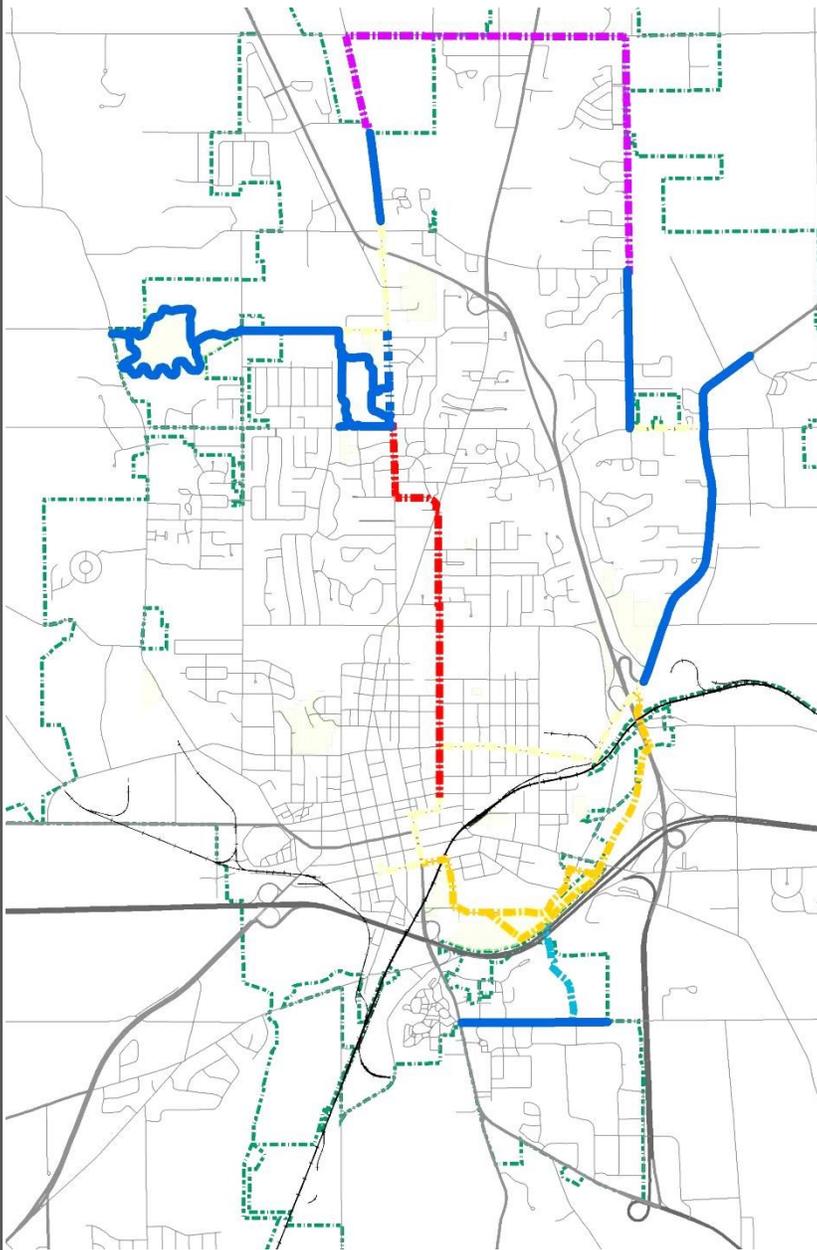


CITY OF WOOSTER

Bike Path Plan



Acknowledgements

Bike Path Plan Steering Committee

Tom Bahl

Bill Buckwalter

Chris Buehler

Jackie Buckwalter

Brian Gwin

Jen Halverson

Kurt Holmes

Grant Mason

Michael McClintock

Rueben Miller

Scott Myers

Don Noble

Tammy Polen

Brian Polen

Freeman Troyer

Ted Short

City of Wooster Staff

Bob Breneman – Mayor

Joel Montgomery – Director of Administration

Jeff Battig – Recreation & Community Center Manager

Ashley Brillhart – Recreation Supervisor

Curt Denning – Public Properties Maintenance Manager

Andrew Dutton – Planning & Zoning Manager

Roger Kobilarcsik – City Engineer

Jonathan Millea – Development Coordinator

Table of Contents

1. Introduction.....	1
2. Existing Conditions.....	3
3. Bike Path Committee.....	5
4. City of Wooster Proposed Paths and Routes.....	6
5. Design Guidelines.....	15

1. Introduction

Founded in 1808, the City of Wooster is a community of over 26,000 which is rooted in industry, education and agriculture. The heart of Wooster is the historic downtown area which is an attraction to locals and visitors alike. The north end of Wooster, predominately along Burbank Rd., serves as the main retail destination of the city and Wooster's strong industrial base is most evident on the east and west ends of the city. Wooster is also home to institutions of higher education including the College of Wooster, the Ohio State University Ohio Agricultural Research and Development Center (OARDC) and the Ohio State University Agricultural Technical Institute (ATI).

Plan Purpose and Contents

The purpose of the Bike Path Plan is to develop a framework for building an integrated system of bikeways and multi-use paths throughout the City of Wooster. As discussed in this Plan, the City of Wooster's current non-motorized transportation system is insufficient at this time and does not adequately serve residents and visitors. The Plan contains an evaluation of existing path conditions, phased plans for future paths and includes guidelines and details for path development.

Upon implementation, the path system will link residents and visitors to commercial areas, areas of interest, residential neighborhoods, parks, schools, public facilities, and the outdoors. In addition, the path network will provide viable non-motorized transportation options, offer recreational opportunities, encourage personal fitness, and improve the quality of life in Wooster.

Benefits of an Effective Bike Path Network

Numerous studies have made the positive link between trails and their benefits abundantly clear. The numerous benefits to constructing a Bike Path system in the City of Wooster include:

- Providing a non-motorized transportation option to residents;
- Promoting the public health through active living;
- Improving air quality;
- Offering options for safe routes to school;
- Opening up natural areas to the public which were previously inaccessible; and
- Attracting members of the cycling community to the city.

Comprehensive Plan

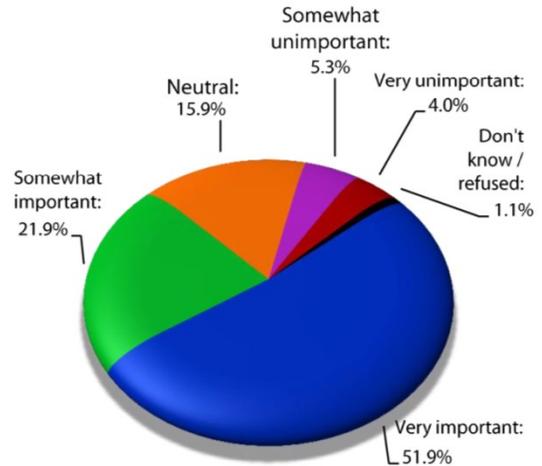
The recently completed Wooster Comprehensive Plan identified a substantial need for non-motorized transportation options in Wooster. One component of the Comprehensive Plan update was a detailed survey of city residents concerning a number of planning topics. As indicated in Figure 1, residents were very supportive of providing non-motorized transportation options.

In addition to the citizen survey, two meetings were held and a website was created to gather public input. There was ample discussion at both the meetings and on the website regarding the need for bike paths. As noted in the Comprehensive Plan:

“Input from residents showed an interest in connecting Downtown to residential areas and the OARDC with either bike lanes or trails. These comments also discussed the possibility of connecting to the Ohio to Erie Trail or to one of the surrounding rails-to-trails networks. Residents stated that they wanted bicycle safety to improve with these upgrades. For future development, citizens strive for a bicycle-oriented community by implementing bike lanes, bike paths, and sharrows linking the City together, as well as state-wide bike routes. In addition, there is interest for a bike-share system within Wooster.”

In addition to the public, members of the City Administration and Steering Committee formed for the Comprehensive Plan update also advocated for a focus on bike paths in the City of Wooster.

Figure 1: How important is it to you that the community be connected by bike paths, sidewalks and recreational trails?



2. Existing Conditions

The City of Wooster is committed to providing non-motorized transportation options to its residents and visitors. However, at this time, non-motorized options in the City of Wooster are less than optimal. As noted in the recently completed City of Wooster Comprehensive Plan:

“The City does not currently have a well-connected and complete non-motorized transportation network.”

Existing and Scheduled Bike Paths

Currently, the city of Wooster has approximately 1 mile (43,558 ft.) of existing and scheduled separated bike and multi-use paths. Roughly 0.59 miles (25,700 ft.) are separated multi-use paths adjacent to city streets on Akron Rd./SR 585, Burbank Rd. (Scheduled), Friendsville Rd., Melrose Dr., Oldman Rd., and Secrest Dr. There are an additional 0.41 miles (17,858 ft.) of path located within the city owned Oak Hill Park and the Wayne County owned Kinney Property (West side of Burbank Rd. between Oldman Rd. and Highland Ave.).

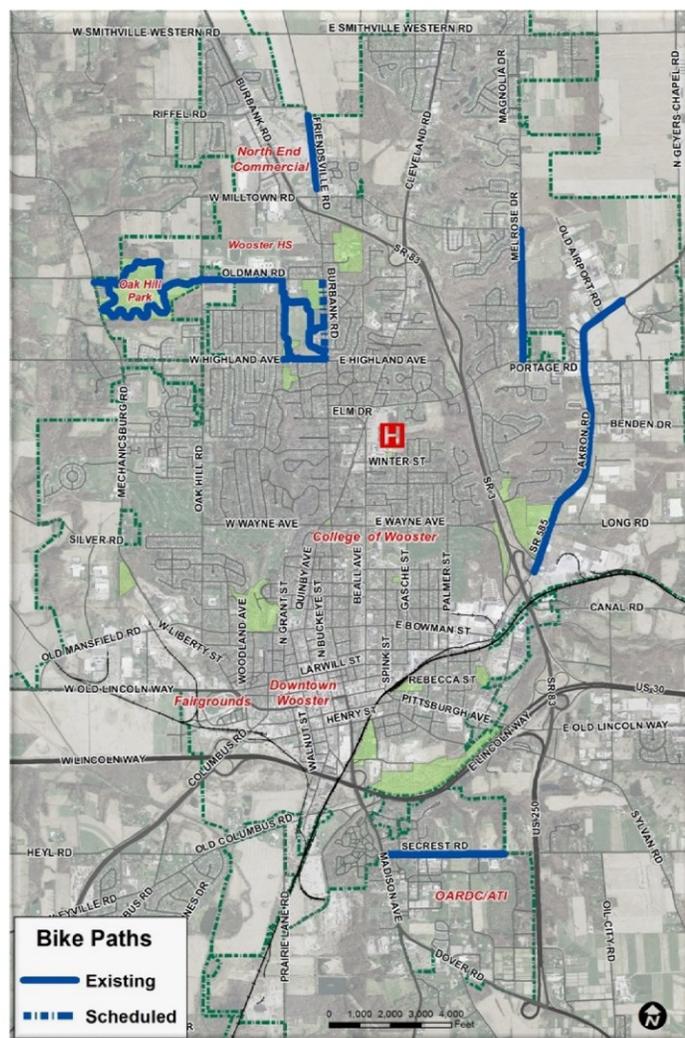
In the adjacent Map 1, existing paths are shown as a solid blue line and scheduled paths are shown as a dashed blue line.

Current System Limitations

Though both existing and scheduled bike paths in the City of Wooster demonstrate a strong commitment to providing a non-motorized transportation option, flaws in the current system include:

- Limited connectivity between existing paths within the city and the region;
- A lack of connections to destinations in the city, such as Downtown, the OARDC/ATI and the north end commercial (shown in red text in Map 1);
- A lack of connections to destinations outside the city and regional bike paths;
- Inadequate marking of bike paths and routes throughout the city; and
- Insufficient utilization of natural areas which are desirable for bike paths.

Map 1: Existing Bike Paths



Elevations

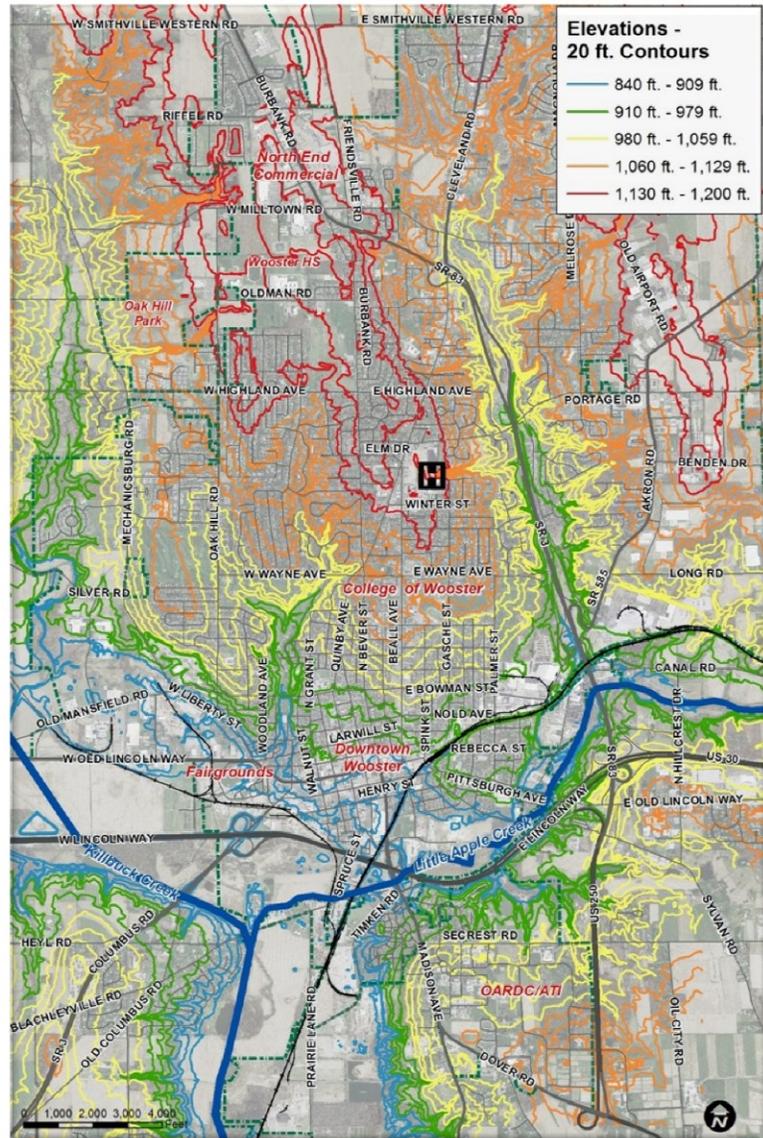
When considering the placement of bike paths, it is important to study the terrain of the city. As shown in the adjacent Map 2, the City of Wooster has a substantial amount of elevation change. The highest areas in the city are around 1,180 ft. in elevation near the North End Commercial area, shown in red, off of Burbank Rd. The lowest areas in the city are around 860 ft. in elevation near the Fairgrounds and south of U.S. 30 (Lincoln Way), shown in blue. The overall change in elevation in the city is approximately 320 ft.

In general, areas on the northern end of the city have higher elevations which decrease from the north end of town to the south end of town. The steepest slopes in the city relevant to this plan are on Madison Ave. between U.S. 30 and the OARDC/ATI.

Existing Barriers

In addition to the aforementioned elevation changes in the city, there are other obstacles that need to be taken into consideration for path development.

Map 2: Elevations and Primary Riparian Features



Divided highways are clearly not appropriate for adjacent bike paths. In addition, such highways also act as a barrier for bike path crossing. Divided highways in Wooster include US 30, US 250, and State Route 83/3 between Burbank Rd., and US 30.

Riparian features are a great asset to the community and are attractive areas to construct bike paths, however, it should be noted that such riparian features and their designated floodplains and floodways provide an additional challenge to bike path development. In the Wooster area, the main riparian features are the Killbuck Creek, which runs north/south on the west side of Wooster, and the Little Apple Creek. The Little Apple Creek, which feeds into the Killbuck Creek, generally runs east/west in the vicinity of U.S. 30. Tributaries to the Killbuck Creek and Little Apple Creek may also provide a challenge to the development of bike paths to a lesser extent.

3. Bike Path Committee

As widely noted in the City of Wooster Comprehensive Plan and evident from the assessment of the current Bike Path system, a plan for the future of bikeways in the City of Wooster is clearly needed. The City administration therefore made the decision to evaluate the current system and propose future bike path initiatives. The first step in this undertaking was the creation of a Bike Path Committee to guide the process and provide specialized input and feedback.

In December of 2014, a Bike Path Committee was formed. The committee consisted of members from a variety of organizations and backgrounds including the City of Wooster, educational institutions, members of the bicycling community, and local business owners.

Meetings 1-2

The Committee's first two meetings focused on general discussions regarding potential bike paths in and around the City of Wooster and possible funding opportunities. Members of the committee were split into two areas of focus, bike paths within the City of Wooster and bike paths outside the City of Wooster. The group tasked with paths inside the City had clear objectives to connect elements of the existing system and areas of interest. The group addressing paths outside the City focused on connecting Wooster with other cities and regional bikeways, notably the Towpath Trail.

Meetings 3-4

The Committee's following meetings refined possible bike path locations within and outside the City of Wooster. Preliminary portions of the plan were provided to the Bike Path Committee for feedback. In addition, City Staff presented a possible grant opportunity that would assist funding of proposed bike paths.

Meetings 5-6

Due to variations in progress between the areas of focus, the Committee decided to split the Bike Path Plan into two separate plans: A Plan for within the City of Wooster and a Plan for areas within Wayne County outside the city. The Committee stressed the interconnection of the two plans. The Committee also received a draft of the City of Wooster Bike Path Plan.

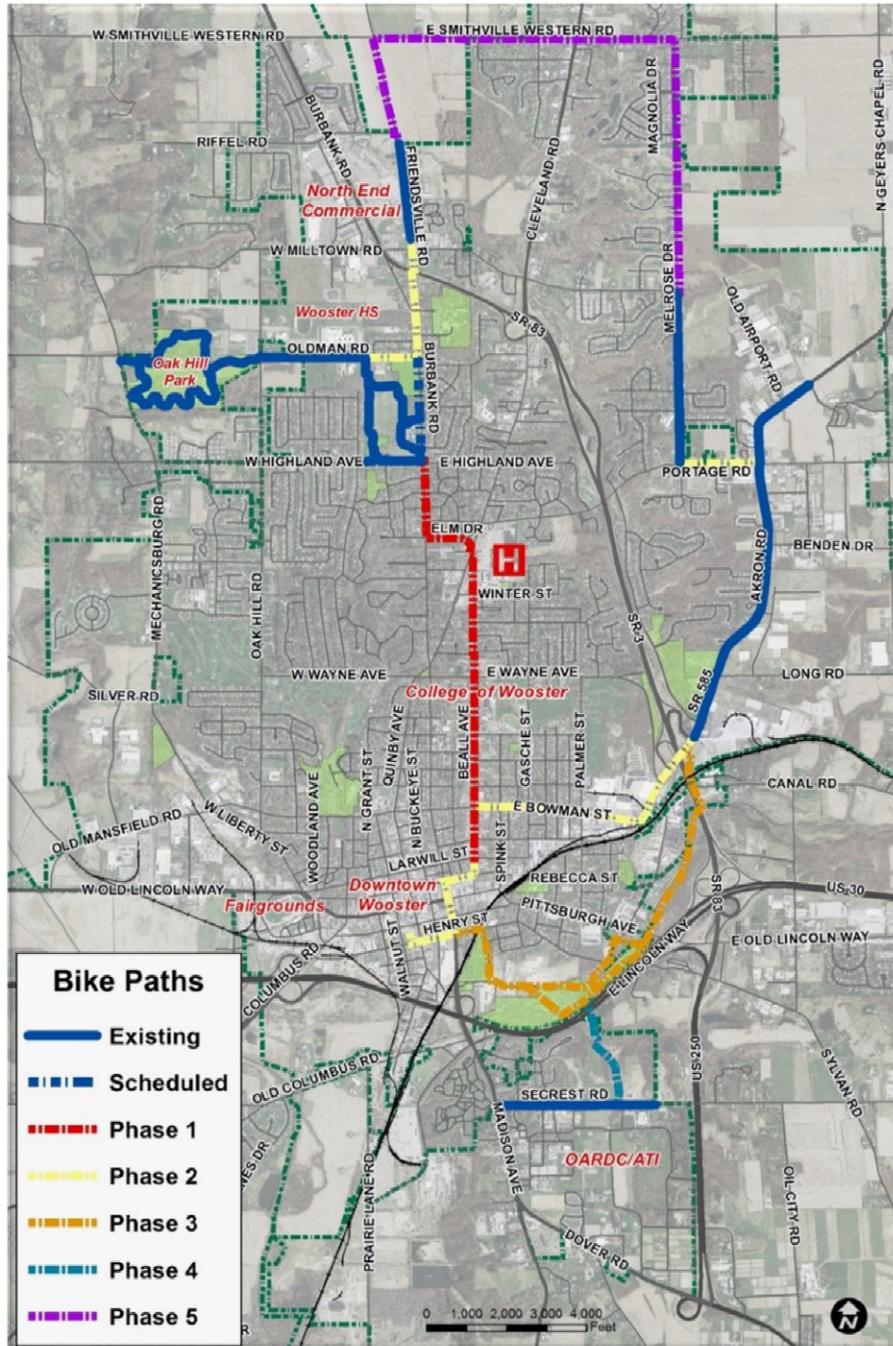
Meeting 7

After discussion and review, the Bike Path Committee adopted the City of Wooster Bike Path Plan on October 27, 2015.

4. City of Wooster Proposed Paths and Routes

Based on the purpose of the plan, an evaluation of existing conditions and Bike Path Committee discussions, the location of Bike Paths within the City of Wooster was formulated, as shown in Map 3. The paths shown in Map 3 are not projected to be completed simultaneously, rather in a number of general phases. The phases themselves are identified in further detail below. Each phase may consist of one or more stages, as phases are generally large in scale.

Map 3: Proposed Bike Paths, City of Wooster



Phase I

Phase I of the Bike Path Plan is aimed to provide connection between numerous destinations in the City of Wooster. Specifically, the phase is envisioned to connect Oak Hill Park, Wooster High School, Kean Elementary School, the Kinney Property, Wooster Community Hospital, The College of Wooster, and Downtown Wooster. This initial phase of the plan will include sections of separated off-street path and sections of on-street path.

The proposed Phase is also in proximity to some of the denser residential areas in the City of Wooster. In particular, neighborhoods between the College of Wooster and Downtown are dense in population and could see a great benefit from the initial proposed phase of the Bike Path Plan.

The path will follow the following route, from north to south, as shown in Map 4:

- A separated multi-use path adjacent to Burbank Rd. between Highland Ave. and Elm Dr.;
- A separated multi-use path adjacent to Elm Dr. between Burbank Rd. and Blair Blvd.;
- A separated multi-use path adjacent to Blair Blvd. between Elm Dr. and Cleveland Rd.;
- A crossing of Cleveland Rd. to Beall Ave.;
- A separated multi-use path adjacent to Beall Ave. between Cleveland Rd. and Bloomington Dr.;
- A transition from a separated multi-use path to an on-street bike lane near Bloomington Dr., as shown as a black dot on Map 4; and
- An on-street bike lane on Beall Ave. between Bloomington Dr. and south of East Larwill St.

Map 4: Bike Path Phase I



As Phase of the Bike Path Plan I of the plan is envisioned in the short to mid-term, an Implementation Plan for the phase has been provided, as shown in Figure 2 below:

Figure 2: Phase I Implementation Plan

2015			2016			2017		
Grant Application & Award								
		Preliminary Design						
			Right of Way Acquisition					
				Final Design				
						Construction		

Phase II

Phase II of the Bike Path Plan will focus on four individual sections of the City of Wooster. Each of the three sections will emphasize making connections of existing or scheduled bike paths. Maps 5 through 7 illustrate the locations of Phase II of the plan, as described below:

Section A creates a separated multi-use path on Oldman Rd., Burbank Rd. and Friendsville Rd. The path connects an existing path on Oldman Rd., near the drive for the City's water tower, with a scheduled path at the intersection of Oldman Rd. and Burbank Rd. Section A also proposes a separated connecting multi-use path from the intersection of Oldman Rd. and Burbank Rd. with an existing bike path on Friendsville Rd.

Map 5: Bike Path Phase II-Section A



Section B provides a separated multi-use path on Portage Rd. The section connects the end of an existing bike path at the intersection of Portage Rd. and Melrose Dr. to an existing path at the intersection of Portage Rd. and Akron Rd/SR 585.

Map 6: Bike Path Phase II-Section B



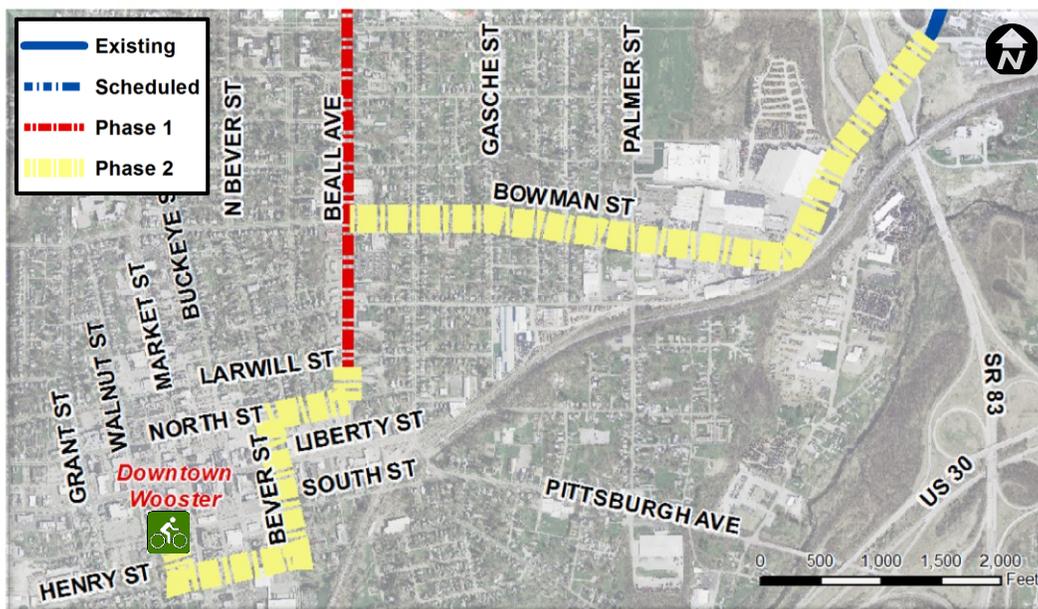
Section C provides a connection from the southern extent of the Phase I bike path on Beall Ave. to Downtown Wooster and establishes a proposed trailhead. The proposed path will follow the following route:

- An on-street bike path on Beall Avenue extended to the intersection of East North St.;
- A separated multi-use path on East North St. from Beall Ave. to North Bever St.;
- A separated multi-use path on Bever St. from East North St. to East Henry St.;
- A separated multi-use path on Henry Street from South Bever St. to an alley between South Walnut St. and South Market St.; and
- A section following an existing alley from West Henry St. to a proposed trailhead at the southeast corner of South Walnut St. and West South St.

Currently, Ride On Wooster Bicycles is located at the southeast corner of South Walnut St. and West South St. The site would serve as a trailhead for the City of Wooster and greater Wooster area bike path system. Facilities may include bike racks, restrooms, gathering areas, bike path information, maps, bike repair tools, and services offered by Ride On Wooster Bicycles.

In addition, Section C includes a connection from the end of the existing bike path on Akron Rd. along East Bowman St. to Beall Ave. The on-street path is envisioned as a temporary connection between the existing bike path on Akron Rd. to Downtown Wooster. The path could be removed upon the completion of Phase III of this plan.

Map 7: Bike Path Phase II-Section C



Phase III

Phase III of the Bike Path Plan serves a number of important purposes and significantly contributes to the bike path system in Wooster. The phase creates a link between three public parks: Gerstenslager Park, Grosjean Park and Schellin Park. Phase III also serves as a connection between an existing bike path, which currently ends at Akron Road/SR 585, with Downtown Wooster. The result is a continuous bike path from the northeastern extent of the city at Akron Road and Old Airport Road to Downtown Wooster, a distance of approximately 4.5 miles.

In addition, the phase provides a scenic route through Grosjean Park and the adjacent wooded areas to the northeast, the majority of which are currently unreachable by roads or trails and thus vastly underutilized.

A separated multi-use path will traverse the following route, beginning at Akron Road at the end of the existing bike path, as shown in Map 8 on the following page:

- A multi-use path adjacent to Akron Rd. between the existing path and Canal Rd.;
- A multi-use path adjacent to Canal Rd., under the railroad overpass, until Canal Rd. begins to curve;
- A multi-use path running south through private property to Little Apple Creek;
- A bridge over the Little Apple Creek;
- A multi-use path under the Dix Expressway (S.R. 3/ S.R. 83);
- A multi-use path following the east side of the Little Apple Creek to Pittsburgh Ave.;
- A multi-use path under the Pittsburgh Ave. bridge; and
- A multi-use path approximately 300 ft. south on the east side of Little Apple Creek.

At this juncture, there are two path options, one or both of which may be feasible:

Option A

- A bridge over the Little Apple Creek;
- A multi-use path connecting to Sylvan Rd.;
- A multi-use path adjacent to Sylvan Rd. until S. Bauer Rd.;
- A multi-use path adjacent to S. Bauer Rd. to approximately E. Henry St.;
- A multi-use path along the north side of the Little Apple Creek to Freedlander Rd.; and
- A multi-use path adjacent to Freedlander Rd. to the entrance of Grosjean Park.

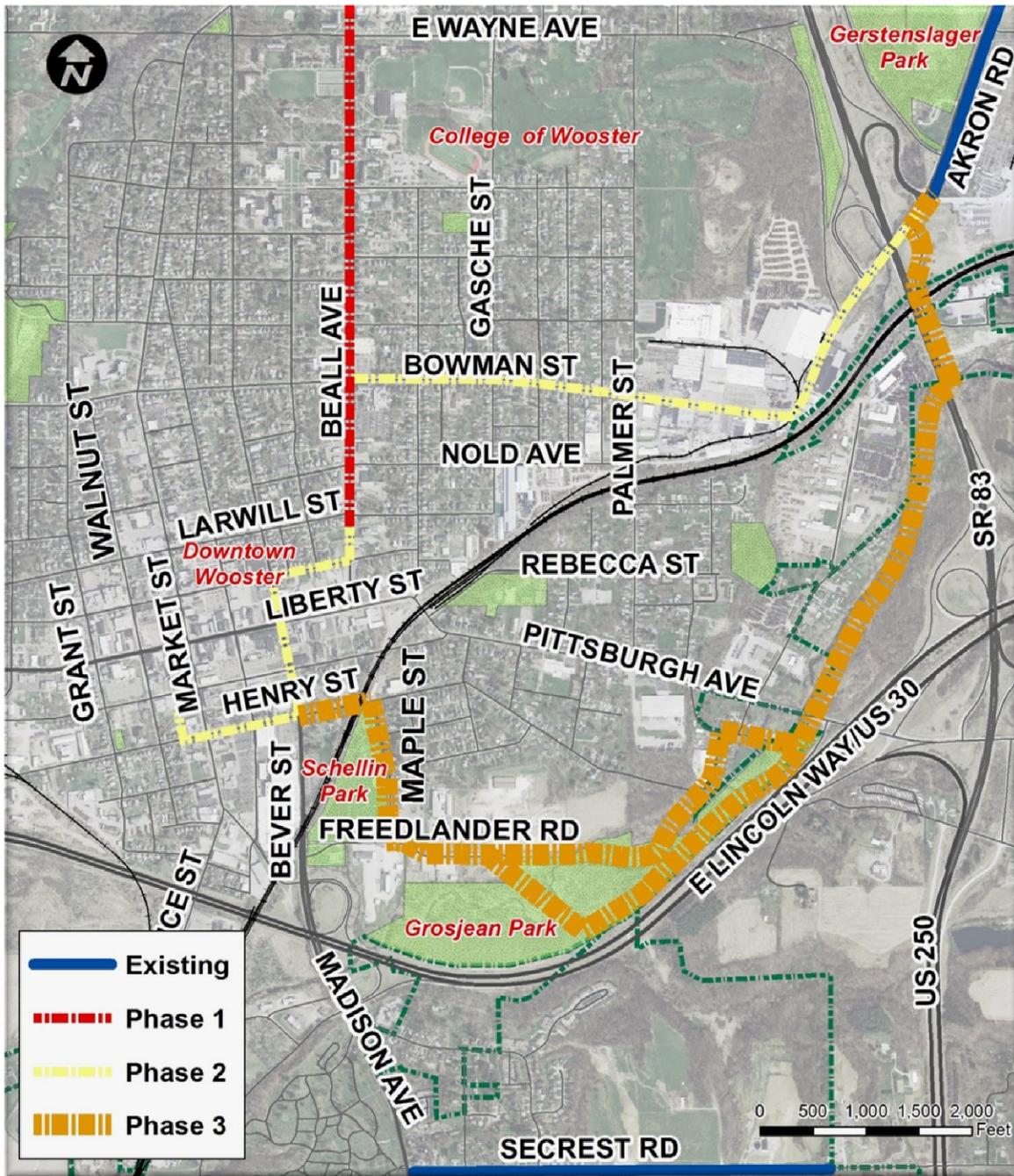
Option B

- A multi-use path following a ridge along the northwest side of U.S. 30;
- A bridge over the Little Apple Creek, near the "horseshoe " formation of the creek; and
- A multi-use path connecting with Freedlander Rd. near the entrance to Grosjean Park.

Both options end at Freedlander Rd. at the entrance to Grosjean Park. A single path option continues as follows:

- A multi-use path adjacent to Freedlander Rd. to Maple St.;
- A multi-use path adjacent to Maple St. to E. Henry St.; and
- A multi-use path adjacent to E. Henry St. to S. Bever St., connecting with a Phase II section.

Map 8: Bike Path Phase III



Phase IV

Phase IV provides a connection between existing and proposed multi-use path on the north side of E. Lincoln Way/U.S. 30 and an existing multi-use path on Secrest Rd. The connection links the majority of the city on the north side of U.S. 30 with the OARDC/ATI and the southern portion of Wayne County. As discussed in the following section, there are many bike path opportunities outside of the City of Wooster in southern Wayne County, including connections to the statewide Towpath Trail.

As noted in the “Existing Conditions” section of this document, there are a number of barriers to bike path development in the City of Wooster. Two of the primary identified barriers are divided highways and elevation changes. On the south side of Wooster, U.S. 30 is a clear barrier, in addition there is also a significant change in elevation on Madison Ave. from the U.S. 30 interchange to the OARDC, known as Madison Hill.

On Madison Ave. from Robinson Rd. to Secrest Rd., there is a change in elevation of approximately 86 ft. over a distance of approximately 1,450 ft. resulting in an average grade of 5.9 percent. The grade is relatively consistent throughout the substantial distance.

As noted in the Mid-Ohio Regional Planning Commission’s *Shared-Use Paths Best Practices for Bikes & Pilot Treatments*, “Generally, grades greater than 5 percent...are undesirable as they are hard for bicyclists to climb and may cause riders to travel downhill at a speed where they cannot control their bicycles”. Though experienced cyclists may be comfortable with a path adjacent to Madison Ave. with such a significant grade change, it is likely that casual cyclists would not attempt to ride on the path.

Due to the aforementioned grade issue, Phase IV of the bike path has been positioned in order to circumvent Madison Ave. As shown in Map 9 on the following page, a bicycle bridge is proposed

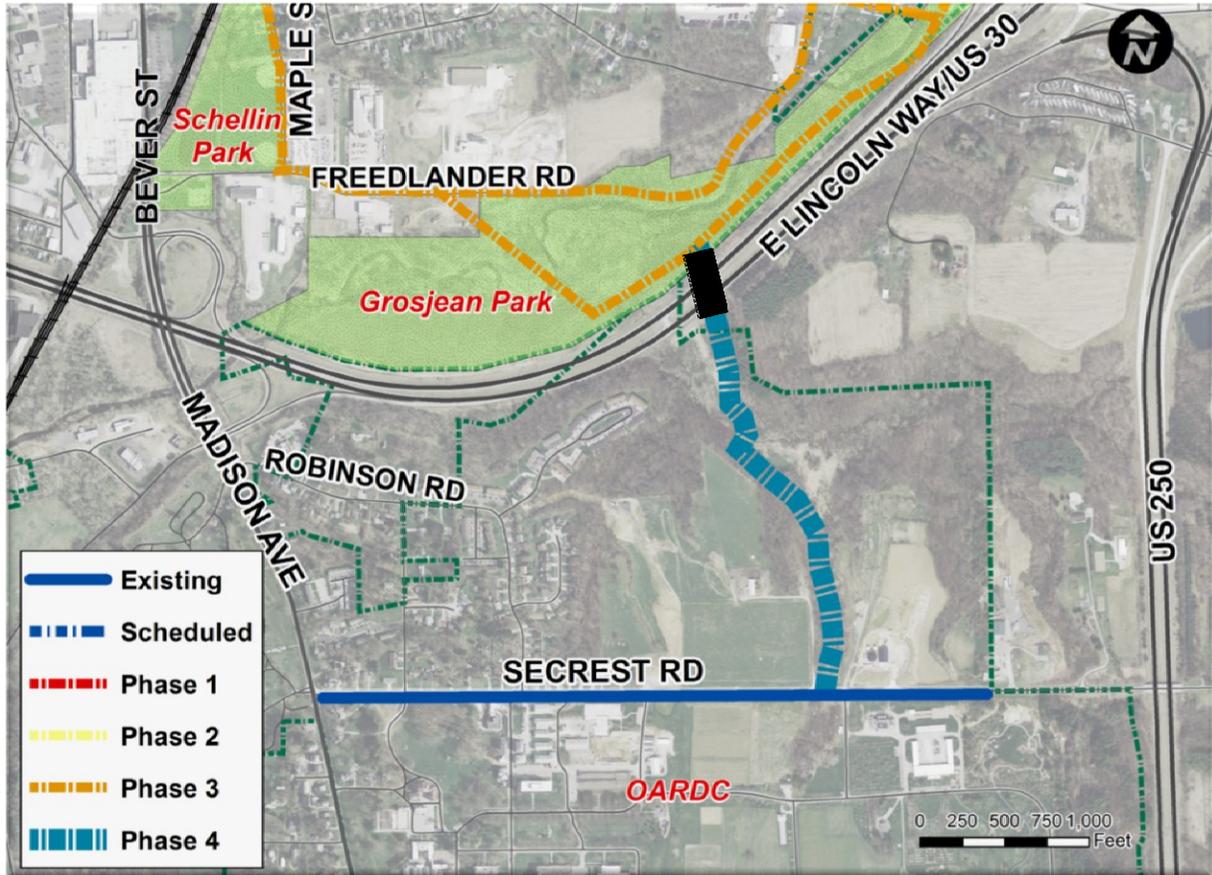
Figure 3: McKinley Park Bridge, Milwaukee, Wisconsin



over U.S. 30. The bridge spans two high points on the north and south sides of the highway. The multi-use path then travels through private property and property owned by the State of Ohio/OARDC to connect to the existing bike path on Secrest Rd.

Though segments of Phase IV will likely have sections with a steep grade, the length of such segments will be significantly less than traveling Madison Ave.

Map 9: Bike Path Phase IV



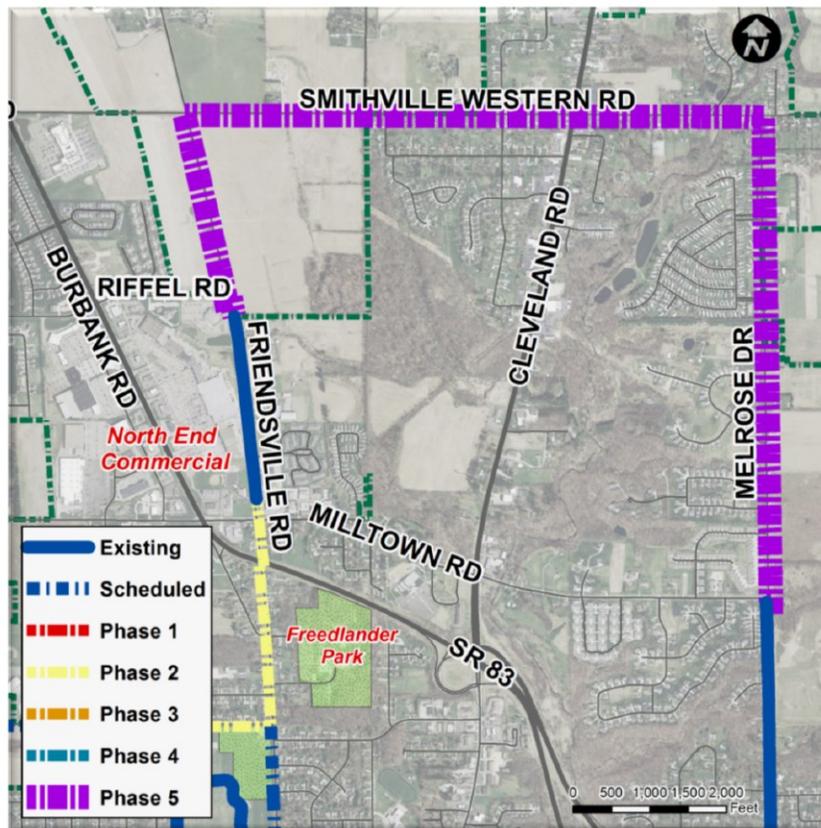
Phase V

The final phase of the plan for bike paths within the City of Wooster provides a path connecting the northernmost extents of Wooster. The path runs from the end of the existing multi-use path on Friendsville Rd. to the end of the existing multi-use path at Milltown Rd. and Melrose Dr., effectively creating a complete bike bath “loop” of the City of Wooster. Phase V also provides access to the path to many residential areas on the north end of the city and offers a route to the North End Commercial area on Burbank Rd.

As shown in Map 10 below, Phase V creates a separated multi-use path along the following route, from west to east:

- A multi-use path on the east side to Friendsville Rd. from the end of the existing bike path to Riffel Rd.;
- A crossing of Friendsville Rd. at Riffel Rd.;
- A multi-use path on the west side of Friendsville Rd. from Riffel Rd. to Smithville Western Rd. (outside of the current city limits);
- A multi-use path on the south side of E. Smithville Western Rd. from Friendsville Rd. to Melrose Dr. (partially outside the current city limits); and
- A multi-use path on the east side of Melrose Dr. from Smithville Western Rd. to the end of the existing bike path at the intersection of Milltown Rd.

Map 10: Bike Path Phase V

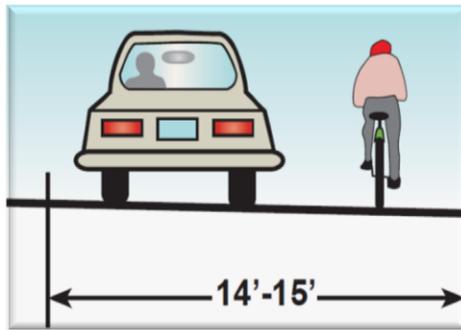


5. Design Guidelines

The following guidelines provide representations for bike and multi-use paths. The design guidelines are not intended as requirements or to encompass all elements of bike path design. Rather, the guidelines provide a framework for the development of bike paths and explore options for types of paths in Wooster.

Shared Roadways

Figure 4: Typical Shared Roadway



Source: *Bicycle and Pedestrian Guide, 2011* – Oregon Department of Transportation

The most basic and cost effective bike path is a shared roadway. The shared roadway consists of cyclists and motor vehicles sharing the same travel lane with the cyclist riding as far to the right side of the roadway as possible. Clearly, shared roadways are the least attractive option for most cyclists as the opportunity for conflict with vehicles is higher than other options. In particular, shared roadways with moderate to high traffic are typically only traversed by experienced riders when other options are not available.

The width of a shared roadway lane should be 14 feet to 15 feet as shown in Figure 4. Widths 16 feet or greater should incorporate a separate bike.

Sharrows

A recent trend is the incorporation of shared lane markings painted directly onto the street to identify that a street is utilized by cyclists. These shared lane markings are commonly known as “Sharrows”. Sharrows are intended to accomplish one or more of the following:

- Indicate that a road is heavily utilized by cyclists
- Identify a designated bike route
- Alert drivers to expect cyclists when driving on the street
- Make drivers aware that bicycles may be present when they are entering and exiting on-street parking spaces.

Sharrows are often used on narrow, low speed roadway which have high bicycle demand or are part of a bike route. Figure 5 shows an example of road with a sharrow.

Figure 5: Sharrow



Source: <http://www.portlandmercury.com/BlotownPDX/archives/2010/07/02/sharrow-the-road>, posted by Sarah Mirk

Shoulder Bikeways

In more rural areas, paved shoulder bikeways provide an option where a traditional bike path may not be feasible. A road with a shoulder bikeway contains motorized vehicle travel lanes delineated by a typical white line with a paved shoulder on both sides of the vehicle travel lanes. Cyclist travel in the shoulder lane, which should contain signage informing motorists of the increased presence of cyclists and indicates the road is a designated bike route.

Figure 6: Shoulder Bikeway

Shoulder bikeways, as shown in Figure 6, are recommended to be at least 6 ft. in width and should be no less than 4 ft. in width. Shoulder bikeways allow for a shoulder that is multifunctional allowing:

- Motorist to utilize the road shoulder in case of emergency
- Cyclist to travel in a separate lane from motorists
- Stormwater to be discharged from travel lanes, typically into ditches



Source: <http://www.bikethebyways.org/great-lakes-seaway-trail/sackets-harbor-oswego/>

Bike Lanes

Bike lanes are lanes of a roadway designated solely for bicycle traffic. Bicycle traffic in bike lanes generally follows the direction of motorized traffic. On one-way streets, bike lanes are usually placed to the right of the motorized traffic lanes, but may also be placed to the left in special circumstances.

Where bicycle lanes exist in urban settings, separate facilities, such as sidewalks, should be provided for pedestrians.

Bike lanes are designated by both street signs and painted markings. These designations not only indicate the presence of a bike line, but can also provide direction to both motorists and cyclists at intersections and in situations in which the traffic pattern may be unclear. Examples of bike lane signage are found in Figure 7, below.

Figure 7: Bike Lane Signage Examples

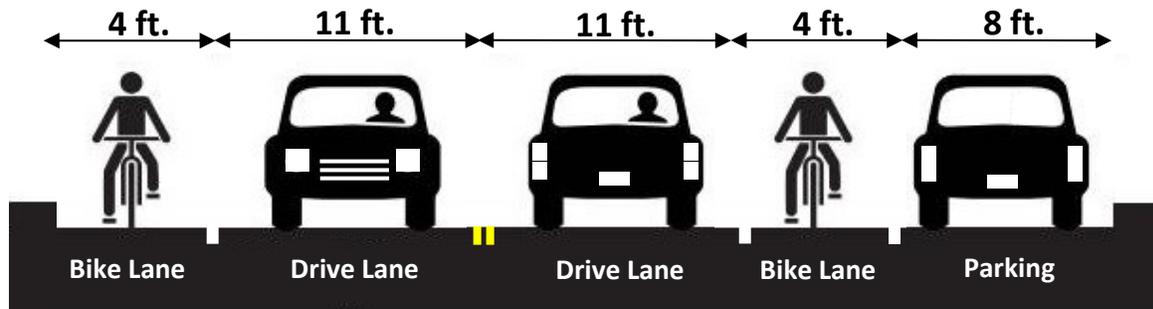


Source: MORPC Complete Streets Toolkit - Spring 2012

Minimum Bike Lane Design

Bike lanes should be at least 4 ft. in width. At a minimum, lanes should be separated from motorized traffic lanes with a 6 in. solid white line. When on-street parking is present, bike lanes are typically located between the motorized drive lane and on-street parking spaces. Figure 8, below, provides an illustration of a roadway cross section with a minimum bike lane design.

Figure 8: Road with a Minimum Bike Lane Design



Preferred Bike Lane Design

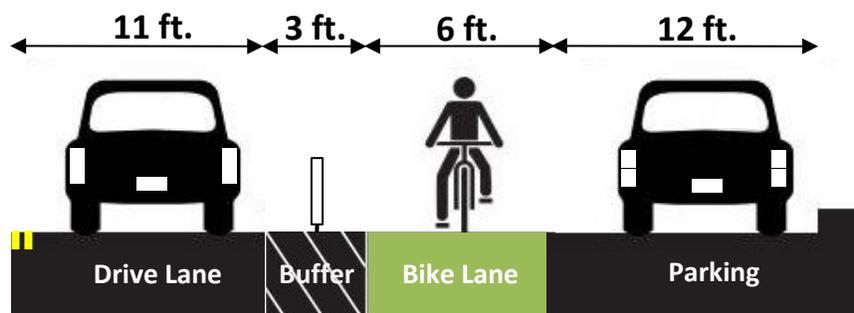
Bike lanes with a width of up to 6 ft. are desired. In addition, when parking is present adjacent to a bike lane, an increased parking space width is recommended to allow drivers to open their doors without interfering with the bike lane. The increased parking space width, which is suggested at 12 ft., addresses the safety of both cyclists and motorists entering or exiting a vehicle.

Separation between a bike lane and the motorized drive lane with a “buffer lane” is also encouraged. A buffer lane is typically a few feet wide, consists of hatch pavement and may include traffic delineation devices.

Additional demarcation of a bike lane is also encouraged. A relatively low cost method for making a bike lane more evident is painting the lane, typically green in color.

Figure 9, below, provides an illustration of half a roadway cross section with a preferred bike lane design.

Figure 9: Road with Preferred Bike Lane Design



Multi-Use Paths

Multi-use paths are paths completely separated from motorized traffic and accommodate a variety of non-motorized uses including bicycling, walking, jogging, and even horses. Such paths may also be referred to as shared-use paths, multi-use trails, trails, bike paths or simply trails. Examples of multi-use paths are shown in Figure 10.

Figure 10: Multi Use Paths



Sources: <https://gwenstephens.wordpress.com/2013/10/14/small-acts-of-kindness-there-are-still-good-people-in-the-world/>, <http://www.panoramio.com/>, & City of Wooster

The minimum recommended width for a multi-use path is 10 ft. with graded areas 2 ft. in width on each side. Multi-use paths are typically striped with a solid or dashed line in the center to delineate two travel lanes. Markings are also often painted on the path to indicate the flow of traffic.

Multi-use paths are generally paved with asphalt or concrete, but in certain applications may also use surfaces such as crushed stone or aggregate.

Multi-use paths may also incorporate elements along the path for users to utilize. Such elements may include benches or other seating, spots for scenic views, information kiosks, bike racks, water fountains, restrooms, or small shelters.