and numerous people got involved with the trails initiative in this way. For those that could not attend the morning TAC meetings an evening public open house provided an additional opportunity for people to share their ideas.



The Trails Advisory Committee (above) and open house (below). Over 40 interested citizens and community leaders attended the open house to discuss trails within Lebanon and Turtlecreek Township.



Focus Area

The geographic focus of this Plan is Turtlecreek Township and the City of Lebanon. This area is expected to grow and develop significantly over the next two to three decades due to its location between Dayton and Cincinnati along I-75 and I-71. A primary goal of this Plan is to link Lebanon's historic core to growth areas and destinations within the Township such as Union Village, the Cincinnati Zoo properties, and Ft. Ancient. It is also a goal to link these destinations to surrounding communities. As of 2015, there are only 9.25 miles of off-street paved bike paths within the City and Township. The Lebanon Countryside YMCA Trail is 8 miles and provides a direct link south to the Little Miami Scenic Trail.

Key Destinations

The Little Miami Scenic Trail

Located along the Little Miami Scenic River, the Little Miami Scenic Trail is a key destination for several reasons. The trail is a regional amenity that spans 75 miles linking Newtown (outskirts of Cincinnati) to Springfield (north). The trail is also a part of the Ohio-to-Erie Trail and many other regionally significant trails. On a more local level, the trail links several villages together such as Loveland, South Lebanon, Morrow, and Corwin. Approximately 760,000 riders visited the LMST in 2014 (Source: Friends of the Little Miami State Park - Trail Counting Program).

Lebanon

The City of Lebanon is located at the heart of Turtlecreek Township and is the cultural center of the community. Lebanon features a charming downtown with antique shops, restaurants, ice cream parlors and historic buildings such as 'The Golden Lamb' and City Hall. Broadway Avenue and Mulberry Street are home to many festivals throughout the year, including the Lebanon Carriage Parade and the Blues Festival. The Train Depot is also a defining feature of Lebanon along with Miller Ecological Park, Colonial Park, and the Warren County Fairgrounds. All of these things are potential destinations for bicyclists and are reasons why Lebanon should be a hub for trails.

The Golden Lamb, Ohio's oldest hotel (top) and Lebanon Town Hall (below) on Broadway Street.



Union Village

The Union Village renderings below depict a vibrant, walkable community.



Union Village is located west of Lebanon in Turtlecreek Township adjacent to Otterbein retirement campus. The village will be a multi-generational, neo-traditional community that could house over 10,000 people and will contain several shops, restaurants, and places to work within walking or biking distance to neighborhoods. The village center illustrated below will contain several cultural icons including a central green, performing arts center, YMCA, and a church. There is also the possibility for new school sites within the village, including a small college campus. Armco Park, Turtlecreek Township Park, and a new sports complex collectively form a large recreational destination on the north side of the property. The sports complex is expected to draw 250,000 visitors annually.

The Union Village master plan covers over 1,400 acres.

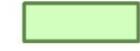


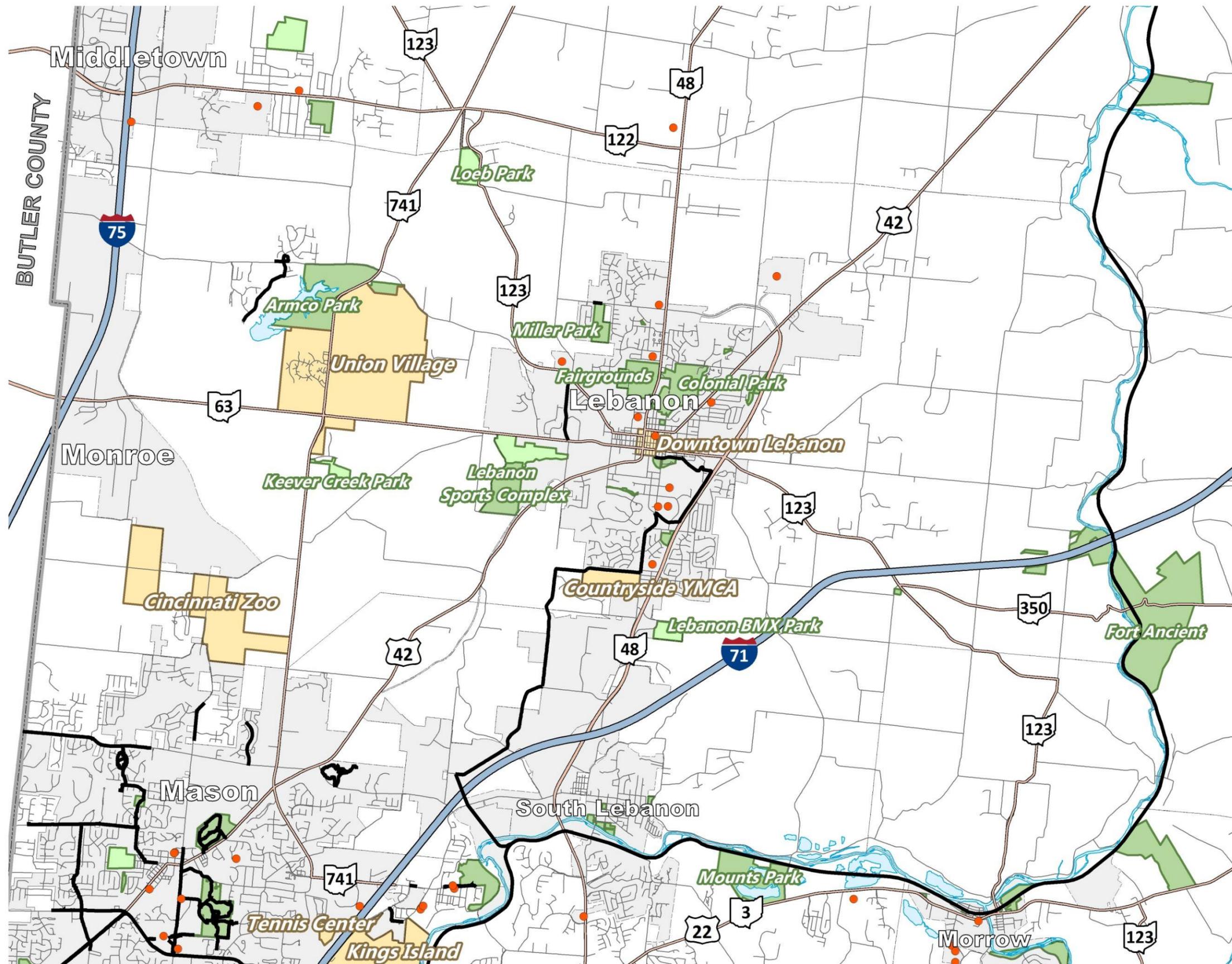
The Village Center at Union Village will have several shops, restaurants, and places for bicyclists to visit.



MAP 1.2 Destinations

Legend

- School Locations
-  Existing Trails
-  Destinations
-  Existing Parks
-  Planned Parks



*Not all existing trails are shown on map for areas surrounding Lebanon and Turtlecreek Township.





Wetland reclamation at the Cincinnati Zoo property in Turtlecreek Township.



The Great Miami Trail in Downtown Dayton (below) is a major destination for cyclists from across the region.

Native Ohio Center (Cincinnati Zoo & Botanical Gardens)

The Cincinnati Zoo has 622 acres in the southwest corner of Turtlecreek Township that could gradually be transformed into the 'Native Ohio Center,' an ecological preserve and educational destination. The vision for the Native Ohio Center includes wetland reclamation with boardwalks, preservation of native plants and wildlife, incorporation of nature trails, and the addition of similar facilities that encourage sustainability and healthy lifestyles. Bike trails certainly fit this vision.

Fort Ancient

Fort Ancient Ceremonial Earthworks is located on the eastern edge of Turtlecreek Township along the Little Miami Scenic River and Trail. School groups and visitors from across the regional come to visit this site each year to learn about the Native American culture that once thrived here. This area is also home to recreational retreats and campgrounds including Camp Kern and Kings Domain.

Surrounding Communities

Mason: Mason is the largest city in Warren County and boasts several large companies such as Proctor & Gamble and Cintas. It is also home to Kings Island Amusement Park and the annual Western and Southern Cincinnati Tennis Masters. Mason has an extensive existing and planned bike trail network with possibilities to connect the Great Miami and Little Miami Trails called the 'Miami to Miami Connector.'

Monroe: Monroe is a growing community along Interstate 75. Possible destinations for bicyclists include Cincinnati Premium Outlets, Traders World flea market, and a new indoor sports center which are all located east of the interstate. Miami Valley Gaming racino is also located nearby in Turtlecreek Township.

Middletown & Hunter: The eastern portion of Middletown and nearby Hunter (unincorporated) is also growing along Interstate 75. Atrium Medical Center, Middletown Christian (school), Bishop Fenwick (school), and Hunter Elementary are all potential destinations to link together with bike trails.

Franklin & Carlisle: Franklin and Carlisle are located at the northwest corner of Warren County along the Great Miami River and the Great Miami Trail, which provides a direct connection to Dayton and Piqua. Twin Creek Metro Park is another recreational destination that could be connected with trails.

Red Lion and Springboro: To the north of Union Village, Red Lion (unincorporated) is located at the crossroads of three state routes: 122, 123, and 741. Several small businesses and residents are located here along with a potential 66 acre park (Loab Farm). Downtown Springboro is located approximately 4.5 miles north of Red Lion and has an extensive existing and planned bike network. There are two 'Sparc and Go' resource centers for bicyclists in Springboro.

Vision & Goals

The vision and goals stated below are the desired end result of the Lebanon-Turtlecreek Trails Initiative. The multi-use trail system within Lebanon and Turtlecreek Township will be a fundamental amenity that offers an enjoyable experience, promotes healthy lifestyles, enhances economic stability, and provides access to key destinations within the focus area. The community will someday be able to say, *“We are known for our trails, a cherished amenity that links us to our scenic river, our beautiful countryside, our parks, our neighborhoods, our cultural centers, and our historic past.”*

Goal 1

A bicycle network that links Lebanon’s historic core to growth areas and destinations within Turtlecreek Township and surrounding communities.

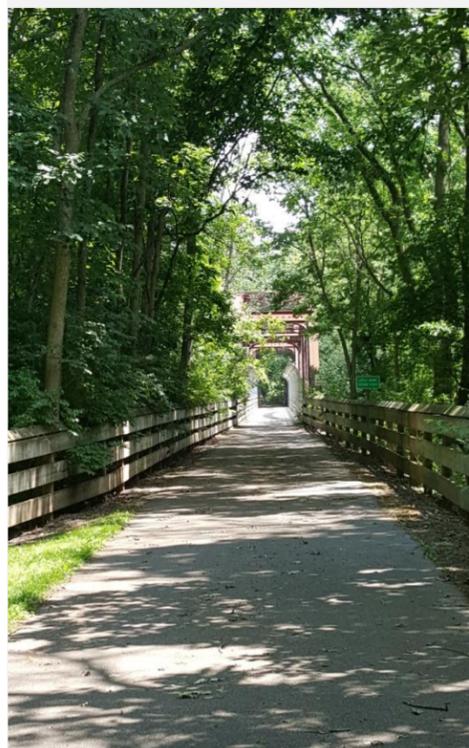
Goal 2

Trails and bicycle routes that are pleasant and safe.

Goal 3

Trailheads and bicycle facilities that adequately serve user needs.

“We are known for our trails, a cherished amenity that links us to our scenic river, our beautiful countryside, our parks, our neighborhoods, our cultural centers, and our historic past.”



The Lebanon Countryside YMCA Trail (above) links Lebanon to the Little Miami Trail.

Trail Benefits

There are several reasons why trails are an important amenity to pursue. This includes improved quality of life, opportunities for economic enhancement, providing a viable transportation alternative, and protection of the natural environment.

Quality of Life

Trails provide many benefits that improve the quality of life of residents, employees, and visitors here in Warren County. The trails promote health and fitness through an inexpensive means of exercise that everyone can access and enjoy. The trails can also provide access to local parks and other recreational facilities, further promoting health and fitness. Additionally, trails can be a source of community identity and pride. They will help set the tone for the City and Township as a place where people want to live, work, and play.

Economic Opportunities

Studies show that bike trails and multi-use paths are economic enhancers (see Box 1.1). This includes increased customers to local businesses, increased tourism, and increased property values.

Transportation Options

Bicycling is a legitimate form of transportation that can be used to get to parks, schools, shops, restaurants, places of employment, and other destinations. The trails can also be used for walking, jogging, rollerblading, and other forms of non-motorized transportation. This reduces traffic congestion and air pollution.

Environment

In addition to reducing air pollution, trails can help protect the natural environment and bring people closer to nature. Trails, if designed properly, can form 'greenways' or continuous corridors of natural vegetation and habitat for animals. Trails and greenways can also protect land along streams, which prevents erosion and filters pollutants.

Challenges

Many obstacles must be considered when implementing the trails initiative, but the most significant challenges include getting around physical barriers, acquisition of adequate right-of-way, and securing necessary funding for proposed improvements.

Physical Barriers

The highways, state routes, and major roads throughout the focus area, such as I-75, State Route 48 bypass, and State Route 63 are difficult or nearly impossible for pedestrians to cross. Existing infrastructure and streetscapes are also sometimes difficult to retrofit to include bike paths. Additionally, the natural topography, hills, and streams are additional barriers to overcome.

Right-of-way

Before trails are constructed, right-of-way and easements must first be provided. This is often a significant challenge, which is why public education and outreach regarding the benefits and importance of trails is vital.

Funding

Funding will be needed for preliminary engineering work, easements, right-of-way, and construction. The Plan offers several strategies in Chapter 4 on how to fund the proposed trail network.

Box 1.1 | Economic Benefit Studies

"Home values increase \$7.05 for every foot closer a property is located to the Little Miami Scenic Trail"

(The impact of the Little Miami Scenic Trail on Single Family Residential Property Values: Duygu Karadeniz, UC School of Planning, 2008).

"In Hamilton County a home will devalue by \$8,960 when moving away from the trail head by 1,000 feet"

(Bike Trail Impacts Property Values: WCPO News of Miamiville OH, 2011).

"Home sales were examined in seven Massachusetts towns through which the Minuteman Bikeway and Nashua River Rail Trail run. An analysis showed that **homes near these rail trails sold at 99.3% of the list price** as compared to 98.1% of the list price for other homes sold in these towns. The most significant feature of home sales near rail trails is that **these homes sold in an average of 29.3 days as compared to 50.4 days for other homes**" (*Home Sales Near Two Massachusetts Trails, 2006: Craig Della Penna*).

"For homes near the Monon Trail, the average sale price was 11 percent higher than for all homes that sold in 1999" (*Public Choices and Property Values: Evidence from Greenways in Indianapolis, Center for Urban Policy and the Environment, 2003*).

"The Ghost Town Trail is a 36-mile multi-use pathway in Pennsylvania between Ebensburg and Saylor Park. A 2009 survey found that, between April and October, **\$1.7 million was spent on soft goods** (meals, beverages, ice cream) and overnight accommodations in conjunction with a trail visit. **Eight-eight percent of those surveyed had purchased hard goods** (bikes, bike accessories, clothing, etc.) in the past year in conjunction with their use of the trail. **The majority of these purchases were bicycles and bike supplies and the average expenditure was \$357.63**" (*Ghost Town Trail 2009 User Survey and Economic Impact Analysis*).



Gateway Plan -West planned trail network

CHAPTER 2 EXISTING PLANS

“One of the goals of Warren County’s Gateway Plan is to have an expansive trail network.”

Introduction

This chapter summarizes national, state, regional, county, and local plans that relate to the Lebanon-Turtlecreek Trails initiative. An objective of this Initiative is to compliment and build off of the ideas provided in these plans, which will ensure the trails connect to surrounding communities and destinations in a logical manner. These trail plans can also help demonstrate the importance and significance of the proposed trails associated with the Lebanon-Turtlecreek Trails Initiative in relation to the overall trail network. Text within the following sections has either been taken directly or paraphrased from existing plans.

Statewide Plans

Trails for Ohioans: A Plan for the Future (2005)

The vision for statewide trials in Ohio is stated below:

"The statewide trail system will link to neighboring states, local and regional trail systems, and places of interest. The system will be multi-modal, providing opportunities for all recreational trail users. The system will provide many benefits, including improved quality of life, health and fitness opportunities, transportation, economic, and environmental benefits. The system, when complete, will be accessible with a trail opportunity within 10 minutes of most Ohioans. The system will

represent a partnership of government agencies, trail user groups and organizations, businesses, community groups, and concerned citizens."

Several national and statewide trails are planned through Warren County via the Little Miami Scenic Trail. The Little Miami Trail is a connector for the 'North Country National Scenic Trail,' the 'Underground Railroad National Millennium Trail,' the 'Buckeye Trail,' and the 'Ohio to Erie Trail.'

The North Country National Scenic Trail is approximately 4,100 miles long and crosses seven states from New York to North Dakota. About 1,050 miles of the trail pass through Ohio in a U-shape from Toledo to Cincinnati then through the Appalachian hills of southeast Ohio to Pennsylvania.

The Buckeye Trail follows a similar route, but makes a complete loop around the state of Ohio for a total of approximately 1,300 miles. It goes through nearly all major cities of Ohio except for Columbus, utilizing old canals, railroads, rivers, lakes, and rural roadways.

The Ohio to Erie trail is 439 miles that links Cincinnati, Columbus, and Cleveland passing through several small towns and scenic countryside. Between Columbus and Cleveland the trail splits into two routes, the 'Heart of Ohio Route' and the 'Panhandle Route.' The Ohio to Erie Trail is also a part of the 'Underground Railroad National Millennium Trail' which begins in Alabama and ends in Canada. The Wright House Bed and Breakfast in Springboro is a featured historical site along this national trail (MVRPC Comprehensive Local-Regional Bikeways Plan).

Figure 2.1 | Ohio's Statewide Planned Trails



Regional Plans

OKI Regional Bike Plan (2008)

The Ohio-Kentucky-Indiana Regional Council of Governments (OKI) administers all federal funding for surface transportation projects within eight counties in the Cincinnati region including Butler, Clermont, Hamilton, and Warren counties in Ohio; Boone, Campbell, and Kenton counties in Kentucky; and Dearborn County in Indiana. The 2008 Regional Bike Plan is one of many plans OKI uses as a guide for regional policy and prioritization of federal funding.

"It is the vision of the Regional Bicycle Plan that vehicular travel by bicycle become an integral mode of travel, both by its inclusion in OKI's regional transportation planning process, and by its consideration as a choice for trip-making by residents of the OKI region."

The Plan has the following goals:

1. Develop a regional bicycle system that is integrated with other transportation systems.
2. Promote an active and supportive bicycle culture in the Cincinnati region.
3. Secure adequate funding for bicycle improvements in the region.
4. Encourage and support bicycle safety, education and enforcement programs.

Relevant Strategies include:

1. Connecting trails between the Little Miami Scenic Trail and nearby communities should be studied to facilitate bicycle access as opposed to transporting bikes by motor vehicle. The Miami 2 Miami Connection through Mason and Deerfield Township is proposed. The 2040 OKI Regional Transportation Plan (2012) documents that there are 47 miles of existing trails within Warren County with an additional 13 miles planned for the Miami 2 Miami Connection.
2. It is recommended that the Great Miami Trail be constructed from Franklin to Fairfield, but more specifically the two mile gap in Middletown from SR 4 to Baxter Avenue in Franklin.

MVRPC Comprehensive Local-Regional Bikeway Plan (2008)

The Miami Valley Regional Planning Commission (MVRPC) is similar to OKI, but is a metropolitan planning organization that manages regional plans and federal funding for the Dayton region inclusive of Carlisle, Franklin, and Springboro. The vision, goals, and relevant strategies of MVRPC's Regional Bikeway Plan are presented below and on the following page.

"The Miami Valley Regional Planning Commission's Comprehensive Local-Regional Bikeways Plan is intended to enhance region-wide bikeway networks including both regional and local bike paths and their connections through the MVRPC planning area."

Plan goals:

1. Implement the Miami Valley Comprehensive Local-Regional Bikeways Plan (see Figure 2.2).

Figure 2.2 | **Regional Bike Plans**

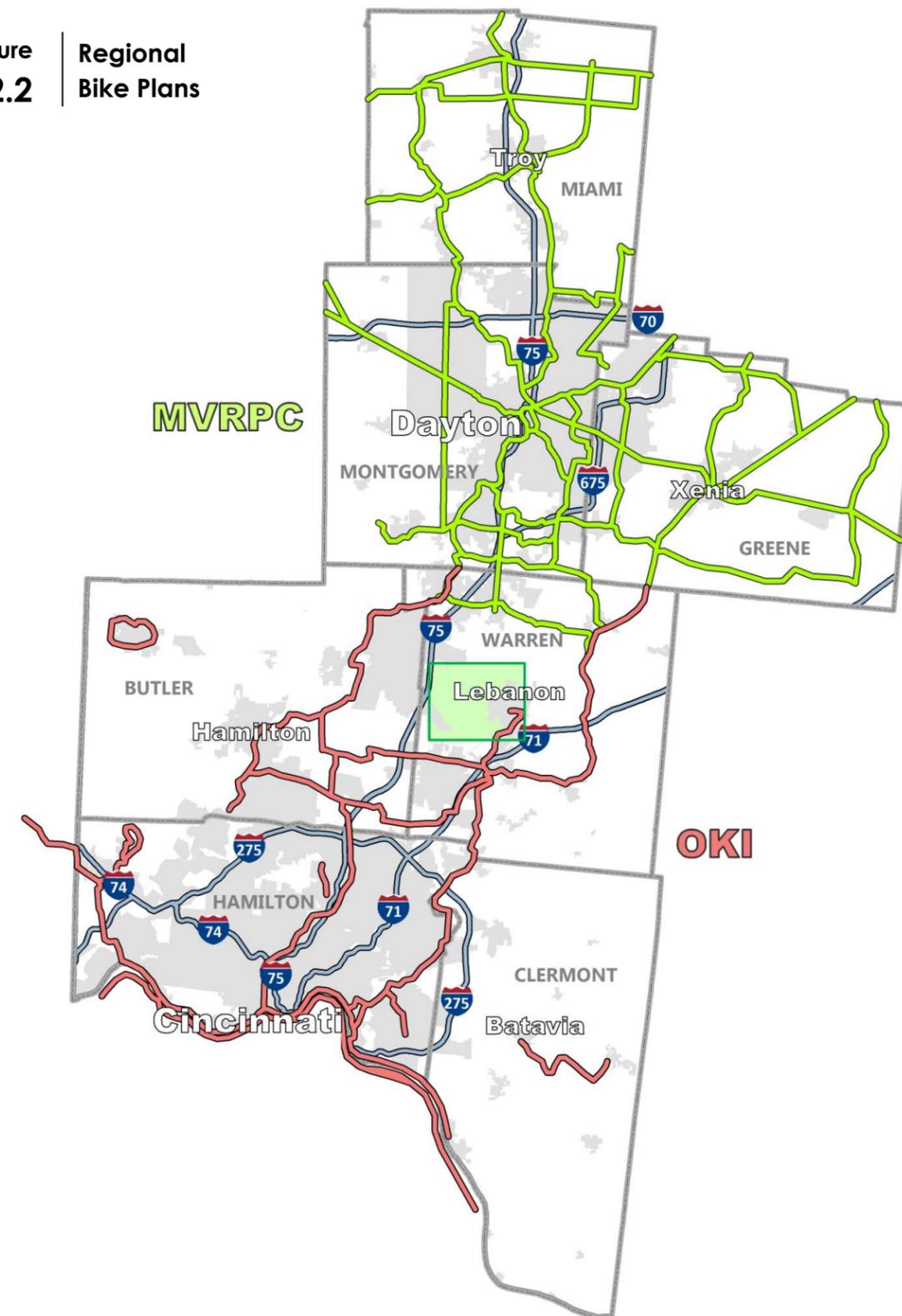
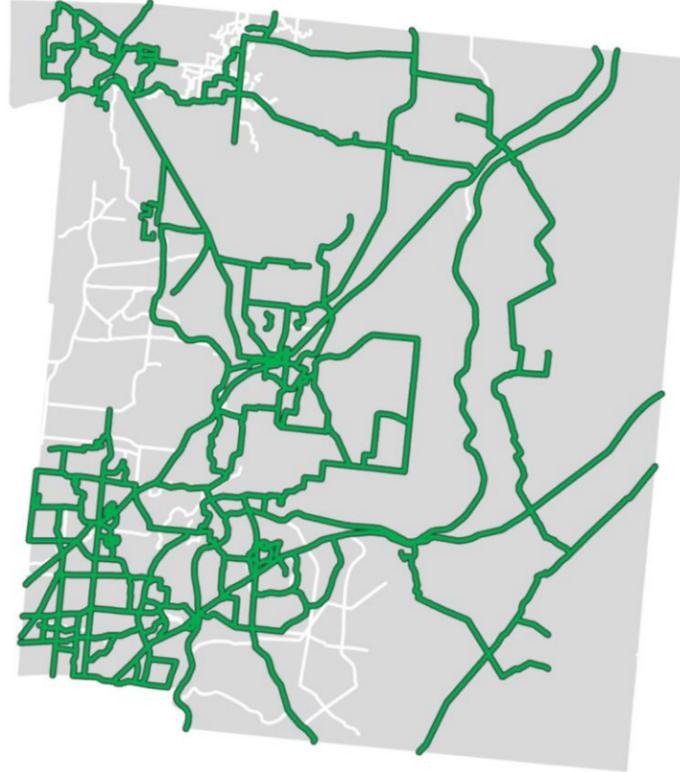


Figure 2.3

Warren County Parks, Recreation, and Open Space Plan



2. Increase the number of people bicycling for transportation and recreation.
3. Improve bicyclist safety.
4. Make bicycling a major focus of the Miami Valley region's efforts to create energy independence.
5. Improve the health and physical fitness of Miami Valley residents.
6. Bicyclists, pedestrians, and motorists will share the road safely.
7. Capitalize on the benefits of bicycling in the local economy.
8. Involve Miami Valley schools in Safe Routes to Schools Programs.
9. Encourage and assist local communities in the Miami Valley region to provide appropriate bicycle support facilities.
10. Ensure that the Miami Valley region's bikeways are well maintained and operated.

Proposed trail priorities for Warren County:

1. Widen shoulders on Ferry/Lytle Road between Wilmington-Dayton Road and North Street in Corwin and develop signed on-street bikeway along North Street/Corwin Road to the Little Miami Scenic Trail.
2. Construct the Great Miami River Recreation Trail between Baxter Drive and Miami River Preserve Park.
3. Construct shared use path along SR 741 between Springboro High School and Austin Pike.
4. Construct shared use path along SR 123 between downtown Franklin and Clear Creek and construct shared use path along Clear Creek between SR 123 and Lower Springboro Road.
5. Widen shoulders on Lower Springboro Road between proposed Clear Creek Trail and US 42.
6. Conduct a trail feasibility study identifying trail corridor linking Germantown and Carlisle.

Table 2.1

County Parks Plan Recommendations

	Year	Existing Trails Length (mi)	Recommended Trails Length* (mi)	Surplus or Deficit (mi)	People
Warren County	2008	82.5	100	-17.5	201,871
	2020	82.5	138	-55.5	276,250
Lebanon	2008	8	10	-2	20,346
	2020	8	13	-5	26,223
Turtlecreek Twp	2008	0.75	7	-6.25	13,838
	2020	0.75	9	-8.25	18,681

*The plan recommends 25 miles per 50,000 people.

County Plans

Warren County Parks, Recreation, and Open Space Plan (2008)

The Parks, Recreation, and Open Space Plan adopted in 2008, is an element of the Warren County Comprehensive Plan. During the planning process, one of the largest requests from citizens was to develop multi-use trails. Of the 350 responses to a community survey, 264 (75%) indicated that paved walking and biking trails were important and 179 (51%) indicated that non-paved walking/biking trails were important. Based on the results of this survey, the Plan recommends development of more multi-use trails across the county that connects parks, schools, and business districts. Table 2.1 provides suggested trail lengths based on population trends.

Other recommendations:

- Develop 38 more miles of trails in the northwest quadrant of the County by 2020.
- Develop 23 more miles of trails in the southwest quadrant of the County by 2020.
- Create parkways with bike, hike, and equestrian trails across greenway corridors.
- Connect to the Little Miami Multi-Use Trail and establish a loop around the entire County as well as provide a connection to the Great Miami River path.
- The Loeb property located south of Red Lion is a 66 acre site that is suitable for active recreation. A high pressure, 120 foot wide gas pipeline easement goes across the northern portion of the property from west to east.
- The designated park area within Estates of Keever Creek Subdivision south of Otterbein is suitable for prairie, wetland, and woodland restoration and “place to place” multi-use trails.

Gateway Plan – West (2015)

The Plan was adopted in April of 2015, primarily as a guide for the management of growth and development along I-75, Warren County's western 'gateway.' This area is inclusive of western Turtlecreek Township, Monroe, and Middletown. One of the goals of the Plan is to have “an expansive trail network” as shown in Figure 2-4. The Plan also focuses on the establishment of cultural icons, parks, and places that ultimately will become destinations for bicyclists. Specific recommendations are listed below:

- Conduct an economic impact study to determine the best use of the rail right-of-way.
- Perform a cost-benefit analysis to determine the fiscal sustainability of each new pathway improvement.
- Work with adjacent jurisdictions, OKI, and developers to ensure trails are aligned and connected, forming regional networks.
- Install bike racks at key points of interest, such as parks, schools, YMCA, Otterbein, etc.
- Incentivize trails by offering a density bonus to development projects that incorporate multi-use paths.
- Provide safe street crossings along SR 63.
- Ensure that major road intersections adequately accommodate pedestrians and bicyclists with clear crosswalk markings and signalization.
- Ensure that roundabouts provide safe crossings for pedestrians and bicyclists.
- Promote and utilize speed tables as a means of calming traffic within parking areas and driveways.
- Incorporate pedestrian refuge islands within roadway medians at crossings away from road intersections.

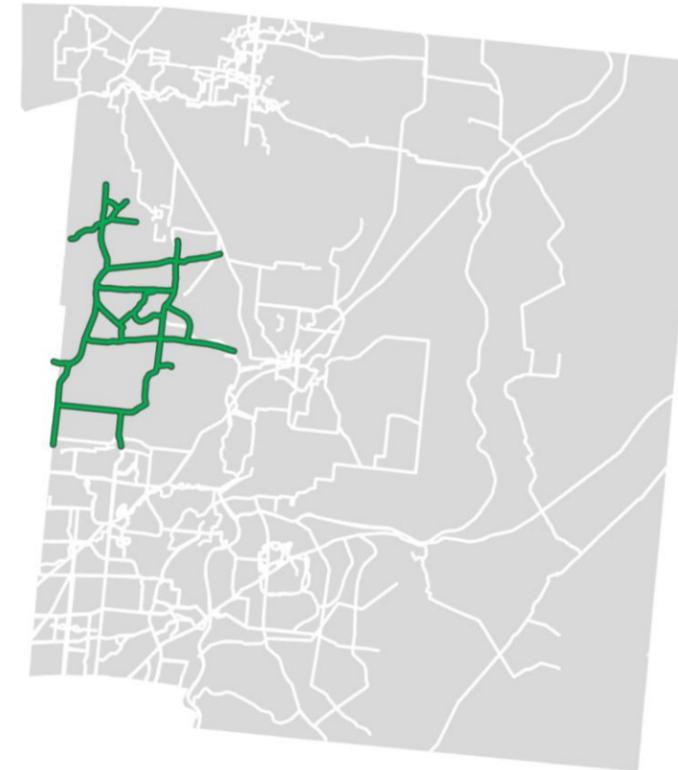


Figure 2.4 | Gateway Plan - West

Local Plans

Lebanon Comprehensive Plan (2008)

The Lebanon Comprehensive Plan provides detailed information and recommendations for trails. The community responses (below) from the Plan offer valuable insights into some of the issues that should be addressed:

- Colonial Park has great potential for trails, but is currently underutilized.
- The Lebanon-Countryside YMCA Trail should be integrated into downtown and connect to Colonial Park, Corwin Park, Turtlecreek Nature Preserve, Lebanon Sports Complex and Miller Park. Additional Connections should be made to facilities within the greater region, such as Armco Park and Otterbein.
- Some areas of the current Lebanon-Countryside YMCA Trail are unsafe and should be redesigned.
- The subdivisions east of SR 48 are disconnected from the Bike Path and Park System.

Figure 2.5 | **Lebanon Comprehensive Plan**

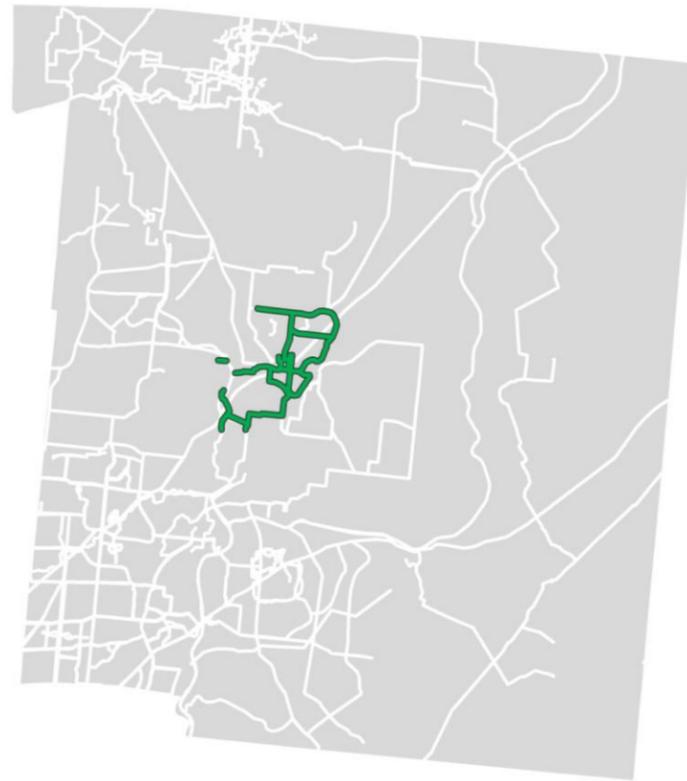


Table 2.2 | **Lebanon Trails Cost Estimates (in 2008 dollars)**

Park	Improvement	Length (ft)	Estimated Cost
Colonial Park	Existing trail enhancement	6,800	\$60,000-\$75,000
	New trails	5,275	\$59,000-\$82,000
Harmon Park	Trail enhancements	7,850	\$87,000-\$121,000
Cook Road	Trail development	2,925	\$33,000-\$46,000
Lebanon Sports Park	Inner paths	3,870	\$43,000-\$60,000
	Exterior loop trail	8,750	\$97,000-\$135,000
Tecumseh Trails Park	Trail development	2,045	\$23,000-\$32,000
Miller Park	Trail development	9,500	\$105,000-\$147,000
Turtlecreek-Union Road Park	East/west & north/south paths	3,180	\$35,000-\$49,000
	Outer loop paths	3,925	\$44,000-\$61,000
	Path across creek to playground	560	\$7,000-\$9,000

Trail Section	Improvement	Length (ft)	Estimated Cost
Northern Loop	5' On-street Bike Lane	5,167	\$72,000-\$93,000
	5' Gravel Hiking Path	2,174	\$22,000-\$33,000
	12' Paved Multi Purpose Trail	18,882	\$680,000-\$906,000
	Stand Alone Trailhead Facility	-	\$125,000-\$150,000
	Total	26,223	\$899,000-\$1,182,000
Colonial Connector	5' On-street Bike Lane	4,922	\$69,000-\$89,000
	5' Gravel Hiking Path	4,153	\$42,000-\$62,000
	Total	9,075	\$110,000-\$151,000
Broadway Connector	5' On-street Bike Lane	8,898	\$125,000-\$160,000
	Total	8,898	\$125,000-\$160,000
Downtown Area Trails	5' On-street Bike Lane	16,663	\$233,000-\$300,000
	5' Gravel Hiking Path	258	\$3,000-\$4,000
	12' Paved Multi Purpose Trail	5,413	\$195,000-\$260,000
	Total	22,334	\$431,000-\$564,000
Countryside YMCA Trail Extensions	5' On-street Bike Lane	227	\$3,000-\$4,000
	12' Paved Multi Purpose Trail	2,182	\$79,000-\$105,000
	Stand Alone Trailhead Facility	-	\$125,000-\$150,000
	Total	2,409	\$207,000-\$259,000
Turtlecreek Loop	12' Paved Multi Purpose Trail	13,290	\$478,000-\$638,000
	Total	13,290	\$478,000-\$638,000

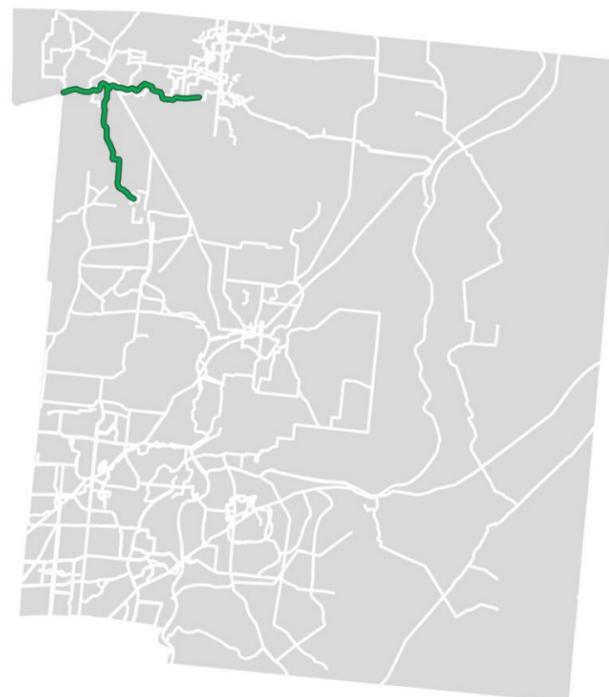
Table 2.2 provides recommendations and cost estimates for park improvements and proposed trail network enhancements.

Other Local Plans

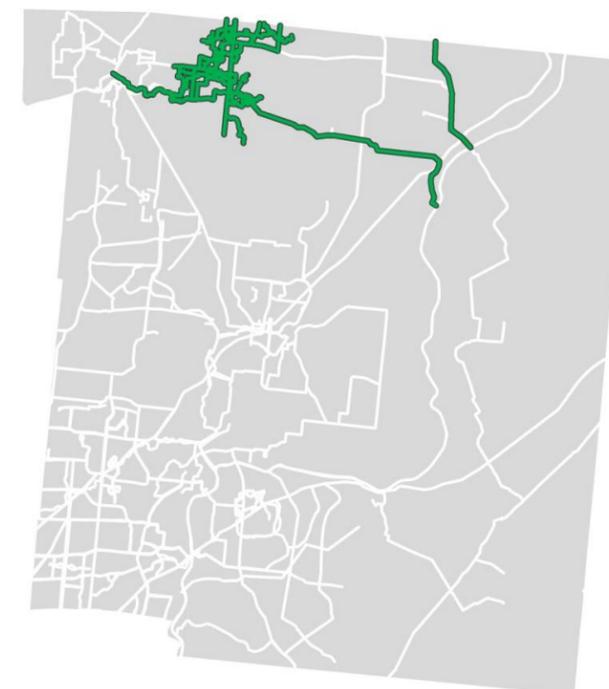
Other local plans are shown in Figure 2.6.

Figure 2.6 | **Local Comprehensive Plans**

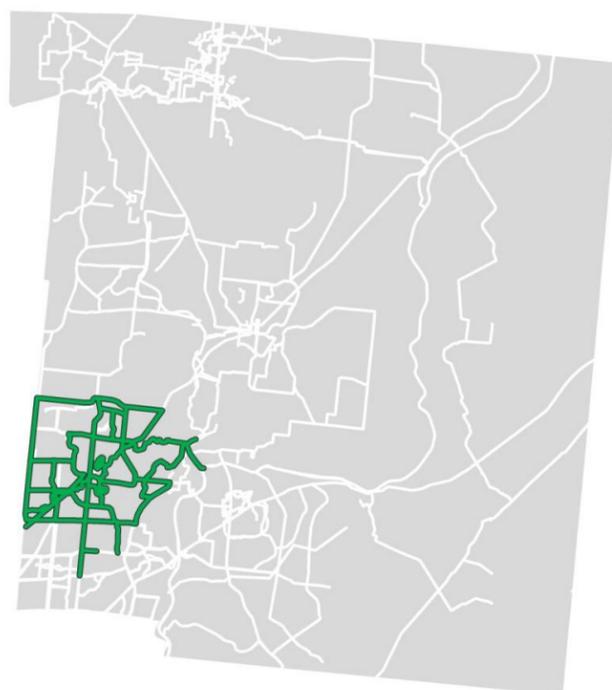
Franklin Comprehensive Plan (2009)



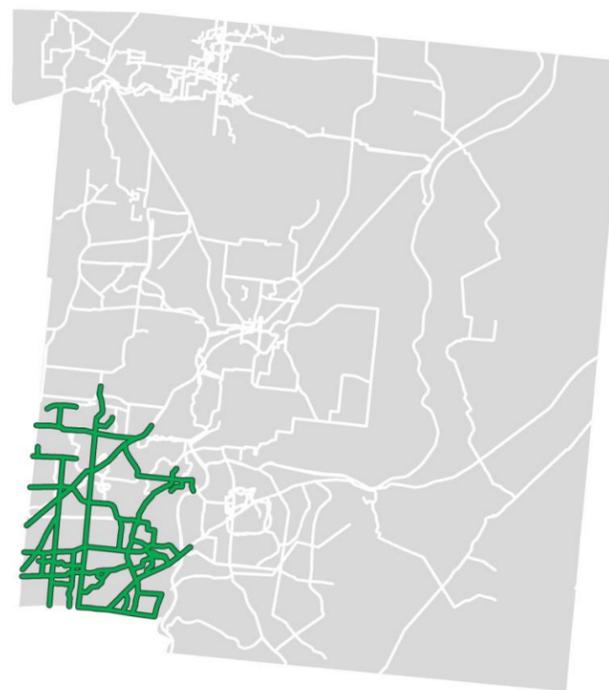
Springboro Comprehensive Plan (2013)



Mason Comprehensive Plan (2010)



Deerfield Township Comprehensive Plan (2008)



Hamilton Township Land Use Plan (2006)





Bicyclists on the Little Miami Trail.

CHAPTER 3

THE PLAN

"A man on foot, on horseback or on a bicycle will see more, feel more, enjoy more in one mile than the motorized tourists can in a hundred miles."

Edward Abbey, *Desert Solitaire*

Introduction

Chapter 3 is about 'The Plan.' First, it shows where potential trail routes will go and how they will connect to the destinations and surrounding communities identified in Chapter 1. Second, the Plan synthesizes and compliments the ideas of existing plans presented in Chapter 2. Third, the Plan provides details and suggestions about trail types, trail design, potential trailheads, and trail priorities. Last, but perhaps most important, this chapter will serve as a guide to fulfill the vision and Plan goals. We *will* someday be known for our trails.

Trail Design

There are generally two types of cyclists; *avid* riders and *casual* riders, and both have different expectations. Avid riders (or avids) are comfortable in nearly any trail setting, whether it is using a multi-use path or sharing the road with motor vehicles. Many avids may prefer the latter. Avids tend to bike alone and prefer longer trips, sometimes 100 miles or more with few stops and traffic signals. Casual riders (or casuals) are the opposite. Casuals prefer paths that are completely separated from roadways and will typically avoid routes with any significant hurdles (e.g. busy street crossings or on-street paths with high traffic volumes). Casuals are more likely to ride in

groups or pairs and enjoy shorter trips, typically less than 25 miles. The majority of cyclists are casuals.

Cyclists may embark on two types of trips; *utilitarian* or *recreational*. Utilitarian trips are for cyclists who want to get from point A to B in a timely manner in the most direct route. The purpose of the trip is usually to get to work, school, a business, or a similar destination. Conversely, recreational trips are leisurely and for cyclists who may prefer loop routes or routes that provide access to parks, scenic viewsheds, and ice cream shops.

Suggested trail routes are shown in Map 3.1 and are separated into three categories; multi-purpose trails, on-street bike lanes, and shared roads. The Plan accommodates a variety of trip types and will offer a pleasant experience for all cyclists.

Multi-Purpose Trails

Separate, off-street paths are the preferred design option for trails within the focus area. Multi-purpose paths may be found next to roadways or they can also wind and twist through wooded areas, follow streams, and provide access to other scenic places away from roadways. This trail type will offer the most comfortable and peaceful experience to potential riders.

Figure 3.1 | Trail Types

Multi-Use Path Adjacent to Roadway
Lebanon Countryside YMCA Trail



Multi-Use Path
Little Miami Scenic Trail



Protected Bike Lane: Double Lane
Vancouver, BC

On-Street Bike Lane: Single Lane
Lebanon Countryside YMCA Trail



Shared Road: Sharrows
Louisville, KY

Shared Road: Signage Only
Glosser-Richardson Road



MAP 3.1
Proposed Trails

Legend

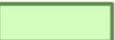
SUGGESTED TRAIL TYPES

-  Multi-Purpose Trail
-  On-Street Bike Lane
-  Shared Road

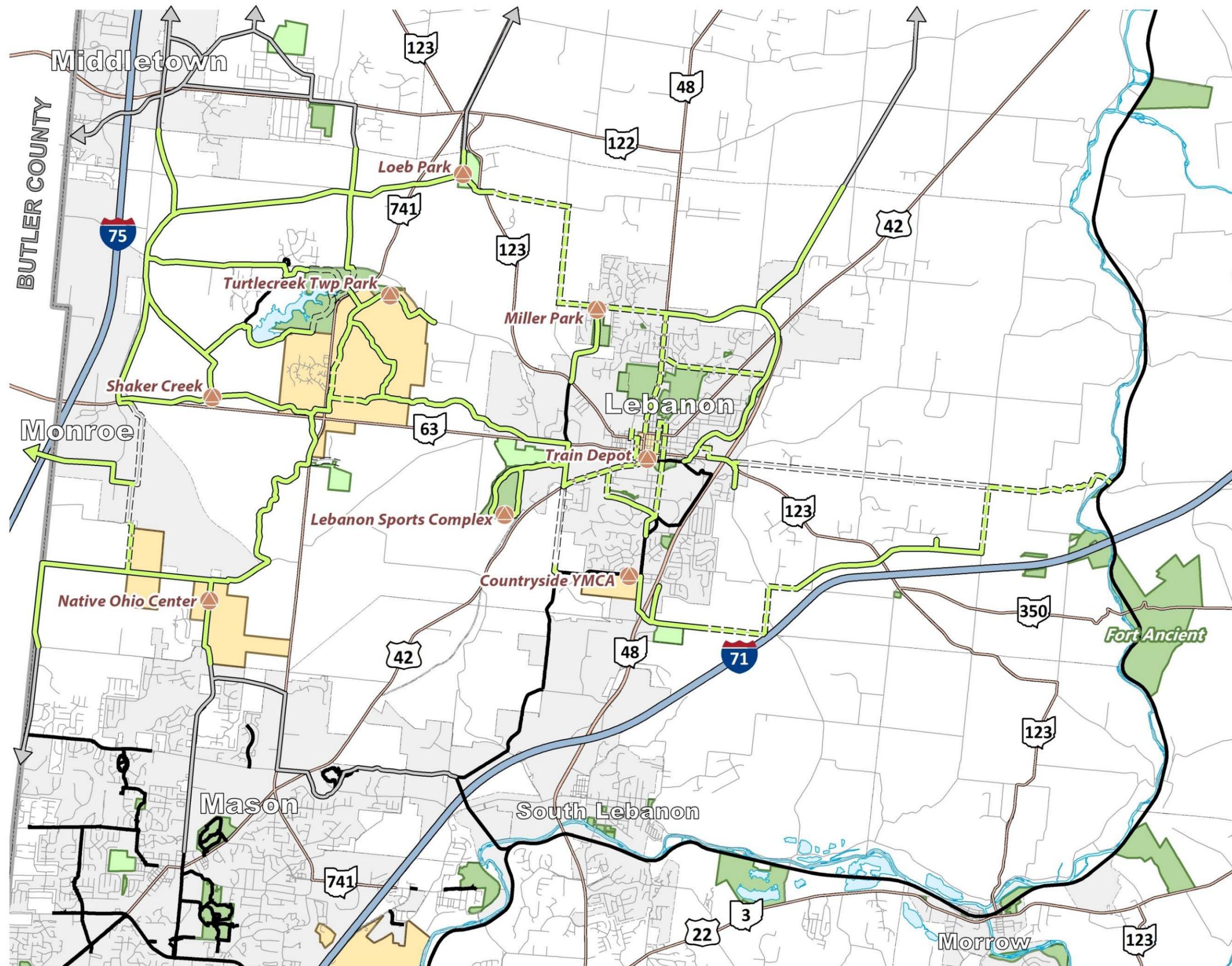
OTHER TRAILS

-  Outside Connections
-  Existing Trails

-  Trailheads

-  Destinations
-  Existing Parks
-  Planned Parks

*Not all existing and planned trails are shown on map for area surrounding Lebanon and Turtlecreek Township.





'Sparc and Go' (trailhead) in Springboro, OH.

Multi-purpose trails are typically 10 to 12 feet wide depending on the number of expected trail users. If located adjacent to a street, the trail can be located within public utility easements and/or public right-of-ways. Trails located away from roadways should be located within trail easements or right-of-way 40 feet in width to allow sufficient room for any grading, landscaping, or related improvements that may be needed.

On-Street Bike Lanes

On-street bike lanes are appropriate in most urban areas and narrow streetscapes where there is not enough space for separate multi-purpose paths. On-street bike lanes are typically well marked on the roadway and are 4-5 feet wide for one lane of travel. Lanes may be found on both sides of the street or a single side of the street, as depicted in Figure 3.1. For high traffic areas, the addition of posts, plantings, and similar barriers between the street and the bike lane are recommended.

Shared Road

The third trail type is 'shared road' where cyclists and/or pedestrians share travel lanes with motorists. Avid cyclists will often use this trail type on rural roads, but the casual rider will not feel comfortable in this scenario. For purposes of this Plan, shared roads are more appropriate on neighborhood streets and streets with minimal traffic such as Glosser-Richardson Road south of US 42. Minimal improvements are typically needed for shared roads and may include the use of 'sharrows' painted on the roadway, signage, or both. Shared roads can also be a good temporary solution to complete bike routes until funds can be obtained for more substantial improvements.

Potential Trailheads

Trailheads are an important aspect of the overall trail system. Many people need trailheads as launch points for their bicycle trips, as many live great distances from the trails or there may be too many obstacles (e.g. dangerous intersections, steep inclines, etc.) between the trails and home. Therefore, parking is needed at each trailhead. Trailheads are also necessary as stopping points and resource centers for cyclists. Common amenities include restrooms, shelters, drinking fountains, and informational kiosks.

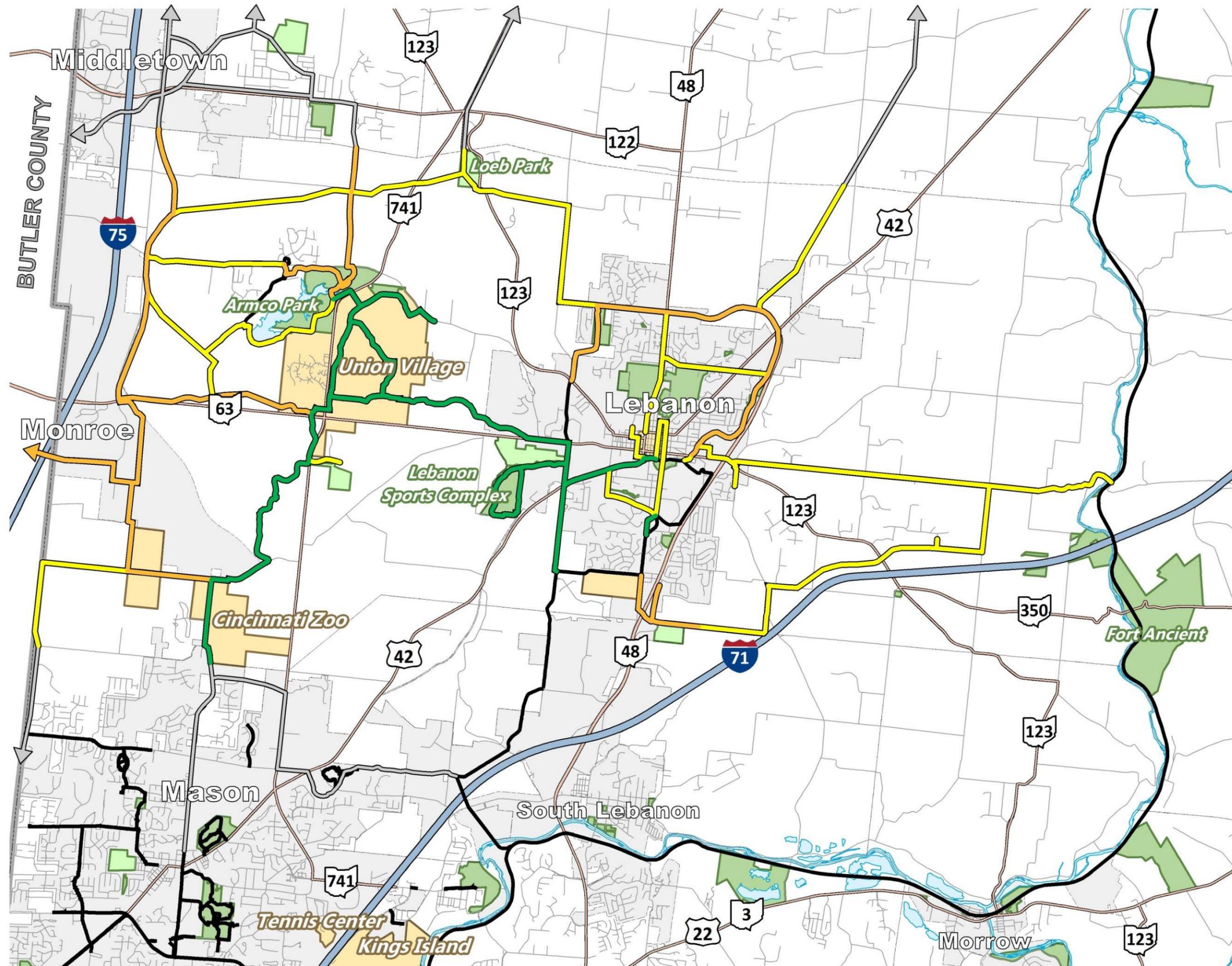
Potential trailhead locations are shown on Map 3.1 with existing and proposed amenities provided in Table 3.1. Harmon Park in downtown Lebanon and the Village Center at Union Village should be the two primary hubs for trails and as such, should offer every amenity a cyclist would need including bike pumps and locker facilities. The 'Sparc & Go' facilities in Springboro could be used as a model and exceptional example of how to promote cycling in the community. These facilities even offer wifi. The Countryside YMCA and Native Ohio Center also have potential to be important trailhead locations.

Table 3.1 Proposed Trailhead Amenities

	Parking	Restrooms	Port-O-Potty	Shelters	Drinking Fountains	Bike Racks	Kiosk/Maps	Bike Pumps	Lockers
Armco Park	Existing	Existing		Existing	Proposed	Proposed	Proposed		
Countryside YMCA	Existing		Existing	Existing	Proposed	Proposed	Proposed	Proposed	Proposed
Lebanon Sports Complex	Existing	Existing		Existing	Existing	Proposed	Proposed		
Loeb Park	Proposed	Proposed		Proposed	Proposed	Proposed	Proposed		
Miller Park	Existing		Existing	Existing		Proposed	Proposed		
Native Ohio Center	Proposed	Proposed		Proposed	Proposed	Proposed	Proposed	Proposed	Proposed
Shaker Creek	Proposed					Proposed	Proposed		
Turtlecreek Township Park	Existing	Existing		Existing	Existing	Proposed	Proposed		
Harmon Park	Existing	Existing		Existing	Proposed	Proposed	Proposed	Proposed	Proposed
Union Village (Village Center)	Proposed	Proposed		Proposed	Proposed	Proposed	Proposed	Proposed	Proposed

Existing Existing Proposed Proposed

MAP 3.2
Trail Priorities



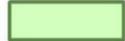
Legend

SUGGESTED TRAIL PRIORITIES

-  High Priority
-  Medium Priority
-  Low Priority

OTHER TRAILS

-  Outside Connections
-  Existing Trails

-  Destinations
-  Existing Parks
-  Planned Parks

*Not all existing and planned trails are shown on map for areas surrounding Lebanon and Turtlecreek Township.



Trail Priorities

70 miles of trails are planned within Lebanon and Turtlecreek Township and the completed network will take approximately 30 years or more to build. To effectively manage the timing and construction of trail segments, routes are prioritized into three categories: high, medium, and low as shown on Maps 3.2 through 3.5. The prioritization of bike routes is meant to be a guide for Township, City, and County leaders to direct grant funds and resources accordingly. However, it is certainly possible that a low priority trail could be built before a medium or high priority trail. For instance, trails can and should be incorporated in site plans and subdivision plans for new developments in accordance with this Plan and other bike plans regardless of how the trail is prioritized.

High Priorities

Trail routes that link Union Village to Lebanon, Mason, and the Little Miami Trail are the highest priority of this Plan. This would link two large population centers to an up and coming population center within the Township. It also would provide trail access to a 'mega park' (Armco Park, Turtlecreek Township Park, and the regional sports complex) on the north side of Union Village. The Warren County airport is another potential destination located near Union Village along Greentree Road. The trail connection from Mason to Union Village would provide access to the Native Ohio Center.

The overarching priority of the Plan is to connect to the Great Miami Trail and the Little Miami Trail. The trail from Lebanon to Union Village is essentially the first phase of a potential east-west route between the two river trails and the Mason to Union Village trail is a potential north-south route between the two river trails.

Medium Priorities

The continuation of trails north and west from Union Village could be considered phase 2 projects in linking the Great Miami Trail and Little Miami Trail. Heading west of Union Village, the trail will meander through the State Property over to the Racino and Cincinnati Premium Outlets, then further west through Monroe. To the north of Union Village, the trail along Shaker Road will connect to the Hunter community, the eastern portion of Middletown where Atrium Medical Center is located, and downtown Franklin. Another north-south connection to the Great Miami Trail can be made along the Union Road corridor and is therefore shown as a medium priority.

Near the City of Lebanon, the priority should be to find a way to safely extend trails across the SR 48 bypass to neighborhoods on the east side of the City. The utilization of rail right-of-way along the SR 48 bypass and the completion of the northern loop trail around Lebanon should also be a priority. This would provide access to more neighborhoods and offer additional opportunities to extend trail spurs into the countryside.

Low Priorities

Low priority routes are important for the completion of the entire trail network, but are generally long-term projects or may be constructed opportunistically. Trails that are considered a low priority include new routes to Ft. Ancient, Lytle, and Red Lion. These are trail connections that may have a lower impact compared to other routes at the time of plan adoption. Certain trails may be considered low priorities simply because other trail segments need to be built first.

Table 3.2 | List of Specific Improvements Needed

Location		Design Notes
1	Glosser-Richardson Road	Short-term improvements are needed to provide a multi-use path connection from the YMCA Trail to Glosser-Richardson Road. Additional signage or sharrows may need painted on Glosser-Richardson Road to alert motorists to cyclists and pedestrians. If Glosser-Richardson Road is extended and/or widened to Kingsview/Fujitec Drive, the trail will need to be improved to a separate multi-use path that should be located on the western side of Glosser-Richardson Road.
2	Glosser-Richardson Rd/US 42 Intersection	The timing of improvements for a multi-use path between US 42 and SR 63 should be coordinated with plans to realign Glosser-Richardson Road at the intersection of US 42. A new traffic signal at US 42 would improve pedestrian safety.
3	SR 741 Crossing	Armco Park, Turtlecreek Township Park, and the new Sports Complex will be connected with multi-purpose paths, but crossing SR 741 could be a challenge. The bike trail should be aligned with the access point to the new sports complex along with a marked crosswalk. A flashing beacon or similar system may also be needed to improve safety.
4	SR 63 Crossing	When SR 63 is widened to five lanes, a tunnel could be included at Station Creek to allow cyclists and pedestrians to easily pass underneath the roadway. Alternatively, if a tunnel is found to be too costly, the signalized intersection of SR 63 and SR 741 will be the best place for cyclists and pedestrians to cross.
5	Native Ohio Center	Bike trails could be routed through the zoo properties away from roadways. A plan for the zoo properties should be developed to incorporate the best location for bike trails and nature trails.
6	YMCA Trail Extension	Two options are recommended to continue the YMCA Trail further west to get to Union Village. Option A is possible short-term improvements to route bicyclists on South Mechanic Street and West Orchard Avenue to South West Street and US 42. Option A would be a combination of on-street bike lanes and shared roads. Option B is long-term improvements for a multi-purpose path along the south side of the train tracks for a more direct route to US 42.

MAP 3.3
Aerial View

Legend

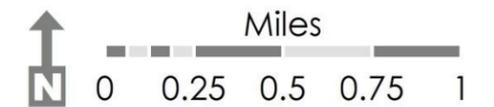
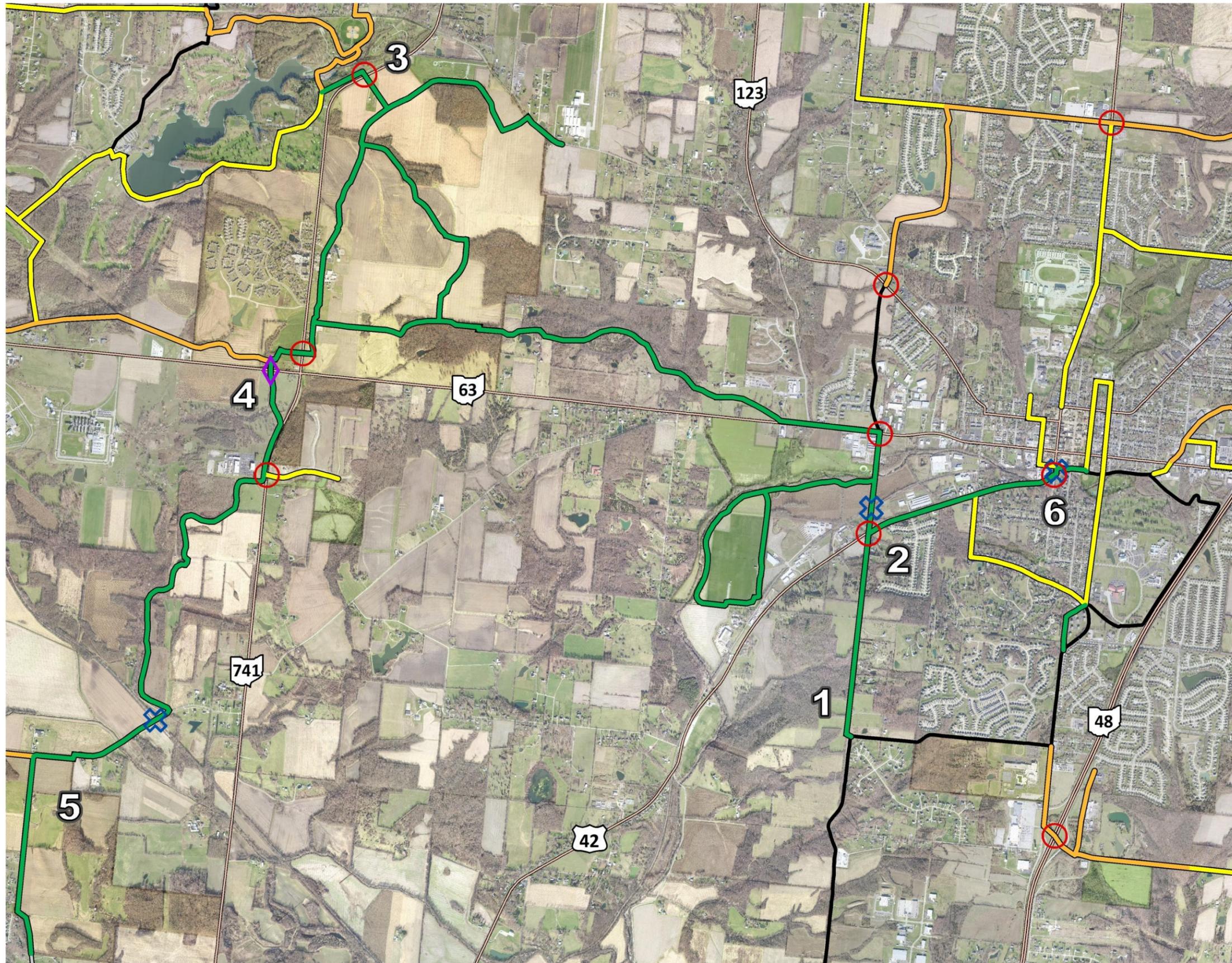
LTTI TRAILS

-  High Priority
-  Medium Priority
-  Low Priority

-  Challenging Intersections
-  Railroad Crossings
-  Tunnels

OTHER TRAILS

-  Outside Connections
-  Existing Trails



MAP 3.4
Topography

Legend

LTTI TRAILS

-  High Priority
-  Medium Priority
-  Low Priority

-  Steep Slopes
(arrows point uphill)

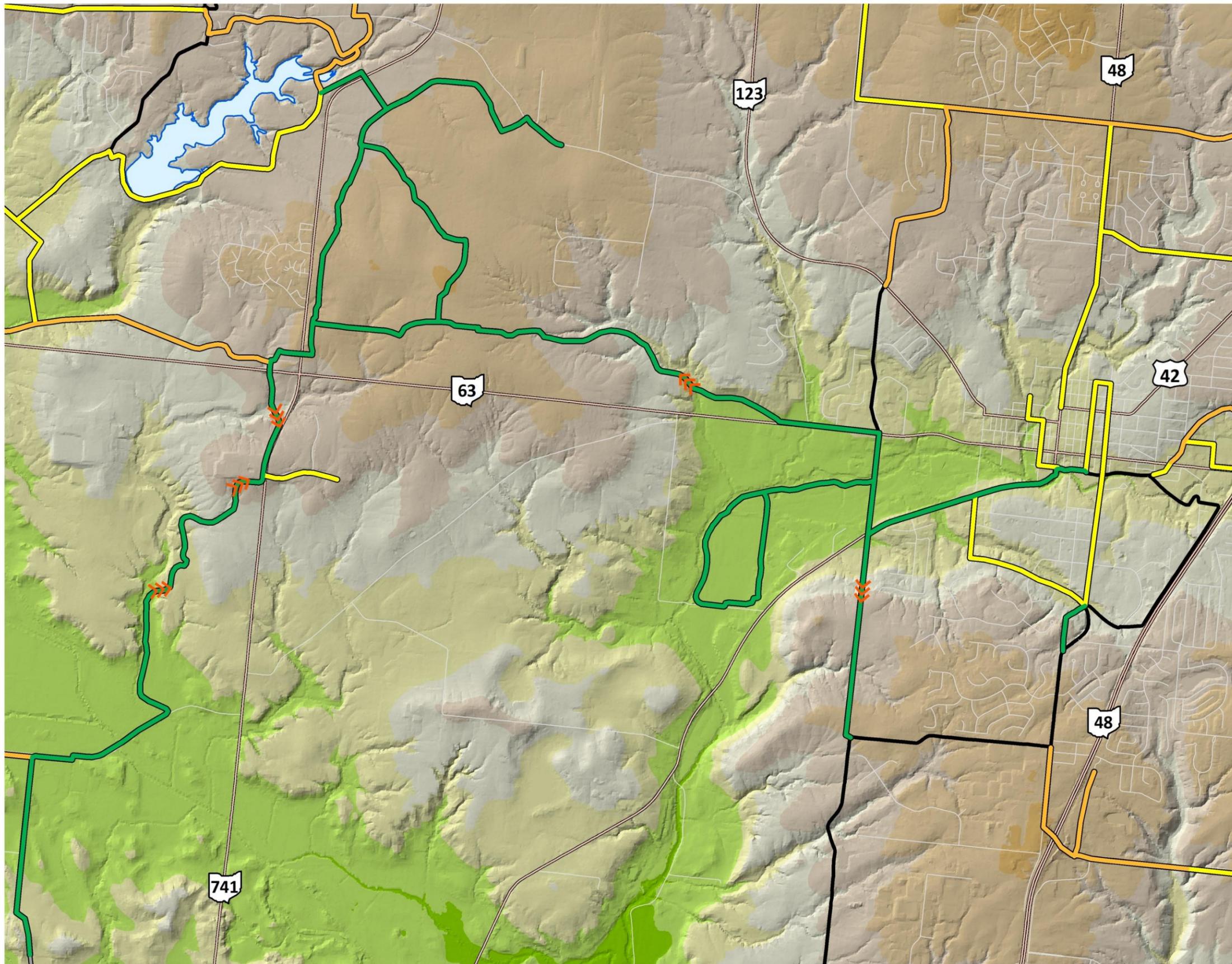
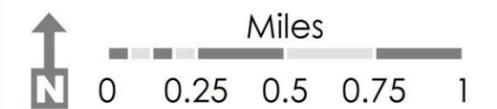
OTHER TRAILS

-  Outside Connections
-  Existing Trails

ELEVATION (feet above sea level)

- | | |
|---|---|
|  900 - 950 |  700 - 750 |
|  850 - 900 |  650 - 700 |
|  800 - 850 |  600 - 650 |
|  750 - 800 | |

-  Lakes and Rivers



MAP 3.5 Natural Features

Legend

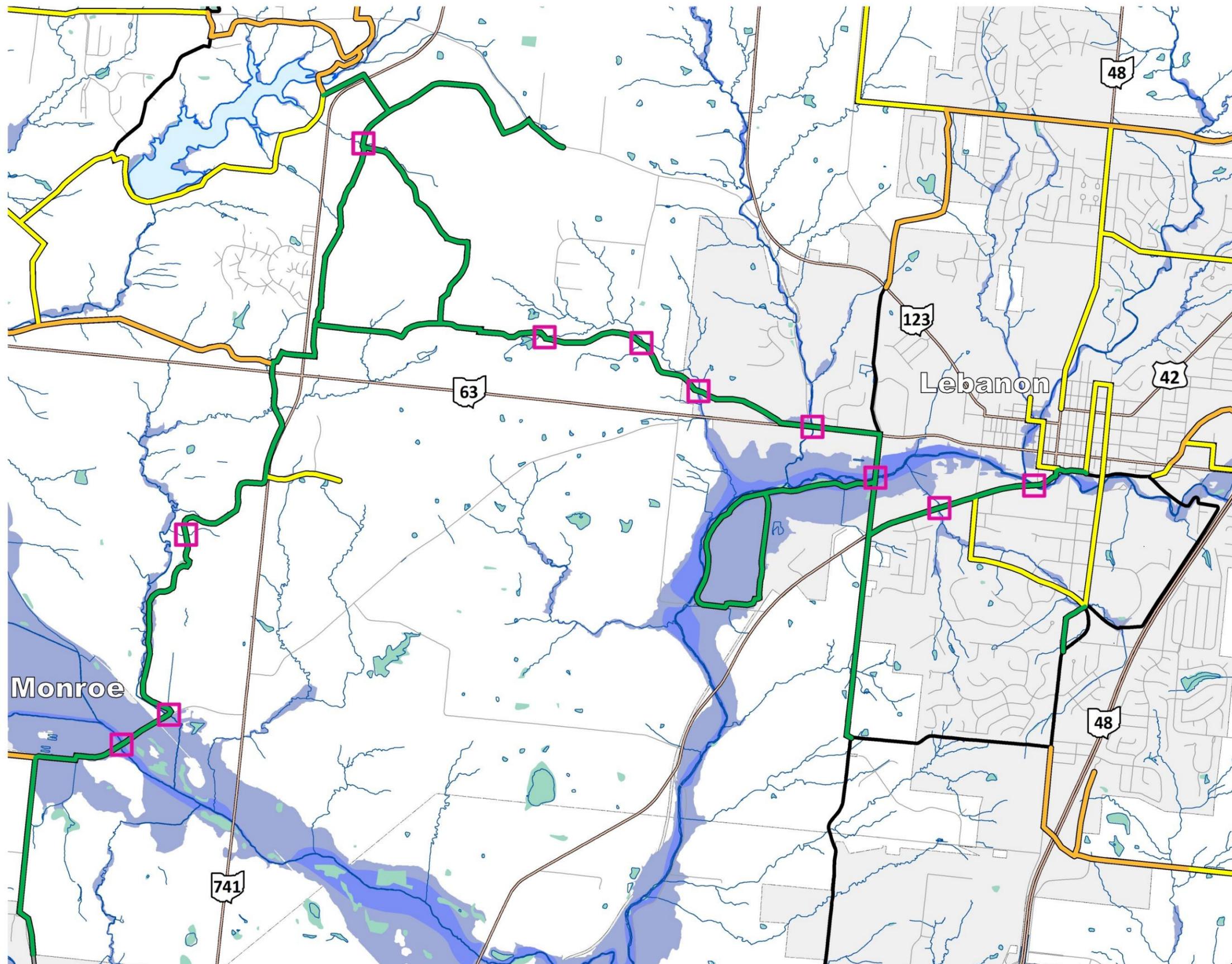
LTTI TRAILS

-  High Priority
-  Medium Priority
-  Low Priority

OTHER TRAILS

-  Outside Connections
-  Existing Trails

-  Potential Bridges
-  Hydrology/Streams
-  Lakes
-  Wetlands
-  Floodway
-  Floodplain





Groundbreaking ceremony for the Little Miami Trail extension in Anderson Township, Hamilton County, OH.

CHAPTER 4 IMPLEMENTATION

"We will someday be known for our trails."

IMPLEMENTATION TABLES

The implementation tables on the following pages provide the framework necessary to achieve the vision for trails in Lebanon and Turtlecreek Township. The tables identify specific action items

that will take place over the next 20 years or more. The text box below offers a guide for sifting through the implementation tables. Implementation actions are organized according to the goals and objectives. Additional information is also provided for each action to specify who is responsible for carrying out the action, and approximately when it should be carried out.

Box 4.1

Implementation Tables Guide

Policy Terms

Goal: a goal is a broad policy statement expressing a desired outcome.

Objective: a refinement of the goal. It gives a more detailed policy direction to implement the goal.

Action: a specific strategy, program, project, or policy necessary to initiate and complete an objective.

Responsibility

The LTTI Plan will be implemented by a variety of different entities. The lead organization(s) responsible for each action are listed first in bold followed by supporting organizations.

Estimated Timeframe

A general estimate of the point in time when each action item will be initiated is provided here.

Short-term: 1-5 years

Mid-term: 6-10 years

Long-term: 11 years or more

Ongoing: a policy or action that requires short term action and continuous involvement or enforcement thereafter.

In Conjunction with Trail Project: a policy or action item that may take place during or after a particular trail or set of trails are constructed.

Development Driven: an action that may not take place until a development project is brought forth for property with planned trails.

Notes

Miscellaneous notes and references to maps, figures, boxes, and other relevant action items are provided here.

References

City	City of Lebanon
County	Warren County
Township	Turtlecreek Township
YMCA	Lebanon Countryside YMCA

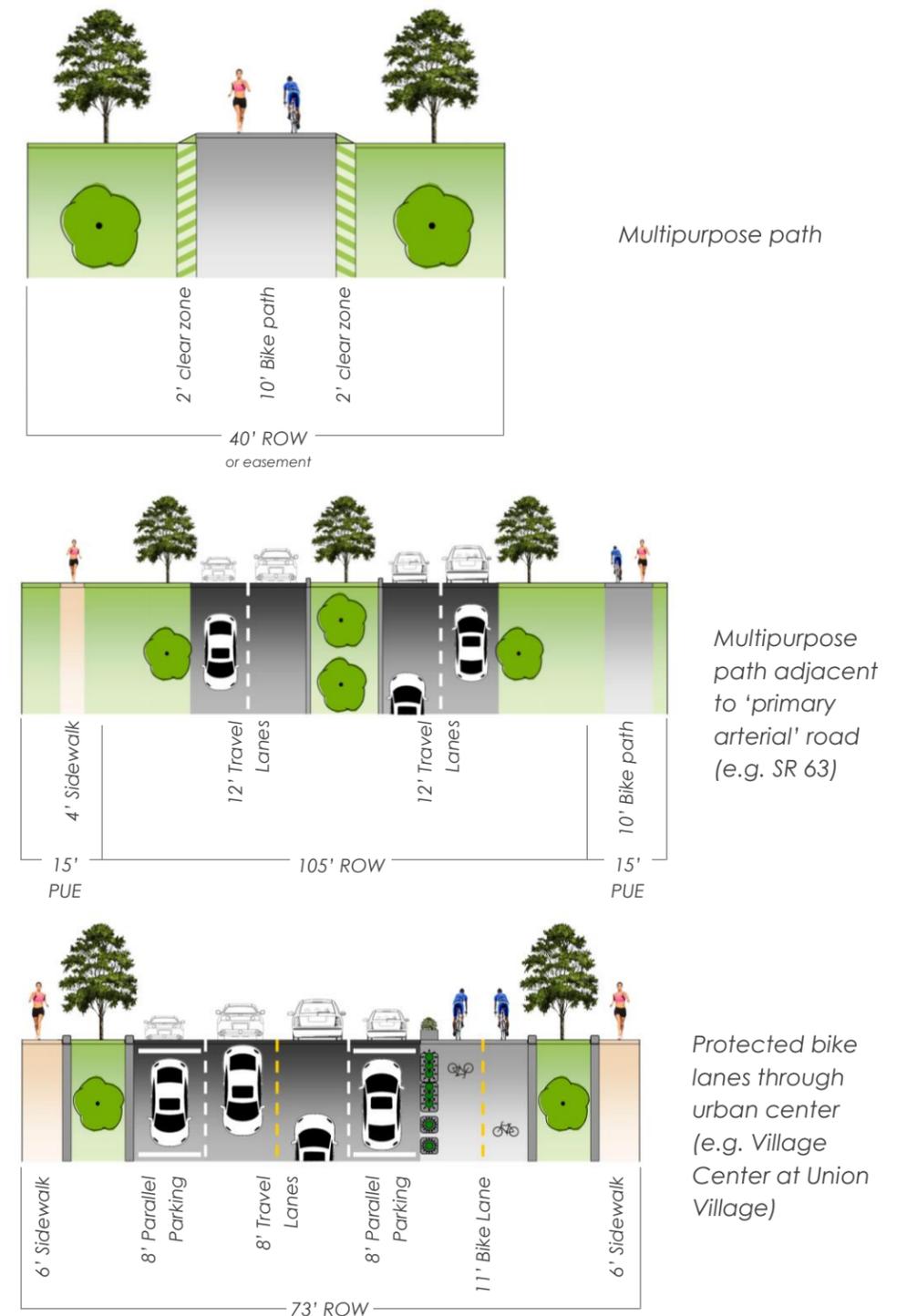
Acronyms

ASHTO	(American) Association of State Highway Transportation Officials
CMAQ	Congestion Mitigation & Air Quality (Improvement Program)
COTF	Clean Ohio Transportation Fund
HDLI	Historic Downtown Lebanon Incorporated
LTTI	Lebanon-Turtlecreek Trails Initiative
ODOT	Ohio Department of Transportation
OKI	Ohio-Kentucky-Indiana Regional Council of Governments
PE	Preliminary Engineering
PUD	Planned Unit Development
ROW	Right-of-way
RTP	Recreational Trails Program
STP	Surface Transportation Program
TA	Transportation Alternatives (Program)
WC	Warren County
WCCVB	Warren County Convention & Visitors Bureau
WCED	Warren County Economic Development (Department)
WCEO	Warren County Engineer's Office
WCRPC	Warren County Regional Planning Commission

ACTION	RESPONSIBILITY	ESTIMATED TIMEFRAME	NOTES
Goal 2: Trails and bicycle routes that are pleasant and safe.			
Objective 2.1: Provide safe areas for pedestrians and cyclists to cross busy roadways.			
2.1.1: Install a flashing beacon and pedestrian crosswalk between Armco Park and the sports complex.	ODOT Township	In conjunction with trail projects	See Map 3.3.
2.1.2: Realign Glosser-Richardson Road at the intersection of US 42 and add a traffic signal with crosswalks.	ODOT City	In conjunction with trail projects	

ACTION	RESPONSIBILITY	ESTIMATED TIMEFRAME	NOTES
<p>Goal 1: A bicycle network that links Lebanon's historic core to growth areas and destinations within Turtlecreek Township and surrounding communities.</p>			
<p>Objective 1.1: Establish right-of-way and easements for planned trails.</p>			
<p>1.1.1: Update the Warren County Thoroughfare Plan, Lebanon Comprehensive Plan, and OKI Regional Transportation Plan to incorporate the suggestions of the Lebanon-Turtlecreek Trails Initiative.</p>	<p>WCRPC City Tri State Trails OKI</p>	<p>Short-term</p>	
<p>1.1.2: Amend the Warren County Subdivision Regulations to require dedication of right-of-way/easements for trails shown in comprehensive plans and trail plans for new development proposals.</p>	<p>WCRPC</p>	<p>Short-term</p>	<p>This requirement would be comparable to a developer providing a road that is consistent with the proposed roads shown on the County Thoroughfare Plan.</p>
<p>1.1.3: Include the LTTI suggested trails in the Union Village Planned Unit Development (PUD).</p>	<p>Offerbein WC Zoning Dept WCRPC</p>	<p>Development Driven</p>	<p>The timing of trail improvements should be determined during the PUD process.</p>
<p>1.1.4: Develop a detailed concept plan for the Native Ohio Center that incorporates multi-use paths and nature trails.</p>	<p>Cincinnati Zoo</p>	<p>Short-term</p>	
<p>1.1.5: Provide a density bonus in the Warren County Zoning Code for new residential developments that dedicate right-of-way and construct trails.</p>	<p>WC Zoning Dept WCRPC</p>	<p>Short-term</p>	<p>Trails also count towards open space requirements within Turtlecreek Township.</p>
<p>1.1.6: Utilize the Clean Ohio Trails Fund and Recreational Trails Program to establish right-of-way/easements for planned trails.</p>	<p>WCRPC Township City</p>	<p>Short-term/ Ongoing</p>	<p>Begin with high priority routes (see Map 3.2).</p>
<p>1.1.7: Encourage the donation of right-of-way and easements on privately owned land to be used in conjunction with grant applications.</p>	<p>WCRPC Township City</p>	<p>Ongoing</p>	<p>The appraised value of right-of-way and easement donations for trails can be used as local match for Clean Ohio trails grants.</p>

Figure 4.1 | Trail Cross-sections





Crosswalk and flashing beacon in Loveland, OH.

ACTION	RESPONSIBILITY	ESTIMATED TIMEFRAME	NOTES
Objective 1.2: Secure funding for trail projects.			
1.2.1: Create an LTTI website for use as a platform to accept monetary donations.	WC Data Processing WC Foundation	Short-term	Allow trail sponsors to advertise on website.
1.2.2: Utilize grants for trail construction and facilities (e.g. Premier Health, COTF, RTP, TA, CMAQ, and STP).	WCRPC Township City	In conjunction with trail projects	See Table 4.1.
1.2.3: When possible, use COTF as local match for other grant such as TA and CMAQ.	WCRPC Township City	In conjunction with trail projects	
1.2.4: Notify and include charitable non-profit organizations in the implementation of trails plans.	WCRPC Township City	In conjunction with trail projects	Some local organizations include the Harmon Civic Trust, Warren County Foundation, Historic Downtown Lebanon Incorporated, Kiwanis, Lion's Club, Elks, and Rotary
1.2.5: Consider the inclusion of trail projects in Tax Increment Financing Districts for new developments.	WCED Township City	In conjunction with trail projects	
1.2.6: Budget for trail improvements in the general fund to use as local match for grants.	Township City County	Ongoing	
Goal 2: Trails and bicycle routes that are pleasant and safe.			
Objective 2.1: Provide safe areas for pedestrians and cyclists to cross busy roadways.			
2.1.1: Install a flashing beacon and pedestrian crosswalk between Armco Park and the sports complex.	ODOT Township	In conjunction with trail projects	
2.1.2: Realign Glosser-Richardson Road at the intersection of US 42 and add a traffic signal with crosswalks.	ODOT City	In conjunction with trail projects	

Table 4.1 | Funding Resources

Eligible Projects		Funding Name	Issuing Agency	Eligible Applicants	Local Match Minimum	Deadline
PE	ROW	Recreational Trails Program & Clean Ohio Trails Fund http://ohiodnr.com/tabid/21369/default.aspx	ODNR	City, Township, and County	20% and 25% respectively. Program can be used as local match for TA, SRTS, STP, and CMAQ programs.	February of each year
		Transportation Alternatives (TA) & Safe Routes to School Program (SRTS) http://www.fhwa.dot.gov/map21/guidance/guidetap.cfm www.dot.state.oh.us/saferoutes	OKI	City, Township, County, and Park Districts	20%	February of each year
		Surface Transportation Program http://www.fhwa.dot.gov/map21/guidance/guidestp.cfm	OKI	City, Township, and County	20%	Varies
		Congestion Mitigation Air Quality (CMAQ) http://www.fhwa.dot.gov/map21/guidance/guidecmaq.cfm	OKI	City, Township, and County	20%	Early Sept.
		County and Municipal Bridge Program	County Engineers Assoc./ODOT	City, Township, and County	20%	March of each year
		State & Local Capital Improvement Program http://www.pwc.state.oh.us/Infrastructure.html	OPWC	City, Township, and County	10% (State) 0% (Local)	Varies, but usually Fall
		Safety Program	ODOT	City, Township, and County	10-20%	April 30 and Sept 30 of each year
		Land & Water Conservation Fund	ODNR	City, Township, and County	50%	Biannually in May
		NatureWorks Program	ODNR	City, Township, and County	25%	Sept. of each year

Trail Construction & Facilities

Parks

**Available funding, local match requirements, and grant deadlines are subject to change.*



Pedestrian tunnel in Vancouver, BC.



Public art along the Ironhorse Trail in Kettering, OH.

ACTION	RESPONSIBILITY	ESTIMATED TIMEFRAME	NOTES
2.1.3: Install a pedestrian tunnel under SR 63 near Station Creek when SR 63 is improved and widened.	ODOT Township Otterbein	In conjunction with SR 63 widening or trail projects	Provide adequate lighting and use materials that discourage vandalism.
2.1.4: Install crosswalks and refuge islands at the intersection of SR 42 and South Broadway Avenue in Lebanon.	ODOT City	In conjunction with trail projects	
2.1.5: Consider the use of crosswalk designs that privilege pedestrians and cyclists over motorists.	WCEO ODOT	Ongoing	E.g. elevated crosswalks and stop lights.
2.1.6: Develop a detailed plan for crossing the SR 48 bypass.	City ODOT	Mid-term	
Objective 2.2: Make the trail experience memorable.			
2.2.1: Work with developers during the review process to interpret trail plans and encourage trails that will be scenic.	WCRPC City	Development Driven	Encourage the trail types shown in Map 3.1.
2.2.2: Plant trees and vegetation along trails.	Lebanon Shade Tree Commission Turtlecreek Tree Board	Ongoing	
2.2.3: Incorporate public art at trailheads and along planned trails.	Local Universities Lebanon City School District	In conjunction with trail projects; Long-term	
2.2.4: Consider the use of materials such as pavers or smooth brick for crosswalks and paths through cultural centers.	Township City WCEO ODOT	In conjunction with trail projects	E.g. The Village Center at Union Village.

ACTION	RESPONSIBILITY	ESTIMATED TIMEFRAME	NOTES
Objective 2.3: Ensure that trails and related facilities are adequately maintained			
2.3.1: Establish a long-term maintenance program for each trail project that specifies the designated entity responsible for trail maintenance.	Township City County Park Boards	In conjunction with trail projects	Maintenance bonds are also required for trails constructed within new developments and subdivisions.
2.3.2: Maintain a minimum 10 foot clear zone above trails and a two to three foot mowing strip on both sides of the trail.	Trail Maintenance Crews/Volunteers	Ongoing	See ASHTO guidelines.
2.3.3: Work with non-profit organizations and local park boards to develop creative solutions for trail maintenance.	WCRPC Township City	In conjunction with trail projects	
Goal 3: Trailheads and bicycle facilities that adequately serve the needs of cyclists.			
Objective 3.1: Establish 'primary' trailhead locations.			
3.1.1: Make improvements to Mechanic Street Gas Station to include a kiosk, bike racks, lockers, and bike pumps.	HDLI City Harmon Civic Trust	Short-term	
3.1.2: Make improvements to the Countryside YMCA to include a kiosk, bike racks, lockers, and bike pumps.	YMCA	Short to Mid-term	
3.1.3: Build a trailhead facility at the Village Center in Union Village.	Otterbein County Township	Mid-term	The trailheads located in Springboro and Austin Landing are good examples of what this facility could look like and offer.
3.1.4: Build a trailhead facility at the Native Ohio Center.	Cincinnati Zoo	Long-term	Also see strategy 1.1.4.
3.1.5: Introduce bike rental/bike share stations at trailhead locations.	City Union Village Township	Long-term	E.g. 'Red Bike' in Cincinnati and 'Link' in Dayton.



Bike trail with brick pavers in Evansville, IN.



Mechanic Street Gas/Taxi Station during train day.



'Link' bike rental station at the University of Dayton.



Signage along the Great Miami Trail in Dayton.



Map and bike information on the Great Miami Trail in Dayton.

ACTION	RESPONSIBILITY	ESTIMATED TIMEFRAME	NOTES
Objective 3.2: Establish an identifiable wayfinding system and brand.			
3.2.1: Develop a unique name for each trail.	Township City County	In conjunction with trail projects	E.g. The trail to the zoo properties could be called the 'Native Ohio Trail.'
3.2.2: Establish a consistent theme for route signage and kiosks.	Lebanon Parks Board City Township	Short-term	
3.2.1: Provide kiosks with maps of regional trail routes at trailhead locations.	City Township HDLI	In conjunction with trail projects	Consider providing informational brochures about the trail network at kiosk locations.
Objective 3.3: Promote bicycling throughout the city and township.			
3.3.1: Install bike racks at local businesses, parks, and destinations.	Park Boards City Township HDLI	Short-term	
3.3.2: Create informational brochures about the trail network.	WCRPC	Mid-term	
3.3.3: Organize group events on the bike trails.	Park Boards YMCA City Union Village	Ongoing	Coordinate with 'Meet me Outdoors' and Tri-State Trails
3.3.4: Use social media to promote the LTTI trail system.	Tri-State Trails	Ongoing	

ACTION	RESPONSIBILITY	ESTIMATED TIMEFRAME	NOTES
Objective 3.4: Coordinate bike trails with other modes of transportation.			
3.4.1: Update plans for equestrian trails within Warren County.	WC Equine Committee WCRPC	Mid-term	Ensure that bike paths and facilities stay separated from equestrian activities for safety purposes.
3.4.2: Look for opportunities to pair transit with bicycling.	WC Grants Dept	Short-term	For example, add bike racks on public transportation vehicles or plan bus stops near trailheads.

