Bicycle and Pedestrian Master Plan

2022

Bowling Green - Warren County

Metropolitan Planning Organization

BG & WC Metropolitan Planning Organization

BikeWalkBG™

Acknowledgements

The Bowling Green-Warren County Metropolitan Planning Organization and project staff would like to thank the public, local interest groups, and our local government leaders and staff who supported this effort.

We appreciate the support and work of the City of Bowling Green, Warren County, and Kentucky Transportation Cabinet District 3 in their collective committment to help make Bowling Green and Warren County a more bike- and walk-friendly community.

This document was approved by the MPO Policy Committee on October 25, 2022.

Content

List of Figures

Introduction

Introduction

People of all generations and all cultures have been walking and biking long before we had dedicated infrastructure to do so. However, as the built environment has increasingly demanded the use of the automobile, the spaces to walk and bike have grown progressively more sparse and dangerous. Our nation's roadways have been planned for the automobile, to travel in the fastest and most efficient manner. However, the need for safe alternative transportation modes and space for engaging in healthier lifestyles have become more prevalent in the 21st century, shifting the paradigm for how we plan our roadways and how we prioritize funding for shared-use facilities.

The Bowling Green-Warren County Metropolitan Planning Organization (MPO), as part of the City-County Planning Commission (Planning Commission), provides oversight of the bicycling and pedestrian planning and advisory efforts for all of Warren County. For the purpose of this plan and all documentation moving forward, "trails" refers to the entirety of the bicycle and pedestrian network (greenways, shared-use sidewalks, share-the-road/sharrows, bike lanes, multi-use trails, and walking paths).

Purpose & Need

While a number of plans have been completed in the past, much momentum and local support has spurred the need for a single document that directly guides local agencies to construct context-sensitive bicycle and pedestrian infrastructure throughout the County. This Plan seeks to provide a snapshot of our existing trail system and paint a picture for how we hope that infrastructure will continue to grow into the future.

This Plan will outline the importance of bicycle and pedestrian infrastructure and active transportation – the economic value; the improved health benefits, both mentally and physically; and enhanced accessibility and connectivity for the greater population. Through staff, stakeholder, and committee involvement, this Plan will provide a framework for future funding priorities, identifying priority bicycle and pedestrian connections throughout Bowling Green and Warren County.

Master Plan Goal

Create a safe, convenient, and viable bicycle and pedestrian transportation network to connect people to places in an effort to enhance economic development, improve social and physical health, and create space for recreational and natural fulfillment.

Guiding Principles

- Promote active lifestyles by creating bicycle and pedestrian connections between places where we live, work, and play.
- Collaborate with appropriate public, private, and non-profit agencies to establish and accomplish common goals.
- Encourage public participation to help identify, prioritize, and support projects.
- Assess current bicycle and pedestrian infrastructure conditions and identify connectivity gaps.
- Design new fiscally responsible bicycle and pedestrian infrastructure that are appropriate for the location and surrounding environment.
- Actively seek funding to create additional bicycle and pedestrian connections.

1 Where we are Today

History

Over the past 20 years, Bowling Green and Warren County have experienced a vast amount of growth. From the inception of the formal Greenways Commission to the creation of BikeWalkBG, the planning and implementation of trails has vastly changed as well. The sections that follow provide an overview of the growth and change incurred over the past 20 years.

Greenbelt Master Plan

The first Greenbelt System Master Plan for Bowling Green and Warren County was prepared in 1998 by Lose and Associates of Nashville, TN. The Master Plan was officially adopted by the Bowling Green City Commission and the Warren County Fiscal Court in 1999. Since then, the Greenways Commission successfully used this plan as their guiding framework to construct more than 20 miles of trails throughout Warren County. Although several goals of the Greenways Commission were achieved by utilizing this plan, after 16 years of use, the Greenways Commission elected to revise the Master Plan in 2014 to accommodate the growing needs of the community.

Greenways Commission

The Greenways Commission, established in 2001 and abolished in 2018, provided guidance for the construction of much of our trail system today. The Greenways Commission of Bowling Green and Warren County was created in 2001 by joint action of the City and County governments. From 2001-2014, the Greenways Commission received over $7.6 million in grants, resulting in a successful network of Greenways trails throughout the community. The Greenways Commission consisted of twelve voting members. The originally established duties of the Greenways Commission were to establish priorities, develop cost estimates, solicit public input, and recommend detailed master plans for specific phases of the Greenbelt System Master Plan (adopted in 1998).

MPO BPAC & BikeWalkBG

As funding for greenways ran out, the original intent of the Commission no longer served its intended purpose. While the organizational structure of the Greenways Commission remained relatively constant over its seventeen years, the role of the Greenways Commission changed dramatically. With that change, the role of the Planning Commission also changed with regard to its involvement with transportation planning.

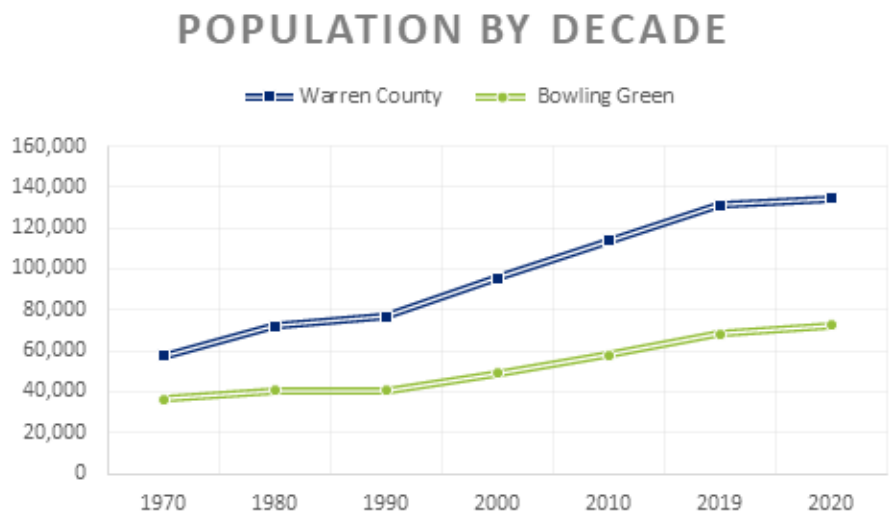
In 2015, the Planning Commission acquired the MPO, which performs all transportation planning endeavors for Bowling Green and Warren County. The MPO provides a common forum for discussion of all transportation-related activities in our community. In 2018, the Greenways Commission was formally abolished. The duties and responsibilities of the Greenways Commission were restructured to fall under a sub-committee of the Bowling Green-Warren County MPO, the Bicycle and Pedestrian Advisory Committee (BPAC). The redistribution of bicycle and pedestrian planning and advisory duties into the MPO integrates all forms of transportation into one comprehensive and collaborative planning process. It represents a true multimodal system, recognizing bicyclists and pedestrians as a part of the transportation system, and not just recreation. The MPO BPAC is not formally structured as a voting board, but provides guidance and direction in the community's bicycle and pedestrian planning efforts.

As the roles shifted, it became evident that there was a gap in bicycle and pedestrian advocacy and education. In an effort to fill that gap, the MPO/CCPC received a Paula Nye Memorial Education Grant to (re) brand into what is now called BikeWalkBG. BikeWalkBG provides bicycle and pedestrian safety information, educational resources and advocacy endeavors to the community.

Community Assessment

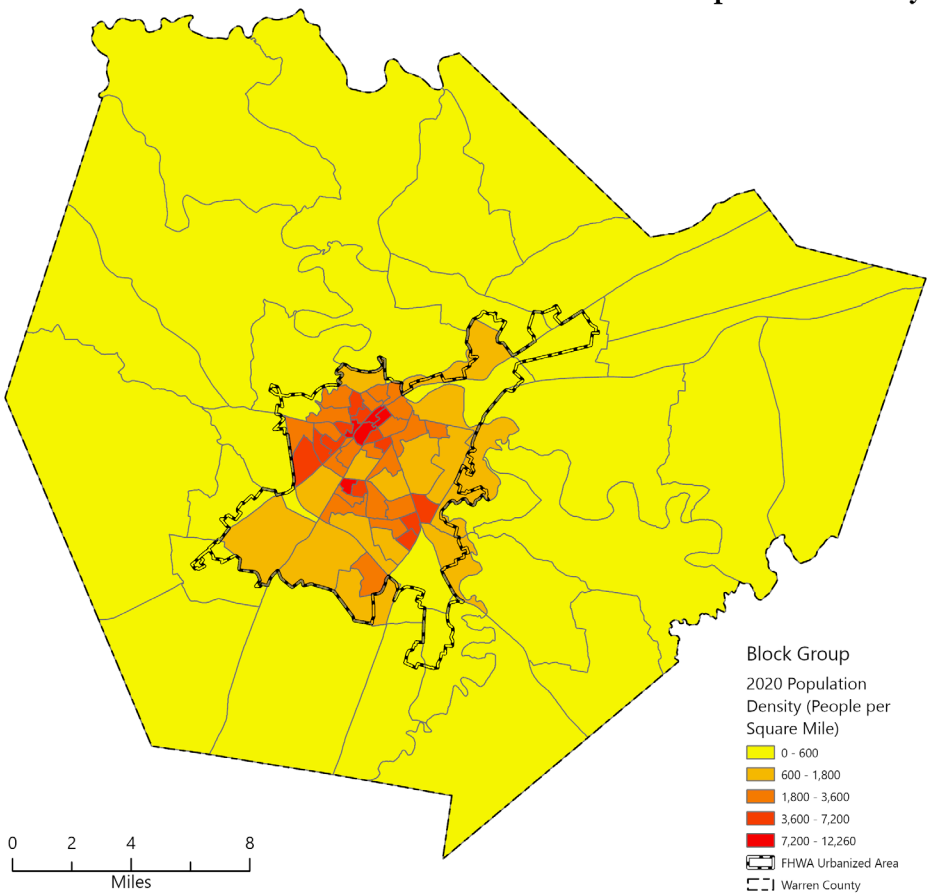
Growth Trends & Population Density

Bowling Green is a regional hub for business, education, industry, health care, and entertainment, serving more than 300,000 people in the 10 county region. It is located within a day's travel of nearly 60 percent of the U.S. population and is home to people from around the world. As illustrated by Figure 1, Warren County has experienced moderate but steady population growth in the past five decades. Over a fifty-year period, Warren County experienced a 134% growth in population; Bowling Green experienced a 99% population growth. By 2050, Warren County's population is expected surpass 200,000, according to projections provided by the Kentucky State Data Center.



In addition to analyzing how our community has grown, it is also important to identify where and how development is occurring. In analyzing population density across the community, it is important to consider the proximity of the population with meaningful access to a number of amenities, including park, trails, and public spaces. Most people are willing to walk or bike a half mile to access a park or nearby trail. The maps below show the population density of Warren County and explore the levels of accessibility to existing parks and trails.

1.01 Population Density



Economic Analysis

Building infrastructure for cyclists and walkers, whether for transportation or recreation, are a fraction of the cost of road projects and are touted as economic drivers for communities, neighborhoods, businesses, and individuals across the globe. Numerous studies detail the positive economic trends that have resulted from biking and walking improvements. One such study that analyzed 14 corridors in six cities found very little evidence of active transportation street improvements having a negative impact on business or economic outcomes. In many cases, improved bicycle and pedestrian infrastructure was shown to have positive impacts on sales and employment in the retail and food service sectors.[1] This can especially be true for downtown businesses.

Aside from boosting retail and food-sector economies, local governments, healthcare, and tourism industries may also see benefits. A number of studies point to research that indicates higher property values in areas where residents can easily bike or walk. In Indianapolis, the Indiana University Public Policy Institute estimated that the $62.5 million, 8-mile-long Indianapolis Cultural Trail has resulted in more than a $1 billion increase in property values for properties within 500 feet of the trail.[2]

Bicycling can bring economic benefits to more than just urban settings; many rural communities across America are using bicycle tourism to leverage economic development strategies as well. People who ride bikes on vacation buy food, have travel costs, and pay for lodging. Bicycling tourism brings millions of dollars to cities and towns across the country that would not otherwise end up there.

Many studies have shown that support for and investment in walking and biking improvements brings benefits to the local economy, but these benefits are also linked to other areas related to health, safety, the environment, and more. Below are a few of these benefits, according to numerous studies and research over the past 10 years.

Economic Benefits to Local Governments

- Proximity to walking and biking infrastructure increased property and sales tax revenue by up to 10 times. [3]
- Projects supporting walking and biking reduced cost of utility infrastructure including sewer and water lines by approximately 38 percent.
- Investment in walking and biking infrastructure reduced cost of delivering services, such as 20-40 percent savings on school busing and ten percent savings on emergency response.
- Transportation improvement projects for trails, walking, and biking created more jobs than any other type of project at 17 jobs (design, engineering, construction) per $1 million spent.[4]
- Increasing transportation alternatives increases worker productivity and decreases wear on federal highways—saving maintenance costs.

Economic Benefits to Local Economies

- A 2012 Oregon Bicycle Tourism Study found that bicycle-related expenditures amounted to nearly $400 million and supported 4,600 jobs within Oregon.[5]
- 16 years and $59 million brought over 200 miles of bike paths to Northwest Arkansas[6]
- Bicycling provided $137 million in economic benefits to the region in 2017 alone.
- Houses within .25 miles of a 36 mile Greenway sell for an average of nearly $15,000 more (than those more than two miles from a shared use trail).
- Commuter and recreational bicycling in Iowa generates more than $400 million in economic activity in Iowa.[7]

Economic Benefits to Healthcare & Employers

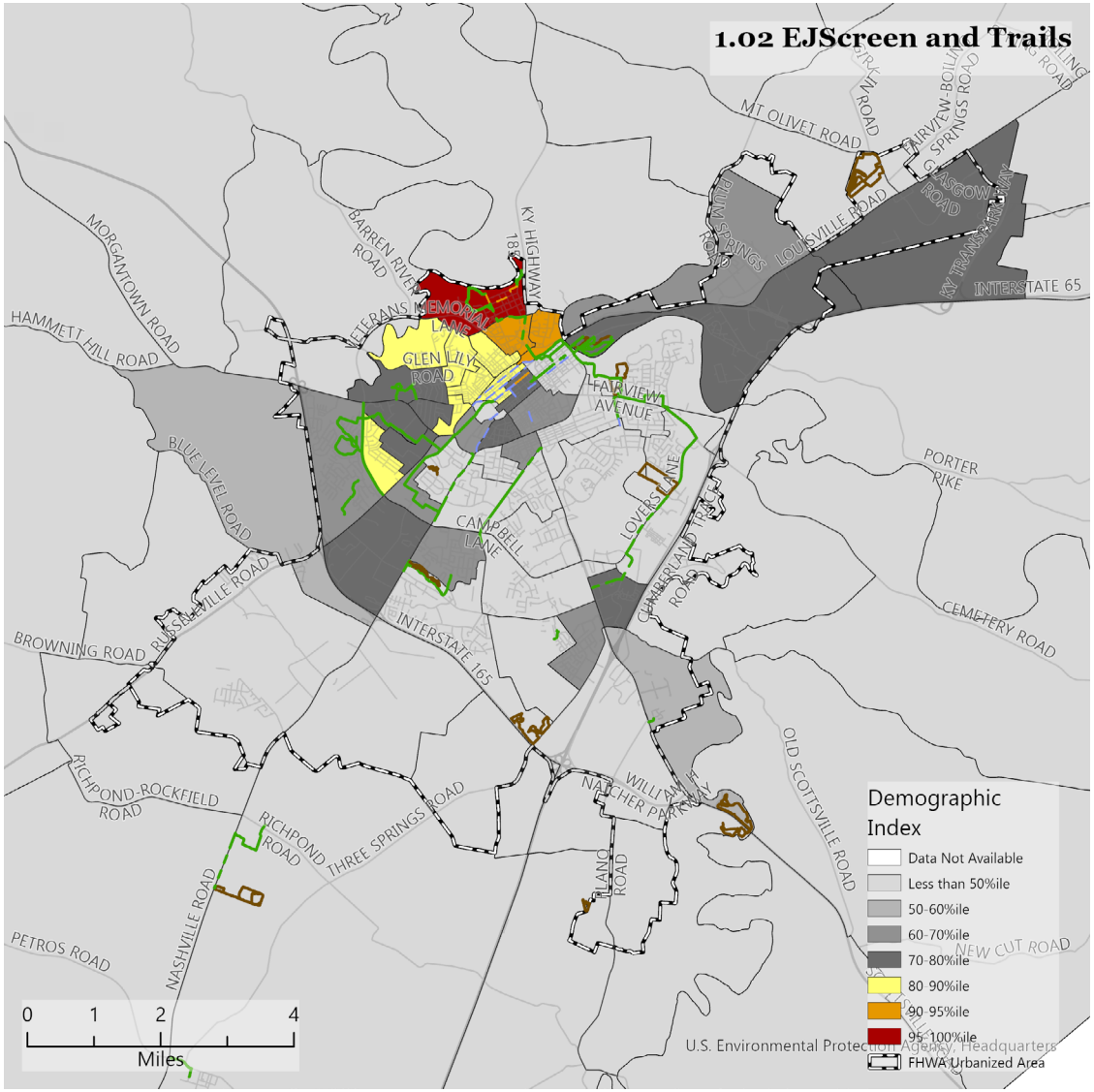
- Every $1 invested in activity-friendly routes saves $24 in averted medical costs.[8]
- In health costs avoided due to physical activity, healthy and active people save an average of $630 (in 2019 dollars), compared with those who are inactive or insufficiently active.[9]
- The national health costs of obesity/overweight were estimated at $142 billion; the health costs related to air pollution from traffic were estimated at $50-80 billion per year; and the annual cost of traffic crashes was estimated at $180 billion (all in 2008 dollars).[10]

Effectively implementing biking and walking improvements can result in improved public health, greater livability, and reduced fatalities on our roadways. Cities cannot be solely built around cyclists and pedestrians, but the opportunity to utilize public dollars in a way that encourages people to be active, in turn may attract new residents and visitors to invest in the local economy and improve the livelihood of residents. The best way to attract people who walk or ride bikes (whether long-time residents or tourists), is to build infrastructure that makes it more attractive to walk or ride bikes.

Demographics/Title VI Analysis

Transportation facilities are a critical component for people of all ages and abilities to access opportunities across communities. However, it is often the traditionally vulnerable populations, such as children, older adults, people of color, people with limited English proficiency, and low-income individuals who rely on affordable and alternative modes of transportation (walking, biking, and transit) to access everyday amenities. In an effort to understand where the most vulnerable populations reside in Warren County, a Socioeconomic Vulnerability Index (SVI) was utilized to examine areas with higher concentrations of vulnerable populations. Having this understanding helps ensure equitable planning efforts are made to provide walking and biking facilities for these populations.

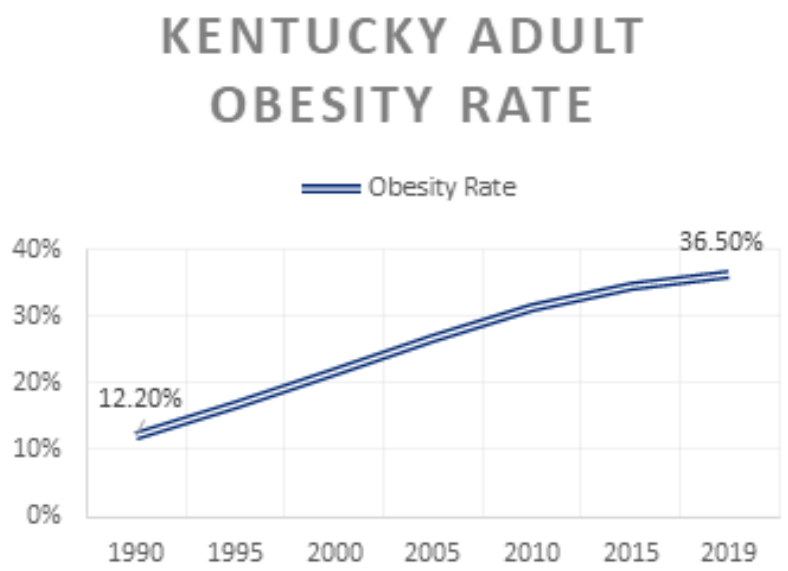
As can be observed in the map, the most vulnerable populations reside to the west (West End) of the downtown core and along the southeast border of US 231 (Campbell Lane). Additional socioeconomic factors can be viewed on the online web map here.



Community Health Facts

The Centers for Disease Control and Prevention (CDC) recommends at least 150 minutes of moderate exercise per week. According to 2019 data, only 15.3% of Kentuckians met that recommendation. The 2020 national obesity rate among adults was 31.9% and the national rate of adults overweight was 35.2%. For Kentucky, that's a rate of 36.6% and 33.5%, respectively[11]. For comparison, Kentucky's obesity rate has grown from 12.2% in 1990. While these rates have steadily increased over the past few decades, so have childhood obesity rates. The 2018-2019 data puts Kentucky top in the nation for childhood obesity, with a rate of 23.8% for children ages 10-17.[12]

1 in 5 children (ages 10-17) in Kentucky are obese



Aside from the physiological benefits of physical activity, active lifestyles can also benefit in a reduction in clinical depression, depressive indicators, and the severity of symptoms associated with depression, including anxiety. Mental health is an increasing concern across America, and the benefits found from physical activity can actually have equivalent (and sometimes better) effects as anxiety medications. The table below provides a snapshot of health facts in Kentucky reported by the CDC's Behavioral Risk Factor Surveillance System from 2019.

Table 1.1 Kentucky Health Indicators for Adult Population[13]

Health Measure	State Rank	Value/ Percent
Nutrition and Physical Activity*	49	-1.813
Exercise	50	15.3%
Physical Inactivity	48	32.8%
Depression	49	25.7%
Frequent Mental Distress	45	17.2%
Suicide*	30	17.9
Multiple Chronic Conditions	49	15.10%
Obesity	45	36.50%

CDC, Behavioral Risk Factor Surveillance System, 2019

**Value indicates a score. Higher scores are healthier and lower scores are less healthy.*

These statistics point to a growing need to encourage all ages to get active. Active transportation incorporates physical activity into everyday routines, like going to work, running errands, or going out to eat. Short trips of 3 miles or less can easily be taken by walking or bicycling, but only if there are safe facilities to do so. Creating opportunities for active transportation and recreation that are safe, comfortable, and reliable such as sidewalks, protected bike lanes, well-designed crosswalks, trails and more, are steps to encouraging a healthier community, both physically and mentally. Active transportation can address the widespread trend in America of sedentary lifestyles that lead to chronic disease and high health care costs by offering opportunities for frequent and routine physical activity.

The health of a community is more than just the function of its government, systems, or economy; it's about the people who live and work there. When environments are created that value the health of the people, the city will in turn prosper. Improving access to places, modifying the built environment to support physical activity, breaking down physical and social barriers, and making it easy to be physically active all have a positive impact on promoting physical activity. Increasing awareness of the benefits of physical activity and available trails through the use of social media, informational items, and community events can help encourage regular physical activity. A more thorough look into the link between health and transportation can be found in the Rails-to-Trails Active Transportation Transforms America Report (*Chapter Two*).

An interpretive marker along Heritage Trail in Downtown Bowling Green.

Cultural Amenities

Historic Sites

Warren County's historic resources are valuable assets, encouraging a unique architectural character and a strong cultural identity. Bowling Green currently has four locally designated historic districts, as well as six historic districts on the National Register of Historic Places. In addition, the Smiths Grove National Register Historic District and the Oakland-Freeport National Register Historic District boasts noteworthy assets, as well. Beyond the district designations, there are nine locally-designated individual properties in Bowling Green, and 60 individual properties with National Register status. The four locally designated historic districts are all within walking distance of bicycle and pedestrian facilities.

In 2010, the Historic Preservation Board, the (former) Greenways Commission, and other local organizations worked together to establish a Tour of Historic Bowling Green along the greenways. Funded by a Preserve America Grant, the tour highlights 23 historic sites along the greenways, each of which have an interpretive marker providing a history of each location.

Blueways

The Warren County Blueways is a river and stream trail system with access points throughout Warren County as well as adjacent counties. Warren County has a number of significant water resources, including the Barren River, the Green River tributaries, the Gasper River, Drakes Creek, Jennings Creek, Shanty Hollow Lake, and the Lost River at Lost River Cave. There are currently Greenway connections at Lost River Cave, Riverview at Hobson Grove, the James Hines Boatlanding Park, the Riverwalk, Mitch McConnell Park and Weldon Peete Park. The Warren County Blueways interactive web map details all of Warren County's navigable waterways. The map features the identification of ramps and put ins/take outs, along with notes on parking availability, restrictions, and other notes.

Barren River at Weldon Peete Park

Land Use & Transportation

2030 Comprehensive Plan

The Focus 2030 Comprehensive Plan spells out a vision for our community, and includes specific goals, objectives and action items for the Planning Commission to evaluate, as they take action on new development proposals in Bowling Green, Warren County and our small cities, through the year 2030. The FOCUS 2030 Comprehensive Plan supports trails in our community by encouraging new developments to incorporate planned greenway links into their developments, and to provide connections to the existing greenway system, whenever possible (LU-2.1.3). The Plan also promotes bicycle and pedestrian mobility through an integrated network of sidewalks, paths and trails, and through the encouragement of bicycle and pedestrian-friendly streets (TR-3). The Plan further encourages coordination with KYTC and the MPO to ensure that trails are established in conjunction with the construction, reconstruction or other change of any State transportation facility, emphasizing projects located in (or within 1 mile) the urbanized area (TR-3.4 and PR-3.3).

2045 Metropolitan Transportation Plan (MTP)

The Bowling Green-Warren County Metropolitan Planning Organization (MPO) is responsible for transportation planning in Warren County. The MPO is mandated by State and Federal law to provide a continuing, cooperative, and comprehensive transportation planning process, which guides the expenditure of state and federal transportation funds in Warren County. The MPO establishes project priorities for consideration by the Kentucky Transportation Cabinet. In addition, the MPO continually monitors and collects data on the current condition of Warren County's transportation system, including roads, bicycle and pedestrian ways, the airport, and public transit.

Two of the most important documents that the MPO produces, which guide transportation decisions, include a Transportation Improvement Program (TIP) and a Metropolitan Transportation Plan (MTP). The purpose of the MTP is to identify the existing and proposed transportation facilities and services that are necessary to meet the transportation needs of Bowling Green and Warren County by the year 2045. Project recommendations are developed through a prioritization and ranking process designed to systematically identify and rank the overabundance of transportation needs based on appropriate data, public input, and local knowledge from MPO members and elected officials.

The MPO strives to include bicycle and pedestrian improvements in roadway projects as is appropriate and reasonable. The interactive web map and table located in Appendix D (also located in Chapter 6 of the 2045 MTP) shows the MPO's priority projects as listed in the 2045 MTP. The MTP priority projects should be referenced often when planning for bicycle and pedestrian network expansions, just as this plan should be referenced often when planning for roadway project improvements.

Existing Easements

Numerous public easements exist within our community. These include easements for various utilities such as gas, water, electric, sewer, telephone/internet, and more. But this also includes a variety of other public property including abandoned right-of-way, unimproved alleys, and other usable lands. In planning for future bicycle and pedestrian facilities in our community, the current network of easements should be studied to determine the feasibility of integrating such easements into the bicycle and pedestrian network, particularly with regards to sharing use for improved trails. When evaluating the existing inventory of easements, priority should be given to those easements that will improve connectivity, enhance mobility and that further support the priorities outlined within this plan.

Existing Infrastructure

Construction of Greenways

The Greenbelt System Master Plan (Lose & Associates, 1998) stated that greenways paths can be located in close proximity to a variety of features including rivers, floodplains, wetlands, railroads, parks, neighborhoods, places of work, churches, schools, and open space. Greenways paths can be constructed out of several different types of trail surfaces. The most common type of greenways trail found in Warren County is a shared-use path constructed of concrete or another type of paved material, such as asphalt. This type of greenways trail is usually six to ten feet in width and can accommodate multiple users including walkers, runners, bicyclists, and skaters.

Greenways trails can also be constructed using rock, crushed stone, or wood chips. These types of trail surfaces can serve walkers, runners, hikers, and in some cases mountain bikers. Some are publicly owned while others are established on private land by easements or other methods that protect valuable natural areas and cultural/ historic sites and allow public access along such trails. Greenways trail types can also include sidewalks for pedestrian use and bikeways or bike lanes for cyclists.

Unpaved greenway trail at Hobson Grove Park

Greenways

The 1998 Greenbelt Master Plan laid the framework for Bowling Green and Warren County's bicycle and pedestrian network. As the plan was implemented, construction followed a "hub and spoke" concept of connecting hubs such as schools and parks to other destinations via spokes – trails, pedestrian facilities, and greenways. The term "greenway" has been used to describe all shared-use paths, regardless of the path's surrounding environment, since the development of the Greenbelt Master Plan. These shared-use paths are typically 8'-12' in width and constructed of concrete or asphalt, but are occasionally gravel or dirt trails. Through various funding sources, 23 miles of greenways (excluding park trails) have been constructed, with 7.5 miles funded for upcoming construction, as of 2021.

Connecting parks, schools, and providing more contiguous miles of greenways have been top priorities since the first greenway trail was planned over twenty years ago. As more sidewalks and greenways are built, residents will have an opportunity to use the paths to travel to daily destinations. Of Warren County's 43 schools (public, private, and higher education), 16 (or 37%) are located directly along a greenway system path. Another 14 schools are located

Top: Greenway trail on Kentucky Street | Bottom: Low-Hollow hike/bike trail at Weldon Peete Park

within one-half mile of a greenway system path. That means that nearly 70% of the schools throughout Warren County are within a short distance of an existing greenway (including trails within parks). The maps below show the proximity of schools to existing greenway system paths.

Another priority is to connect community parks to schools and neighborhoods via a system of trails and paths. Many of the existing greenways exist within city and county parks facilities, yet bicycle and pedestrian connections from parks to schools and neighborhoods present gaps in the greenways system.

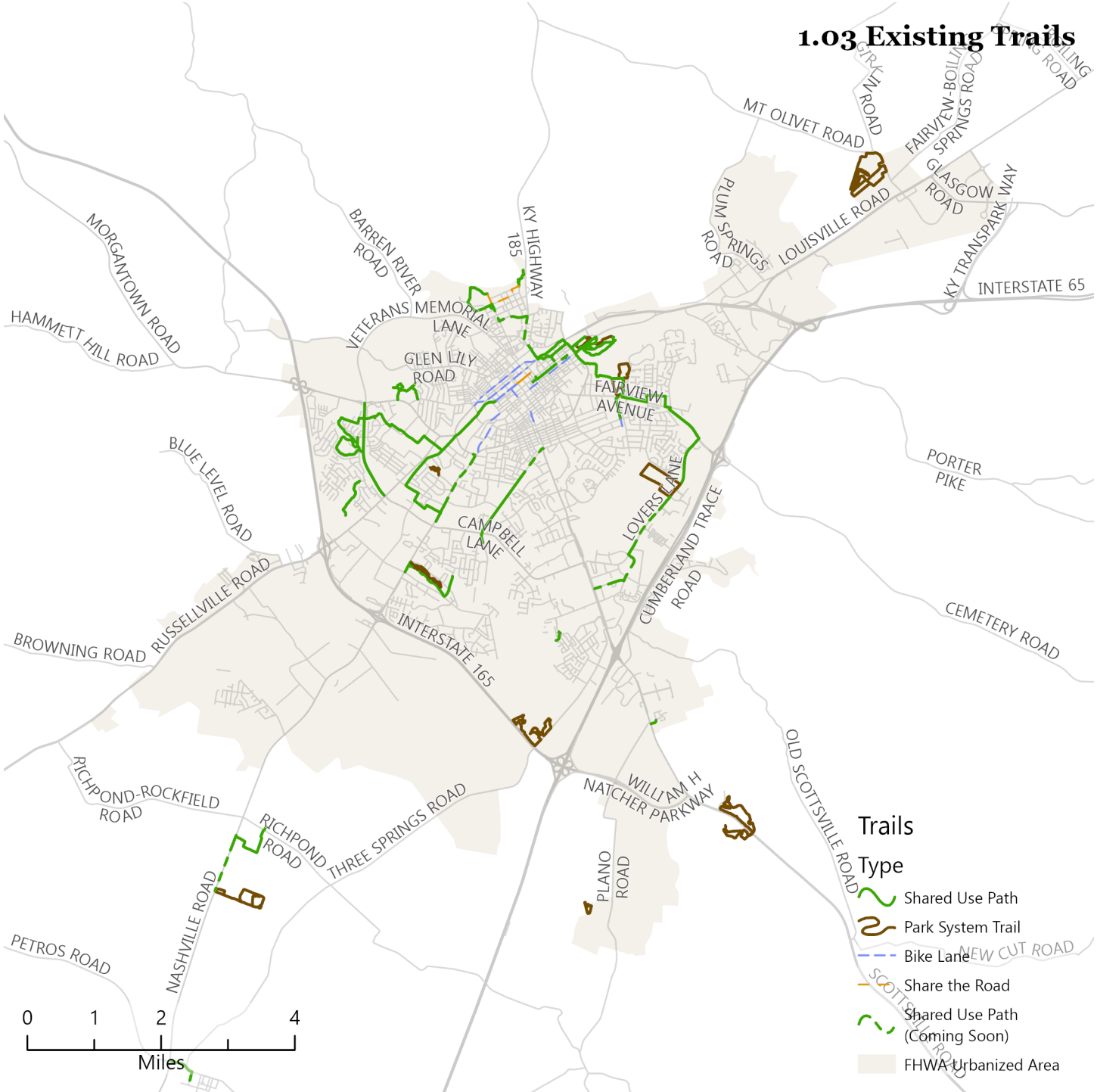
Sidepath or Urban Shared Use Path

A sidepath is a shared use path that runs along a roadway. These may also be referred to as urban shared use paths. According to the AASHTO Bicycle and Pedestrian Guide, these paths supplement, but do not substitute on-road bicycle facilities. They provide separation from motor vehicles, but may not provide a high level of comfort for users due to the proximity of roadway vehicles and speed. If along a high-speed highway, a sidepath should have 5 feet or more of separation or a barrier.

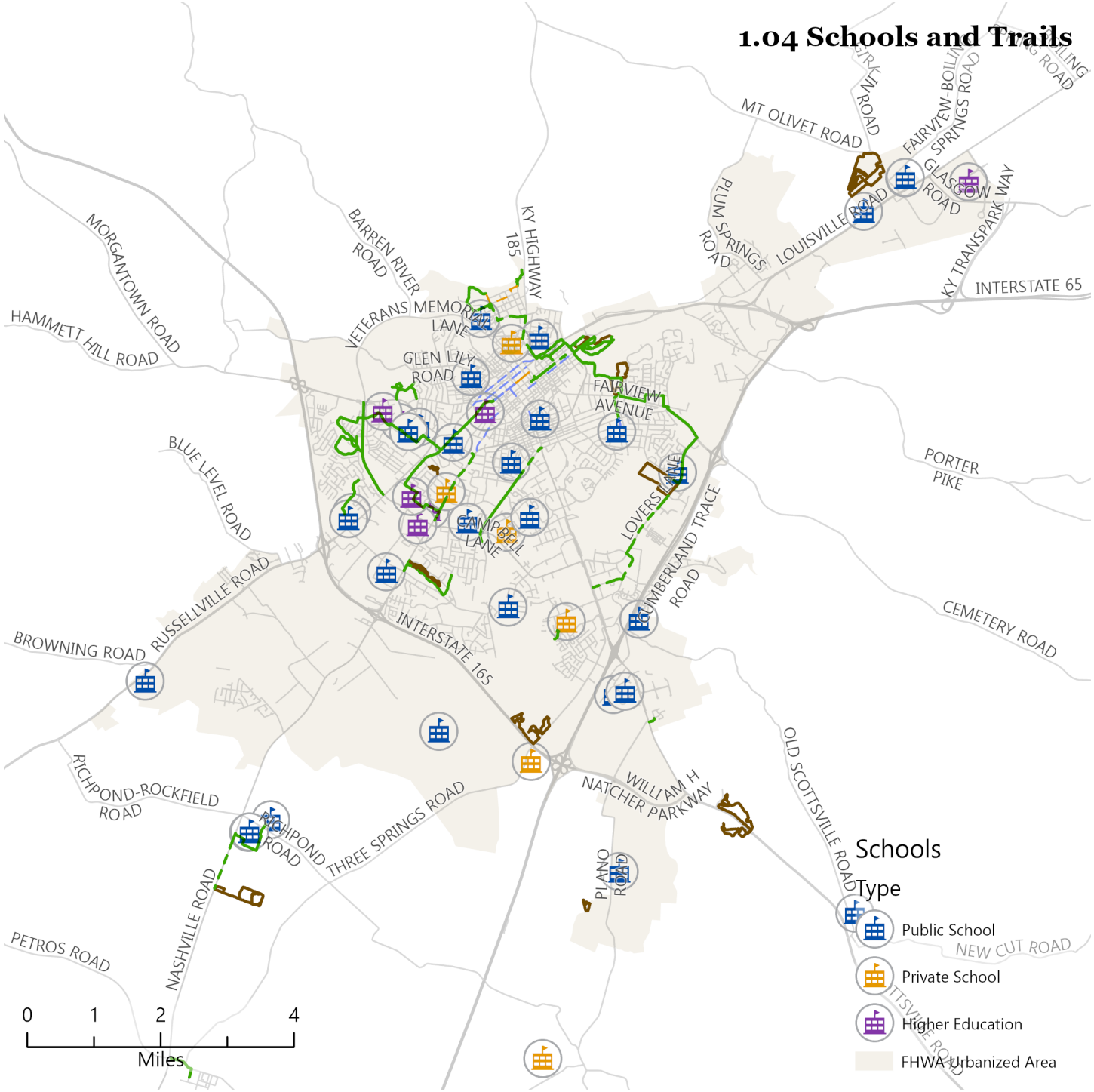
Off-Road Shared Use Path

An off-road shared use path provides a travel area separate from motorized traffic for bicyclists, pedestrians, and other non-motorized users. Off-road shared use paths can provide a low-stress experience for a variety of users using the network for transportation or recreation. These shared use paths offer network connectivity opportunities beyond that of the roadway network. These facilities are often located in parks, along waterways, in floodplain zones or utility corridors where there are few conflicts with motorized vehicles.

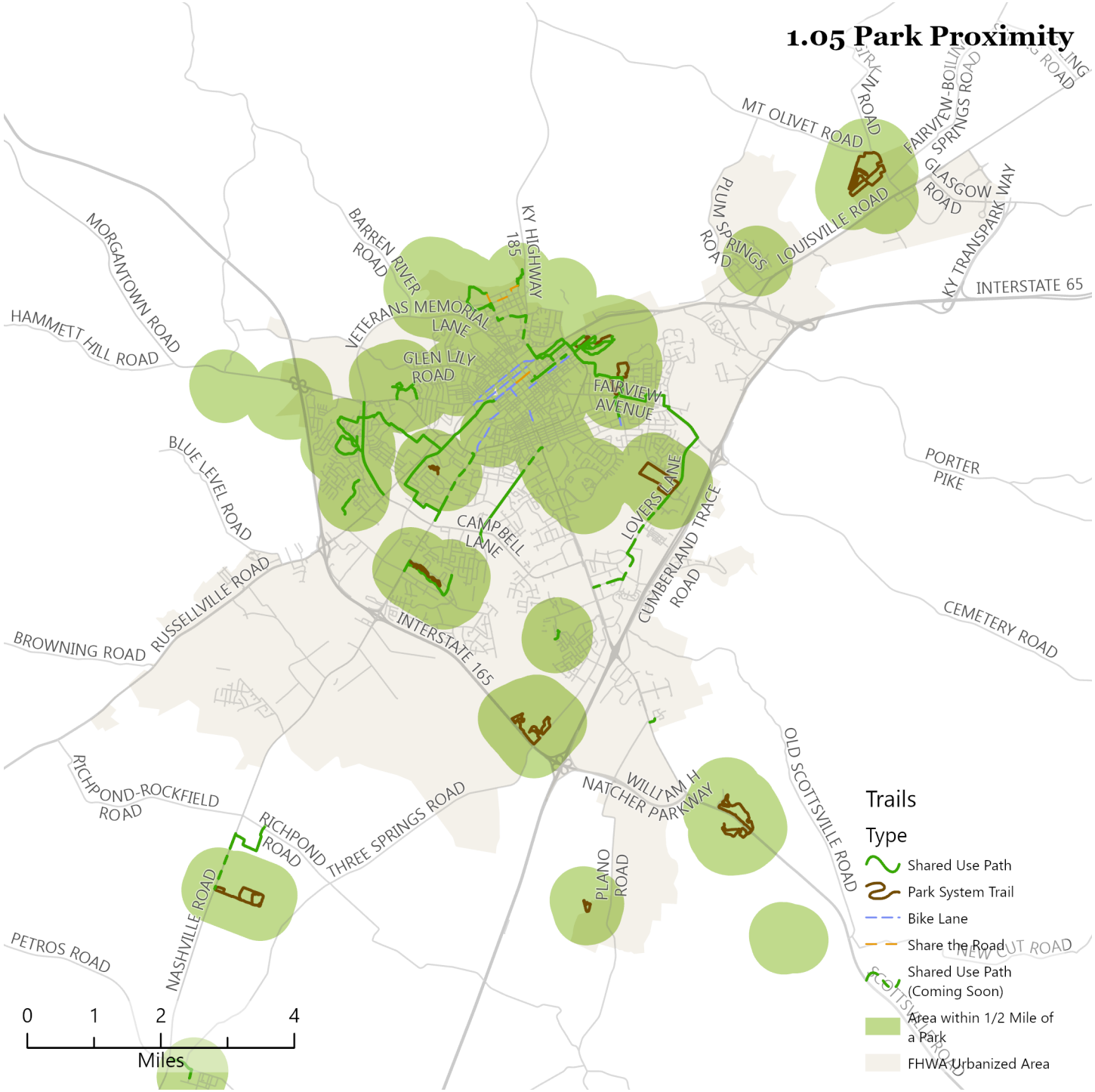
1.03 Existing Trails



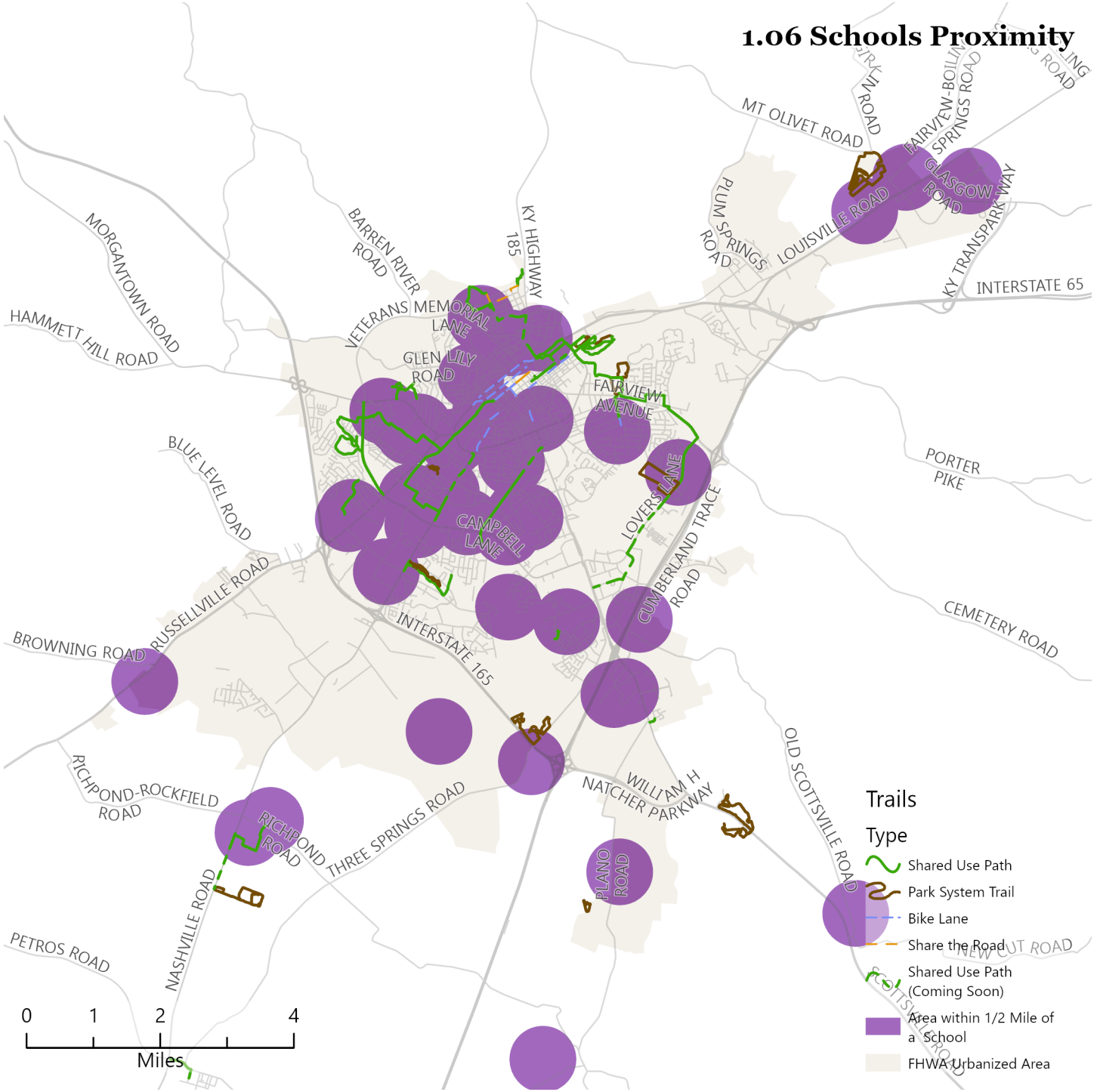
1.04 Schools and Trails



1.05 Park Proximity



1.06 Schools Proximity

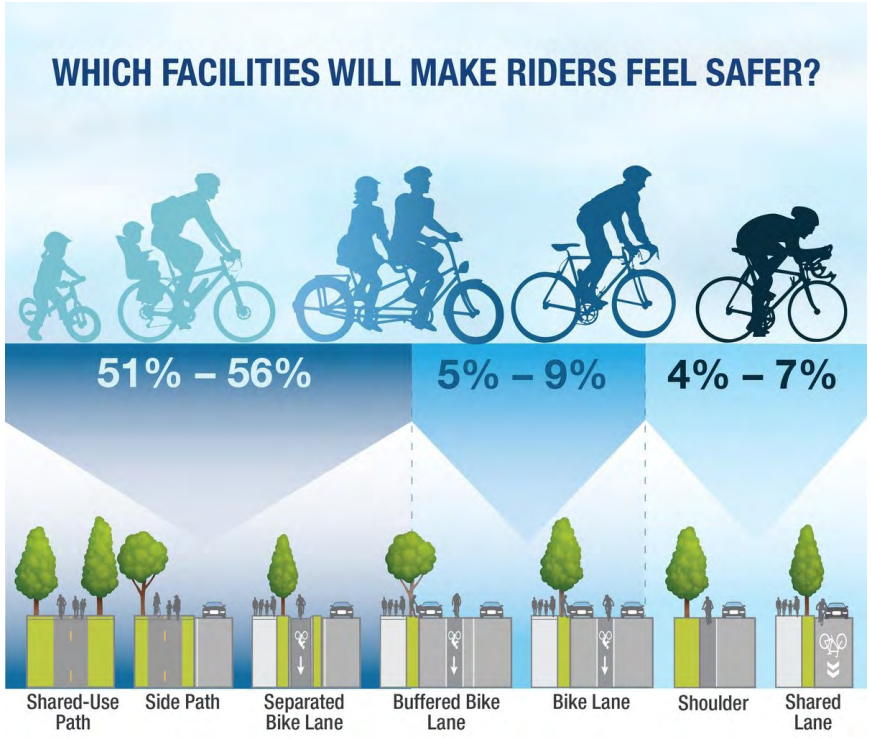


Bike Lanes & Sharrows

Bicycle infrastructure can range from shared lane usage to protected lanes dedicated to cyclists. The types of infrastructure are additionally linked to comfort and safety by both the cyclist and motorist. The graph below represents the scale of user comfort and safety based on the type of bicycle infrastructure.

The National Association of City Transportation Officials (NACTO) defines a bike lane as a portion of the roadway that has been designated by striping, signage, and pavement markings for the preferential or exclusive use of bicyclists. Bike lanes enable bicyclists to ride at their preferred speed without interference from prevailing traffic conditions and facilitate predictable behavior and movements between bicyclists and motorists. A bike lane is distinguished from a cycle track in that it has no physical barrier (bollards, medians, raised curbs, etc.) that restricts the encroachment of motorized traffic. Conventional bike lanes run curbside when no parking is present, adjacent to parked cars on the right-hand side of the street or on the left-hand side of the street in specific situations.

There are approximately 4.5 miles of dedicated bike lanes in Bowling Green/Warren County. All of the existing bike lanes preside within the City of Bowling Green, primarily focused around the downtown core. Many of the City's existing bike lanes are a result of reducing the number of lanes dedicated to motorists and restriping the existing roadway footprint. This is also referred to as a road diet. Because of this, available roadway width and/or right-of-way is often limited and does not allow for the higher comfort levels for bike lane usage, as shown above. None of the City's bike lanes are considered protected – there is no physical or visual buffer between the bike lane and travel lane for motorists. While dedicated infrastructure offers more transportation options and greater safety for all users, the lack of protection through a physical barrier or striped buffer can often hinder the use of the faculties due to lack of comfort by the cyclists. Despite this, bike lanes are a valuable asset to the bicycle and pedestrian network and expand transportation options to a greater variety of roadway users.



Note: Percentages represent the level of comfort that people feel bicycling, according to peer-reviewed surveys as recently as 2016.
Source: FHWA Bikeway Selection Guide: https://safety.fhwa.dot.gov/ped_bike/tools_solve/docs/fhwasa18077.pdf
For more information, please visit FHWA's Bicycle and Pedestrian Program webpage: https://www.fhwa.dot.gov/environment/bicycle_pedestrian/

According to NACTO, sharrows are road markings used to indicate a shared lane environment for bicycles and automobiles. Among other benefits, shared lane markings reinforce the legitimacy of bicycle traffic on the street, recommend proper bicyclist positioning, and may be configured to offer directional and wayfinding guidance. The shared lane marking is a pavement marking with a variety of uses to support a complete bikeway network; it is not a facility type and should not be considered a substitute for bike lanes, cycle tracks, or other separation treatments where these types of facilities are otherwise warranted or space permits. The MUTCD outlines guidance for shared lane markings in section 9C.07.

There are a limited number of sharrows used throughout Bowling Green/Warren County, however in most instances, they are utilized along neighborhood streets and/or to provide connections in the bicycle network where bike lanes or greenways do not exist. The map earlier in this section shows the existing bike lanes and sharrows as part of the greenways and trails system.

Sidewalks

Existing sidewalks are a key element of the bicycle and pedestrian network in that they provide safe connections and links between greenways and neighborhoods, schools, parks and other destinations.

The City of Bowling Green established a sidewalk program in 2008 to coordinate identification, selection, design, funding sources, and construction for new sidewalk projects. The program governs both commercial and residential areas within the city. The City's annual Sidewalk Program is intended to foster development of a "walkable" city by providing sidewalks in areas where none exist. The City of Bowling Green Public Works Department oversees the development and deployment of new sidewalk in a collaborative effort to advance the vision of increasing opportunities to travel throughout the community on foot. Through a data-driven prioritization process, new sidewalk is vetted through a GIS-based scoring system to provide recommendations for the allotted Sidewalk Program budget. Criteria that is considered includes: Proximity (both generators and destinations); Constructability; Connectivity; Pedestrian Comfort (functional classification of the adjacent roadway); and Demonstrated Need. Since inception, the city's Sidewalk Program has created 16.4 miles of new sidewalks, with an additional 2.3 miles pending construction. Additionally, the Sidewalk Maintenance Program identifies the process by which staff inspects and chooses which areas will be inspected in a given year. Depending on funding, the City can correct safety hazards in hundreds of locations across the city per year.

The Warren County Subdivision Regulations require sidewalks on both sides of the street along arterial roads and major and minor collectors; on both sides of the street on certain roads in residential subdivisions connected to sewer and on both sides of the street in commercial developments. Although sidewalks are not required by the Warren County Subdivision Regulations in residential subdivisions that are on a septic system, new developments often have development plan conditions requiring sidewalks on at least one side of the street.

Above: Sidewalk at the Lovers Lane Soccer Complex Below: Sidewalk along Center Street near Roland Bland Park.

Transit

Today, there are two public transit providers in Bowling Green: GO bg Transit and the Topper Transit System. GO bg Transit functions as a department within the City of Bowling Green's Neighborhood & Community Services department which operates six (6) fixed-routes and the required complementary paratransit program for individuals who are elderly or disabled that undergo a certification and application process.

GO bg Transit's main hub is located in the downtown area and is known as the Downtown Transit Center (DTC). Most routes connect at this location by the top of the hour allowing riders to transfer between routes to travel crosstown, to other business districts, or housing areas. The possibility of transferring between routes is easy as there are other transfer points within and between other routes alternatively away from the downtown transit center.

GO bg and Topper Transit buses stop on Normal Street

GO bg Transit is first and last mile capable for many as it works with local leaders to seek areas to improve stops and focus on other areas to be conducive for cyclists along bike routes, thus all of the GO bg Transit fixed-route buses are ADA accessible and have mounted bike racks.

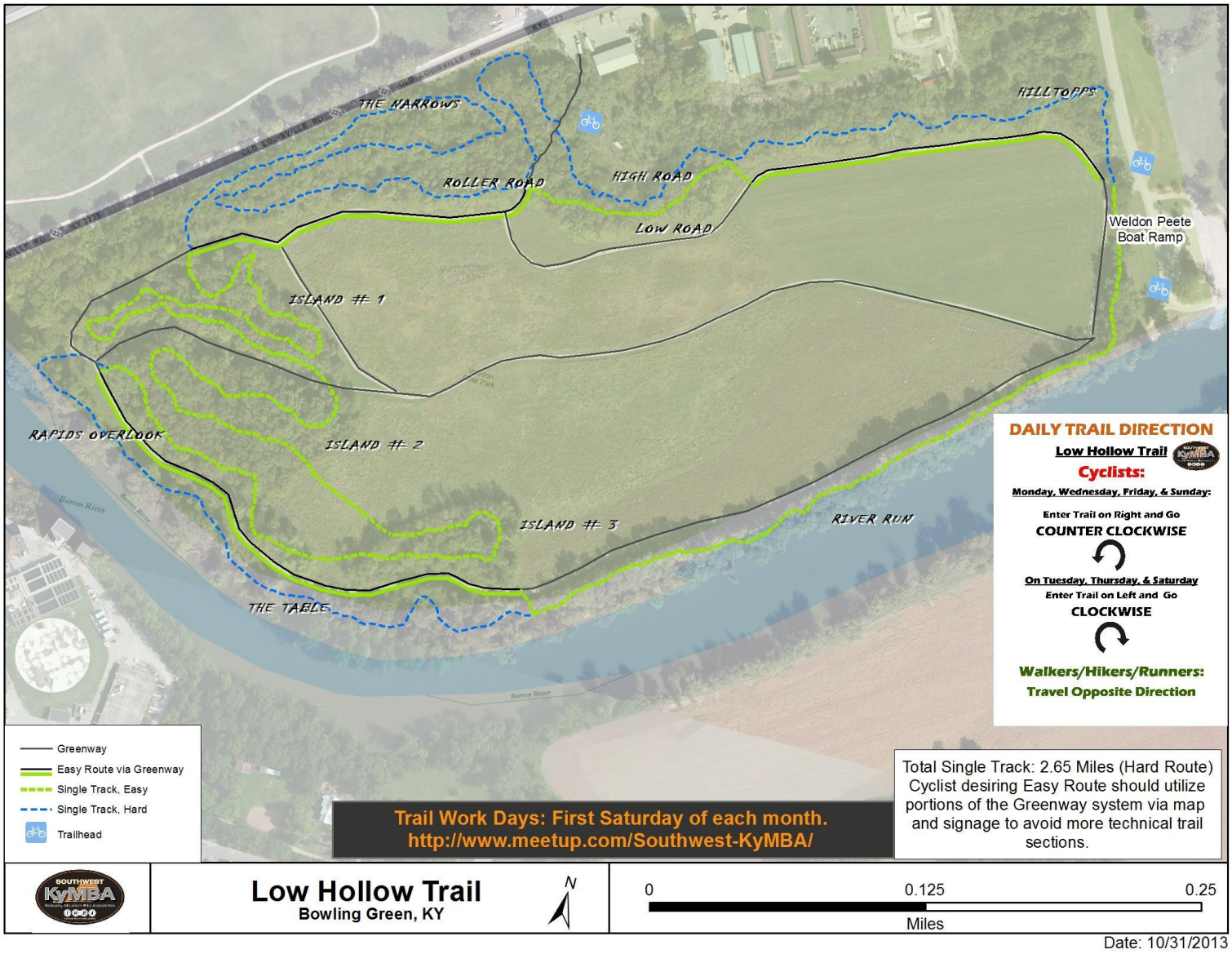
GO bg Transit on an annual basis, provides access to over 180 bus stops which have been established based on coverage of the city in accordance with its service standards policies. GO bg Transit travels over 170,000 miles annually with over 250 service days in operation covering over 30,000 households with more than 14,000 hours of service time. During the COVID-19 pandemic, GO bg Transit saw a drastic change in ridership as the pandemic was responsible for a 51% drop in ridership.

Topper Transit is a division of WKU's Parking & Transportation Services Department (PTS). Topper Transit provides service to WKU students, faculty, and staff along with the general public. This is a free service which operates fixed route service between the hours of 7:00 AM to 6:00 PM Monday through Friday with limited service on Saturday. The service operates between Main Campus and South Campus, as well as, evening service to retail, dining, and entertainment businesses along Campbell Lane on Saturday. Topper Transit offers Evening On-Demand service from 6:00 PM to 9:00 PM Monday – Friday and 4:30 PM to 9:00 PM on Sunday. In fiscal year 2021, the COVID-19 pandemic greatly reduced ridership and Topper Transit carried approximately 77,125 passengers. In FY 2020, Topper Transit carried 430,800 passengers.

There are currently transit stops along several segments of the greenways, including the segment along Creason Street to the South Central Kentucky Community and Technical College and Walmart, the downtown segments and the riverfront segments. The Lost River Cave/Bark Park segment has several bus stops within a quarter of a mile.

Common Bicycle Routes

In addition to dedicated cycling lanes and pavement markings, Bowling Green/Warren County attracts road cyclists to many of Warren County's county roads and mountain bikers to the Low Hollow single-track trail at Weldon Peete Park. The Bowling Green League of Bicyclists (BGLOB) and BG Cycling organizes group rides across Warren County, maintaining several common bike routes. These routes are not marked, but can be referenced through online apps like Strava or RidewithGPS. Additionally, the Southwest Kentucky Mountain Bike Association (SWKYMBA) maintains Warren County's only single-track trail at Weldon Peete Park. This trail offers about 3 miles of dirt trail for bikers and hikers.



Maintenance

Maintenance efforts for trails are performed by various jurisdictions throughout Warren County. However, most facilities are located within the Bowling Green city limits, thus are maintained by various departments. The map below shows the jurisdiction/department responsible for greenway maintenance. Additionally, the City of Bowling Green provides maintenance for sidewalks located within the city limits on both local and state-maintained roadways.

In 2011, the former Greenways Commission and the City of Bowling Green entered into a maintenance agreement that listed the following items as the responsibility of the City of Bowling Green:

Mowing, trimming of trees and bushes and removal of trash and debris every two (2) weeks during a normal growing season;

Clearing of any impediments, filling of any depressions and/or sinkholes and re-surfacing or repair to the surface of the Greenways trails as determined necessary by the City of Bowling Green's Public Works Director.

The agreement stated that routine maintenance shall be a minimum of five (5) feet from the edge of any greenways trail and that the routine maintenance shall take place only within a prescribed greenways easement or public right-of-way within the corporate limits of the City of Bowling Green.

In addition to the maintenance efforts listed above, the MPO and Planning Commission oversee the Greenways Adopt-a-Trail program to aid in litter pickup on and around the greenways.

Greenways Adopt-A-Trail Program

The Adopt-a-Trail program was established in 2012 to encourage non-profit and other organizations to contribute toward the effort of maintaining litter-free greenway trails. There are twenty-eight (28) adopt-a-trail segments and so far, eighteen (18) segments have been adopted.

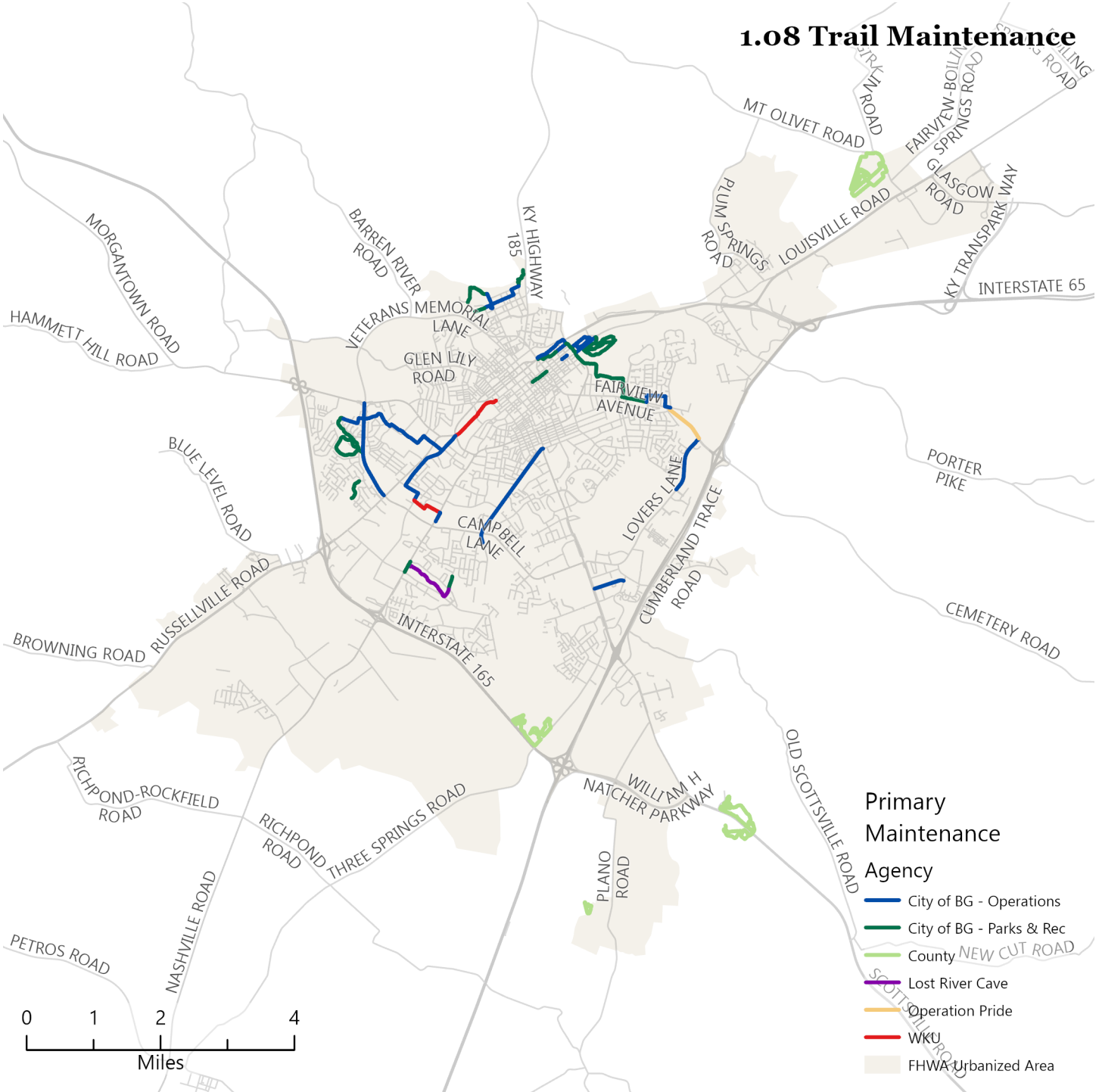
Cub Scout Pack 705 cleans up the South Warren Greenway through the Adopt-A-Trail program.

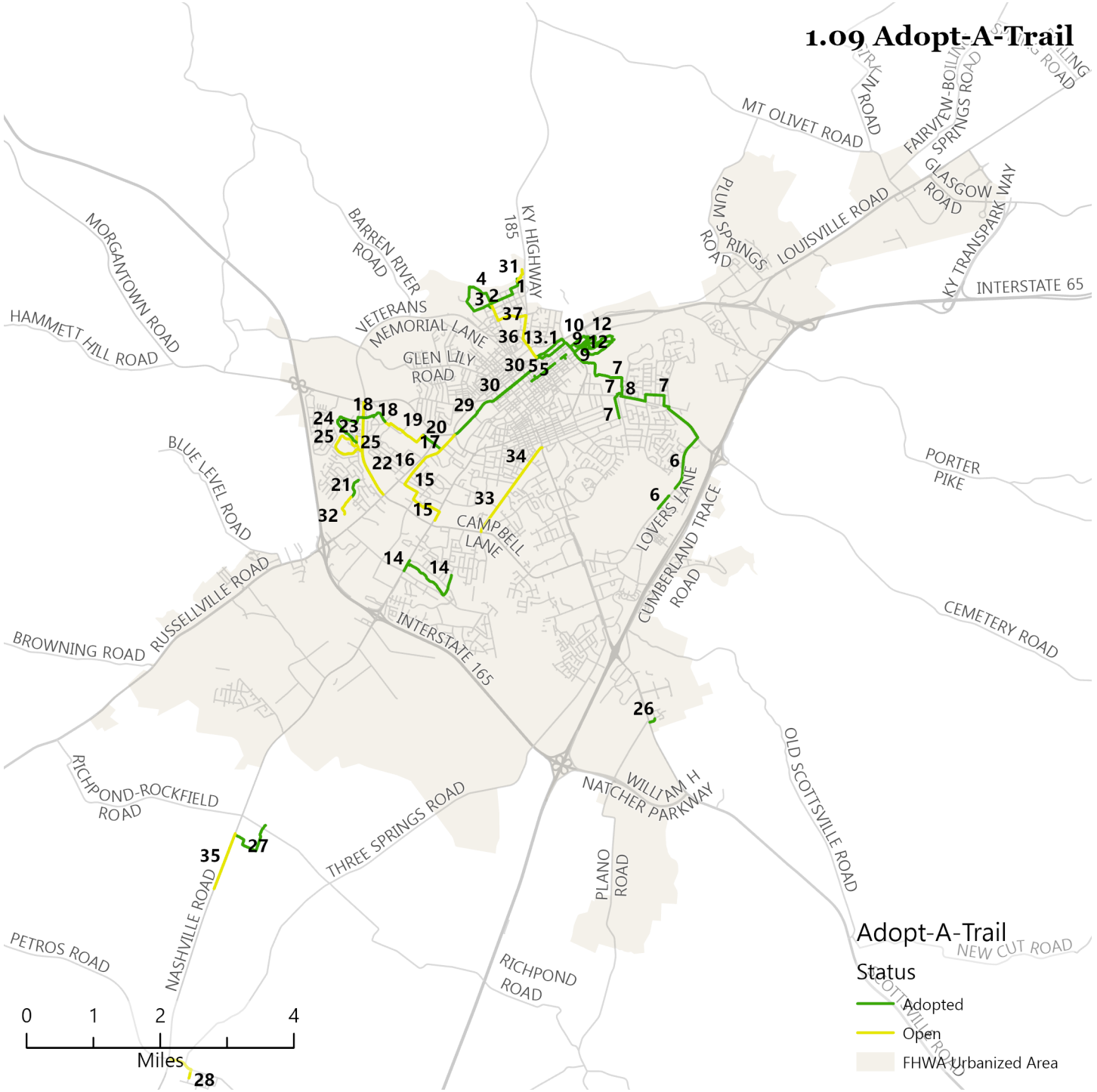
Interpretive Markers along the Greenway

In 2010, as part of a Preserve America Grant, twenty-two (22) interpretive markers were placed along the greenways that provide a history of sites along the trail. The markers are made of a fiberglass material and require cleaning and maintenance on a regular schedule with appropriate chemicals. Instructions for maintenance are included in Appendix B and should be pursued by the City of Bowling Green alongside the Adopt-A-Trail Program as necessary.

The maps on the following pages exhibit the varying maintenance efforts.

1.08 Trail Maintenance




1.09 Adopt-A-Trail
MT OLIVET ROAD
FAIRVIEW-BOILING SPRINGS ROAD
GLASGOW ROAD
KY TRANSPARK WAY
LOUISVILLE ROAD
PLUM SPRINGS ROAD
KY HIGHWAY 185
BARREN RIVER ROAD
MORGANTOWN ROAD
HAMMETT HILL ROAD
VETERANS MEMORIAL LANE
GLEN LILY ROAD
INTERSTATE 65
BLUE LEVEL ROAD
PORTER PIKE
LOVERS LANE
CUMBERLAND TRACE ROAD
CAMPBELL LANE
RUSSELLVILLE ROAD
BROWNING ROAD
INTERSTATE 165
CEMETERY ROAD
RICHPOND-ROCKFIELD ROAD
THREE SPRINGS ROAD
WILLIAM H NATCHER PARKWAY
OLD SCOTTSVILLE ROAD
PLANO ROAD
NASHVILLE ROAD
PETROS ROAD
RICHPOND ROAD
NEW CUT ROAD
0 1 2 4
Miles
Adopt-A-Trail
Status
Adopted
Open
FHWA Urbanized Area

Existing Funding Structures

Much like highway improvement projects, it often takes many years of planning for trail projects to come to fruition. This is in large part due to funding structures, limited budgets, and competitive grant funding sources. Despite the funding challenges, local jurisdictions are continually seeking new and revised funding opportunities to improve the trail network, from greenways and bike lanes to sidewalks and park trails.

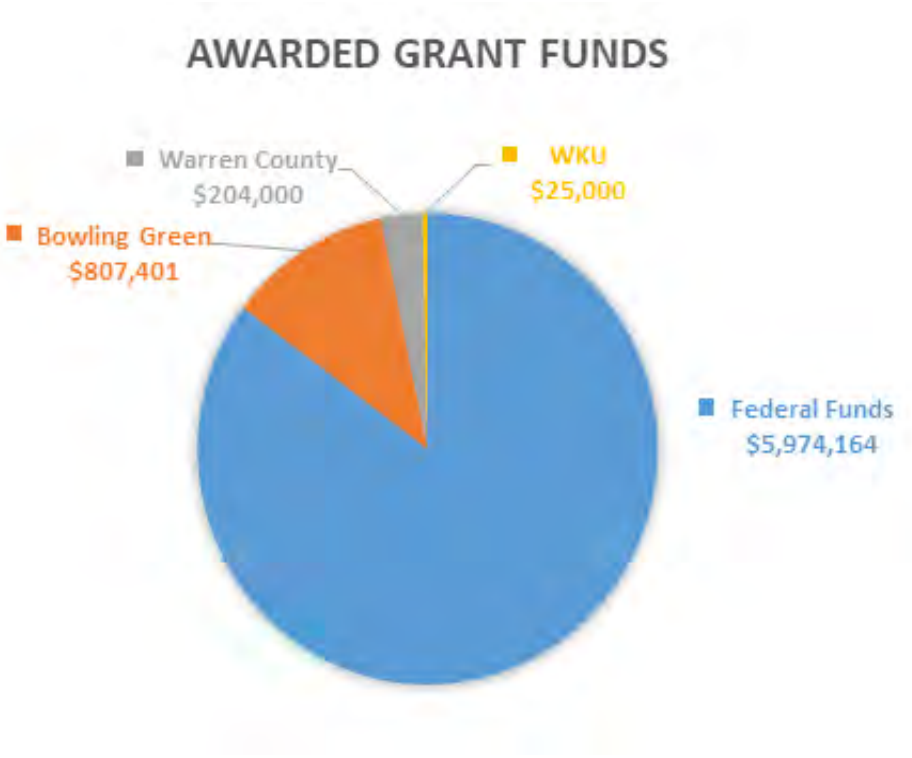
Sidewalks

In recent years, the City of Bowling Green has taken more aggressive measures to ensure Bowling Green is a walkable and bike-friendly community. As described in detail in a previous section, the City's annual Sidewalk Program allocates funds to build new sidewalks in areas that show a need. Each year, candidate projects are prioritized based upon a set scoring system to determine where funds will be spent. In addition to the City's sidewalk program, other funding opportunities to build new sidewalk are addressed on an annual basis. Community Development Block Grants (CDBG) are often administered under the discretion of the City's Neighborhood & Community Services department to provide better pedestrian connections throughout town.

Shared-Use Paths (Greenways)

Also mentioned in a previous section is the City's newly developed Greenways Program. This Program mimics the Sidewalk Program where candidate projects are ranked and selected annually based upon allocated funding. In addition to this Program, greenways are most often funded through Transportation Alternative Program (TAP) grants (formerly Transportation Enhancements and Transportation and Community and System Preservation grants). This is a competitive grant that releases a call for projects almost always on an annual basis; however, the scope and scale of applicable projects varies each year.

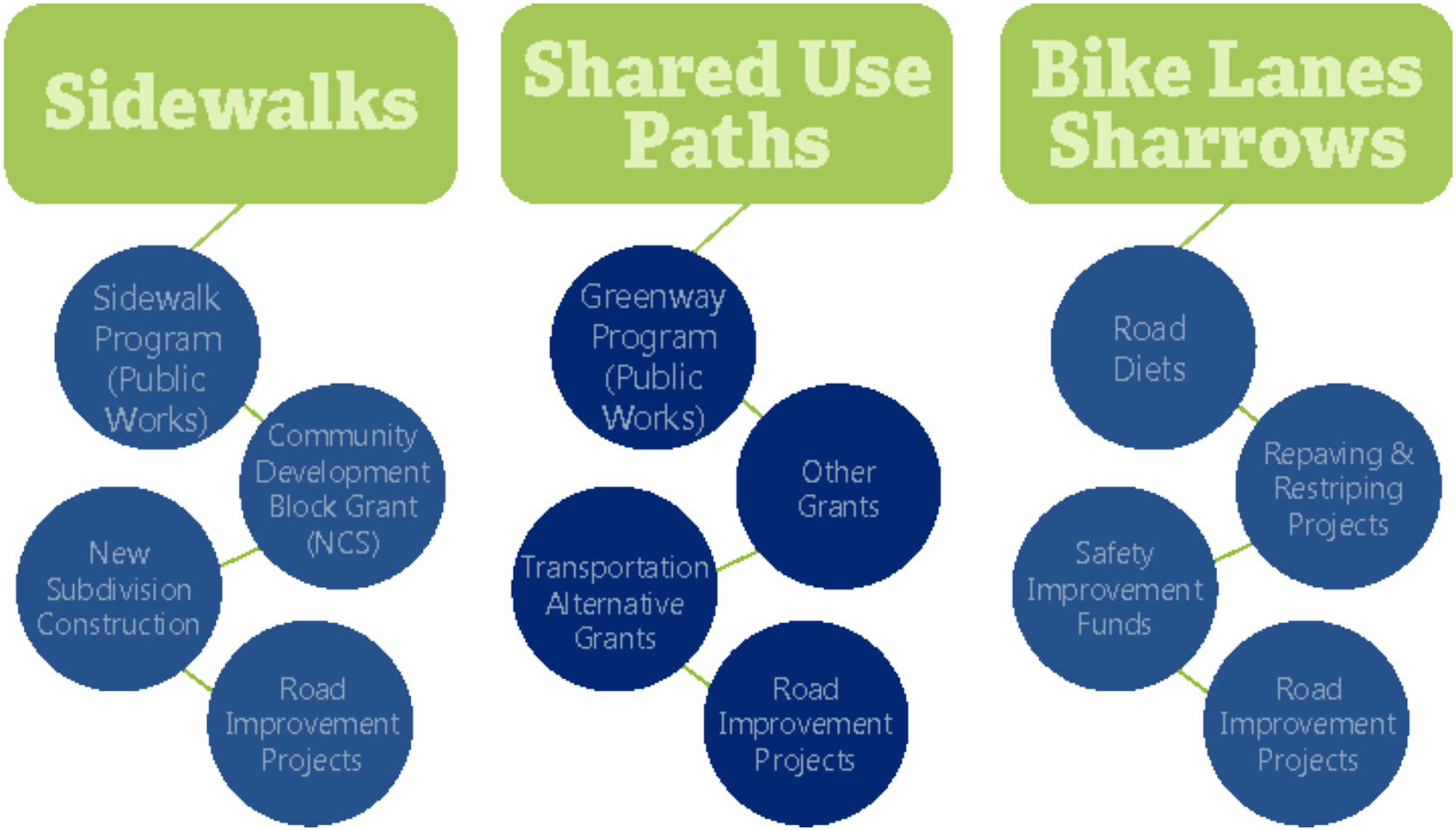
Since 2003, Bowling Green has been awarded $6 million, funding approximately 15 miles of trails, through federally apportioned grant funds and an additional $990,000 awarded to Warren County. Of these total amounts, just over $1 million were spent using local funds.



Greenways are also funded as part of highway improvement projects through local jurisdictions (Kentucky Transportation Cabinet, City of Bowling Green, and Warren County) and also through capital improvement projects within the City and County parks systems.

Bike Lanes + Sharrows

Bike lanes and sharrows are lower cost solutions to improving bicycle infrastructure and awareness. Bike lanes are typically added to existing curb-to-curb alignment through road diets or by reducing travel lane width to allow for bike lanes. These projects are often funded through highway safety improvement funds, capital improvement road projects, or with a roadway's repaving and restriping. Sharrows are funded through these same sources.



Endnotes

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2

Public and Stakeholder Engagement

When developing implementable recommendations for improvements and expansion of the trail network, the MPO sought to encompass a variety of existing resources. The preceding chapters provided a community assessment for Bowling Green and Warren County, from socioeconomic and population trends to the benefits of trails and how they have been funded. Along with the analysis of the existing resources, the MPO actively engaged with stakeholders, special interest groups, and the public to develop a more meaningful understanding of the needs and desires for the trail network moving forward.

Agency Collaboration & Community Participation

Collaboration and participation are key components of successful planning and implementation. The MPO works in close coordination with a number of stakeholders on a daily basis. Gathering leaders from different agencies, departments, and jurisdictions along with soliciting public feedback is critical to form a more diverse understanding of what's needed and what's not, where there are deficiencies and obstacles, and to meld the goals of multiple agencies, special interest groups, and the public into the priorities of this Plan.

Who's Involved?

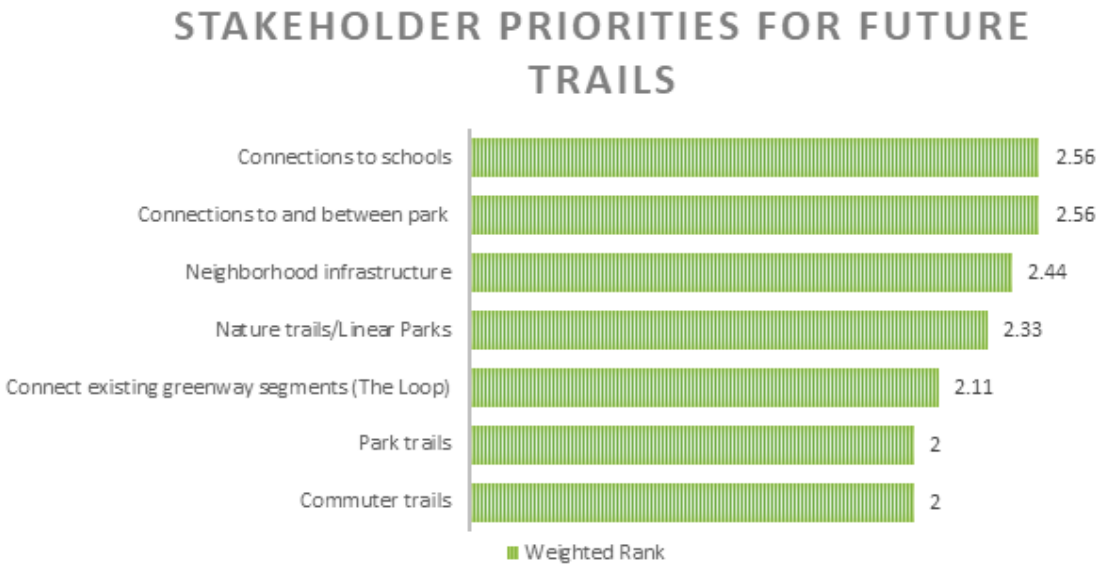
Throughout the development of this Plan, the MPO has provided regular communication with its committees and stakeholders. It is through these stakeholders that many of the sidewalks, trails, and bike lanes are designed, funded, built, and maintained.

Stakeholders and Steering Committee

Local government agencies are the primary agencies implementing projects developed within this Plan and previous plans. Multiple departments within the respective jurisdictions provide project oversight and coordination with the MPO. The chart below represents the active stakeholders that have aided in the development of this Plan.

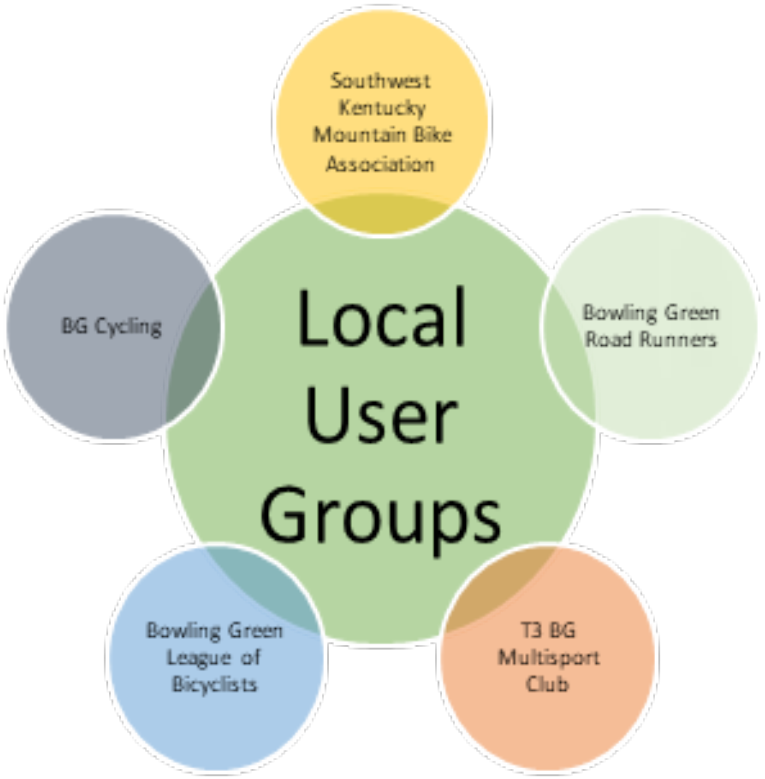
A stakeholders meeting was held on October 21, 2021 at the City of Bowling Green's Neighborhood & Community Services building. At this meeting, an overview of the MPO and the bicycle and pedestrian planning process was provided, along with the vision and need for this Plan. In addition to the overview and vision, staff posed several questions for discussion, including exploring whether or not to modify trail nomenclature. Ultimately, the stakeholders did not find a reason to modify trail terminology as it might cause confusion to the public, but did agree to provide more specific and consistent use of terms for internal planning purposes. A brief follow-up survey was sent to all stakeholders to gather additional input for moving forward.

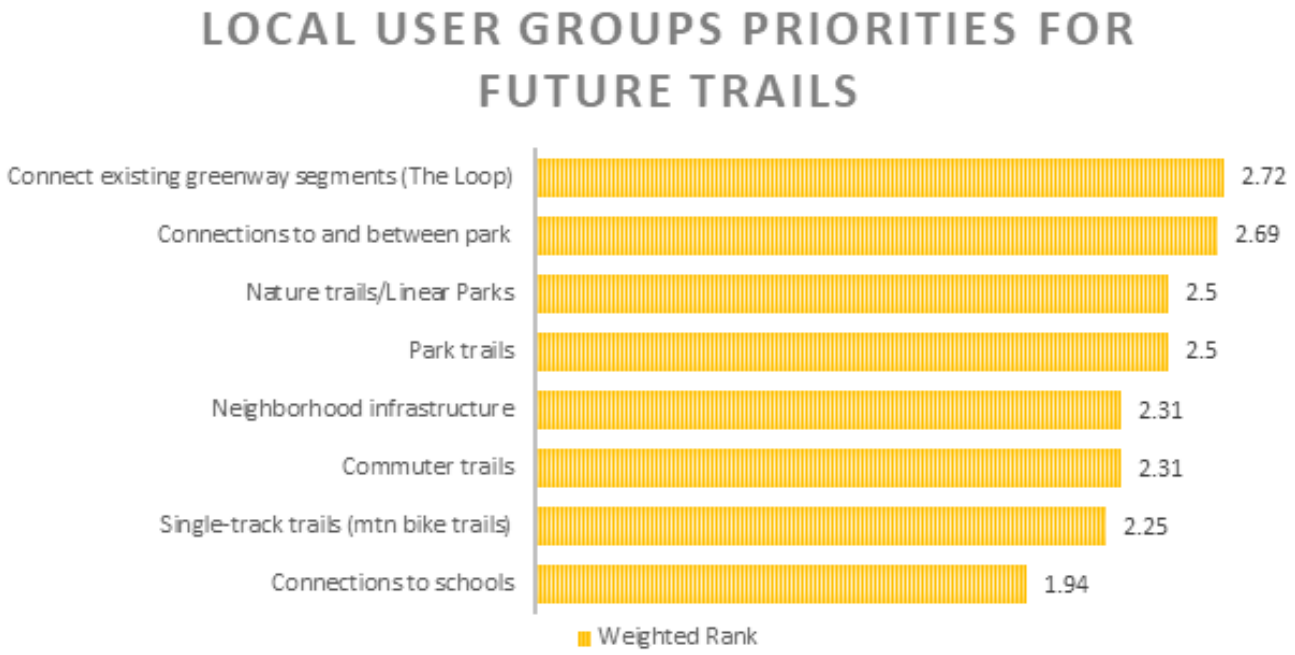
Stakeholders were asked to provide a rank of their top priorities, name successes and challenges related to the bicycle and pedestrian network, and highlight additional requests for inclusion in the Plan based on departmental/agency needs. A summary of the stakeholder questions and comments are captured in the graphics below and a full list of the responses are provided in Appendix C.



Special Interest Groups, Clubs, and Organizations

In order to capture a full array of active users, the MPO sought input from local cycling, running, and triathlon groups. These special interest groups provided feedback through survey responses regarding questions from popular routes, safety concerns, top priorities for volunteer interest and present challenges to active users. The graphics below represent the local user groups and a summary of survey responses. Appendix C provides the survey questions and responses in detail.





Engaging the public for input

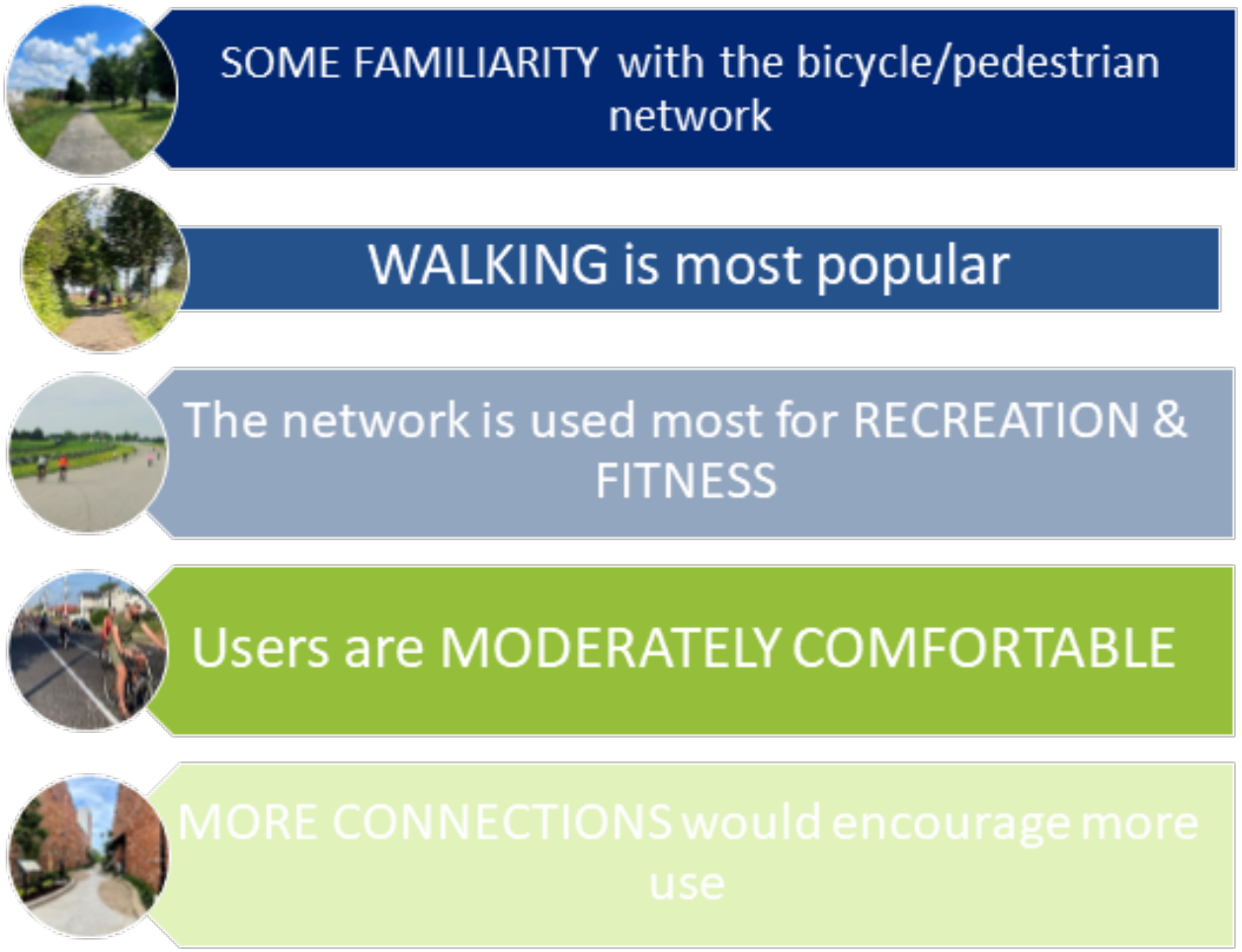
Public participation was a critical component of the development of this Plan. The MPO sought to engage a diverse population of the community through several public input opportunities. In-person events hosted throughout the spring of 2022 allowed the public to provide comments and engage with staff on their use of bicycling and pedestrian facilities, their obstacles, and how they want the system to grow. The MPO/BikeWalkBG had a booth at the City of Bowling Green's Arbor Day Celebration on April 9th, WKU's Earth Day Celebration on April 22nd, and the Greenway Celebration at Jennings Creek on May 7th. These events provided handouts to access the online public survey and engaged the public with on-site poster board questions. This offered a platform for fluid conversation regarding the bicycle and pedestrian network. Several stakeholders also participated in these events.

The second public input opportunity was a survey publicized near the completion of the draft Plan. Through this survey, participants were asked to provide input on their priorities for future trail development,

offer a rank of safety concerns, preferences for trail types and levels of protection, and offer insight on future programming and activities. The survey was distributed to MPO contacts, major employers in Warren County, City and County employees, the Chamber of Commerce, healthcare facilities, neighborhood groups, international resource centers and groups, among several others. The survey was published on the City-County Planning Commission, BikeWalkBG, and City of Bowling Green Facebook pages. The survey was open from April 1, 2022 through May 31, 2022. Two hundred and seven (207) people participated in the survey.

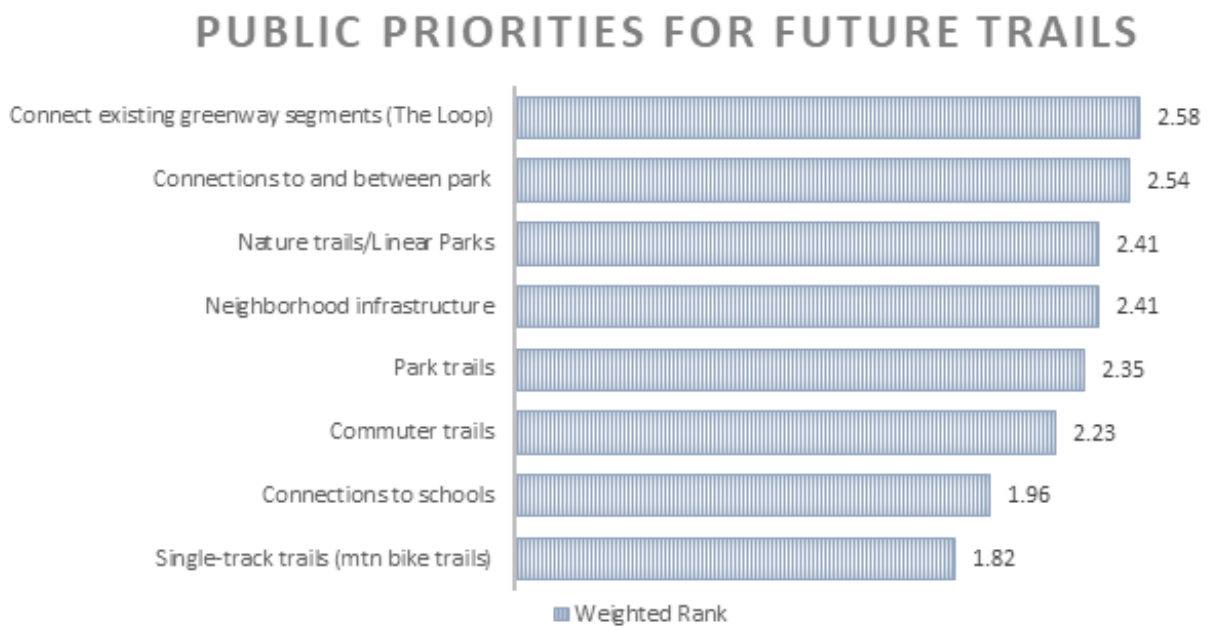
The graphic to the right depicts a summary of the survey participant's experience, familiarity, and use of the bicycle and pedestrian network, including greenways, sidewalks, bike lanes, and park system trails.

There were 56 comments submitted through the survey platform. These comments ranged from specific location improvements, needed safety enhancements to the call to connect the existing greenways and build more trails. Overall, the submitted comments focused on the need for improved safety – particularly at intersections, but also for facilities to be more family-friendly. Many comments also stated the request for Bowling Green and Warren County to be more bike- and walk-friendly with connected trails and/or bike lanes throughout the city and county.



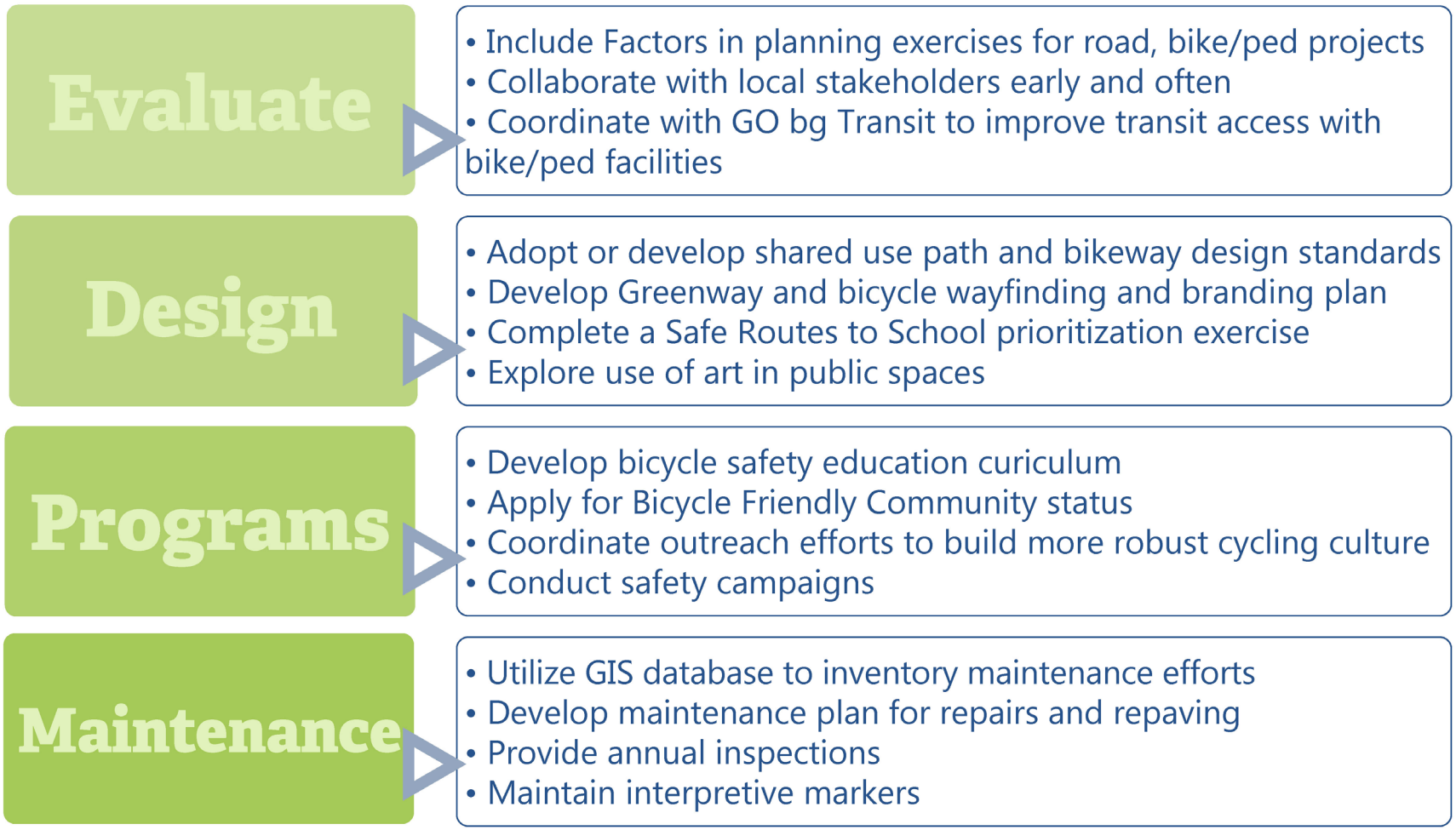
More detailed responses and all comments are included in Appendix C – Public and Stakeholder Input Responses. In addition to the specific public outreach efforts, all MPO meetings are open to the public and allow time for any member of the public to express comments or concerns.

Gathering public input at Arbor Day Celebration, April 9, 2022.



3 Non-Infrastructure Recommendations

While transportation infrastructure – roads, sidewalks, intersection crossings, bike lanes, shared use paths – are critical for improving walking and bicycling, other components must also be used to create communities that are truly bicycling- and walking-friendly. This section of the Plan explores various strategies to make bicycling and walking safe, comfortable, and common forms of transportation throughout Bowling Green and Warren County.



Evaluation

The factors listed below encourage context-sensitive planning and should help provide the framework for the most appropriate type of facility, as well as assess user perceptions for safe and comfortable non-motorized travel.

Speed and Volume Motor vehicle operating speeds and the volumes on a roadway are key considerations in selecting the most appropriate bicycle and pedestrian facilities along a particular roadway. Generally speaking, the greater the speed and volume of motor vehicle traffic, the greater the amount of separation that is desired for comfortable biking and walking facilities. Where streets have low volumes and low speeds, the need for separation is less critical, and mixing modes may be appropriate.

How many travel lanes are devoted to motorists? What is the average speed and volume of traffic? Is there a landscaped or buffered median?

Network Connections Networks are interconnected pedestrian and/or bicycle transportation facilities that allow people of all ages and abilities to safely and conveniently get to where they want to go. The network not only connects to destinations within a community, but also creates connections between communities and to external destinations. There are varying levels of comfort associated with roadways within the network, ranging from low-volume, low-speed local streets to high-speed, high-volume arterial roadways.

Does the proposed project fill a gap in the network? Does it improve connectivity?

Land Use & Context Land use describes the manner and intensity in which land is developed or modified from its natural state. Context considers the surrounding environment. Built-up areas, such as commercial districts, contain a higher density of attractions, destinations, and people; however, these areas are typically car-centric. High-density residential areas often have lower traffic volumes and speeds, and higher demand for people walking and biking.

Bike lanes on State Street (shown is the 500 block).

What type of land use patterns surround the proposed facility location? Do the land use types generate foot traffic? Does the proposed project fit the context of the area?

Right-of-Way Available space to construct new facilities is often one of the biggest obstacles to implementation. Right-of-way limitations will often dictate the extent of the new facility (i.e. installation of a buffered bike lane vs. standard bike lane; eight-foot landscaped buffer between shared use path vs. two-foot buffer, etc.)

How much right-of-way is available? What are the greatest needs for all users? How can the available right-of-way be reimagined for all user types?

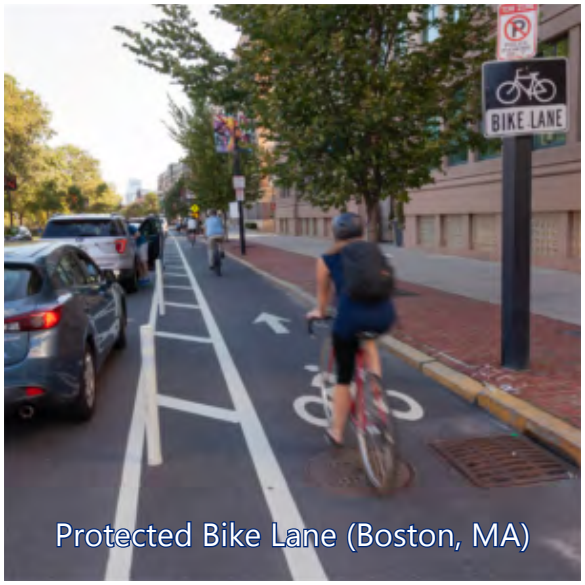
People First Whether by car, bus, bike or foot, the transportation system should be designed for all people, regardless of mobility type. An all-ages approach should be considered when planning and implementing new projects.

Is this facility safe and appropriate for an 8-year-old or an 80-year-old?

The photos on the following page are examples of different types of facilities that are suitable for varying levels of ages and comfort level.

Bikeway Facilities

Standard Bike Lane (Adams Street)



Protected Bike Lane (Boston, MA)


Two-Way Bikeway (Davis, CA)

Less Comfortable **More Comfortable**

Shared Use Path Facilities


Sidepath/Urban Greenway (Lovers Ln)


Sidepath/Urban Greenway (Kentucky Street)


Greenway (Creekwood at Jennings Creek)

Less Comfortable **More Comfortable**

Design Guidance

While this Plan does not specifically spell out specific design standards, the resources listed below provide ample guidance to implementing safe and successful bicycle and pedestrian facilities, both on- and off-road. These resources should be referenced early and often in the planning and design processes of the implementation of new bicycle and pedestrian facilities. In addition to utilizing these design guidance materials, local officials should explore the creation of local design standards and/or adopt the statewide design standards upon completion.

American Association of State Highway and Transportation Officials (AASHTO)

Guide for the Development of Bicycle Facilities, 2012 (updated version anticipated soon)

National Association of City Transportation Officials (NACTO)

Don't Give Up at the Intersection, May 2019

Designing for All Ages and Abilities, December 2017

Urban Street Design Guide, October 2013

Urban Bikeway Design Guide, Second Edition, March 2014

Small Town and Rural Design Guide – This website provides a review of facility types suitable for areas that are more rural.

Federal Highway Administration (FHWA)

Bicycle and Pedestrian Safety Improvement Resources – A collection of resources exploring safety systems and features for bikes and pedestrians.

Pedestrian and Bicycle Funding Opportunities – A table listing various Federal funding resources for multimodal projects.

Bikeway Selection Guide, February 2019 – This document is a resource to help transportation practitioners consider and make informed trade-off decisions relating to the selection of bikeway types.

Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflicts, August 2016 – This presents guidance for agencies who want to apply context-specific design to reduce conflicts and connect trail networks.

Incorporating On-Road Bicycle Networks into Resurfacing Projects, December 2015 – This workbook provides recommendations for how roadway agencies can integrate bicycle facilities into their resurfacing program.

Kentucky Transportation Cabinet

Complete Streets, Roads, and Highways Manual – A guide to implementing safe and equitable transportation strategies for facilities in rural and urban Kentucky.

Streetmix – An interactive online visual planning tool for users to depict a street design cross section.

Programs

Various programs, outreach, and other efforts focused on raising awareness for active travel modes – for leisure, recreation, and/or transportation – are valuable components to building a more walk- and bike-friendly community. A number of efforts have already been started, but it is recommended to continue to expand the reach and audience.

Bicycle Friendly Status

The League of American Bicyclists (League) awards communities, universities, and businesses across the nation a certified Bicycle Friendly status based on set criteria. Through an application cycle, the League honors the entities that have made strides for more bike-friendly places. As Bowling Green and Warren County continue to grow, the need to provide more robust and safer bicycle infrastructure is paramount in accommodating to the growth and change occurring today and into the future. As discussed in previous sections, walkable and bikeable communities are more than just a trend; they offer equitable transportation opportunities, provide safe space for recreation, are a boon for tourism, and offer economic benefits. The MPO will work alongside its planning partners and the community to make strides to achieve a Bicycle Friendly Community status. Additionally, Western Kentucky University will be encouraged to re-apply for a Bicycle Friendly University. Below are the general guidelines to achieving a Bicycle Friendly Community.

Bicycle Friendly Communities

Bicycle Friendly Communities welcome bicyclists by providing safe accommodations for bicycling and encouraging people to bike for transportation and recreation. Making bicycling safe and convenient are keys to improving public health, reducing traffic congestion, improving air quality, and improving quality of life.

5 E's of a Bicycle Friendly Community

Equity, Diversity & Inclusion (EDI) A Bicycle Friendly America for Everyone

Engineering Creating safe and convenient places to ride and park

Education Giving people of all ages and abilities the skills and confidence to ride

Encouragement Creating a strong bike culture that welcomes and celebrates bicycling

Evaluation & Planning Planning for bicycling as a safe and viable transportation option

Additionally, the 10 Building Blocks that appear on Bicycle Friendly Community report cards are:

1. High Speed Roads with Bicycle Facilities

The reported bicycle facilities on roads with posted speed limits of more than 35 mph. The average Bronze community has bicycle facilities on 19% of its high-speed roads.

2. Total Bicycle Network Mileage to Total Road Network Mileage

The entirety of bicycle facilities, located on and off-road, divided by the reported centerline miles of all roadways. The average Bronze community has a ratio of roughly 1 mile of bike network for every 4 miles of road network.

3. Bicycle Education in Schools

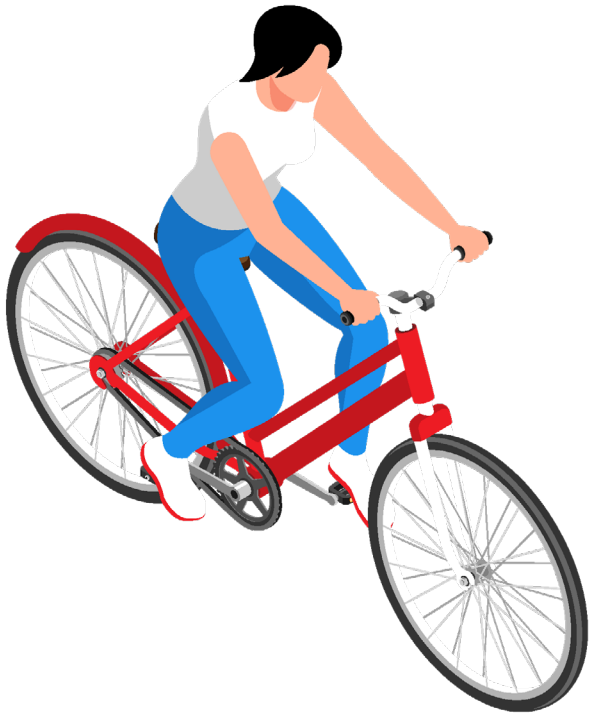
The percentage of elementary, middle, and high schools that offer bicycle education and the type of education offered at each school. Prevalence and type are used to create descriptive categories, with the average Bronze having average Bicycle Education in Schools.

4. Share of Transportation Budget Spent on Bicycling

The reported percentage of each community's total transportation budget, over the past 5 years, invested in bicycle projects. The average Bronze community reports that 9% of its transportation budget is invested in bicycle projects.

5. Bike Month and Bike to Work Events

The number of events promoted as part of bike month in each community. The number of events is used to create descriptive categories, with the average Bronze having either average or good Bike Month and Bike to Work Events.



6. Active Bicycle Advocacy Group

The reported bicycle, active transportation, and transportation equity advocacy groups. Over 90% of communities that apply report the existence of an advocacy group in their community.

7. Active Bicycle Advisory Committee

Reflects whether a bicycle advisory committee exists and how often it is reported to meet. The average Bronze community has a bicycle advisory committee that meets roughly every two months.

8. Bicycle Friendly Laws & Ordinances

Reflects local ordinances or state laws that are reported to protect or restrict bicyclists in each community. The average Bronze community has between acceptable and average Bicycle Friendly Laws & Ordinances.

9. Bike Plan is Current and is Being Implemented

Reflects reported information on the existence of a bike plan, the age of the bike plan, whether that bike plan has goals, and whether those reported goals are being met. Nearly 70% of communities that apply report having a bike plan that is current and is being implemented.

10. Bike Program Staff to Population

Reflects reported information on the number of full-time equivalent employees in each community and the population of each community. The average Bronze community has 148,000 residents per one staff person.

More information and resources can be found on the League's website.

BikeWalkBG

The BikeWalkBG brand was created in 2018 to begin to address a gap in the community: bicycle and pedestrian education and safety. BikeWalkBG is a movement seeking to encourage biking and walking for all of Bowling Green. Through the efforts of BikeWalkBG, which is carried out by the MPO, more community outreach and support is available for bringing awareness, advocacy, and education around bicycling and walking. The mission is to empower people of all ages and abilities to get out and move, and to feel safe doing so. The program is largely volunteer-driven, with a comprehensive and collective approach to encourage and equip users for active pursuits.

BikeWalkBG implemented a Mobile Bike Program that is equipped to provide basic bicycle maintenance and repairs, free of charge, to the community. With this program, the goal is to build a recycled bikes program, where students volunteer and learn how to fix a bicycle, to then "earn" a bicycle through their volunteer hours. This structure is similar to bicycle co-ops.

In addition to serving the community through outdoor events and engagement opportunities, the focus areas listed in the graphic (right) should be pursued for the expansion of bicycle and pedestrian safety and education.

Maintenance

Just as roadways require routine maintenance for the longevity and safety of its users, the same level of commitment to maintenance should be made for active transportation and recreation facilities. Proper maintenance of the existing and expanded trail network is as integral to the initial planning and development of the overall network.

Appropriate and on-going maintenance of bike lanes, sidewalks, and shared use paths leads to safe, comfortable, reliable, and accessible facilities for all active users. Preventative maintenance of sidewalks, bike lanes, and urban shared use paths can often be incorporated into routine roadway maintenance. This can serve to reduce hazards for users and extend the life cycle of the facilities. Additionally, the continual upkeep of active transportation facilities further improves the community aesthetic and exemplifies a value and investment by local government to bicycle and pedestrian facilities.

Routine maintenance tasks, performed by the respective jurisdiction, include those that should be addressed on a regular basis to keep all network facilities in good, usable condition to provide safety and comfort for all users. Maintenance tasks should be conducted more frequently on facilities with higher use or in areas prone to greater needs. The table below outlines the various maintenance tasks to be performed. All tasks are performed by the jurisdiction as defined by the maintenance map, unless otherwise noted.

TABLE 3.1 Maintenance Tasks

Type of Maintenance	Frequency	Notes
Sweeping	As needed	Greenways may require more with landscaping; street sweep common bike routes and lanes
Landscaping (edging, mowing, weed, and invasive species control)		
Tree and shrub trimming		
Trash and debris pickup*	Seasonal	Trash bags will be picked up by Public Works or Parks
Check, update, and repair signage	Check annually; repair/update as needed	Interpretive markers; greenway signs; trailheads
Facility repair (potholes, erosion, etc.)	Repair as needed	Prioritize repairs if limited funding
Pavement resurfacing	Remedial tasks vary based on surface type and usage	Estimated life-cycle in years: Granular Stone: 7-10 Asphalt: 15-20 Concrete: 25+ Bridge/Underpass: 100+
Drainage upgrades and inventory	As needed	To be conducted alongside stormwater improvements
Maintenance map and agreement**	review annually; update every five years	

**Performed by Adopt-a-Trail Program*
***Performed by MPO*

The action steps below provide guidance for improving and maintaining both existing and future bicycle and pedestrian facilities. Implementation of these recommendations will require coordination across multiple departments, including local public works, parks and recreation departments, state road crews, and other local entities as identified by the maintenance agreement.

Maintenance Action Items

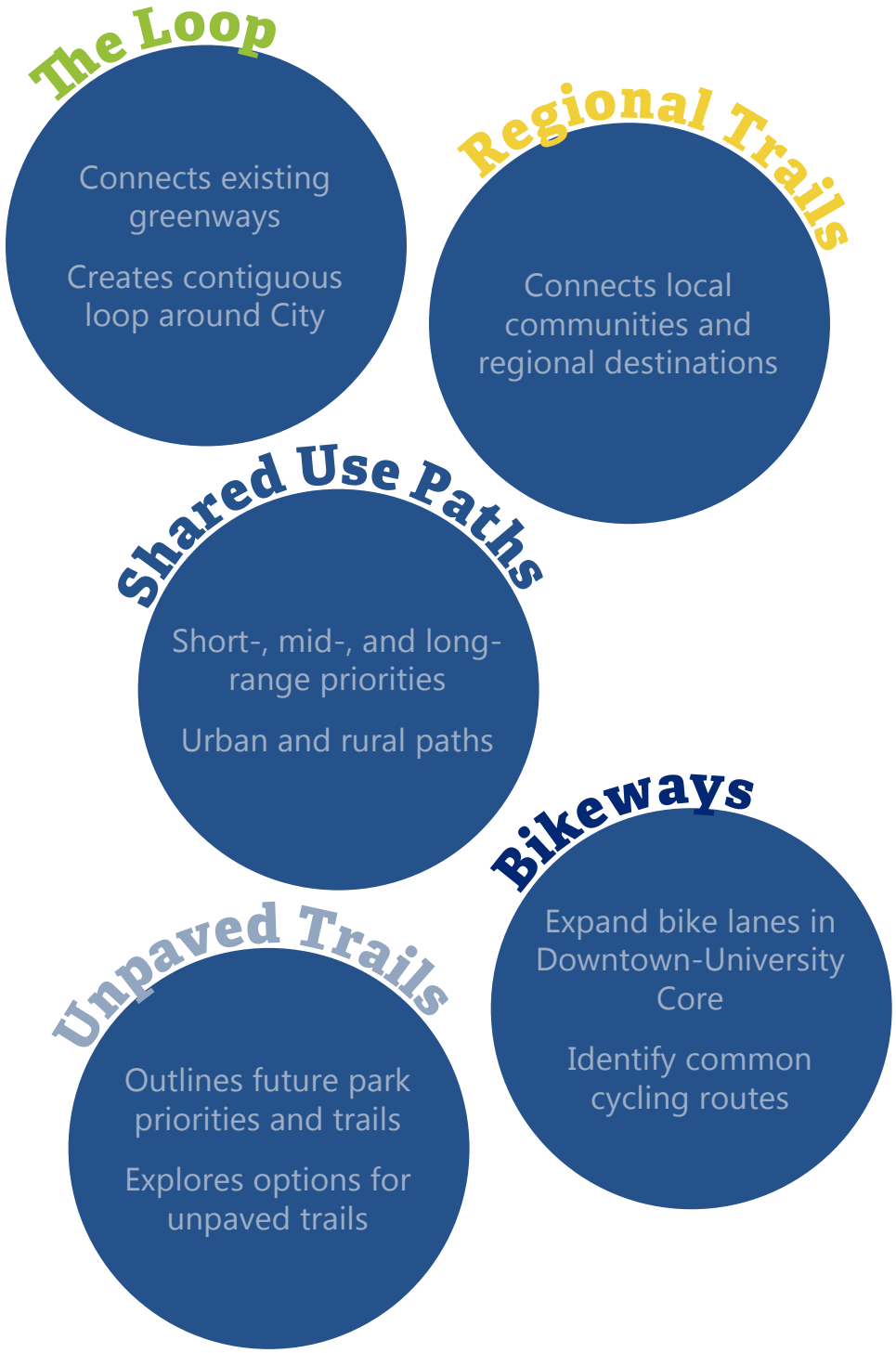
- Inventory existing facilities for needed and regular maintenance through creation of shared GIS database.
- Work with multiple departments to develop maintenance plan for repairs and repaving of existing and future facilities.
- Provide annual inspections to ensure quality, safety, and effective use of facilities.
- Incorporate maintenance of greenway interpretive markers into the Adopt-a-Trail program.

4 Infrastructure Recommendations

Transportation funding for bicycle and pedestrian projects is competitive and limited across Kentucky, meaning that at the local level, priorities must be established in order to meet the many needs of the growing community. The MPO identified the goals and objectives, listed in the Introduction, which set the framework for building a sustainable bicycle and pedestrian network in the future. The pages that follow identify recommendations for building a more accessible and connected trail network across Bowling Green and Warren County. These recommendations are a culmination of the content that has been explored throughout this Plan thus far. The MPO recognizes the uncertainty of many factors like local growth patterns, available funding, economic (in)stability, community needs, and transportation trends; therefore, it is important to note that due to these uncertainties, the MPO must grow and adapt with flexibility to the ever-changing environment of the transportation system.

Bicycle and Pedestrian Priorities

The priorities that follow were established through months-long work alongside the MPO committees and the Bicycle and Pedestrian Master Plan stakeholders. Projects are identified by facility type and further categorized based on the project context. For all facility types, the Factors listed in the previous chapter shall be considered to determine not only the most appropriate type of facility, but also any additional buffers, barriers, or width restrictions that should be addressed upon implementation. Specific design standards are under the discretion of the jurisdiction responsible for the project implementation (i.e. Kentucky Transportation Cabinet, City of Bowling Green, Warren County), however, should be consistent with the existing network standards and those set forth in Kentucky's Complete Streets, Roads, and Highways Manual. In order to help mitigate transportation barriers among pedestrians and bicyclists, the MPO's interactive web map mapping Warren County's socially vulnerable population should be referenced throughout planning efforts to ensure accessible and equitable opportunities.



The Loop

One of the longtime priorities of the bicycle-pedestrian network has been to provide a contiguous greenway loop around the City of Bowling Green. A proposed primary route has been established that will connect existing greenway facilities, providing a continuous 20-mile connection upon completion. The route extension will follow the same path, but will connect to additional neighborhoods, south of the primary route, and provide an additional 5 miles of connected greenway. The Loop extension will combine both shared use path and share the road facility types. The maps below depict the proposed Loop route and extension. As of the writing of this Plan, approximately 8 miles of the primary Loop are constructed, 3.3 miles are funded for construction, and approximately 8.7 miles remain unfunded, as identified by the conceptual route shown on the map below. Changes to the proposed route may be made upon available project funding, local project feasibility, and/or as warranted by the agency responsible for implementation. Funding for the remainder of the Loop's shared use path segments may include, but is not limited to: grant funds, City/County capital improvement funds, and public-private partnerships.

Table 4.1 Loop Miles and Cost Estimates

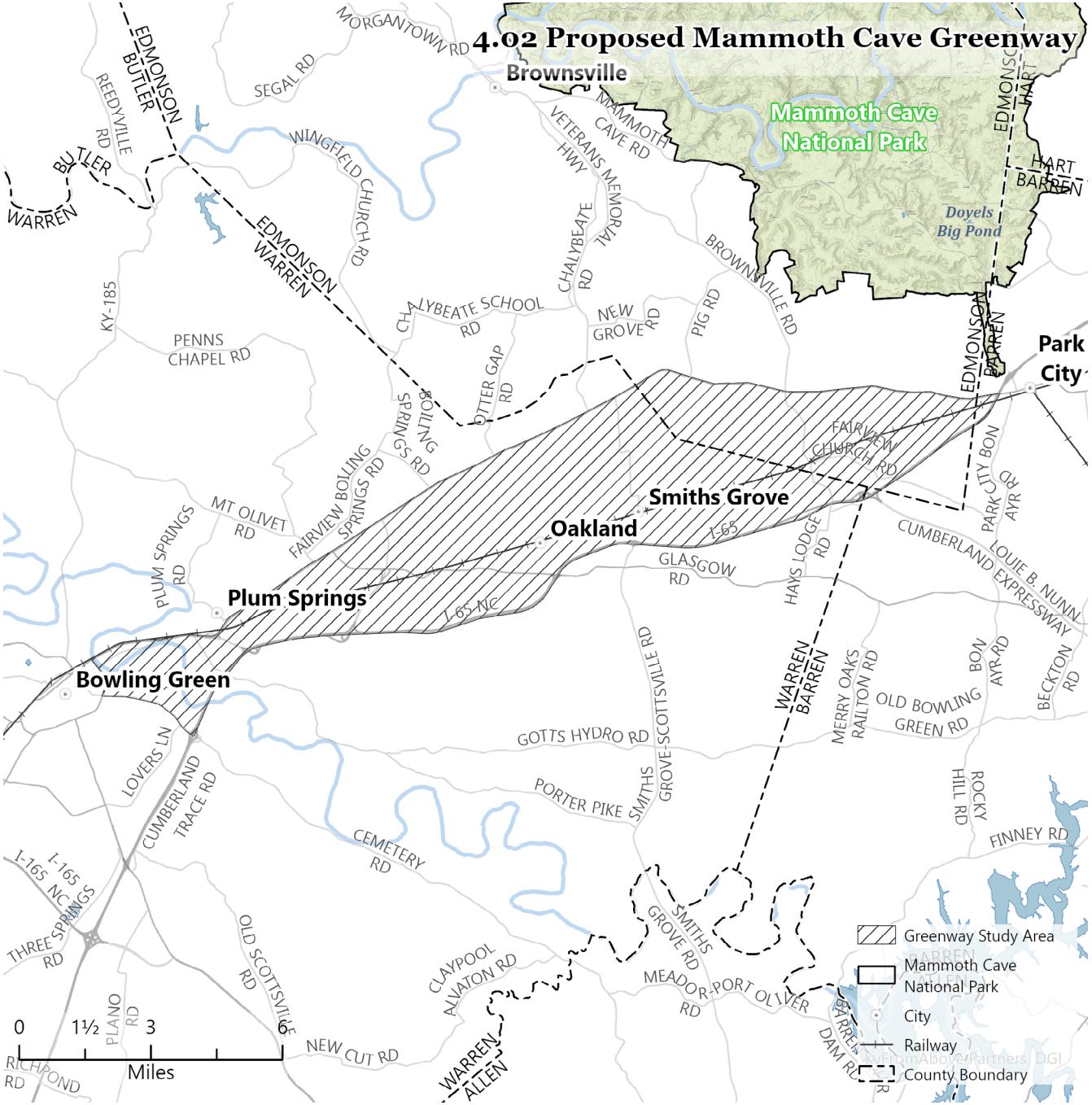
Loop Route (Primary)		
	Miles	Cost Estimates
Total Trail Length	19.9	
Constructed	8.0	
Funded	3.3	
Unfunded	8.7	$10,277,512
Loop Trail Extension	5.2	$3,453,144

**Cost estimates were provided by the City of Bowling Green Public Works Department and based on summer 2022 values*

Regional Trails

South Central Kentucky is ripe with rolling countryside, farmland, rivers and creeks, and a myriad of other natural assets. Finding ways to connect communities and/or natural areas presents many benefits, as discussed in an earlier chapter of this Plan. Regional trails are longer distances, providing safe and comfortable ways for non-motorized users to recreate and travel to larger destinations, such as nearby communities or other attractions. Regional trails will include several trailhead locations to ensure meaningful access and amenities along the route.

Today, the MPO, along with other local government leaders from Warren, Barren, and Edmonson counties, are seeking an opportunity to build a regional trail connecting downtown Bowling Green to Mammoth Cave National Park. The Mammoth Cave Greenway will travel approximately 23 miles, as the crow flies, and feature several trailheads in each county. In 2022, the Barren River Area Development District (BRADD) and MPO received Federal Lands Access Program (FLAP) funds to pursue a planning and feasibility study for this trail. As of the completion of this Plan, the study is not yet underway. Additional regional trail connections should continue to be explored as the entire region continues to grow.



Shared Use Paths

Since the adoption of the community's first Greenbelt Master Plan in 1999, many shared use paths, trails, and bike lanes have been proposed and evaluated as priorities for the community. While the ideas for new bicycle and pedestrian projects are endless, the reality of funding the projects is much more challenging. The priorities in this Plan are derived from the GIS database of projects that have been past priorities from completed studies and plans, and some that were collected from staff and stakeholder comments. The project selection criteria listed below was utilized to further prioritize the shared use path projects into Tiers I, II, and III. These represent priority levels of high, medium, and low, respectively. Any future priority projects should be vetted to meet the project selection criteria.

Projects classified as tier I priorities should be pursued as local funding dollars, grant opportunities, and/or other funding strategies arise. These priorities will be monitored by staff and the Bicycle and Pedestrian Advisory Committee on a bi-annual basis, at minimum. Priority levels may increase or decrease based on land use development trends, transportation projects, or other factors that may influence the project feasibility. The map below represents the priority projects from tier I through tier III. A list and brief description of tier I projects is also provided below. For planning purposes, project segments that are included as the Loop are also ranked through the priority process, as identified in the table that follows.

Project Selection Criteria

Improves connectivity and expands contiguous miles between existing shared use paths

Provides neighborhood access to existing shared use paths and/or parks

Improves safety and access in socially vulnerable areas (see Appendix D)

Improves safety and access for students of all ages (K-12 schools and higher education facilities)

Promotes trail diversity and outdoor experience

Compliments other resources (i.e. roadway improvement project and/or Blueways)

Cost and constructability are within reasonable scope

Table 4.2 Tier I High Priority Projects

Trail ID	Category	Name	Project Description	Cost Estimate (2022)	Length (Mi)
ID-10	Greenway	Cemetery Road Ext to Ewing Ford	Extend Cemetery Rd greenway to provide safe access crossing Cemetery Rd between Lovers Ln and Ewing Ford Rd.	$ 10,350	0.01
ID-7	Greenway	Greenhill Street | Creekwood Greenway Extension	Construct a 10' shared use path on the east side of the Creekwood Greenway to connect to existing greenway on Veterans Memorial Blvd and into Keystone Commons subdivision.	$522,760	0.44
ID-1	Greenway	Highland Way - West	Improve connectivity between existing greenways and improve bike/ped safety by constructing an 8-10' shared use path on Highland Way between US 31W (Nashville Rd) and Smallhouse Rd.	$741,377	0.84
ID-6	Greenway	Warren East-Ephram White Greenway	Construct a 10' shared use path between Warren East High School and Ephram White Park.	$ 481,259	0.41
ID-2/129	Greenway	Industrial Drive Greenway	Improve bike/ped access and safety on Industrial Drive from existing greenway on Industrial Dr to Nathan's Rim Way.	$ 480,945	0.55
ID-82	Greenway	Dragon St | Warren Central – Morgantown Rd	Continue greenway connection on Dragon St from existing greenway behind Warren Central to Morgantown Rd.	$ 112,882	0.14
ID-4	Loop	Cave Mill Road Greenway	Construct an 8-10' shared use path to improve bike/ped safety and access for residential areas, Natcher Elementary, and retail businesses (Lost River Cave Greenway - Rush Dr). Project is included in 2022 Highway Plan (3-80201/3-80212).	$2,425,832	2.04
ID-8	Loop	Jennings Creek Greenway - Phase 1 (Creekside)	Construct a 10' asphalt shared use path along Jennings Creek from Veterans Memorial Blvd/Morgantown Rd to Barren River Rd.	$2,235,736	1.88

Trail ID	Category	Name	Project Description	Cost Estimate (2022)	Length (Mi)
ID-5	Loop	Jennings Creek Greenway - Phase 2 (Park Access)	Construct a 10’ asphalt shared use path along Veterans Memorial Blvd at Barren River Rd and into Hobson Grove Park.	$1,453,082	1.22
ID-12	Loop	Jennings Creek Greenway - Phase 3 (Veterans Memorial Blvd)	Construct a 10’ asphalt shared use path from the existing greenway at Morgantown Rd/Veterans Memorial Blvd to near Simply Mulch.	$424,509	0.36
ID-9	Loop	Lost River Cave Access	Provide connection from Lost River Cave Greenway to proposed greenway on Cave Mill Rd/Dishman Ln.	$30,998	0.03
ID-13	Loop	Outer Loop - Cave Mill Rd	Construct an 8-10' shared use path to improve bike/ped safety and access from Rush Dr to Cave Mill Station Blvd.	$161,917	0.14
ID-2	Loop	WKU CRD South Campus Greenway	Construct a 10' shared use path behind WKU's CRD, improving connectivity between the Lost River Cave greenway and the WKU South Campus greenway.	$ 881,845	0.84
ID-3	Loop Ext	Grider Pond Area N'hood Greenway	Construct a 10' shared use path connecting the Grider Pond area (Ashmoor Parke, Fieldstone Farms, Fieldcrest Dr) through stub streets at Timberline St and Amhearst Ave.	$ 824,282	0.69
ID-14	Loop Ext	Smallhouse South Loop Connection	Construct greenway to extend connection from Ashmoore Park to Lois Ln, providing an option for a safe Loop extenstion (Amhearst Ave to Beverly Dr).	$1,399,149	1.18
TOTAL				**$12,186,923**	**10.77**

4.03 Tier I Projects

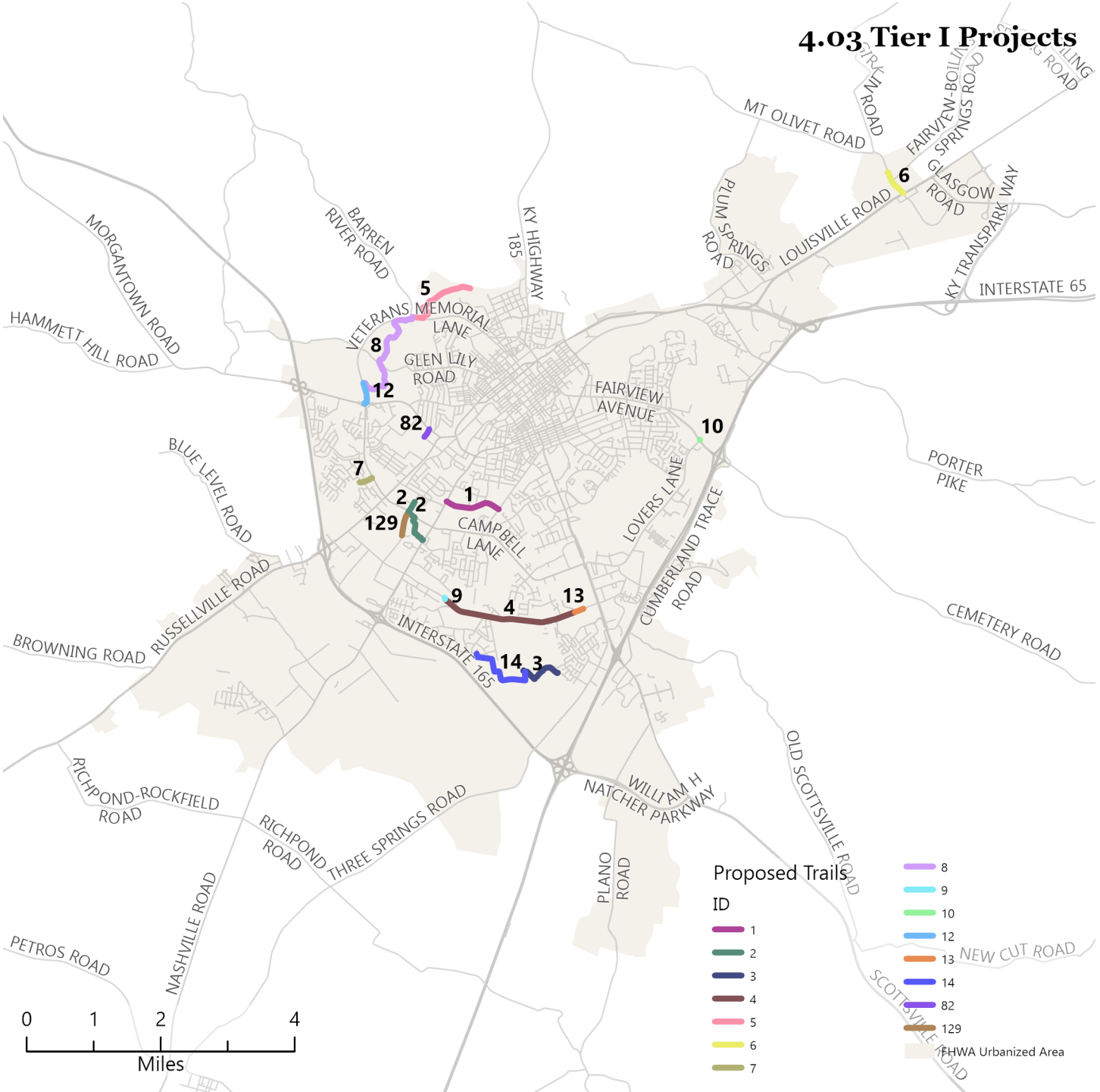
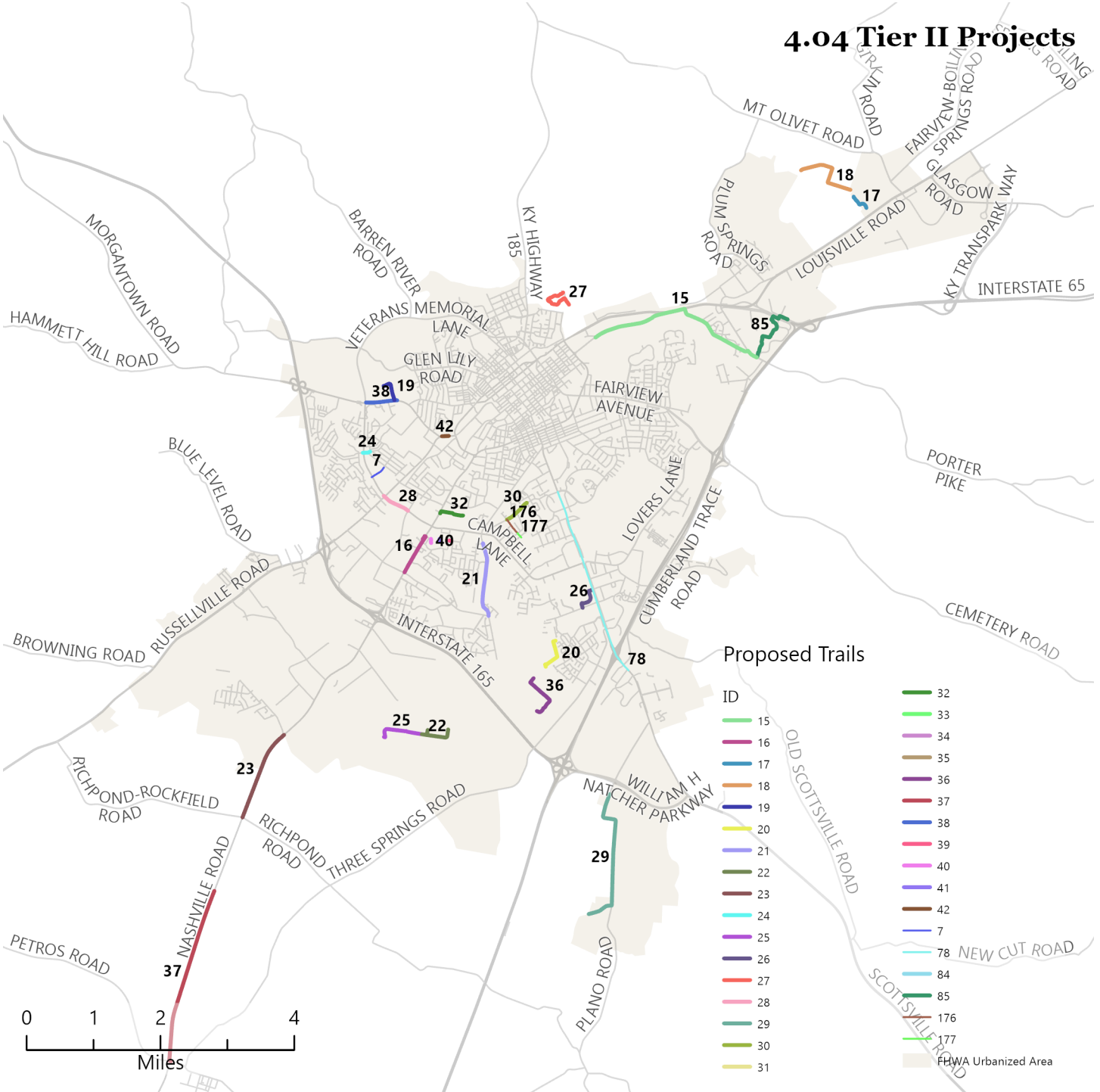


Table 4.3 Tier II Medium Priority Projects

Trail ID	Category	Project Name + Scope	Cost Estimate (2022)	Length (Mi)
ID-7	Greenway	Keystone Commons | Creekwood Greenway Extension | Veterans Memorial Blvd – Robin Ave	$ 522,760	0.25
ID-15	Greenway	Mammoth Cave Greenway | Downtown Bowling Green – Corvette Drive	$3,294,652	2.77
ID-17	Greenway	Bristow-Ephram White Connection | Bristow Elementary - Ephram White Park	$345,179	0.29
ID-18	Greenway	North Ridge Connection | Northridge Neighborhood - Ephram White Park	$1,273,124	1.07
ID-19	Greenway	Lampkin Park Greenway Access to Jennings Creek | US 231 (Morgantown Rd - Lost River Rise)	$429,334	0.36
ID-21	Greenway	Smallhouse Road | US 231 (Campbell Ln) – Cave Mill Rd	$1,342,445	1.13
ID-22	Greenway	Elrod Rd - Jody Richards | Smallhouse Rd - Preakness Way	$678,906	0.57
ID-23	Greenway	Nashville Rd | Dillard Rd - South Warren High Greenway	$1,665,166	1.40
ID-24	Greenway	Stonehenge Connection | Robin Rd - Tomblinson Way	$134,893	0.11
ID-25	Greenway	Elrod Rd | Jody Richards to Preakness Way	$824,520	0.69
ID-27	Greenway	Housing Authority Connection | Beech Bend Rd - Fort Webb Park	$844,828	0.71
ID-29	Greenway	Plano Area | Red Rock Rd - GH Freeman Park	$2,617,135	2.20
ID-30	Greenway	Westen Street | Highland Way to Rockingham Ave	$465,138	0.39
ID-32	Greenway	Bowling Green Junior High Connection | US 31W at Potter Children's Home - BGJHS	$441,412	0.37
ID-36	Greenway	Basil Griffin Access Greenway | Laurelstone Ln – Basil Griffin Park	$909,458	0.77
ID-37	Greenway	South Warren Greenway | Buchanon Park to Woodburn	$3,170,784	2.67
ID-38	Greenway	Morgantown Road Greenway | Veterans Memorial Ln - Old Morgantown Rd	$556,801	0.47

Trail ID	Category	Project Name + Scope	Cost Estimate (2022)	Length (Mi)
ID-39	Greenway	Paddock Way Neighborhood Connection | Fields Dr - Yuma Dr	$37,125	0.03
ID-40	Greenway	Neighborhood to Retail Connection | Harvard Dr - The Crown	$75,759	0.06
ID-41	Greenway	Neighborhood to Retail Connection | Harvard Dr - Campus Point Apts	$66,903	0.06
ID-78	Greenway	Scottsville Road Greenway | Ashley Circle – Greenwood Lane	$3,428,540	2.89
ID-85	Greenway	Corvette Museum Greenway | Old Porter Pike - Willamette Lane	$1,356,652	1.14
ID-16	Loop	Nashville Rd Loop Connection | Lost River Cave to WKU CRD	$826,717	0.70
ID-26	Loop	Greenwood Mall Loop Connection | Scottsville Rd - Cave Mill Rd	$479,128	0.40
ID-28	Loop	Campbell Lane Loop Connection | Industrial Dr - Veterans Memorial Blvd	$512,288	0.43
ID-20	Loop Ext	Grider Pond Area Loop Connection | Share-the-road markings and signage | Crossings Park - Avondale Dr	$15,000	0.53
ID-42	Sidewalk	Russellville Road CSX Underpass near WKU Main Campus	$125,819	0.11
ID-176	Greenway	Highway Way | Westen St – McIntosh St	$ 221,917	0.26
ID-177	Greenway	Highway Way | McIntosh St – End of Pavement	$ 70,549	0.08
TOTAL			**$26,732,932**	**22.91**


4.04 Tier II Projects
MT OLIVET ROAD
FAIRVIEW-BOILING SPRINGS ROAD
GLASGOW ROAD
KY TRANSPARK WAY
LOUISVILLE ROAD
INTERSTATE 65
PLUM SPRINGS ROAD
KY HIGHWAY 185
BARREN RIVER ROAD
MORGANTOWN ROAD
HAMMETT HILL ROAD
VETERANS MEMORIAL LANE
GLEN LILY ROAD
FAIRVIEW AVENUE
BLUE LEVEL ROAD
PORTER PIKE
LOVERS LANE
CUMBERLAND TRACE ROAD
CAMPBELL LANE
RUSSELLVILLE ROAD
BROWNING ROAD
INTERSTATE 165
CEMETERY ROAD
RICHPOND-ROCKFIELD ROAD
RICHPOND ROAD
THREE SPRINGS ROAD
NASHVILLE ROAD
PETROS ROAD
NATCHER PARKWAY
WILLIAM H
OLD SCOTTSVILLE ROAD
PLANO ROAD
NEW CUT ROAD
SCOTTSVILLE ROAD
Proposed Trails
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FHWA Urbanized Area
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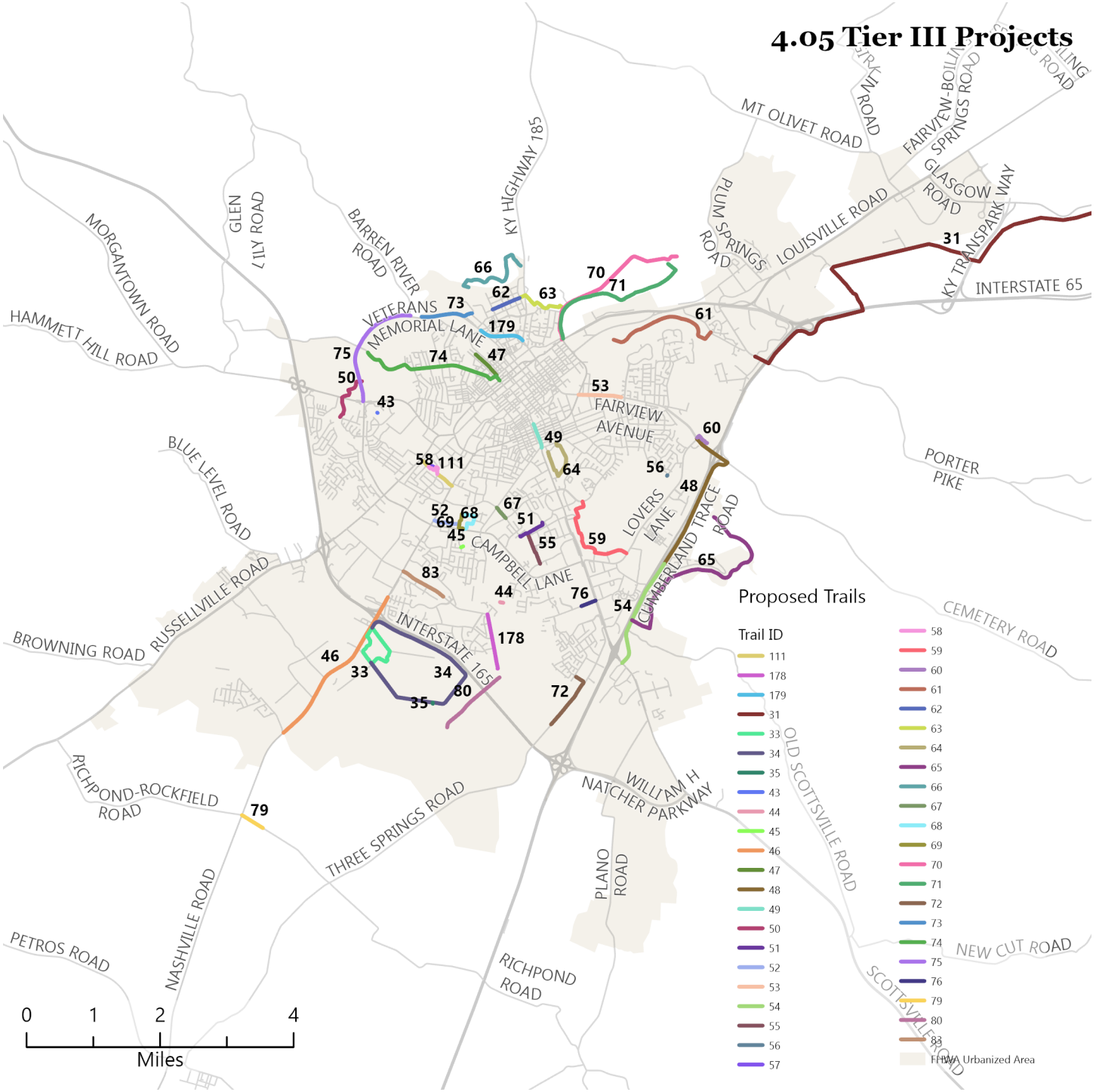
Table 4.4 Tier III Low Priority Projects

Trail ID	Name	Total Cost	Miles
ID-31	Mammoth Cave Greenway | Corvette Drive - County Line	$ 17,109,716	18.52
ID-33	WKU Ag Farm Inner Loop	$ 1,836,815	1.55
ID-34	WKU Ag Farm Outer Loop	$ 4,267,226	3.59
ID-35	WKU Ag Farm / Neighborhood Connector	$ 23,176	0.02
ID-43	Connector | West Campus Greenway - Wal-Mart	$ 8,073	0.01
ID-44	Connector | Natcher Elementary School - Carriage Hill Dr	$ 60,674	0.05
ID-45	Glenview Way Connection to Hilltop Club Apartments | Hilltop Club Apartments - Thouroughbred Dr	$ 43,027	0.04
ID-46	Nashville Rd | Lost River Cave/Dishman Ln - Dillard Rd	$ 3,099,382	2.61
ID-47	West End Alley | Garfield St - Clay St	$ 548,747	0.46
ID-48	Cumberland Trace Rd Greenway Phase 2 | Maplewood Blvd - Cemetery Rd	$ 2,913,225	2.45
ID-49	Broadway Ave Greenway | Kenton St - Smallhouse Rd/Covington St	$ 450,292	0.38
ID-50	Jennings Creek | Audley Ave - Simply Mulch (Along creek)	$ 945,796	0.80
ID-51	Menards Bowling Green High School Connection | Edge of Pavement - Highland Way	$ 126,091	0.14
ID-51	Menards Bowling Green High School Connection | Menard's Property - Rockingham Ave (Southeast side of BGHS property)	$ 268,450	0.29
ID-52	Connector | WKU South Campus - Bowling Green Junior High School (Behind Buckhead Shopping Center)	$ 458,399	0.39
ID-53	Fairview Ave | US 31W Bypass - Hampton Dr	$ 767,087	0.65
ID-54	Cumberland Trace Greenway Phase 1 | Scottsville Rd - Maplewood Blvd	$ 1,997,269	1.68

Trail ID	Name	Total Cost	Miles
ID-55	Connector | West Park Drive - Bowling Green High School/Menard's Greenway	$ 597,769	0.50
ID-56	Connector | Steeplechase Way Cul-de-Sac - The Loops at Lovers	$ 14,577	0.01
ID-57	Chuck Chume Nature Walk 1	$ 131,192	0.11
ID-58	Chuck Chume Nature Walk 2	$ 396,942	0.33
ID-59	Airport Greenway | Wilkenson Trace - Lovers Lane	$ 1,847,047	1.55
ID-60	Ewing Way | Cemetery Rd - Ewing Ford Rd	$ 249,886	0.21
ID-61	Mt Ayr Floodplain Greenway | Weldon Peete Park - Paddle Wheel St	$ 2,129,461	1.79
ID-62	Delafield/Hobson Loop on Pearl St | Church Ave - Boatlanding Rd	$ 523,484	0.44
ID-63	Beech Bend to West End Connector 2 | Pearl St - Beech Bend Rd	$ 986,710	0.83
ID-64	Covington Woods Park Greenway Loop	$ 1,205,592	1.01
ID-65	Drakes Creek Greenway in Cumberland Ridge | Cumberland Trace Rd - Shaker Mill Bend Rd	$ 4,084,359	3.44
ID-66	Beechmont Floodplain Greenway | Hobson Grove Greenway - Old Richardsville Rd Bridge	$ 1,750,280	1.47
ID-67	Highland Way - East | Smallhouse Rd - Westen St	$ 249,090	0.21
ID-68	Bowling Green Junior High School Loop - East	$ 615,023	0.52
ID-69	Bowling Green Junior High School Loop - West	$ 349,693	0.29
ID-70	Beech Bend Rd - Roadside	$ 2,983,609	2.51
ID-71	Beech Bend Rd - Riverside	$ 2,969,823	2.50
ID-72	Three Springs Road | Cave Springs Ct - Basil Griffin Park	$ 1,121,464	0.94
ID-73	Veterans Memorial Greenway Extenstion | Barren River Rd - West Main Ave	$ 922,593	0.78

Trail ID	Name	Total Cost	Miles
ID-74	Glen Lily Rd | Adams St - Jennings Creek Boat Ramp	$ 2,638,724	2.22
ID-75	Veterans Memorial Greenway Extenstion | Morgantown Rd - Barren River Rd	$ 2,153,458	1.81
ID-76	Cave Mill Greenway | Rush Dr - US 231 (Scottsville Rd)	$ 272,247	0.23
ID-79	Richpond Rd | US 31W (Nashville Rd) - Richpond Elementary	$ 438,794	0.37
ID-80	Elrod Rd | Belle Haven - Smallhouse	$ 1,305,998	1.10
ID-83	Dishman Lane | Denzil Ave - US 31W (Nashville Rd)	$ 845,460	0.71
ID-111	Chuck Chume N'hood Connection | Grandview St - Nashville Rd	$ 367,850	0.40
ID-178	Smallhouse Road South Greenway | Cave Mill Rd - Elrod Rd	$ 770,466	0.83
ID-179	Veterans Memorial Blvd Pedestrian Safety Improvement Project | Gordon Ave - Old Barren River Rd	$ 625,468	0.68
Total		$ 67,470,504	61.43


4.05 Tier III Projects
MT OLIVET ROAD
FAIRVIEW-BOWLING SPRINGS ROAD
GLASGOW ROAD
KY TRANSPARK WAY
INTERSTATE 65
LOUISVILLE ROAD
PLUM SPRINGS ROAD
KY HIGHWAY 185
GLEN LILY ROAD
BARREN RIVER ROAD
MORGANTOWN ROAD
HAMMETT HILL ROAD
VETERANS MEMORIAL LANE
FAIRVIEW AVENUE
BLUE LEVEL ROAD
PORTER PIKE
LOVERS LANE
CUMBERLAND TRACE ROAD
CAMPBELL LANE
RUSSELLVILLE ROAD
BROWNING ROAD
INTERSTATE 165
CEMETERY ROAD
RICHPOND-ROCKFIELD ROAD
THREE SPRINGS ROAD
WILLIAM H NATCHER PARKWAY
OLD SCOTTSVILLE ROAD
PLANO ROAD
NASHVILLE ROAD
PETROS ROAD
RICHPOND ROAD
NEW CUT ROAD
SCOTTSVILLE ROAD
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FHWA Urbanized Area

Bikeways

Since 2018, the City of Bowling Green and the KYTC District 3 have together worked to create a more bike-friendly Downtown. Many parallel streets in the downtown core now incorporate bike lanes and provide additional connections to the trail network. When considering the inclusion of bike lanes in a roadway project, safety and comfort are critical to ensure adequate use of the dedicated bike lane use.

In order to attract cyclists to new facilities, the facilities must be attractive – they must offer safety, convenience, and peace of mind when using, just as is the expectation when driving. While this Plan does not prioritize future installation of bike lanes, responsible jurisdictions should evaluate the installation of bike lanes with resurfacing projects particularly within the Downtown Core, and on other popular bike routes throughout the county. In addition, the following considerations should be evaluated for the design and implementation of new and/or improved bike lanes.

Bikeway Considerations

- Seek to construct protected or buffered bike lanes first; make accommodations as needed based on roadway context.
- Provide accommodations for cyclists at congested intersections – utilize bicycle boxes, signage, transition to a shared use path at the intersection, and/or use other creative solutions to provide safety and comfort for users.
- Improve network connections between existing bike lanes, focusing on Downtown and around WKU's main campus.

Unpaved Trails & Parks Improvements

Currently, unpaved trails only exist as crushed gravel walking trails within City and County parks, in addition to a single-track dirt trail suited for hiking and mountain biking (Low Hollow at Weldon Peete Park). The respective park jurisdictions oversee the planning and implementation of facilities within the park boundaries and do not have any unpaved trail construction planned at this time. However, as Warren County's population continues to quickly grow, both parks systems are met with the need to provide parks amenities, including accessible trails, to the growing population. Unpaved trails are often appropriate for rural or recreational paths.

Warren County Parks & Recreation

The Warren County Parks & Recreation Department (WCPRD) offers various trail opportunities throughout the county park system. The WCPRD is prioritizing opportunities to pave existing trails at a couple of parks – Ephram White and Michael O. Buchanon. Both of these projects would allow these facilities to move from a gravel based trail to a paved/asphalt trail that could be used for biking and running, while also providing better accessibility for all citizens. Additionally, several other key projects are of focus for the county park system. These short- and long-term focus areas include:

- Pursue grant funding in partnership with the Southwest Kentucky Chapter of the International Bike Association (SWKYMBA) to install and maintain a "Pump Track" style obstacle course at Weldon Peete Park.
- WCPRD will be maintaining the US 31W (Nashville Road) shared use path that will connect the existing South Warren High School/ Middle School shared use path to the Michael O. Buchanon Park Trail System (WCPRD maintains these existing properties).
- WCPRD currently partners with the Kentucky Department of Fish and Wildlife to maintain and assist with trail maintenance and possible future expansion of trails at Shanty Hollow in Warren County.
- WCPRD continues to evaluate and look for additional land

development opportunities throughout Warren County to meet the ever-growing demand for quality recreational services within the community. Additions to the existing system will continue to expand as funding and land acquisition decisions are made.

City of Bowling Green Parks & Recreation

The City of Bowling Green Parks & Recreation currently does not have any trail expansion projects planned for the future, but the department has several locations slated for planned park improvements that will impact bicycle and pedestrian amenities. These include:

Riverfront Park Development Improvements planned to expand river access and park amenities. Future trails along the river and throughout the Riverfront and Weldon Peete Parks may be included.

Lampkin Park Provide improved connections between existing park trails to create contiguous loop for walking and biking.

Chuck Crume Nature Park Provide post-disaster (December 11, 2021 tornado damage) rehabilitation, reconstruction, and maintenance to existing nature trails.

New Park Space Develop new park space in targeted areas, yet to determined. Trails would be incorporated into any such opportunities.

Low Hollow trail at Weldon Peete Park

Local Trail Organization

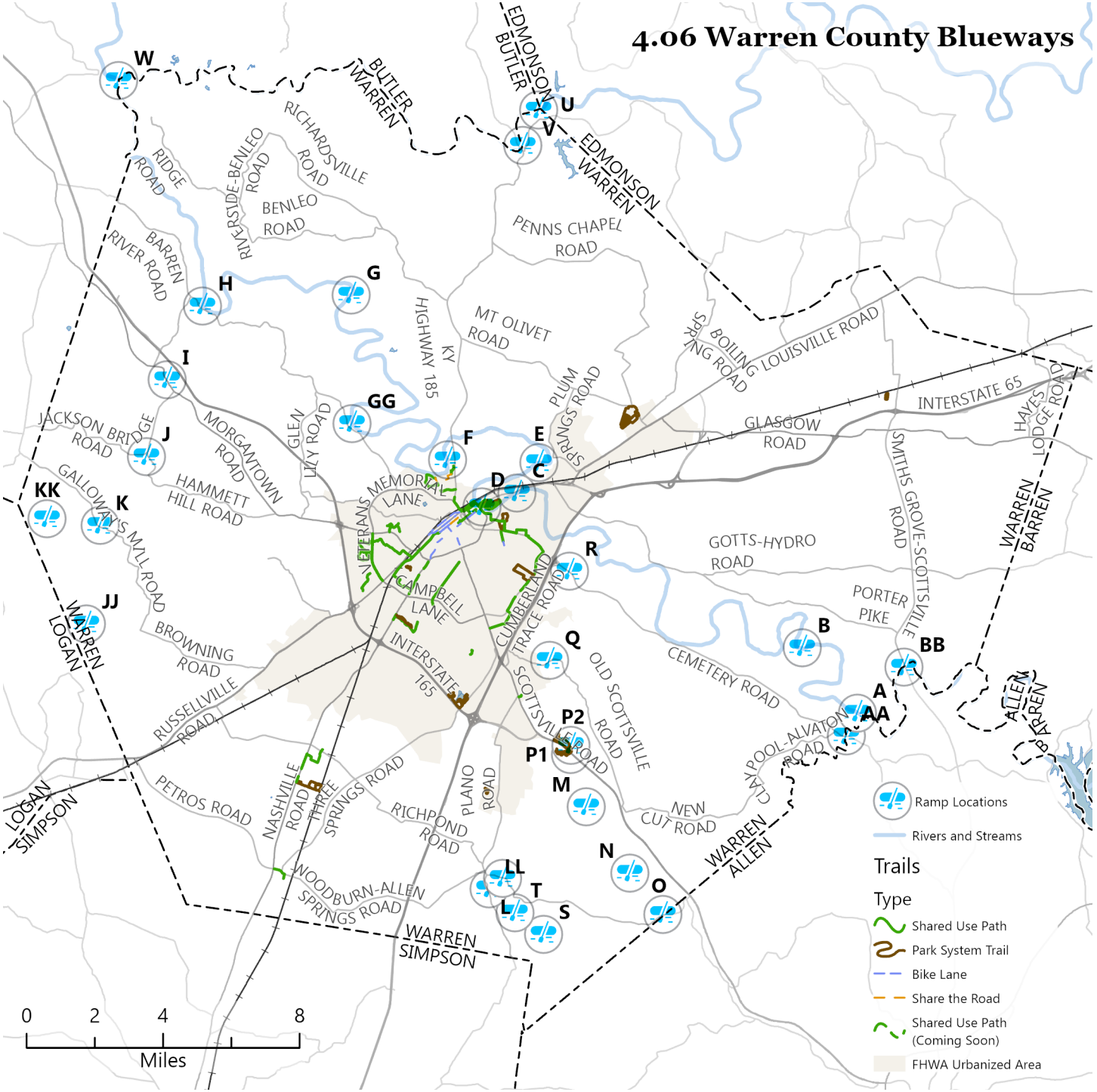
Additionally, the local Southwest Kentucky Mountain Bike Association (SWKYMBA) chapter oversees trail planning and trail building of single-track mountain bike trails in the area. Available and suitable land is one of the biggest obstacles to expanding the mountain bike opportunities in Warren County. Despite the limitations, SWKYMBA is seeking opportunities to grow. The group is looking to expand mountain bike training courses at the Riverfront Park/Weldon Peete Park facilities. If opportunities arise, the group would be interested in the addition of an expanded single-track trail system in Warren County.

Floodplain Opportunities

The construction of unpaved trails in floodplain zones are often a viable solution to providing more diverse trail options to the public. While these areas may be more susceptible to flooding, the trails can provide connections between existing greenways and provide a natural linear park through more nature-based areas. The inclusion of unpaved trails as linear parks should be explored, particularly in areas surrounding Warren County's rivers, creeks, and streams. Close partnership and collaboration with the City/County Stormwater and Public Works departments should be maintained to pursue future opportunities. The map on the following page and the interactive Blueways web map highlights Warren County's waterways.

Sidewalks

Sidewalks are a valuable component to the bicycle and pedestrian network as they often fill gaps between greenways and/or bike lanes. When it is not feasible to construct an 8-10' shared use path, a sidewalk still provides access and opportunity to non-motorized users. As discussed in Part I, new sidewalks within the City of Bowling Green are vetted through a prioritization process that ranks the need for new sidewalk based on a set of criteria. While the MPO may provide input on the location of new sidewalk, the process is largely handled by the City of Bowling Green Public Works, Neighborhood & Community Services, and as needed, the Parks & Recreation departments. Prioritization of new sidewalk is not a priority of this Plan, however, if a gap between shared use paths and/or bike lanes exists, sidewalk will be recommended to fill the gap and continue the connection.


4.06 Warren County Blueways
W
BUTLER WARREN
EDMONSON BUTLER
U
V
EDMONSON WARREN
RICHARDSVILLE ROAD
RIVERSIDE-BENLEO ROAD
RIDGE ROAD
BENLEO ROAD
PENNS CHAPEL ROAD
BARREN RIVER ROAD
H
G
I
HIGHWAY 185 KY
MT OLIVET ROAD
BOILING SPRING ROAD
LOUISVILLE ROAD
INTERSTATE 65
GG
PLUM SPRINGS ROAD
GLEN LILY ROAD
JACKSON BRIDGE ROAD
J
MORGANTOWN ROAD
F
E
C
D
GLASGOW ROAD
HAYES LODGE ROAD
KK
K
GALLOWAYS MILL ROAD
HAMMETT HILL ROAD
VETERANS MEMORIAL LANE
CAMPBELL LANE
CUMBERLAND TRACE ROAD
R
GOTTS-HYDRO ROAD
SMITHS GROVE-SCOTTSVILLE ROAD
WARREN BARREN
JJ
WARREN LOGAN
BROWNING ROAD
INTERSTATE 165
Q
B
PORTER PIKE
BB
CEMETERY ROAD
A
AA
OLD SCOTTSVILLE ROAD
SCOTTSVILLE ROAD
P2
P1
M
POOL-ALVATON ROAD
CLAY
ALLEN BARREN
RUSSELLVILLE ROAD
PETROS ROAD
NASHVILLE ROAD
THREE SPRINGS ROAD
RICHPOND ROAD
PLANO ROAD
NEW CUT ROAD
N
LOGAN SIMPSON
WOODBURN-ALLEN SPRINGS ROAD
LL
T
L
S
O
WARREN ALLEN
WARREN SIMPSON
0 2 4 8
Miles
Ramp Locations
Rivers and Streams
Trails
Type
Shared Use Path
Park System Trail
Bike Lane
Share the Road
Shared Use Path (Coming Soon)
FHWA Urbanized Area

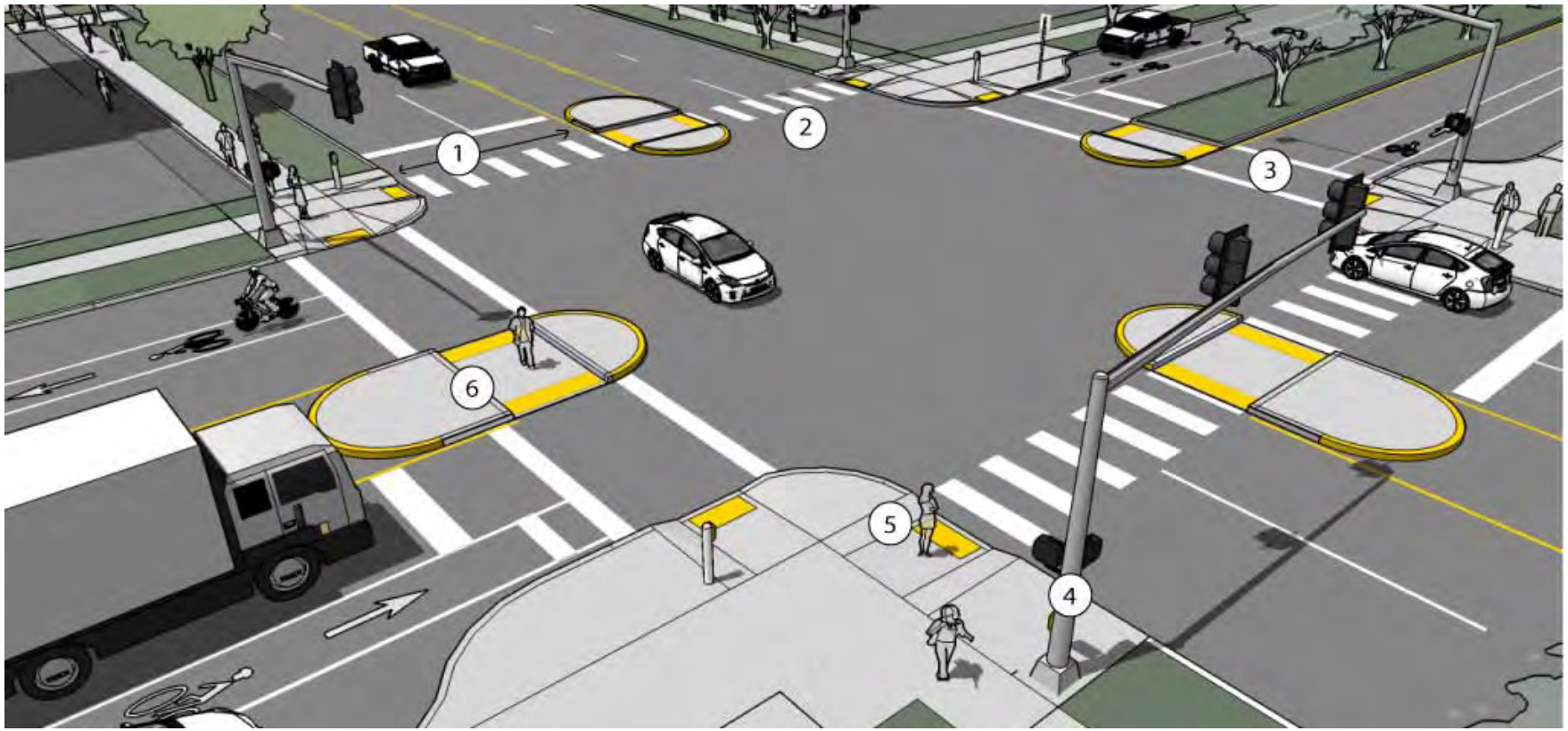
Intersection Improvements

Intersections are an important part of the bicycle and pedestrian network. Intersections have high potential conflict between pedestrians, bicyclists, and vehicles, thus creating barriers within the trail network and among the socially vulnerable populations who rely more on non-motorized travel. The following guidelines should be considered when designing intersection improvements for pedestrians and bicyclists:

Pedestrian Intersection Design Guidance

The diagram below highlights best practices for pedestrian facility design at intersections. Other design elements should be considered to include context-sensitive solutions.

1. The crosswalk should be located to align as closely as possible with the through pedestrian zone of the sidewalk corridor.
2. Continental markings provide additional visibility.
3. Parallel markings are the most basic crosswalk marking type.
4. The use of a Leading Pedestrian Interval (LPI) to provide additional traffic protected crossing time to pedestrians should be considered.
5. ADA compliant curb ramps allow all users to transition from the street to a sidewalk. Perpendicular curb ramps are preferred to diagonal curb ramps.
6. Median refuge islands increase visibility and allow pedestrians to cross one direction of traffic at a time.



Bicycle Intersection Design Guidance

The design of bicycle facilities is dependent on the surrounding context and environment, including but not limited to, roadway conditions, travel volumes, signal phasing and timing, and available right-of-way. The graphics and descriptions below provide examples of best practice bikeway intersection treatments.

Intersection Crossing Markings

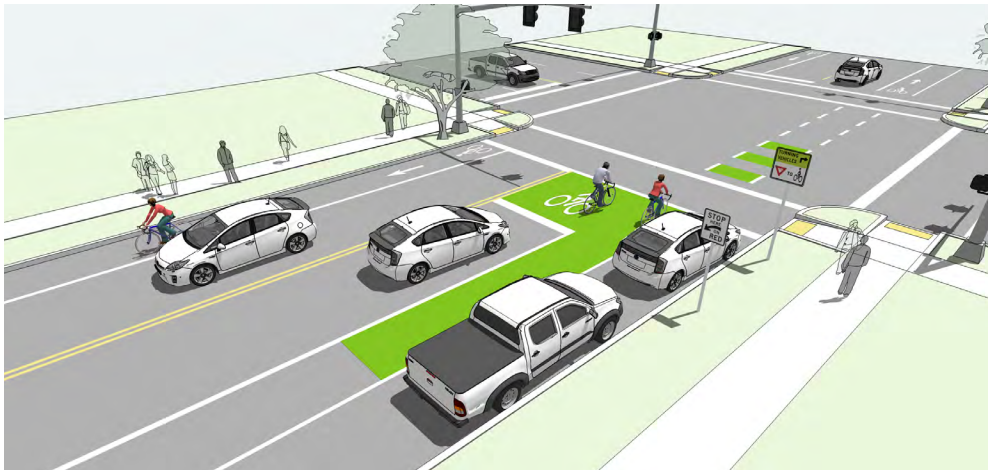
Bicycle pavement markings (top graphic) through intersections guide bicycles on a safe and direct path through the intersection and provide a clear boundary between the paths of through bicyclists and vehicles in the adjacent lane. Typical applications include streets with conventional, buffered, or separated bike lanes, and streets with high volumes of adjacent traffic.

Bike Box

A bike box (middle graphic) is a designated area located at the head of a traffic lane at a signalized intersection that provides bicyclists with a safe and visible space to get in front of queuing traffic during the red signal phase. Motor vehicles must queue behind the white stop line are the rear of the bike box. On a green signal, all bicyclists can quickly clear the intersection. Typical applications includes at signalized intersections with high bicycle and vehicle volumes.

Protected Intersection

A protected intersection (bottom graphic) maintains physical separation within the intersection to define the turning paths of motor vehicles, slow vehicle turning speed, and offer a comfortable place for people bicycling to wait at a red signal. Typical applications include streets with separated bikeways, and where two separated bikeways intersect, and areas where it is desirable to create a safety island for pedestrians.



Midblock Crossings

Midblock crossings can provide legal crossings at locations where pedestrians want to travel and can be safer than crossing at intersections because traffic is only moving in two directions. Locations for midblock crossing are dependent on roadway travel speeds, traffic volume, and the surrounding context and environment.

Locations where midblock crossings may be considered include:

- Long blocks (longer than 600 ft) with destinations on both sides of the street
- Locations with heavy pedestrian traffic, such as a school or retail center
- Transit stops, where transit riders must cross the street on one leg of their journey
- Corridors with travel speeds less than 35 MPH

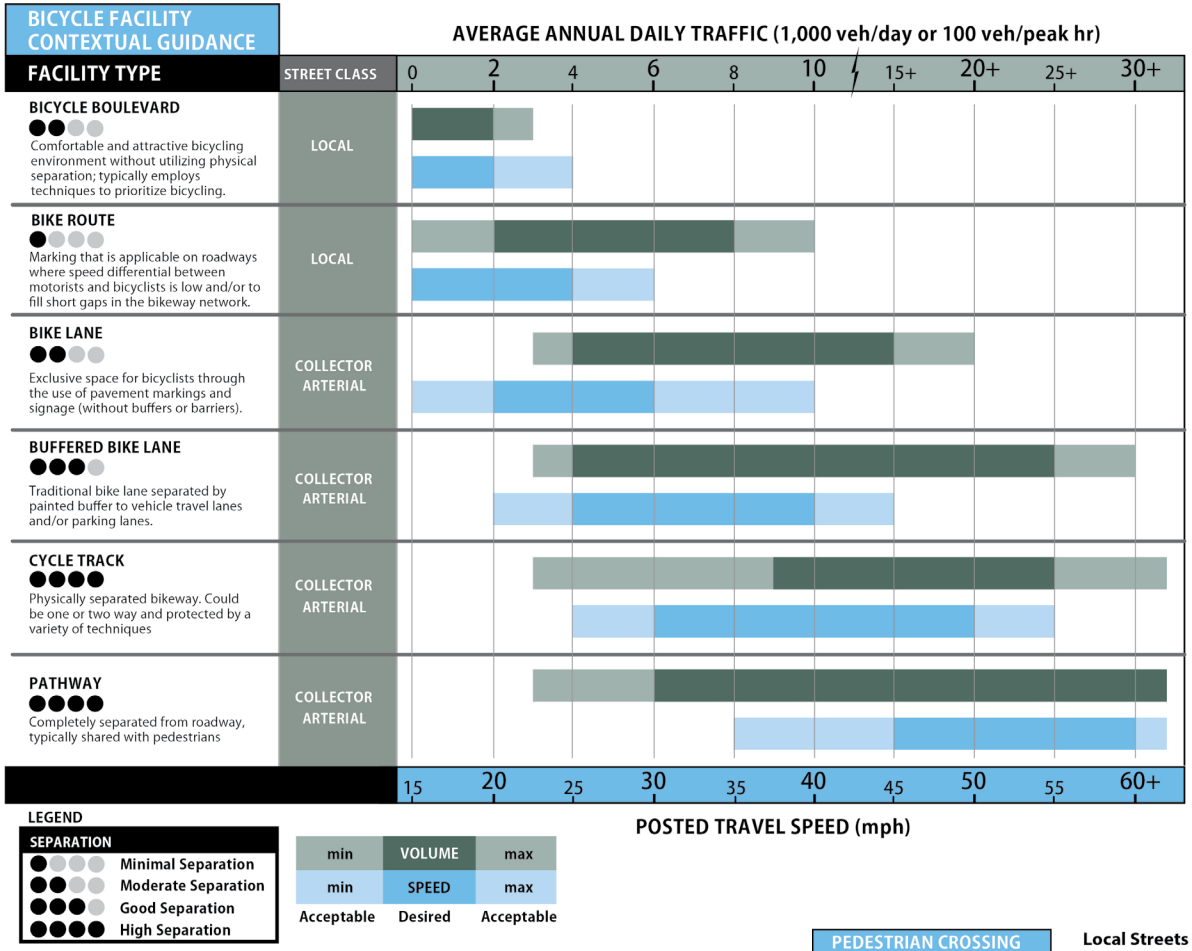
Midblock crossings shall incorporate adequate safety elements for all users, including, but not limited to, pedestrian crossing signals and signage, flashing beacons, and/or in-road warning systems.

Midblock crossings at various locations in Bowling Green.

Top: Normal Street on WKU's main campus near First Year Village.

Bottom Left: Creekwood Avenue at the Creekwood Greenway crossing.

Bottom Right: Chestnut Street on WKU's main campus near the Chestnut Lot and Snell Hall.



Graphics courtesy of Lexington Area MPO

Crossing Treatment Selection

The specific type of treatment at a crossing will range from simple marked crosswalk to a full traffic signal or grade separation. Appropriate selection of crossing treatments should be evaluated prior to crosswalk installation. The following factors should be considered for evaluation and the graphic below should be referenced to help guide the type of crossing treatment used.

Factors to Consider

- Number of travel lanes
- Presence of median
- Distance from adjacent signalized intersections
- Pedestrian volumes and delays
- Average daily traffic (ADT)
- Speed limit
- Roadway geometry
- Possible consolidation of crossing points
- Availability of street lighting

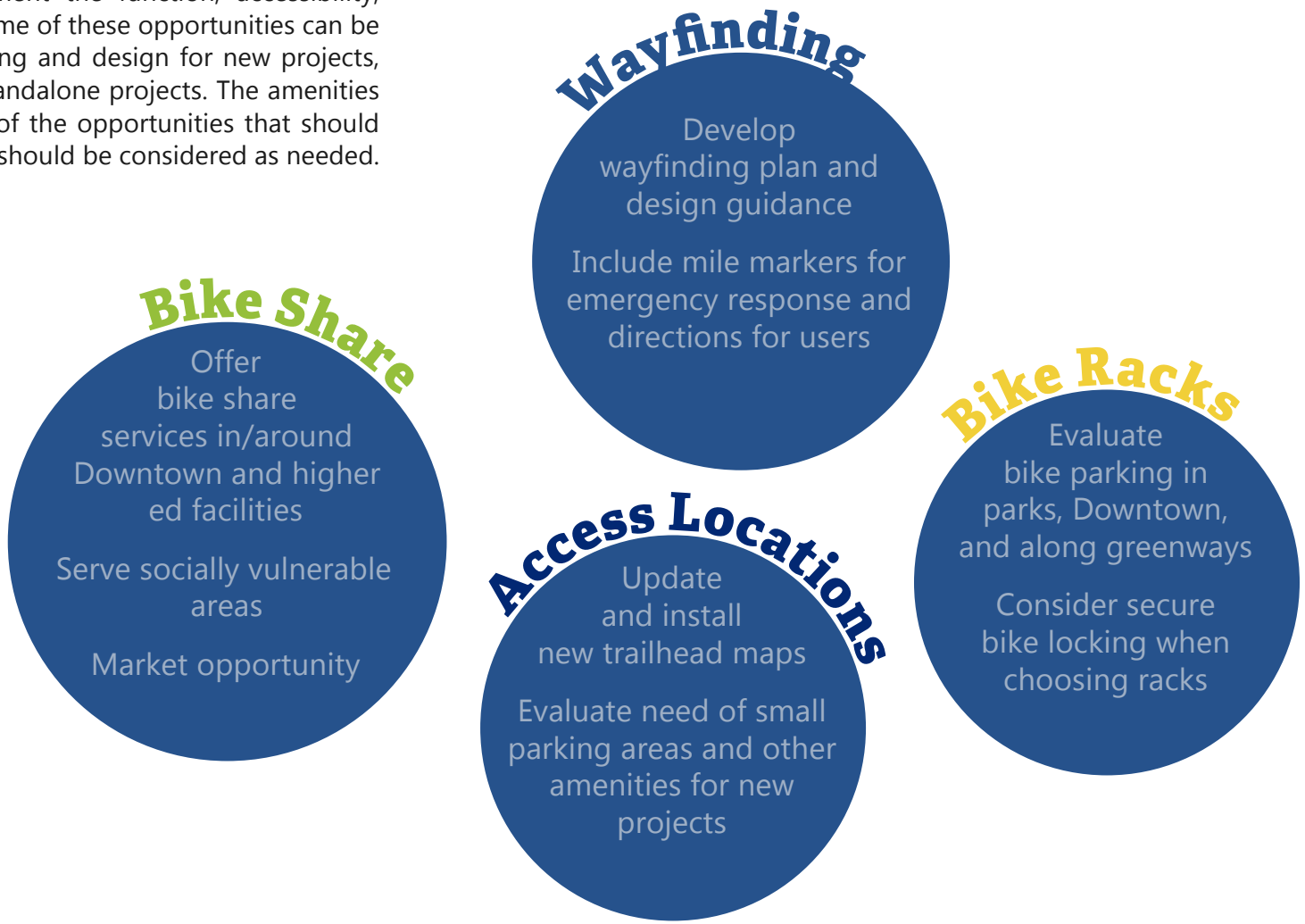
PEDESTRIAN CROSSING CONTEXTUAL GUIDANCE
At unsignalized locations

FACILITY TYPE	Local Streets 15-25 mph		Collector Streets 25-30 mph			Arterial Streets 30-45 mph							
	2 lane	3 lane	2 lane	2 lane with median refuge	3 lane	2 lane	2 lane with median refuge	3 lane	4 lane	4 lane with median refuge	5 lane	6 lane	6 lane with median refuge
Crosswalk Only (high visibility)	✓	✓	EJ	EJ	X	EJ	EJ	X	X	X	X	X	X
Crosswalk with warning signage and yield lines	EJ	✓	✓	✓	✓	EJ	EJ	EJ	X	X	X	X	X
Active Warning Beacon (RRFB)	X	EJ	✓	✓	✓	✓	✓	✓	X	✓	X	X	X
Hybrid Beacon	X	X	EJ	EJ	EJ	EJ	✓	✓	✓	✓	✓	✓	✓
Full Traffic Signal	X	X	EJ	EJ	EJ	EJ	EJ	EJ	✓	✓	✓	✓	✓
Grade separation	X	X	EJ	EJ	EJ	X	EJ	EJ	✓	✓	✓	✓	✓

LEGEND
Most Desirable ✓
Engineering Judgement EJ
Not Recommended X

Active Transportation Amenities

In addition to expanding the active transportation network through construction of new trails, a number of additional amenities can help compliment the function, accessibility, and ease of use for users. Some of these opportunities can be incorporated into the planning and design for new projects, while others may become standalone projects. The amenities listed below are only a few of the opportunities that should be pursued; others exist and should be considered as needed.



Bike Share

Bike sharing services have been part of the transportation system for over a decade, but have primarily resided in larger urban areas. These services provide bicycles (and now scooters) for a daily, monthly, annual, or trip-based fee. Bike sharing systems started as self-serve station-based, or docked, facilities. However, in recent years, many systems have moved to use advanced technology to provide flexible, "dockless" locations for more convenience and wider range of access. Today, many bike share fleets are incorporating electric-assist bicycles as well.

Bike share is recognized as an option for first and last mile transit connections, thus improving connections between transit and bike share. Strategies for encouraging equitable bike share include improving access in underserved areas, offering cash payment options, focusing efforts to improve outreach, and subsidizing rates for lower income users. Most bike share systems are funded through a combination of Federal grants, local governments, private donations, and sponsorships.

Bike share opportunities should be addressed by local leaders in collaboration with Western Kentucky University, South Central Kentucky Community and Technical College, and local non-profits working with socially vulnerable populations. Bike share services could provide myriad opportunities throughout the community, including, but not limited to:

- Provide more mobility choices
- Offer first and last mile solutions for transit
- Reduce transportation costs
- Provide choices for those who cannot afford to buy and maintain a vehicle
- Create opportunities for economic development and tourism

Locations to be served by a bike share system should include, but not be limited to:

- Downtown Core
- Higher education campuses
- Socially vulnerable areas/underserved areas
- Parks, particularly those with greenway access

The map below highlights the areas described above.

4.07 Bike Share Focus Area

Bicycle Racks

As bicycling infrastructure continues to grow, the need to provide available and safe parking for bicycles is needed across the community. Though bike racks already exist at most parks and downtown, many major apartment complexes serving university students and/or located downtown have little to no parking for bicycles. As residential development continues to expand in and around downtown, bike racks should be included in any parking agreements. Additionally, bike parking along greenways and parks should be evaluated to determine the level of need for bike racks.

Bicycle racks can vary in design and function. The following criteria should be considered when choosing the proper bike rack, with additional information found in this guide:

- Supports the bicycle in two places
- Can lock the frame and wheel to the bike rack
- Securely mounts to the ground
- Resists cutting, bending or deformation

Top: This rack type does not allow for secure or efficient bike parking and should not be utilized.

Below: This standard U- or hoop-rack is inexpensive and provides a secure option for bike parking.

Wayfinding

Though the current bicycle and pedestrian network has many disjointed segments, the need for a consistent wayfinding system connecting the community's greenways, parks and recreation facilities, and other local resources is needed. The use of signage in a consistent manner throughout the trail network will help guide everyday users and visitors in a systematic fashion and will strengthen the community's sense of place. This has the dual advantage of promoting the network, and the diverse attractions within it, and encouraging visitors to explore the community by foot or bike. Additionally, mile markers not only aid in the user experience, but also help emergency responders locate accidents in case of emergency.

Wayfinding, welcome signs, mile markers, and trailheads are all opportunities to incorporate art and creativity into the trail system. Signs and markers can be delivered in a design package, offering a variety of sign options for different environments. These designs can reflect the values and assets of the community, furthering the sense of place through the trail system. The images below provide several wayfinding and mile marker examples. Inclusion of a consistent system logo, design standards, and mile markers should be addressed in future planning. Photos on the following page provide examples of wayfinding and trail signage.


NEUSE RIVER TRAIL

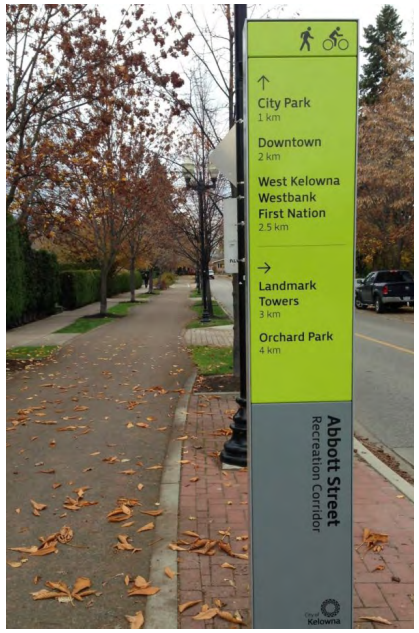

AMELIA ISLAND TRAIL
East Coast
Greenway


Mallard Creek
10
1/2


Rockville Millennium Trail
1.5


Mill Creek Greenway Trail
MILE 3.0 OF 10.5


Mill Creek Greenway Trail
MILE 3.0 OF 10.5
SHARED TRAIL
WEST FORK CREEK GREENWAY TRAIL
0.2 MI


City Park
1 km
Downtown
2 km
West Kelowna
Westbank
First Nation
2.5 km
Landmark
Towers
3 km
Orchard Park
4 km
Abbott Street
Recreation Corridor

Access Locations

The existing network has 10 trailheads. These trailheads signify and provide access to specific segments of the trail system. Many of the trailheads include display cases with trail maps and nearby connections, while the trail itself may feature a number of interpretive markers to highlight the area's geologic and geographic features, popular wildlife, and historical significance.

Maps were updated and installed in 2014-2015 at all trailheads featuring map display cases. While many of these maps are still relevant and accurate, they will need replaced by 2030. As these trailhead maps are revised, they should be consistent in design with any wayfinding features.

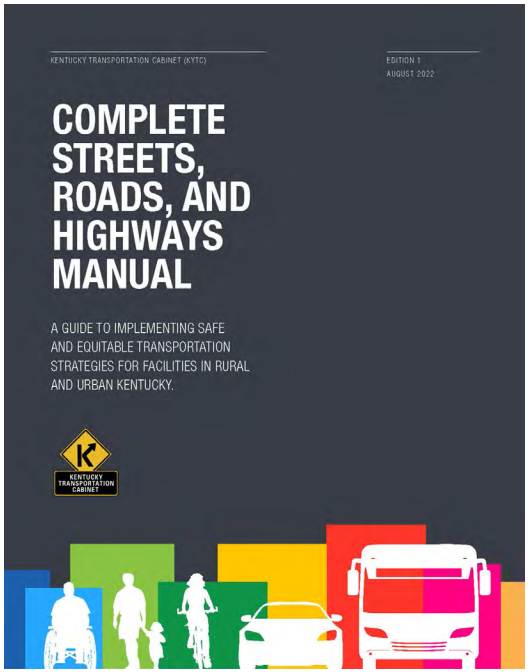
As new projects are funded, the inclusion of small parking areas at the trailheads should be considered, as appropriate. In these locations, trailheads may feature additional amenities such as map display cases, trash receptacles, picnic tables, bike racks, or other features as deemed appropriate.

Complete Streets

Though communities across the country have been implementing Complete Streets solutions for many years, the Federal Highway Administration (FHWA) recently issued a report to Congress (March 2022) outlining the agency's commitment to using Complete Streets as its default approach to funding and designing roadways. With this, they outlined the agency's ongoing challenges and opportunities in advancing safety and reducing traffic injuries and fatalities. FHWA prompts Complete Streets with several strategies: Connectivity, Equity, and Climate.

What is a Complete Street?

A complete street is a street that is safe and comfortable for all users and all abilities. Complete Streets serve pedestrians, bicyclists, public transportation users, children, older individuals, individuals with disabilities, motorists, and freight vehicles. Complete Streets implementation starts with people, not transportation mode.



The elements of a Complete Street are not formulaic, but rather vary based on community context, roadway environment, and the role that a particular street needs to serve in the multimodal network. For example, not every street needs bicycle lanes, public transit stops, and a shared use path. A complete street combines creative innovations and solutions to improve safety and comfort for all users by slowing traffic speeds, maintaining network connectivity (for non-motorized and motorized users), and providing bicycle and pedestrian opportunities. Additionally, KYTC's Complete Streets, Roads, and Highways Manual (CSRH) should be referenced early and often in project planning, design, and implementation. This guide outlines the components a Complete Street, design standards, creative solutions, and provides additional resources. The MPO, in coordination with the City of Bowling Green and Warren County, shall establish a Complete Streets approach to fit the local needs, policies, and programs of Bowling Green and Warren County.

5 Implementation

The infrastructure, non-infrastructure, and active transportation amenities recommendations in the previous sections provide tangible opportunities to improve the bicycling and walking infrastructure across Warren County. The purpose of this chapter is to provide guidance and action steps for implementing the recommendations, which will require communication and collaboration with a variety of local agencies and departments. The action steps listed in this section provide the strategies to help make Bowling Green and Warren County a more bike- and walk-friendly community. Additionally, these recommendations and action steps should help community leaders strive to implement the 10 building blocks of a Bicycle Friendly Community in order to achieve the 5 E's to be recognized as a League Bicycle Friendly Community.

Funding

A critical component of implementation is acquiring funding for the recommended projects. Small amounts of local funding can be very useful when matched with outside sources. Implementation schedules for projects will vary on a case-by-case basis and are especially dependent on availability of right-of-way and available funding. Acquisition may take many years as properties redevelop, sell, or local governments work towards acquiring sufficient funds for purchases.

Funding opportunities vary for each project according to the type of facility being built, where the facility is located (i.e. along a highway, in a park, on personal property), as well as the goals of the project (i.e. improving user comfort and safety, promoting a nature trail). Some projects may be implemented as part of larger transportation improvement projects, such as roadway widening, reconstruction, or repaving/restriping projects. If included in the conceptual project development and planning phases, a shared use path or bikeway can often be incorporated into these types of roadway improvement projects, as funding and right-of-way allows.

The Federal Highway Administration (FHWA) published an Active Transportation Funding and Finance Toolkit (February 2022) that highlights innovative funding and financing strategies for accelerating delivery of bicycle and pedestrian projects. Additional federal funding opportunities can be found on FHWA's website here.

The sources to the right are the primary means for funding active transportation projects.

Action Items

- Communicate with KYTC, the City of Bowling Green, and Warren County to incorporate the Plan priorities and recommendations into roadway improvement projects, as deemed appropriate and initiate requests for Capital Improvement Projects.
- Ensure future land use development decisions evaluate proximity to the existing and proposed bicycle and pedestrian network. Leverage construction of trails with development plan conditions.
- To increase readiness for grant funding, develop preliminary plans (30% construction drawings) for priority bicycle and pedestrian projects.
- Work with local agencies to pursue grant-funding opportunities to advance bicycle and pedestrian projects and improvements into construction.

Federal Funding

Public-Private Partnerships

Capital & Department Budgets

Grants

Roadway Project

State & Local Funding

Design Guidance & Maintenance

The design guidance and maintenance recommendations listed in Part III provide the framework and resources for further implementation and should be pursued by the respective jurisdictions. Each agency should utilize Table 4.1 on page 47 when planning maintenance needs of the bicycle and pedestrian network.

Action Items

- Adhere to consistent design standards for shared use paths and bikeway projects to encourage and promote a comfortable and safe cycling environment
- Adopt the statewide or develop local design guidance standards
- Provide necessary maintenance tasks as recommended in Table 4.1
- Seek additional funding sources for trail maintenance, as needed, for higher budget items such as repaving, safety improvements, or other needed trail improvements

Achieving a Bike- and Walk-Friendly Community

While much work has been done and is in process for creating a more bicycle- and walk- friendly community, the following action items will guide community leaders in implementing this plan's recommendations:

Action Items

Facilities and Amenities

- Identify locations for installation of new and/or improved bicycle parking (bike racks)
- Include bike parking (racks) requirements for developments in Downtown core
- *2030 Comprehensive Plan TR-3.7* - Consider changes in the zoning ordinance to incentivize the provision of bicycle racks for new development or redevelopment, possibly with a set number of bicycle racks replacing a required vehicle parking space.
- Identify locations for installation of public, outdoor bicycle repair stations
- Establish wayfinding and trail branding system
- Update trailhead maps and signage
- Implement bike share program to serve university and community at large
- Provide continual maintenance, repairs, and improvements to existing facilities and amenities

Improve Safety

- Identify measures to improve safety and convenience of cyclists and pedestrians on off-street paths, such as the use of 911 call boxes, police patrols, and lighting
- Encourage traffic-calming measures in appropriate neighborhoods and on local streets
- Improve riding conditions and amenities for on-street bicyclists (roundabouts, colored bike lanes, signage, wayfinding, storm sewer grates, etc)
- Conduct intersection assessments of major corridors to determine need of bicycle and pedestrian accommodations
- Improve safety and comfort of pedestrian and bicyclist crossings at intersections and mid-block to include elements such as enhanced crosswalk markings, signage, and/or warning devices
- Seek opportunities to improve transportation barriers for non-motorized users
- Ensure safe bicycle and pedestrian connections between new residential and commercial developments
    - *2030 Comprehensive Plan TR-3.3* - Review, revise and expand zoning and subdivision ordinance provisions for pedestrian and bicycle facilities to promote connectivity and safe routes between public and private developments, bicycle routes and exterior roadways, where applicable or feasible.

Bike Walk™ BOWLING GREEN

Develop Outreach and Educational Opportunities

- Establish bicycle education curriculum for local schools and programs
- Implement educational campaign on cycling safety for both cyclists and motorists
- Seek inclusion of minority, non-English speaking, and/or low-income populations in planning process
- Host community events to encourage cycling and walking
- Build volunteer base for BikeWalkBG program

Build Trails

- Develop network analysis to evaluate cycling conditions and infrastructure barriers to help address future needs (GIS network analysis, level of traffic stress, bicycle level-of-service for roads, bicycle level-of-service for intersections)
- Expand dedicated bike lane facilities in, around, and connected to the Downtown core
- Utilize utility corridors for construction of shared use paths
- Complete the Loop by 2035
- Complete 75% of Tier I projects by 2035

Work Together

- Collaborate with Western Kentucky University to renew Bicycle Friendly University status
- Seek opportunities to encourage Bicycle Friendly Businesses
- Establish local or adopt statewide bicycle and pedestrian design standards
- Expand accessibility and connectivity of City/County Park trails through existing trail pavement projects, construction of new park trails, and/or neighborhood connections to parks
- Adhere to the statewide Complete Streets policy or develop a local Complete Streets policy
- Coordinate all bicycle and pedestrian planning endeavors with local governments, agencies, and other institutions
- *2030 Comprehensive Plan TR-3.4* - Coordinate with the KYTC, City, and County to ensure that bicycle and pedestrian ways are established in conjunction with the construction, reconstruction or other change of transportation facilities, with special emphasis on those projects that are located in or within 1 mile of an urban area.
    - *2030 Comprehensive Plan TR-3.5* - Encourage consideration of bicycle and pedestrian mobility in all future transportation plans coordinated by the City-County Planning Commission, WKU, the Barren River Area Development District, MPO and local jurisdictions
- Work with local transit systems to incorporate multimodal hubs for transit, bicycles, and pedestrians

Plan Updates and Revisions

In order to remain a valuable and useful document for years to come, it is important to monitor and evaluate the effectiveness and progress of the recommendations listed within this Plan. As community circumstances, opportunities, and political realms change, this Plan must be able to change as well.

Upon the anniversary of the Plan's adoption, MPO staff should evaluate the action items and priorities to monitor the implementation progress of the recommendations of this Plan. An annual progress report should be developed in order to maintain record and accountability of progress. This report should be reviewed by the MPO's Bicycle and Pedestrian Advisory Committee (BPAC).

The MPO shall conduct the project prioritization process every other year, occurring every even-numbered year. This process shall be conducted prior to the statewide transportation project prioritization process, KYTC's SHIFT (begins January of odd years), in an effort to include bicycle/pedestrian projects into road improvement projects, as necessary and appropriate. The bicycle/pedestrian prioritization process shall be a coordinated and cooperative effort between the MPO and partner agencies such as KYTC, City, County, and others as deemed appropriate. New projects and/or priorities should be reflected through the online GIS interactive map, shared geodatabase, and published on the MPO and BikeWalkBG web pages. These projects will be added to the Plan with the BPAC's agreement. Additionally, these updated prioritized projects should be delivered to stakeholders and included for future planning purposes.

Every five (5) years, MPO staff shall provide an update of the Bicycle and Pedestrian Master Plan. This update should reflect changes and progress in Bowling Green-Warren County's mission to become more walk- and bicycle-friendly. This too shall be a coordinated and cooperative effort led by the MPO, with stakeholder and public involvement.

Other Resources

FHWA – Bicycle and Pedestrian Planning, Program, and Project Development, September 2019 – This guidance includes current policy and legislative references, provides guidance on funding eligibility and project development, and lists design resources.

Michigan Department of Transportation – Bicycle and Pedestrian Terminology – This guide explores the various terms for bicycle and pedestrian facilities, amenities, and safety features.

KYTC Complete Streets, Roads, & Highways Manual, August 2022 – This guidance provides the framework for planning and implementing Complete Streets solutions across the Commonwealth.

Strava Metro – Interactive Dashboard with localized data for active users. Allows authorized users to view usage patterns and locations for cycling, running, or both. Provides a heat map of most popular routes.

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Appendix

Appendix A

2045 Metropolitan Transportation Plan Priority Projects

The 2045 Metropolitan Transportation Plan (MTP) financial plan describes how estimated revenues from local, state, and federal funding sources will be used to maintain and operate the existing transportation system through 2045. The financial plan identifies which capital improvement projects (priority projects) may be programmed over the planning period. The projects listed below address the expenditure of those funds.

Short-Range Plan Projects | 2020-2026

Projects within the MPO's Transportation Improvement Program (TIP) and the Kentucky State Highway Plan are considered short-range, committed projects. Together, these documents identify and program funds to implement each phase of the listed projects over the next six years. The current TIP covers FY 2019-2024, while the 2020 Highway Plan identifies projects through 2026. The 2045 MTP Short-Range Plan Projects, as depicted in Table A-1 below, corresponds with these documents and covers the years 2020-2026. The interactive web map shows these projects. The total cost to implement these projects and programs from 2020 to 2026 is $141,173,295. (Updated project estimates were provided by KYTC in early 2020)

Table A-1 Short-Range Transportation Projects

MTP ID	SYP ID	Route	Description	Total Cost (2020 $)	Bike/Ped Component
1	3-110.30	KY-185	KY 185 | 0.24 miles south of Pruitt Rd to 0.16 miles south of KY 1320 | Reconstruction	9,360,000	N
2	3-110.40	KY-185	KY 185 | 0.22 miles north of Austin Raymer Rd to 0.08 miles south of Ivy Creek bridge | Reconstruction	4,965,000	N
3	3-199.00	US-31W	US 31W (Nashville Rd) | South of KY 242 (Richpond Road) to Dillard Rd | Major Widening	11,690,000	Y
4	3-199.99	US-31W	US 31W (Nashville Rd) | Buchanon Park to Chaney's Dairy Barn | Construct pedestrian underpass	450,000	Y
5	3-2042.20	I-165	I-165 | US 231 (Morgantown Rd) Interchange | New Interchange	8,400,000	N
6	3-3206.00	GW	West End Bike/Ped | Roland Bland Park to Hobson Grove Park | Construct Greenway Trail	1,030,805	Y
7	3-3207.00	GW	KY 240 (Woodburn-Allen Springs Rd) Bike/Ped | Fletcher St to Main St in Woodburn | Construct Sidewalk	126,007	Y

MTP ID	SYP ID	Route	Description	Total Cost (2020 $)	Bike/Ped Component
8	3-3219.00	GW	Numerous State Routes Bike/Ped | ADA Compliance/Sidewalk Rehabilitation completed by City of BG	846,483	Y
9	3-4307.00	KY-234	KY 234 (Cemetery Rd) | Between Jack Johnson Rd and Hayes Rd | Install guardrail	25,000	N
10	3-8702.00	US-231	US 231 (Scottsville Rd) | Pascoe Blvd to north of Cave Mill Rd | Major Widening	3,400,000	N
11	3-8818.00	KY-884	KY 884 (Three Springs Rd) | Natcher Parkway overpass to near Flealand | Minor Widening	16,000,000	Y
12	3-8853.00	US-31W	US 31W (Nashville Rd) | South of intersection with KY 240 (Woodburn-Allen Springs Rd) to Buchanon Park | Minor Widening	17,300,000	Y
13	3-8854.00	KY-234	KY 234 (Cemetery Rd) | Fountain Trace to Roger Porter Road | Reconstruction	14,250,000	N
14	3-8857.00	US-31W	US 31W (Nashville Rd) | Campbell Lane to Oaklawn Way | Major Widening	12,100,000	Y
15	3-8904.10	US-31W	US 31W Bypass | Park St to Fairview Ave | Minor Widening	7,750,000	Y
16	3-8905.00	US-31W	US 31W (Louisville Road) | US 68 (Glasgow Rd) to Mizpah Rd | Major Widening	7,850,000	N
17	3-10015.00	KY-1435	KY 1435 (Barren River Rd) | Bridge over Gasper River | Address bridge deficiencies	1,250,000	N
18	3-20016.00	I-65	I-65 | Simpson County line to KY 234 (Cemetery Rd) | Address pavement condition, both directions.	14,850,000	N
19	3-20018.00	WN-9007	Natcher Parkway | Scottsville Rd through I-65 interchange | Address pavement condition, both directions.	2,200,000	N
20	3-80005.00	KY-242	KY 242 (Richpond Rd) | At Richpond Elementary School | Add left turn lane	660,000	N
21	3-80051.00	KY-3225	KY 3225 (River St) | Old Louisville Rd split to US 31W (Louisville Rd) | Road Diet	2,690,000	Y
22	3-80052.00	KY-234	KY 234 (Fairview Avenue) | Cemetery Ln to east of Hayes Ln | Minor Widening	3,980,000	Y

MTP ID	SYP ID	Route	Description	Total Cost (2020 $)	Bike/Ped Component
TOTAL COST				**141,173,295**	

Long-Range Plan Projects | 2027-2045

With the assumption that additional funding will be allocated to complete the short-term projects, the MPO anticipates that approximately $214 million (2020 dollars) will be available for new projects and programs in the MPO area from 2027-2045. The table and exhibit on the following pages show how the MPO plans to allocate this anticipated funding to transportation projects and programs over this time period. Table A-2 and the interactive web map show the long-range plan projects.

Table A-2 Long-Range Transportation Projects

MTP ID	Route	Description	Total Cost (2020 $)	Priority Interval	Bike/Ped Component
23	NEW	New Route on I-165 | Near Elrod Road | Construct new interchange	44,350,000	2027-2032	N
24	US-231	US 231/US 231X (Scottsville Rd) | Cave Mill Rd (CS 1432) to South Park Dr (CS 1593) | Access Management & Spot Improvements	3,800,000	2027-2032	Y
25	KY-234	KY 234 (Cemetery Rd) | I-65 Exit 26 Interchange to KY 880 (Lovers Ln) | Spot Improvements	800,000	2027-2032	N
26	US-31W	US 31W (Nashville Rd) | Highland Way to Emmett Ave | Reconstruction/ Intersection Realignment	2,550,000	2027-2032	Y
27	US-231	US 231 (Campbell Ln/Veterans Memorial Blvd) | Intersection with US 68/US 68X (Russellville Rd) | Intersection Spot Improvements	13,000,000	2027-2032	Y
28	US-31W	US 31W Bypass | Broadway Ave Intersection | Reconstruction	3,300,000	2027-2032	Y
29	US-31W	US 31W (Nashville Rd) | Exit 6 with I-165 Interchange | Spot Improvements	1,100,000	2027-2032	N
30	US-31W	US 31W Bypass | University Dr (Roundabout) to Lehman Ave | Road Diet	120,000	2027-2032	Y

MTP ID	Route	Description	Total Cost (2020 $)	Priority Interval	Bike/Ped Component
31	US-68X	US 68X (Kentucky St/Adams St) | Kentucky/Adams Street Split to US 68 (Veterans Memorial Ln) | Road Diet	125,000	2027-2032	Y
32	CS-2281	Cave Mill Rd/Dishman Ln (CS 1434/CS 6010) | Grider Pond Rd to Raintree Dr | Minor Widening	21,500,000	2033-2038	Y
33	US-231	US 231 (Scottsville Rd) | I-65 Exit 22 Interchange | Spot Improvements	400,000	2033-2038	?
34	CS-1334	Smallhouse Road (CS-1334/CR-1235) | Cave Mill Road (CS-1401) to US 231 (Campbell Ln) | Minor Widening	19,500,000	2033-2038	Y
35	NEW	New Route (Shive Ln) | KY 880 (Lovers Lane) to Shive Ln | Construct New Route	7,620,000	2033-2038	Y
36	KY-622	KY 622 (Plano Rd) | Collett Rd to Dewey Lake Rd (S-curves) | Spot Improvements	2,000,000	2033-2038	Y
37	US-31W	US 31W | River St (KY 3225) and State St Intersection | Reconstruct Intersection	500,000	2033-2038	Y
38	KY-242	KY 242 (Richpond Rd) | KY 884 (Three Springs Rd) Intersection | Spot Improvements	500,000	2033-2038	N
39	US-231	Gary Farms Blvd | US 231 (Campbell Ln) Intersection and Greenwood Mall Access Rd | Spot Improvements	625,000	2033-2038	N
40	US-68X	US 68X (Russellville Rd) | US 231X (Morgantown Rd) to US 231X/US 68X (University Dr) | Reconstruction	3,700,000	2033-2038	Y
41	US-231X	US 231X (University Dr) | South of Creason St to Ave of Champions/US 68 (Russellville Rd) Intersection | Minor Widening	2,000,000	2033-2038	Y
42	US-68X	US 68X (Russellville Rd) | WKU Baseball Complex to US 231X (University Blvd)/Ave of Champions Intersection | Minor Widening	2,000,000	2033-2038	Y
43	KY-622	KY 622 (Plano Rd) | Dye Ford Rd to Larmon Mill Re/Plano-Richpond Rd | Minor Widening	7,950,000	2033-2038	N
44	US-31W	US 31W (Louisville Rd) | Old Porter Pike to KY 957 (Plum Springs Rd) | Minor Widening	20,210,000	2039-2045	Y?
45	KY-884	KY 884 (Three Springs Rd) | Long Road to I-165 Overpass | Minor Widening	12,730,000	2039-2045	?
46	CS-1334	Smallhouse Road (CS-1334) | Ridgecrest Way to US 231X (Scottsville Rd) | Minor Widening	10,600,000	2039-2045	Y

MTP ID	Route	Description	Total Cost (2020 $)	Priority Interval	Bike/Ped Component
47	KY-526	KY 526 (Mt. Olivet Rd) | KY 957 (Plum Springs Rd) to KY 1320 (Girkin Rd) | Reconstruction	6,240,000	2039-2045	N
48	KY-622	KY 622 (Plano Rd) | KY 242 (Richpond Rd) Intersection | Spot Improvements	235,000	2039-2045	N
49	KY-234	KY 234 (Cemetery Road) | Pleasant Hill Rd intersection | Spot Improvements	785,000	2039-2045	N
50	US-68X	US 68X (Russellville Rd) | US 231 (Campbell Ln/Veterans Memorial Ln) to US 231X (Morgantown Rd) | Major Widening	15,000,000	2039-2045	Y
51	US-231X	US 231X (Scottsville Rd) | US 231 (Campbell Ln) to US 31W Bypass | Major Widening	11,250,000	2039-2045	Y?
TOTAL COST			**214,490,000**		

Appendix B
Greenways Maintenance Agreement and Guidance

MAINTENANCE AGREEMENT

Maintenance agreement between the City of Bowling Green, Kentucky and the Greenways Commission of Bowling Green and Warren County, Kentucky.

WHEREAS, the Greenways Commission of Bowling Green and Warren County, Kentucky (Greenways Commission) was created in 2001 by joint action of the City and County governments to pursue and construct Greenways trails in accordance with the Greenbelt (Greenways) Mater Plan, and;

WHEREAS, the Greenways Commission has constructed a significant number of these Greenways trails throughout the City of Bowling Green, and;

WHEREAS, these Greenways trails are linear parks for the enjoyment and use by all residents of the community, and;

WHEREAS, the timely routine maintenance of these trails is of the utmost importance for the long-term viability of the Greenways Master Plan, and;

NOW, THEREFORE, the City of Bowling Green and the Greenways Commission agrees to perform routine maintenance in accordance with the attached map labeled as Maintenance Agreement Exhibit and as outlined by this agreement as follow:

CITY OF BOWLING GREEN RESPONSIBILITY

1. Routine maintenance shall include, but not be limited to, mowing, trimming of trees, bushes and weeds, removal of debris, trash and/or rubbish every two (2) weeks during a normal growing season.

2. Routine maintenance shall also include the clearing of any impediments, filling of any depressions and/or sinkholes and re-surfacing or repair to the surface of the Greenways trails as determined necessary by the City of Bowling Green's Public Works Director.

3. Routine maintenance shall be a minimum of five (5) feet from the edge of any Greenways trail.

4. Routine maintenance shall take place only within a prescribed Greenways easement or public right-of-way.

5. Routine maintenance shall take place only within the corporate city limits of the City of Bowling Green, Kentucky.

GREENWAYS COMMISSION RESPONSIBILITY

1. The Greenways Coordinator shall notify, on an annual basis, the City of Bowling Green's City Manager of any monies available for the long-term maintenance of Greenways trails.

2. The Greenways Coordinator shall, on an annual basis, engage local non-profit organizations, fraternal organizations or other volunteer groups to clear the Greenways trails of trash, rubbish and/or debris.

3. The Greenways Coordinator and Chair of the Greenways Commission shall meet every quarter of a calendar year with the appropriate City of Bowling Green representative to review the progress of this agreement to determine if any amendments should be made.

345 Oak Road
Gibsonia, Pennsylvania 15044
800-544-8428
www.panniergraphics.com

Pannier

Pannier Graphics Sign Maintenance

Prior to Installation

Pannier recommends leaving panels in original packaging until time of installation. As with any products careful handling procedures must be observed to protect surface from scratching or marring and corners and edges from chipping. It is recommended that a coating of wax be applied to help protect and provide longer panel life. Pannier recommends *3M Marine Ultra Performance Paste Wax 09030* readily available where boat care products are sold or through an Internet product search.

Cleaning and Maintenance

Pannier fiberglass signs are very durable and require little maintenance. Periodic cleaning and removal of debris ensures good appearance and product life. Most commercial cleaning products may be used to remove dirt and debris. However, we recommend using the safest and most environmentally friendly cleaners before increasing the strength of a cleaner. Many household cleaners may be used safely, however, some may affect aluminum frames. Read all cleaning directions and recommendations carefully and always rinse thoroughly.

Steps

1. Wash the panel, frame and base with a mild liquid detergent such as *Original Green* or *Palmolive* or other dish soap to remove dirt and debris.

2. If still soiled, spray area with a biodegradable green cleaning solution such as *ZEP Green All Purpose Cleaner.* Work across the panel and under the frame channels with a sponge and rinse thoroughly.

3. For sticker removal, Pannier recommends *Super Orange* by Direct Chem. This product can be purchased from Zircon Industries (1-800-547-4328). Follow all product instructions carefully.

4. For permanent marker, graffiti or paint removal (not for urethanes based paints), Pannier recommends *Smooth Max and Max Wipes*. These products can be purchased at Graffiti Solutions, Inc. (1-800-891-0091). Follow all product instructions carefully.

5. Pannier recommends applying an additional coating of *3M Ultra Performance Paste Wax 09030* after cleaning. Follow all product instructions carefully.

Appendix C
Public Input Responses

Throughout the development of the Bicycle and Pedestrian Master Plan, audience-specific surveys were distributed to a local stakeholders group, special interest groups, and the general public. The survey questions and responses for each audience are listed below.

Stakeholder Survey Responses

1. Name three (3) successes of our bike/ped network and planning endeavors.
Network: More connections to key locations around town; increased acceptance of greenways as something we should "spend" our money on; support of funding stream from City Board of Commissioners.
Coordination amongst agencies, Elected Official Support, BPAC Advocacy
Good coordination between all agencies involved; successful administration of awarded grants; greenways network is growing
broader community buy-in; agencies including bike/ped now in new projects; some reliable funding through City's New Sidewalk construction program, New Shared Use Construction Program (greenway), Neighborhood Improvement Program (using CDBG), etc.; compelling BikeWalkBG brand
Coordination, Construction, Focus
Love the conversation on linear parks, I see this as an opportunity to create what some would consider to be true greenways. As a parks guy, this excites me. Lots of opportunity there moving forward. (I am still learning everything and this process, so maybe I will have more successes to name later!)
1) City support for greenway funds similar to sidewalk program 2) continued expansion of sidewalks/greenways through the City's annual funding 3) Evolution of BikeWalk BG with ability to include more members of the community vs. prior Greenway Commission structure
Increased recreational opportunity, health improvement, quality of life improvement

2. Name three (3) challenges you think our bike/ped network faces today.
Lack of funding to complete major initiatives; lack of acceptance of bike lanes created by lane diets; lack of connection to all schools and parks.
Funding, Stakeholder & Citizen Support, Rights of Way
Decreased funding has significantly slowed growth; lack of connectivity between short pieces; maintenance
need to be strategic in marketing vs "how to safely use" in different areas of town: example, marketing bicycling/walking "lifestyle" in downtown (choice) vs safe usage in areas where it is a necessity; deciding WHEN to choose 5 ft sidewalk vs 8 ft+ SUP in urban areas (today vs tomorrow); MAINTENANCE
Funding, support for on road improvements, generating use / new users
From a parks perspective, not seeing additional development as a negative due to the responsibility for upkeep that comes along with it. The benefit of these additional spaces or linear parks far outweighs the logistics that come with it, in my opinion.
1) Funding 2) NIMBY 3) Support for bike/ped facilities to be prioritized just as much as vehicular amenities (by the general public). I believe this is mainly due to lack of education/knowledge about the benefit of a more inclusive bike/ped network.
Funding, user interface, and level of comfort
Connectivity, Funding, Safety

3. Are there any specific challenges your department/agency faces with regards to the bike/ped network? (i.e. planning, design, ROW, utilities, construction, maintenance, coordination, etc.) If yes, please list those below.
Long-term maintenance requirements as existing greenways age and lack of funding for more facilities.
ROW and balancing mobility of motorized vehicles with safety of vulnerable users
Limited funding and politics
n/a
seizing the momentum and staying focused on implementation
Although I do not see necessarily see it as a challenge or negative, I know the department sees the additional maintenance of new parks or greenways as a negative.
None that I can think of.
KYTC installs sidewalks with roadway projects so connectivity to existing network is always a challenge.
Linking planning and design to end-result construction

4. What are your top priorities for constructing future trails? Please identify your priority levels for each of the following options. *(Listed in order, with highest weighted score first)*
Connections to schools (improve neighborhood access to schools)
Connections to and between parks (improve neighborhood access to parks; connect parks via trails)
Neighborhood infrastructure (provide bike/ped facilities in neighborhoods/ along streets without safe routes)
Nature trails/Linear Parks (more traditional greenway facilities)
Connect existing greenway segments (The Loop)
Commuter trails (safe routes for bikes/peds to commute)
Park trails (more trails in city/county parks)

5. Do you think the current trail classification names need to be changed?
No-5
Yes-4

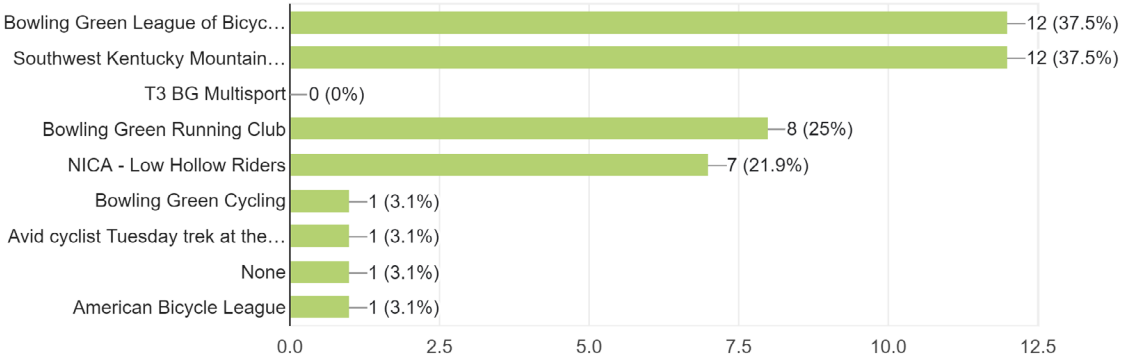
6. If you answered yes to the above question, do you have suggestions for the group to consider? (Here's what was proposed: Greenway, Shared Use Sidewalk, Single-Track Trail; Bike Lane, Sharrow/Share-the-Road; Sidewalk, Park System Trail)
I don't feel strongly about the classification either way.
I like these listed examples. I think BikeWalkBG is a compelling brand and "the network" can could be The BikeWalk Network or BikeWalkBG Network, with each of these proposed classifications being segments/features of the Network.
I think all are fine terms but we will still have to have generalizations (sidewalk, greenway)
I personally have no problem with the word Greenway, only because I see the potential to create them in 5-10 years as opposed to changing names now because we do not have them. But I fully understand the thought as it relates to the user and creating an easier to understand labeling system so they feel safe and comfortable on the segment of the system they use.
To clarify, I will support either option (change classification or leave the same). I think the term greenway (although maybe not the norm nationwide) is what is most known by our community members. Maybe for in-house/ staff purposes for future planning efforts, but not necessarily as we advertise facilities to the public.
Bikeway, Shareway, Pedway

7. Please provide any other suggestions with regards to the Bike/Ped Master Plan update process.
Maintain good communication, transparency and public involvement in process.
Once we get something drafted, go to the advocacy groups for input, then public.
I am excited to be a part of the process, and will hopefully have more to add as I learn the group and the process as a whole. Thanks for letting me be a part of it all!
No other suggestions at this time.
Love what you're doing, keep it up

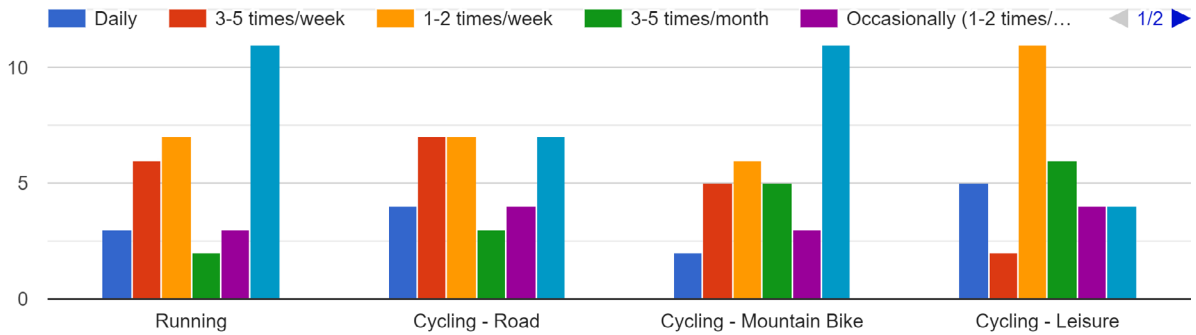
Special Interest Groups Survey

1. Are you a member/actively involved in any of the special interest groups/organizations below? Please select all that apply. If you answer no, please...a public input survey will go live later this spring.

32 responses



2. Please select the activities you most often enjoy outdoors in Bowling Green-Warren County.



3. Name three (3) successes of our bike/ped network.

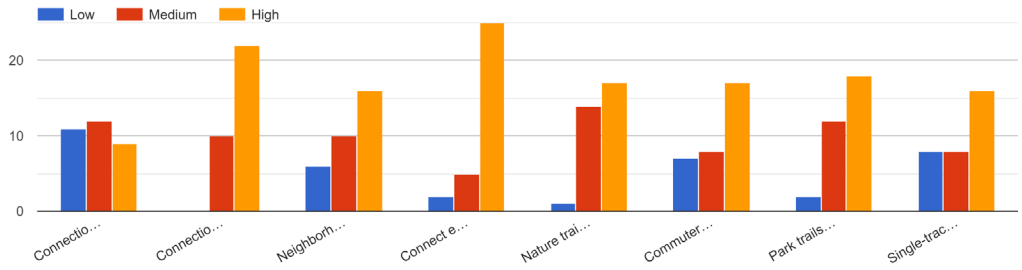
opening up down town, linking parks, awareness	The effort of creating Greenways has been made. This is all I can come up with.
1) Greenway Expansion 2) Growth of Greenway usage 3) City - County Support	Biking much of the bike/RUN/ped track with my wife.
The Mountain bike trail is easily accessible. Diversity of greenways. Upkeep pretty good.	The bike/RUN/ped track works well for the Snow Flurry Scurry 5K RUN.
Riverfront park	The Bowling Green Running Club cleans the bike/RUN/ped from Kroger to Keriakas Park.
Greenway improvements	Location
Reducing car use, encourage biking/walking, makes biking/ walking safer	Increased number of cycling specific paths
bike lanes in town, mountain bike trails, bike maintenance program	Increased road striping to provide cyclists a space on roads (in downtown area)
The volunteers	Continuing to work the bike/ped plan
Low hollow. The few bike lanes.	awareness, urban opportunities, safety
Connection of Keriakes to Low Hollow	1) Paved well 2) Numerous trails 3) Nice scenery.
Connection to Drakes Creek school	The network itself, the labeling/signage, the variety
Provides safe running routes around some parks	Availability
Making it safe where greenways are located	Access
Not sure	Good marketing and promotion on social media, group ride, and a little bit of improve bike lanes.
Riverfront Bike Park Pump Track, Dual Slalom and Skills Course	Awareness, Bike Lane, Extension of Greenways
I moved back to BG this summer, I'm not familiar with what the "bike/ped" network is exactly.	Get people outdoors. Safe network of roads for runners and cyclists. Bring people to the area.
Creating Trails at Weldon Peete, Mammoth Cave, Port Oliver, Cave Creek, Madisonville, and Ky State Park (Highland Games Trail in process). Creating network of people working together to benefit the community. Hosting an annual event (~10 years) to engage the community on many levels.	

4. Name three (3) challenges you think our bike/ped network faces today.

disconnections - some very tough corossings like 31W	Cars, lack of trails, lack of bike lanes to ensure safety of the cyclists on crowded roads.
1) Creating Greenway Connections 2) Creating a Riverfront Bike Park at the Riverfront 3) Increased City - County Support for 1 & 2.	Needs to be better marked where this track goes. Should have visible directional arrows throughout.
Inability to link sections safely, lack of crossings over I-65, barren river	Need more sidewalks, updates & additions to Greenways, & bike lanes all around BG.
There is so much potential for greenways and bikelanes all over the city. Being a college town students would bike more if there were more designated bikelanes. Easy to get hit by cars as it is. Mountain bike trail could benefit from the city or inmates weedeating in summer. Growing user group takes care of it along with several others.	Connecting all the loops, increased safety (some of the paths are too close to roads and not protected from car traffic), access from outside the city limits to the greenways (like Cemetery Road).
Connection to each other	Traffic safety & awareness
Safety	Repair
Connecting the greenway sections, maintaining the greenway, proper use (golf carts, etc…)	Connect the greenways together. Park to park . Use of power lines running down to Franklin Kentucky for a nice bike trail . More bike lanes on city streets for commuters.
Linking the Greenway; more awareness of bike rights; bike safety	More Singletrack. Connect Greenways to other Greenways. Have a Greenway Loop that goes around the City of BG
People riding trails in wet conditions, over use, automobile traffic and lack of respect for pedestrians and cyclists	More sidewalk especially on big roads(campbell lane, 31 W, scottsville road), more bike lanes, and more bike lanes.
1. Having trails that entice people to come ride.	Needs to be a continuous loop.
2. Lack of options for riding.	Additional areas
3. Need more events to build community.	1) Would like additional trails
Bike paths need to connect throughout the city. Bike lanes on roads that aren't on the bike path. Better signage and maps of the bike paths.	Funding and a sense of urgency - it seems as if we are behind other locations in terms of infrastructure for safe cycling / walking.
Varying opinions of different groups for the most important "need"	Resources. Regional membership vs Local (city) membership creates challenges based on lines on a map.
Safety issues at major intersections for crossings or lack of	Include in the name of the track Run.
Upkeep, trash, cleanliness, etc	Connecting sections

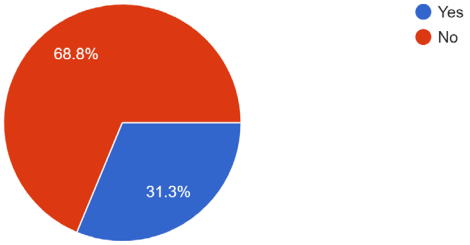
Getting more members	linking segments, safely crossing major arteries (e.g. 31W)
Personal safety, maintenance, new construction	Maintenance of existing infrastructure.
Inconsiderate drivers. Funding. Small usage.	Animal control requlations - no leash law in Warren County
1) they don't all connect, 2) there is often debris on the greenways or in the bike lanes resulting in flat tires, 3) drivers aren't always aware of pedestrians	Awareness, Bike Lane, Extension of Greenways

5. What are your top priorities for constructing future trails? Please identify your priority levels for each of the following options.



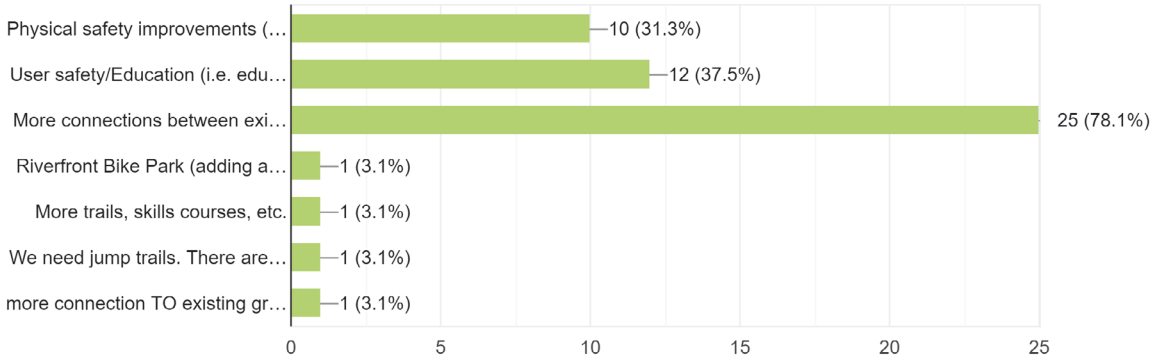
6. Does the current trail classification cause confusion for you (i.e. bike lanes, greenways, sidewalks, park trails, etc.)?

32 responses



7. What are the greatest bike/ped network needs for the user needs of your special interest group?

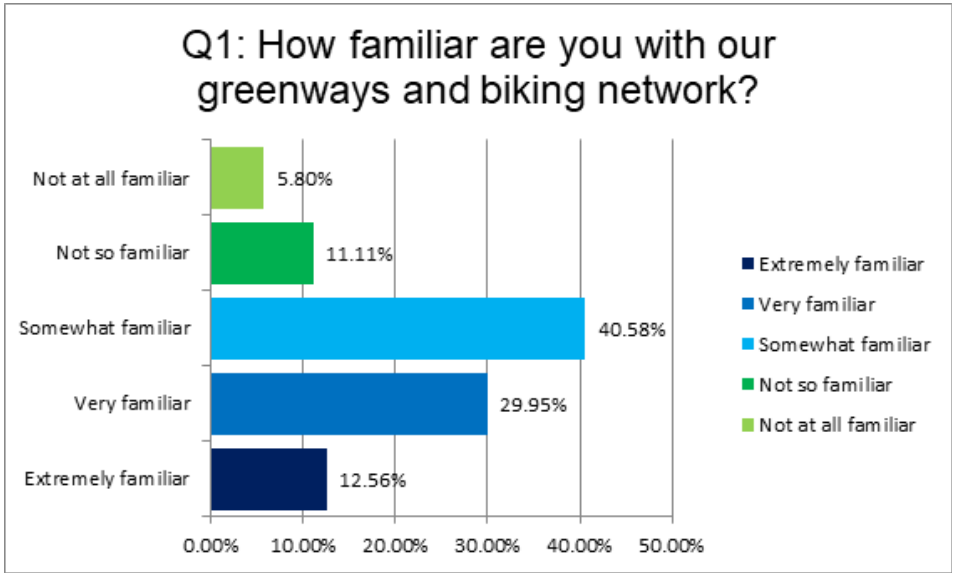
32 responses

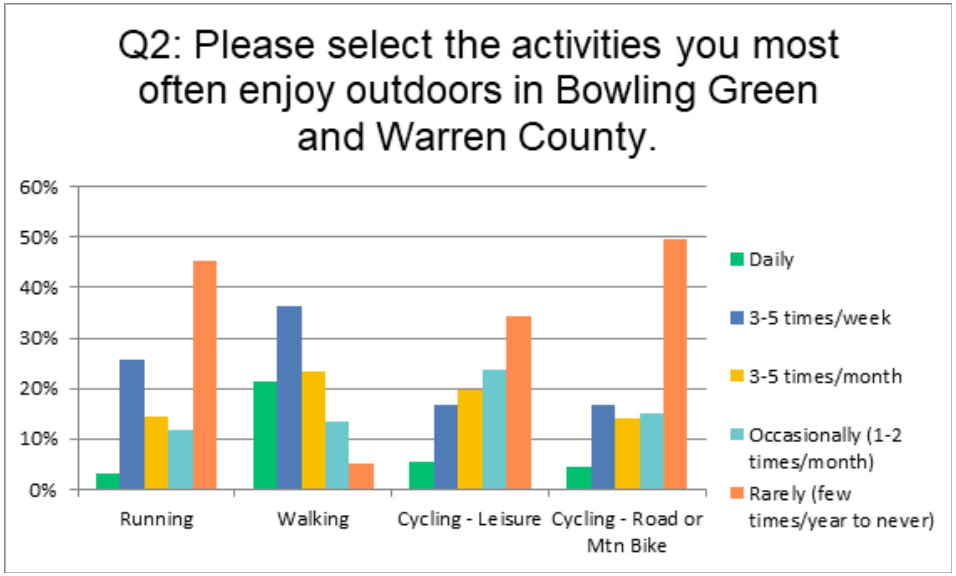


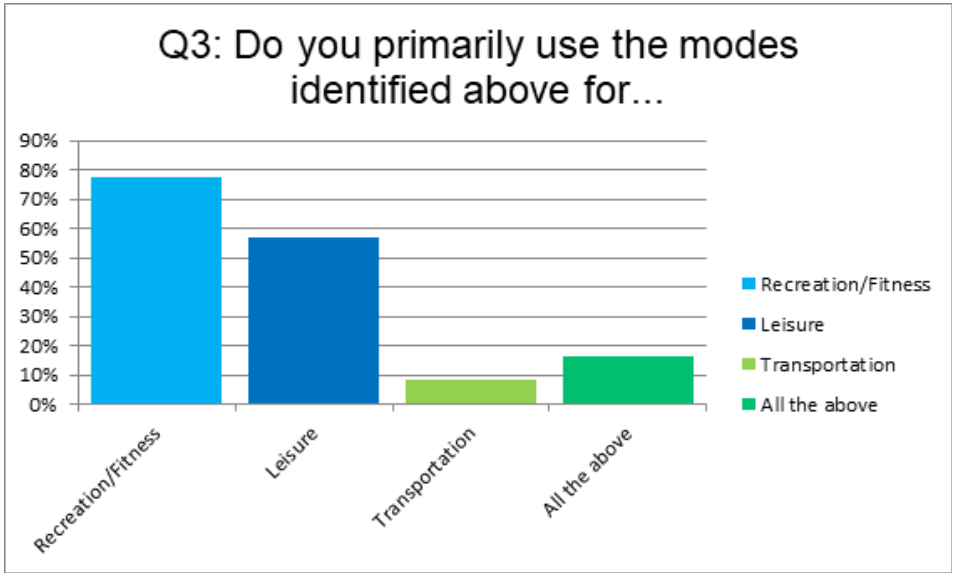
8. Please provide any other suggestions with regards to the Bike/Ped Master Plan update process. Getting new people interested

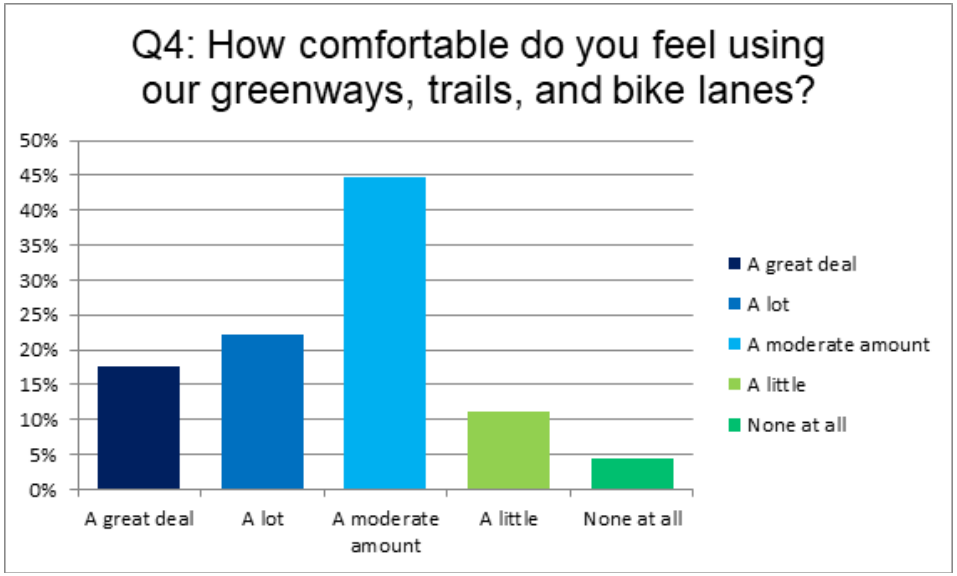
Connect Greenways to other Greenways and Parks	Making BG an overall better, safer place to walk, run & bike around the town & also have separate, large sequestered areas in which to bike/ run/walk away from all traffic would be amazing.
Please help us ultimately complete the final phases of our riverfront bike park plan, dual slalom course, skills course, pump track, etc.	The use of any random yo trail or power line right of way for use in trail construction.
Bike loop around the city	Excited for the improvements to riverfront park (pump track, dual slalom course, Stu.)
I would like to see the use of the powerlines as bike trails . Plus connect all parks together with the greenway	Long term, safe routes connecting the entire city. Short term, safely connect the greenways and parks with bike lanes on the public roads.
Clarification of which greenway project expansion will be the 1st on agenda	I appreciate the progress made, but much to be done and hoping it won't take as long!
More bike lanes and sidewalk even though this city is not supporting bicycle and pedestrians but that's how improve it.	Need to expand. It's been years since it was built. Also, maintenance is a problem. The section to Weldon Peete park has been out for years at a very bad intersection. The western sections were in bad shape before the tornados.
I think it would be good to improve the visibility of these efforts to the general community to generate interest and increase the momentum of efforts.	Greenway connections, full safe loop around BG with major intersections, pump track/dual slalom/ skills if it's asphalt to eliminate unnecessary maintenance (Knoxville TN, Baker Creek for reference), connection from Low Hollow to Hobson Grove (cycling access hopeful at/around golf course…would be a great NICA training loop)
Continue to add new trails and paths.	Thanks for asking. I feel like the potential for BG is out of this world. Companies and industries are looking for city infrastructure like trails and greenways. Younger folks look for this as well.
Get other organizations clean up sections of the Bike/Run/Ped track with nice awards for amounts picked up. It's a mess in many places.	Bowling Green Needs a True Bike Park. The addition of a Pump Track, Skills Course and Dual Slalom for bikes co-located with the Low Hollow Mtn Bike Trail at Weldon Peete Park.
Change the name!!!!!!! Include Running. Bike/Ped is kinda creepy. Back to Bowling GreenWays Track would be great.	Include Parking signs for Bowling GreenWays Track would be nice.
Sorry, but I think bicyclist should have to carry some kind of insurance in case they case a wreck. It is not right for a cyclist to be able to use the same roads as vehicles when some bicyclist are negligent just like some drivers of vehicles. What if they cause a wreck, who pays for the damages since the cyclist doesn't have insurance? Not right for the driver of the vehicle to have to pay for something the cyclist caused. I am not against cyclists I have friends that are cyclists. I just think the same rules should apply for all people using the same road. Bicycles are becoming even more popular since the rising gas prices, meaning more bikes will be on the road. Some are responsible and some aren't. This is what we need to improve our biking infrastructure	

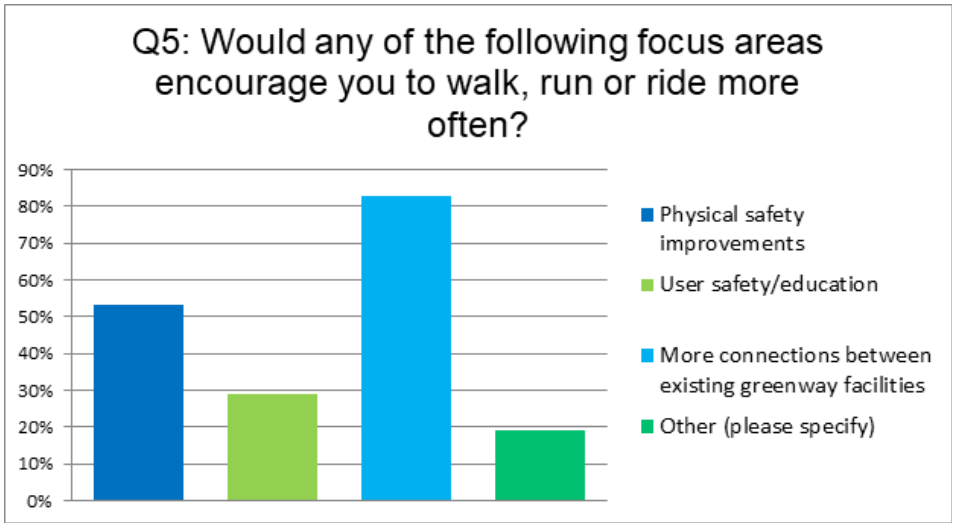
Public Survey











Q5: Other Comments (please specify)

Greenways near residential areas clear of garbage cans, etc

Improvement of current trails and more encouragement in social media and in the news

there is often growth overhanging some sections, and there are a few areas where dirt/gravel/leaves deposit on the greenway itself and create a hazard

Lighted paths in case of getting caught in the dark.

Destination/Commuting trails connections

Safety features on the trails isolated in the woods

Sidewalks should be part of the plan - there are no walking paths in many places. My son attends BGHS - there are no sidewalks! Also missing in the areas where we have large immigrant populations - Bryant Way

Safety measures that allow for everyone to use without feeling like they are at risk

Connect River street to Louisville Road all the way to Corvette Museum connections

More greenways throughout county

Some areas could use a walking bridge over high traffic areas.

Public awareness campaign (i.e. visible billboards/ads that communicate to public that greenways exist and/or to be more caution in general while driving)

In physical safety cleaning up the tornado refuse still somehow on sidewalks

Improving the condition of the greenways and ESPECIALLY the sidewalks between them—potholes, more sidewalks where there are gaps along major roads, etc.

Bike lanes and or bicyclists on busy highways with no shoulders or limited shoulders is unsafe. Those that ride their bikes during high traffic times hinders traffic and endangers them. Bike trails that are separate from our highways is most preferred.

Farther reach into the Warren County communities not located within Bowling Green. There are few places, with the exception of some short routes mostly within parks, that are available (greenways or other) outside the city limits.

The paths are true paths. Limited ability to walk, run and cycle. Gravel is not ideal

Paved pathways instead of gravel or dirt.

benches in some areas as can't walk too long distance

Cars stop for pedestrians at crosswalk on Cave Mill Rd. Blinking light??

More bike trail connections off street

Gree ways In safe areas where I don't think I'll get mugged

Connect these things!!!!!

PLEASE put a sidewalk on Three Springs. It's an absolute death trap. I've literally been hit twice on the side while biking, and I've had to swerve into the fields numerous times to spare my life.

Frequentpolice presence

The homeless around the State street Bridge is threatening

Some of the crosswalks are crazy dangerous with traffic completely not looking for pedestrians and cyclists- almost been hit crossing multiple times

More safety towers, trails specifically for bikingCrosswalks/bike paths to cross Scottsville Road - especially at Smallhouse Road intersection

Crime and homeless people make me feel uneasy

Better visual cues for trail routes. Map boards up in various locations to encourage exploration and increase locational awareness. Encourage businesses on greenway routes to incentivise patronage from cyclists and runners. Art installments along route?

sidewalks in neighborhoods

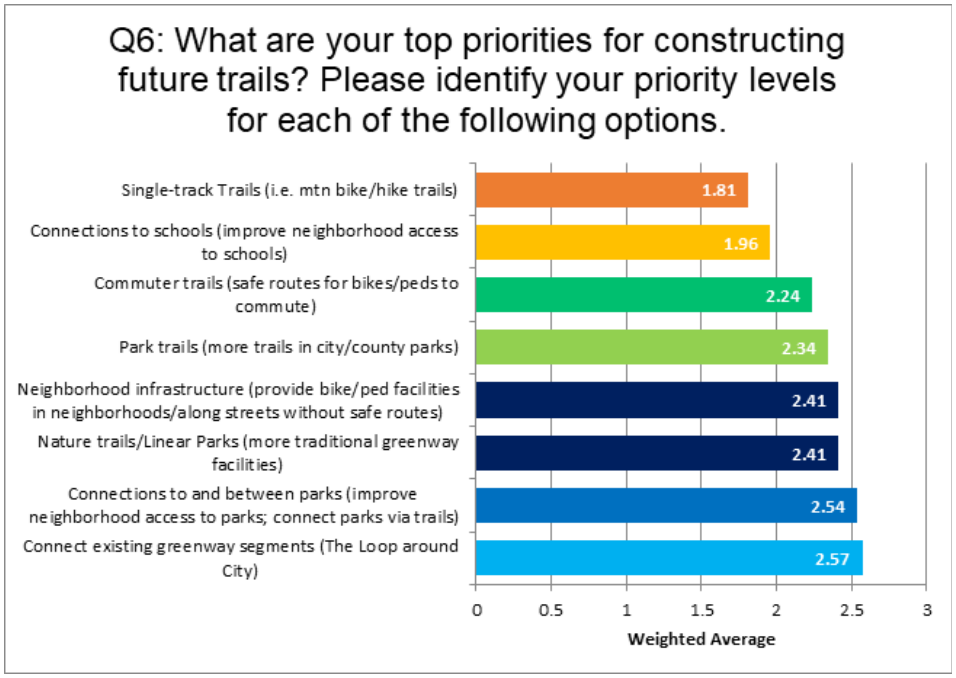
Better public transportation between "walkable" areas.

Added bicycle lanes to primary (& secondary where high volume bicycle traffic exists) city roads

Weldon Peete park great physical location. But doesn't feel safe with homeless hanging around and sketchy people hang out in the parking lot.

clean greenways bike paths of gravel, limbs, etc

Ride a car



Q7: Please provide any other suggestions with related to the Bicycle and Pedestrian Master Plan update process.

Lots of our immigrant community travel via bike down Smallhouse road to Three Springs Park. Some sort of bike lane or sidewalk connecting Smallhouse to the sidewalks closer to Covington would be wonderful.

An actual gravel walking trail at 3 springs park is long overdue as well!

I would love if there was a connecting walking/bike commute that went the entirety of BG. I live near Rivendell and would love to be able to bike or walk safely to my job to downtown BG on Elm St. However, there are not safe walking trails/ bike trails for me to walk or bike anywhere from my house.

Bowling Green needs safe bike and walking paths, is incredible how little of it currently exists.

Bike lanes on major roads such as Cumberland Trace, Lovers Lane and Fairfield. Crosswalks with lights and hash marks such as on campus at WKU.

Use fewer cement/sidewalk paths for "greenways". These are not conducive to healthy running or walking on a regular basis versus trails or pavement. The density of cement can lead to injuries.

Many people like myself do not own cars and use bicycles as our primary transportation. Commuter paths needs to be a key focus.

The greenways program feels elitist - it has to be something for people who NEED it, not just people who have all day Saturday to ride their bike.

Please stop cobbling up our streets with bike lanes! Cyclists I've observed do not follow traffic rules and the volume of users remains low. Public resources are being wasted on this endeavor in retrofitting downtown streets. Neighborhoods are a more appropriate place. Concentrate on making residents with driveways to park their vehicles in those spaces and not in streets. You've destroyed sensible vehicular traffic flow on State Street, which is nothing more than a zig-zag pattern from block to block, further complicated by parking in spaces and service vehicles parking in the lanes of traffic constantly.

Access & connectivity. I wish there were at the least a biking or walking/ running intentional pathway in EVERY neighborhood that provides ability to connect in some manner with ALL other pathways throughout Bowling Green. What a wonderful selling point for our community if we could achieve this! Paired with our already well-kept and ideally located park system, our city couldn't be beat anywhere else in the state of Kentucky.

Weldon Peete needs to be safer. Love areas that are not so secluded for safety

More greenways accessible from county

Perhaps some walking bridges over high traffic areas.

Visible connections to major business points across the city (grocery stores; BGMU; post offices; libraries)

I love bike lanes I keep to sidewalks when they're not there because these gd motorists will vehicular manslaughter me in a second

Looking forward to the connection from South Warren HS to Buchanon Park

More parks spread out (i.e. plum springs, Alvaton areas)

Utilize the existing power lines that run North and South across town Down to Franklin Kentucky. North as far as possible a direct line across town North the South would make commuting very easy.

Greenway or safe sidewalk routes to shopping/commercial districts, major grocery stores, etc.

The trails must be connected like every other town I've road greenways in.

Would like to be a more walkable city. Have more sidewalks to walk to stores, work and parks.

Provide seating along routes and water fountains for pedestrians. Create more opportunities for individuals to rely on the greenways to safely travel for most necessities like groceries,

education, restaurants, etc.

Please, please make it safer and easier for parents with young children. Gravel and dirt paths make it nearly impossible to push a stroller or let little ones ride their bicycles and scooters. We have so many great trails in our parks but the majority aren't paved making them unusable. Many are also in areas that I do not feel comfortable walking by myself or with small children due to safety concerns or low visibility pathways so that if you need help, people cannot see yourself.

I love the existing trails!! Keep up the good work!

More mountain bike/single track trails in BG/Warren county please.

Would love to know more about BG Greenways. I live in Logan County but would love to bring my bike there to ride.

We need sidewalks in our neighborhoods- especially by schools!!!!

The sidewalks in the areas around WKU are very broken and cluttered and not bike friendly.

I suggest partnering with the power company to utilize that direct route to connect areas across the city. It's cleared already and a paved trail along the power line would allow access for repairs that could benefit the power company as well.

Gravel trails are less stressful on the body than paved trails. People like trails that are more natural and less groomed. Shaded areas on trails are also preferable. I would like to see another walking trail as desirable as the one at Kereiakes Park.

Need connections

I would like to see Westgate Park connected to Baker Arboretum

The Riverfront Bike Park concept consisting of Weldon Peete Park and Mitch McConnell Park along with a bicycle Pump Track and Skills course collocated with existing Greenways and mtn Bike Trail is a recreational gold mine.

We need paths/lanes/walks to get into town. I'm in Plano, and I want to get into town on my bike, but there's literally no way to do that. I either have to brave Plano Road (death trap) or Three Springs (super death trap)

My ideal would be to commute, safely, around BG and WC. I hope road plans and resurfaces are done with a nod to those of us wishing not to be tied to a car. Please, please, please build to include commuting by bicycle... and safely!!! PLEASE!!!

Safety

It would be great if it was safe for kids to cross to the junior high and high school on bikes or walking. As it is, crossing Campbell at the crosswalks, it is not

I would love to see more opportunities to bike as an alternative to driving--so commuter options and bike lanes would be a great advantage. As well, connecting greenways so that and improving the cycle-ability of some neighborhoods would be advantageous. Memphis is a city that has done amazing things to make their city more accessible and safe for cyclists and other active commuters. https://www.facebook.com/commuteoptionsmemphis/

I grew up in rural KY but now live in BG after graduating from WKU in 2016. After graduation my wife and I have lived in multiple locations around the US for short periods of time while working as traveling healthcare professionals. We moved back to BG in 2018. After living in these other areas that are more outdoorsy minded I have realized how behind the times BG is in regards to bike lanes/ greenway infrastructure. BG could be an incredible bike friendly community with the appropriate infrastructure investment. More emphasis needs to be put on making the major roadways in town (Scottsville Rd, Campbell Ln etc.) more accessible to bicycle traffic. I am a confident cyclist but never even consider riding on roads mentioned above due to safety concerns. Recent bike lane additions in downtown are a positive sign, but all city streets should be equipped with bike lanes. Even more preferable would be greenways that are completely free of vehicle traffic for enhanced safety. I have lived in other places that make it very easy to perform daily errands via bicycle, but Bowling Green is not one of those places. A bike friendly community ranks very high on my family's priority list in determining where to live. The current infrastructure in BG is not up to par with other locations around the US. Because of this, my family is considering a move to a more bike friendly location. I love BG, but having to depend on a car for all daily errands is a major negative for our family.

The trails need to be connected instead of little sections all over town! There needs to be an interactive map or app you can download on your phone.

It would be very helpful for those of us who commute on bike to have safe bike ways on major arteries in Bowling Green: Campbell, Nashville/31W, Scottsville Rd, Russellville Rd.

Connect more regions of the city for combined use of recreation/ fitness and transportation to areas with or without established parks. Allow connections to commercials, educational, etc areas of Warren County, not just Bowling Green. Keep greenways safe/separate from cars when near roads.

Bathroom facilities and playground equipment at Weldon Pete park.

A separate walking trail for people with dogs including dog disposal stations and pup watering stations.

Repair Veterans Memorial greenway.

Cumberland Trace Rd needs a safe path to the Greenway over the highway to connect to the Greenway on Cemetery Rd

Love for there to be a new connecting Greenway to loop around town. Love for the existing Greenways to be maintained from tree limbs so you

don’t have to duck under limbs.

I would love to see a new trail (loop) around the city of Bowling Green with connections to current trail and overpasses at busy roads such as Nashville, Scottsville, and Russellville Roads.

Expand/make safer the roads in the county that bicyclist already frequent.

Would like to see more infrastructure where cars, bikes and pedestrians can cohesively and simultaneously use the same spaces without compromising safety and road use - example: downtown square has both bike and regular lanes which feels safe for cars, bikes, and pedestrians alike.

In addition, any way to create seamless transition between pedestrian sidewalks/bike paths is desired. Creating walking and biking infrastructure that is less catered to and centered specifically around the car and suburbanization would help create more "user friendly" cycling/ pedestrian spaces.

Create areas of business and recreation and infrastructure totally independent from car areas. That way, the community is encouraged and incentivized to invest in bike/ped infrastructure.

The rapid growth in Warren County/ traffic on main roads has dramatically increased car volume on secondary arteries, which are the principal connectors for cyclists. These arteries have become increasingly unsafe given the traffic volume and lack of space for cycling. Widening these roads and adding bike lanes should be city planning priorities.

Connect bike paths that just end with no warning ... what's the point of a bike path that simply ends ??

Need bike lanes and accesses in south Warren areas

Wasting very large amounts of tax payer’s money for a very very very small amount of uses.

I feel comfortable riding trails that do not share the road with vehicles. I avoid areas with a steep incline. I would love to see the trails more connected with each other as well as linked to more parks and restaurants. In addition, continued clean-up from the tornado and added landscaping would be wonderful.

Scottsville Road has most of the business but is the least bike friendly.

Appendix D
Title VI / Socially Vulnerable Areas Assessment

The Bowling Green–Warren County MPO works so that local people and governments are represented in a fair and impartial setting in the transportation planning process. In order to ensure these efforts are met, the MPO works with local, state, and federal governments; including the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), Kentucky Transportation Cabinet (KYTC), GO bg Transit, Western Kentucky University (WKU), area stakeholders and the community at large. More details can be found in the MPO's Title VI Plan, Appedix D of the 2045 MTP, and on the MPO's Title VI interactive web map.