Columbus, Indiana Bicycle & Pedestrian Plan

An Element of the City of Columbus Comprehensive Plan

Adopted: May 12, 2010

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Adoption History:

This Columbus Bicycle & Pedestrian Plan was accepted in draft form from the Columbus Bicycle & Pedestrian Committee by the Columbus City Council through Resolution # 25, 2008 on August 19, 2008.

This Plan was approved by the Columbus Plan Commission and recommended for adoption as an element of the City of Columbus Comprehensive Plan through General Resolution # 2010-01 on March 10, 2010.

This Plan was adopted as an element of the City of Columbus Comprehensive Plan by the Columbus City Council through Resolution # 6, 2010 on April 6, 2010. The revisions made to the Plan by the Council were approved by the Plan Commission through General Resolution # 2010-02 on May 12, 2010.

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Vision & Goals:

The vision of this plan is to provide a roadmap for the creation of a system of bicycle and pedestrian facilities providing access to and connectivity between all areas of the City of Columbus. This vision includes the creation of a network of safe, convenient, and attractive facilities to efficiently connect people to local destinations. The primary focus of this plan is on bicycling and walking as forms of transportation. The plan also acknowledges that by improving facilities for bicycling and pedestrians the City will be providing a healthier and safer environment. Implementation of this plan will result in an improved quality of life for all residents.

The Columbus People Trail along State Road 46

In order to achieve its primary purpose, this plan includes the following:

- defined bicycle & pedestrian facility users,
- defined facility types and locations,
- a listing of implementation priorities,
- recommend new ordinances and ordinance revisions,
- a replacement for the current People Trails Master Plan,
- a list of general financing options for new facilities, and
- requirements for bicycle and pedestrian facilities in new residential, commercial, and industrial developments (as a component of the Thoroughfare Plan).

A sidewalk along Cessna Drive

The goals of this plan are to:

- expand the transportation options available in the community,
- increase opportunities for bicyclists and pedestrians to safely and efficiently commute and recreate by connecting parks, schools, shopping areas, employment centers, and other key destinations,
- distinguish Columbus as an active community with high quality lifestyle accommodations attractive to new residents and businesses,
- improve the community's health and wellness,
- provide opportunities for tourism,
- establish regional bicycle connections, and
- provide environmentally-friendly, sustainable transportation options that can improve the natural environment and serve to preserve natural areas.

As this Bicycle & Pedestrian Plan has been developed, it has been coordinated with other related planning documents and regulations. It is anticipated that this plan will require revisions and modifications as projects are implemented and as conditions change. This plan should be reviewed and updated as related plans, transportation projects, and facility needs evolve.

History:

In the mid-1980's, a group of citizens approached then Mayor Robert Stewart with the idea of creating a system of recreational trails. Mayor Stewart appointed a committee to explore this idea and a survey was developed and distributed throughout the community. The results indicated that there was an overwhelming desire to develop a trail system in Columbus. The community indicated that the trails should connect residential areas with parks, schools, shopping areas and places of employment. This community input served as the basis for the construction of the current People Trail System.

The City of Columbus currently has 19 miles of People Trails that nearly form a loop within the City. The People Trail System includes 14.4 miles of multi-use paths, 2.7 miles of sidepaths, and 4.27 miles consisting of a mixture of sidewalks and streets connecting the other components. The Haw Creek Trail multi-use path is the newest and longest People Trail segment, running 5.5 miles through the City. The term "People Trail" has become a brand name by which Columbus residents recognize the series of multi-use paths, sidepaths, and other facilities that form a safe route for family recreation.

As the People Trail System has grown over the last two decades, so has the range of uses. In addition to serving recreational purposes, the People Trail System is now also used for commuting and shopping related trips. As the breadth of bicycle and pedestrian activities shifts from being purely recreational in nature, the focus of facilities planning and the very nature of the bicycle and pedestrian system needs to shift as well. The bicycle and pedestrian facilities in Columbus are evolving beyond the People Trails to a complete, community-wide transportation network.

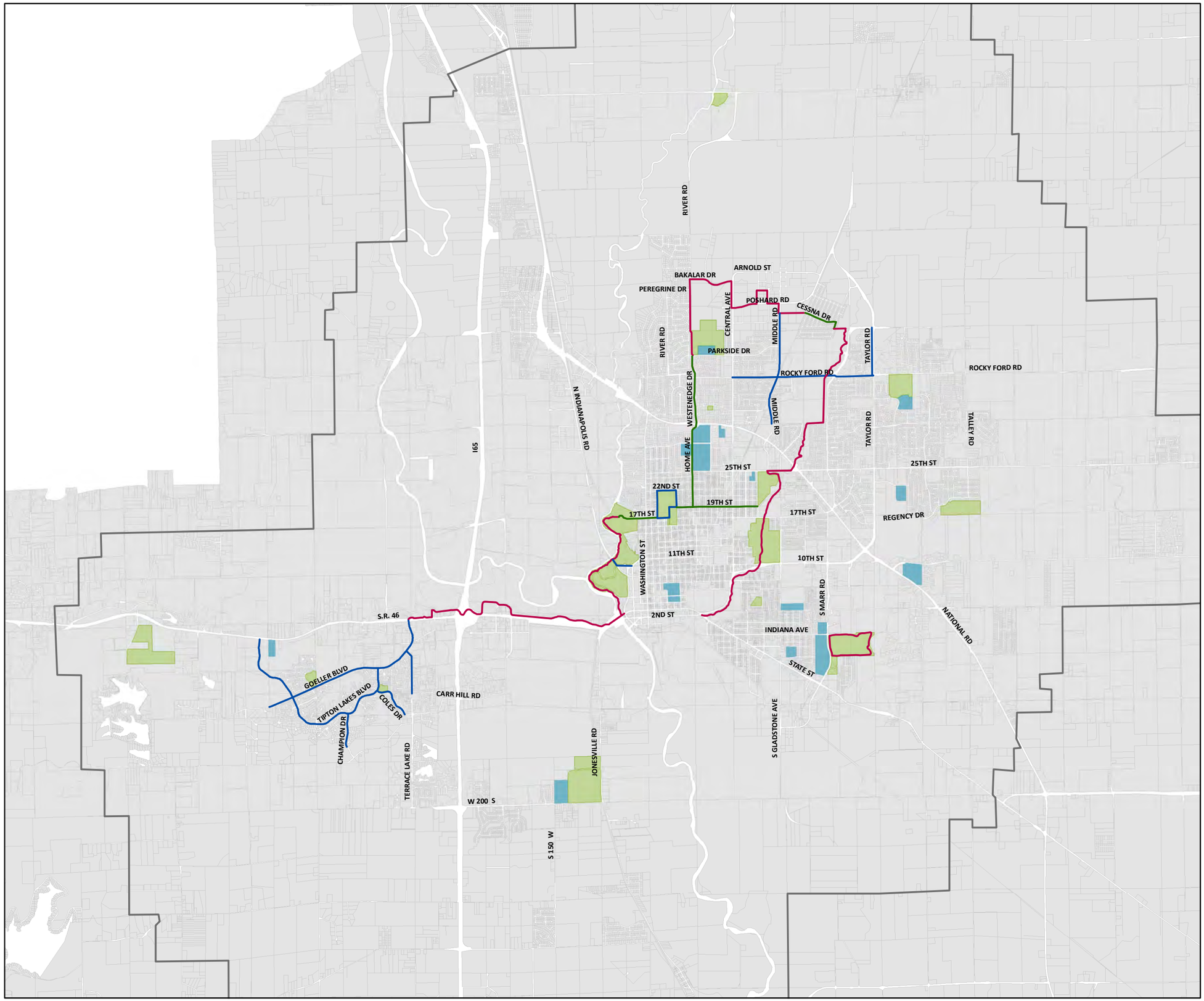
The People Trails have proven to add value in three areas:

- Economic Value - Columbus has been very successful in attracting business to the community. Many companies have indicated that they moved to and stayed in Columbus because of the transportation system, recreation system, and economic and health benefits. The People Trails provide a vital link with businesses, parks, and neighborhoods. The Trails are increasingly important to companies for the benefit of their employees and their families.

- Recreation - Overwhelmingly the citizens of Columbus support and use People Trails. In 2004, the annual use was estimated at 365,000 trips.

- Tourism - Columbus hosts thousands of visitors every year. The key tourism draws are the architecture and youth sports. The People Trails provide an alternative way to experience the architecture as well as a complementary activity for the athletes and their families.

Current Bicycle & Pedestrian System Map



- Existing Sidepath
- Existing Bicycle Route
- Existing Multi-Use Path
- Columbus Jurisdiction
- School Location
- Park Facility

Public Input Introduction

Public input for this Bicycle & Pedestrian Plan took the form of (1) an on-line survey and (2) a public workshop. The survey was made available on the City of Columbus website from April through June of 2008. The survey was announced through news releases and the e-mail network of the Columbus Parks Department. The survey was taken by 1,149 people. The public workshop was held on May 13, 2008 at Donner Center and was attended by 45 people. A follow-up public open house held on November 10, 2009 to review the draft Bicycle & Pedestrian Plan was attended by 57 people.

The public input results indicated a high level of support for the current People Trail system. The results also displayed the great extent to which bicycling and walking in Columbus has evolved from a form recreation to a means of transportation. Increasing numbers of residents are biking and walking to work, the downtown, and shopping areas. This changing use supports the development of bicycle and pedestrian infrastructure beyond the concept of People Trails to include a network of facilities serving a variety of users.

The public survey included two open ended questions assessing the experiences of pedestrians and cyclists. The following are samples of the responses:

1. **What do you experience typically when you bike or walk around Columbus?**
    - My family uses the People Trails a lot. I think they're maintained well, I just wish there were more of them. My children and I road 600+ miles last year.
    - The People Trails are great and I use them daily, but they need to be integrated into the street and sidewalk system.
    - Motorists are frequently my biggest concern. My children bike with me and we are not always respectfully received.
    - On the map it seems like the people trail connects, but sometimes when I'm out on the people trail, I'm not sure where I'm supposed to go.

2. **Is there anything you would like to add regarding the bicycle and pedestrian needs of the community, please do so!**
    - Improvements in bicycle and pedestrian accessibility would contribute to the health of all population segments, especially the oldest and the youngest.
    - Make sidewalks wider, especially near schools to allow room for kids walking and biking.

Bicycle & Pedestrian Survey Results

The Bicycle and Pedestrian Survey was intended to gather community input on bike routes, sidewalks, People Trails, and other bicycle and pedestrian related infrastructure and facilities. Following is an overview of the survey results.

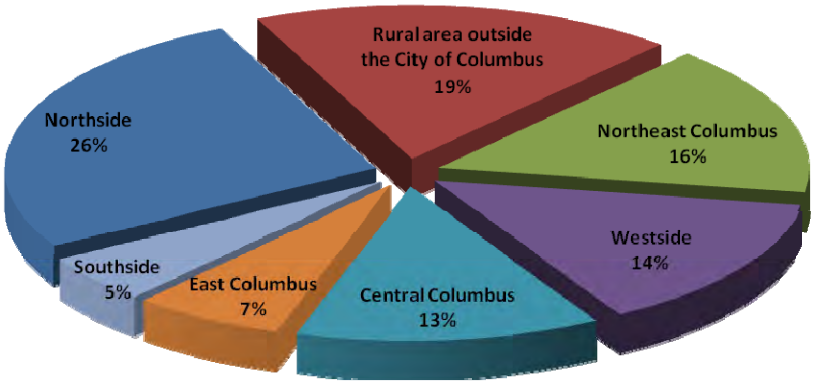
Respondent Demographics

The 1,149 survey respondents were located throughout the City of Columbus. The highest amount of respondents (24%) were located on the north side of Columbus; and all areas of the community were represented by the responses. The respondents were also characterized by the following:

- The majority of the respondents ranged from 19-60 years old. Age 31-45 was the highest percentage of respondents, with 40%. 21% of respondents were between 19-30 years old and 31% of respondents were 46-60 years old.
- The largest number of the respondents (34%) lived in a household with only 2 people and a majority (54%) of households did not include children under age 18.
- Over 50% of the respondents had an annual household income of at least $75,000. The highest percentage (31%) had an annual income of at least $100,000.
- The respondents were asked if they considered themselves a pedestrian, a bicyclist, both a pedestrian and a bicyclist, or neither a pedestrian nor a bicyclist. 50% stated that they considered themselves both a pedestrian and a bicyclist. 14% said neither.
- 5.1% of respondents had a member in their household with a disability that would prevent them from walking or biking.

WHERE DO YOU LIVE…?

Location of survey respondents: The highest percentage (26%) came from the north side.



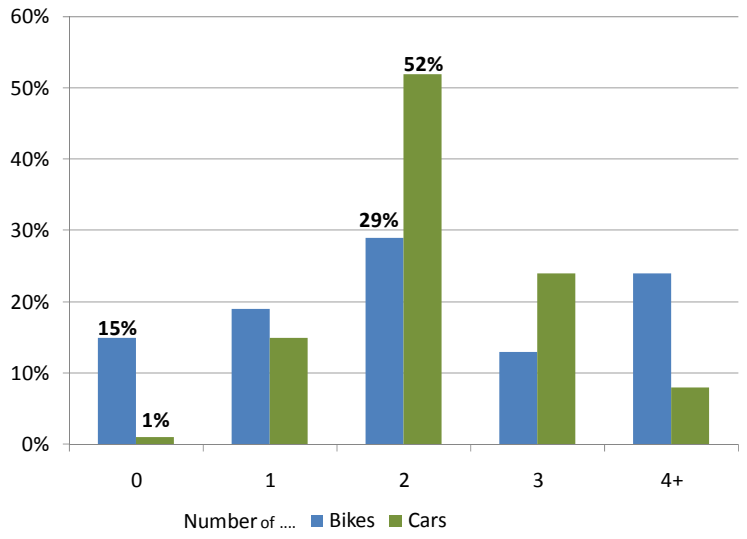
HOW FAR DO YOU LIVE FROM THE FOLLOWING…?

	1/4 Mile	1/2 Mile	1 Mile	1 1/2 Miles	2+ Miles
Your work	6.8% (73)	2.4% (26)	5.5% (59)	9.1% (98)	**76.3% (819)**
The nearest school	20.5% (228)	19.8% (221)	19.4% (216)	8.8% (98)	**31.8% (354)**
The nearest park	24.9% (278)	18.2% (204)	15.9% (178)	6.7% (75)	**34.7% (388)**
Downtown	3.6% (40)	4.3% (48)	8.3% (94)	7.8% (88)	**76.3% (859)**
The nearest grocery store	8.6% (97)	14.2% (160)	22.4% (252)	17.8% (200)	**37.7% (425)**
A People Trail	**30.6% (344)**	16.8% (189)	13.7% (154)	8.4% (94)	**30.9% (348)**
The nearest restaurant	17.1% (192)	16.4% (185)	22.3% (251)	11.5% (129)	**33% (371)**
The nearest shopping center	10.2% (115)	14.1% (159)	21.8% (246)	14% (158)	**40.1% (451)**

The respondents were asked how far they believed that they lived from their work, schools, parks, and other community features. The largest number of respondents answered 2+ miles for all categories. The majority of respondents perceived that they lived at least 2 miles away from their work and from downtown. 31% of the respondents answered that they lived more than 2 miles away from a People Trail. Another 31% of the respondents answered that they lived ¼ mile away from a People Trail.

The respondents were asked the number of cars and bicycles in their households. 1% of the respondents did not own a car. 15% of respondents did not own a bike. 52% of respondents owned 2 cars.

HOW MANY BICYCLES AND CARS DO YOU OWN…?



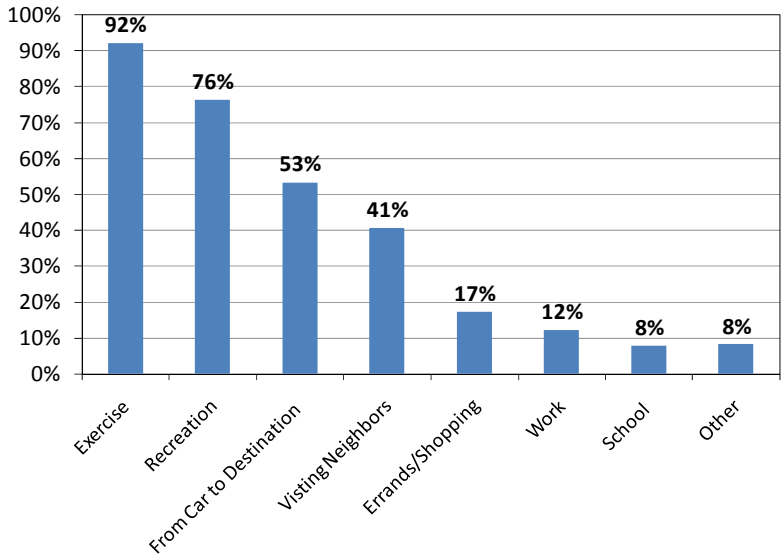
Pedestrian Facilities

Approximately 27% of respondents walk 21 or more days per month, only 3.5% responded that they never walk. The respondents felt very strongly that (1) good pedestrian facilities added value to the community and (2) children should have safe pedestrian routes to their schools and parks.

HOW WOULD YOU RESPOND TO THE FOLLOWING STATEMENTS…?

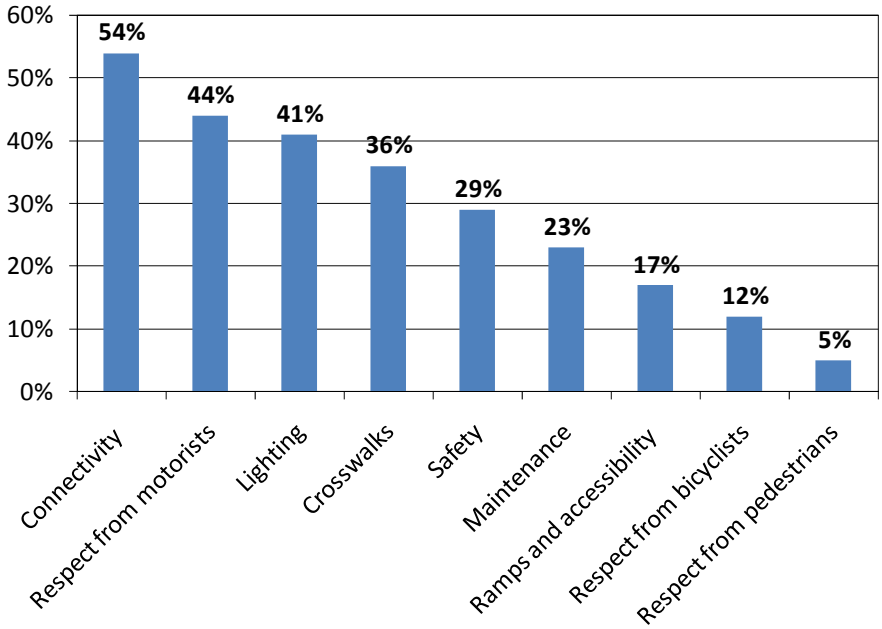
	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
Good pedestrian facilities would add value to the community.	**74.8% (796)**	21.7% (231) **96.5%**	2.3% (24)	1.0% (11)	0.2% (2)
Government should spend more money to improve/add pedestrian facilities.	**50.9% (540)**	33.4% (354) **84.3%**	9.7% (103)	4.5% (48)	1.4% (15)
The community should be involved in fundraising and efforts to improve/add pedestrian facilities.	**43.7% (465)**	38.9% (414) **82.6%**	12.7% (135)	4.0% (42)	0.7% (7)
I'd like to live in a community where I could walk to meet the needs of my lifestyle.	**56.2% (599)**	32.7% (349) **88.9%**	8.1% (86)	2.5% (27)	0.5% (5)
I'd walk more if the facilities existed.	**47.8% (506)**	32.6% (345) **80.4%**	12.0% (127)	6.4% (68)	1.1% (12)
It is important for children to have safe pedestrian routes to school, parks, the library, etc.	**81.6% (868)**	16.2% (172) **97.8%**	1.8% (19)	0.3% (3)	0.2% (2)

FOR WHAT PURPOSE DO YOU WALK?

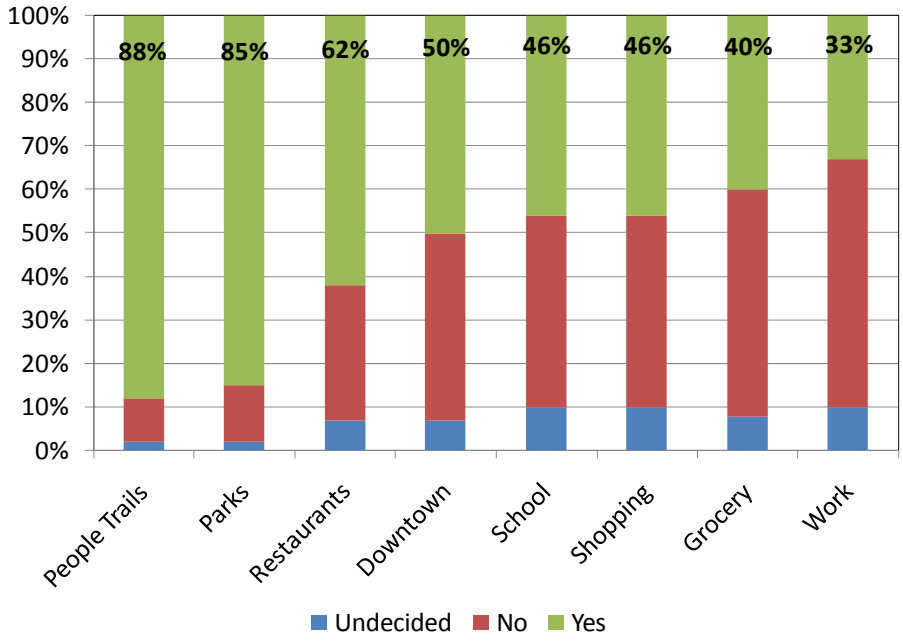


The survey respondents felt that connectivity was the most inadequate element of the current Columbus pedestrian system. A majority expressed a desire to walk not only to People Trail and Parks, but also, to a lesser extent, to restaurants and the downtown. Although not a majority, high percentages of respondents indicated that they would also walk to other destinations, such as shopping areas, the grocery store, and their work place.

WHAT ASPECTS OF WALKING ARE INADEQUATE…?



WOULD YOU WALK TO THE FOLLOWING…?



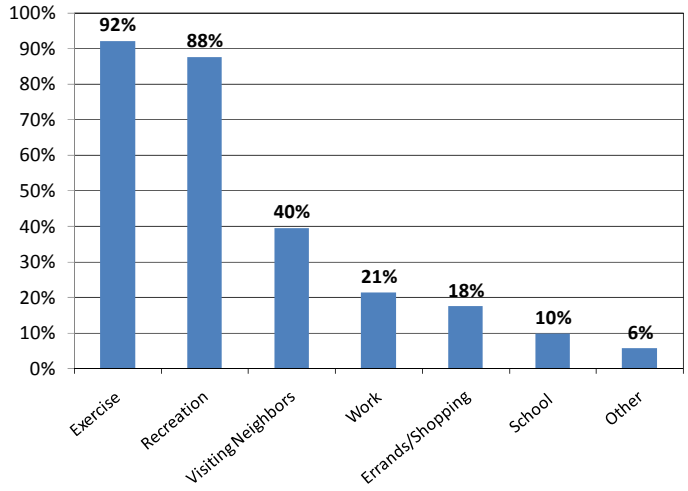
Bicycle Facilities

When asked how frequently they rode a bicycle 19% of the respondents answered "never". However, 35% rode the bicycle between 1 and 5 days each month and 9% rode at least 21 days per month. As was the case with walking, a vast majority of respondents agreed that bicycling facilities added value to Columbus and that providing safe bicycle routes for children was important.

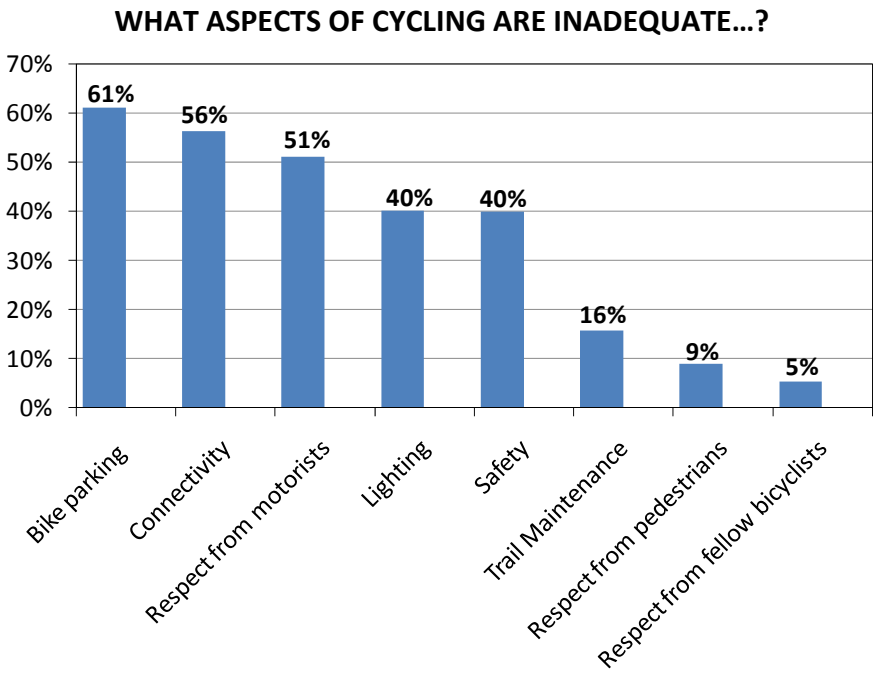
HOW WOULD YOU RESPOND TO THE FOLLOWING STATEMENTS…?

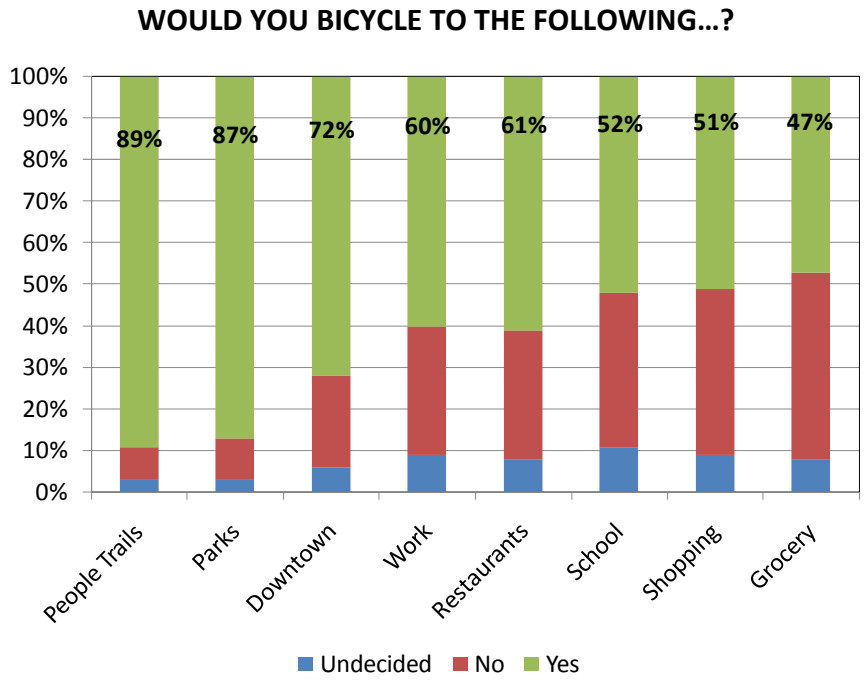
	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
Good bicycle facilities would add value to the community.	**71.6% (720)**	22.6% (227) **94.2%**	3.6% (36)	1.7% (17)	0.5% (5)
Government should spend more money to improve/add bicycle facilities.	**51.2% (513)**	29.2% (293) **80.4%**	12.4% (124)	5.0% (50)	2.2% (22)
The community should be involved in fundraising and efforts to improve/add bicycle facilities.	**48.7% (488)**	34.1% (342) **82.8%**	12.8% (128)	3.9% (39)	0.6% (6)
I'd like to live in a community where I could bike to meet the needs of my lifestyle.	**63.2% (634)**	23.1% (232) **86.3%**	9.8% (98)	3.2% (32)	0.7% (7)
I'd bike more if the facilities existed.	**59.6% (597)**	22.3% (223) **81.9%**	10.5% (105)	6.1% (61)	1.6% (16)
It is important for children to have safe bicycle routes to school, parks, the library, etc.	**80.9% (811)**	14.8% (148) **95.7%**	3.7% (37)	0.7% (7)	0.0% (0)

FOR WHAT PURPOSE DO YOU BICYCLE?



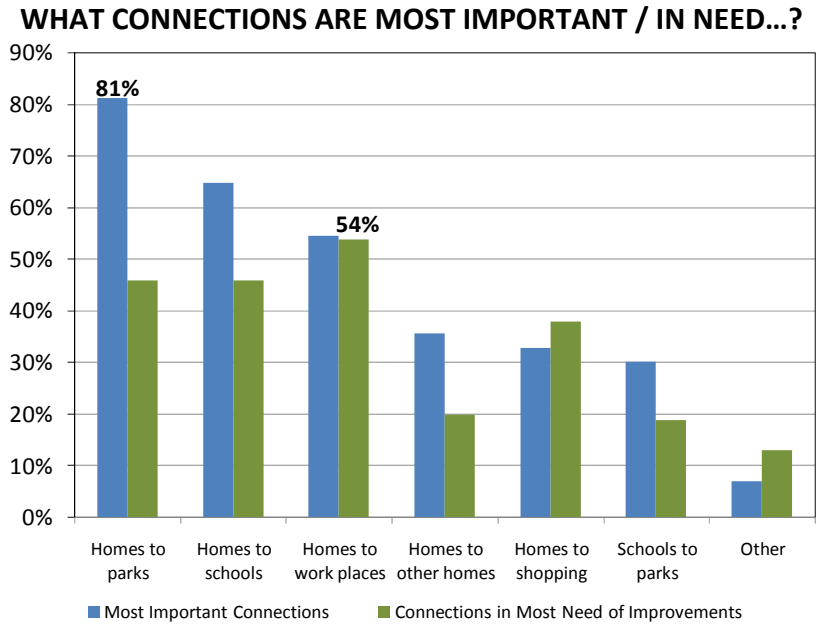
The survey respondents felt that a lack of bicycle racks at their destinations was the most inadequate element of Columbus current bicycle facilities and infrastructure. A majority also felt that connectivity and respect from motorists were also inadequate. The most popular destinations for cyclists, if adequate facilities were provided, would be the People Trails and the parks. However, a majority indicated that they would also bike to downtown, work, restaurants, schools, and shopping.

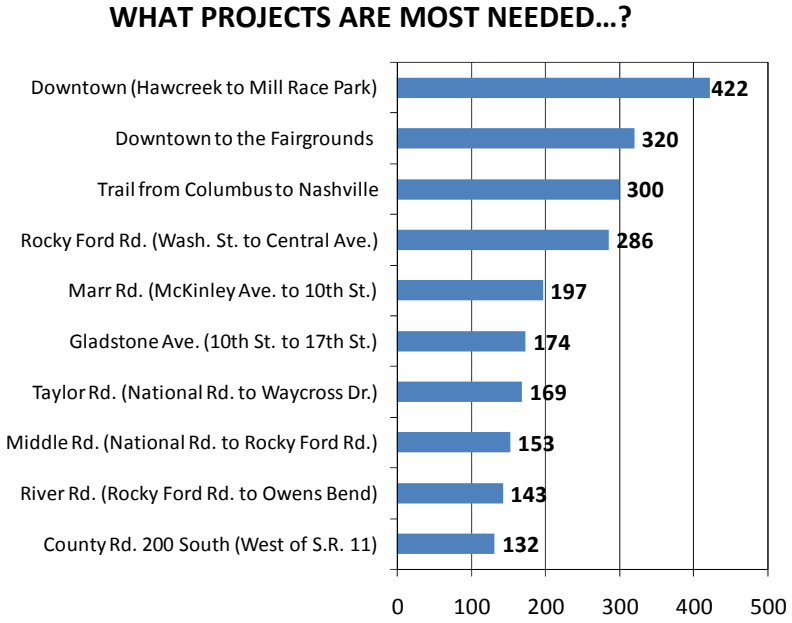




Connections

Important connections are the key component of a bicycle and pedestrian friendly community. The respondents were asked what the most important connections were and which connections were most in need of improvements. 81% of respondents felt that creating connections between homes and parks is most important. The connections lacking include homes to work places, homes to schools, and homes to parks. 54% felt that homes to work places is a connection most in need of improvement.

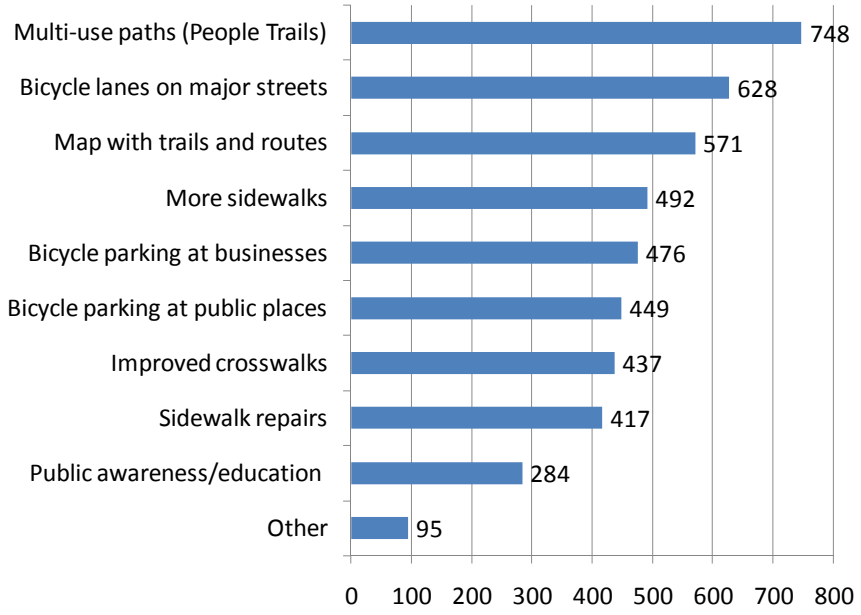




Existing and Future Bike & Pedestrian System

The last section of the survey was focused on the present and future characteristics of the bike and pedestrian system. The respondents were asked to state what features they'd like to see more of in Columbus. People Trials received the largest response followed by bicycle lanes and wayfinding information. The other responses included the following: light along the trails, a better focus on keeping the trails clean, and importance put on safe routes to school.

THE FUTURE SYSTEM SHOULD INCLUDE MORE…?



The Bike & Pedestrian Workshop

The Bike & Pedestrian Workshop encouraged the public to voice opinions and help set priorities for future bike and pedestrian system improvements. The workshop was designed to focus on long-range planning for future bicycle and pedestrian connections and improvements.

The participants were led through discussions and exercises to:

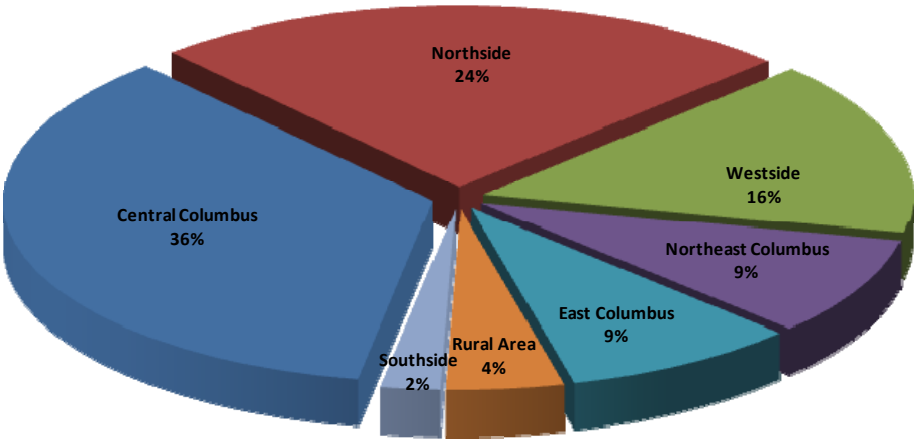
- identify existing community assets,
- set future goals,
- identify key bike and pedestrian destinations, and
- prioritize new bike and pedestrian connections.

Who Participated

The 45 people who participated in the workshop's discussion and activities provided a diversity of comments and ideas. Half identified themselves as "frequent bicyclists" and the half felt they were "frequent pedestrians".

The attendants were asked to mark on a map where in the City of Columbus they lived. All areas of the community were represented, with the largest number coming from central Columbus.

WHERE DO YOU LIVE…?



Current Assets

Working in groups, the participants were first asked to list 5 assets of the existing bike and pedestrian facilities in Columbus. The following are the top assets they described…

1. CONVENIENCE	***"Access to parks and trails!"*** People love the availability, convenience, and access to existing people trails, including the connections People Trails make to parks, other locations around Columbus, and the connections they form among the people in the community.
2. LIFESTYLE	***"Biking and walking as transportation and promoting a healthy and environmentally conscience lifestyle."*** The bike and pedestrian facilities have become an asset to peoples' lifestyles - many are using biking as means of transportation to promote healthy, environmentally friendly, and more economically efficient lifestyles.
3. SCENERY	***"Diversity of landscapes, nature, and topography. "*** The landscaping, trees, architecture, and beauty of Columbus are enjoyed while biking and walking around Columbus. The trails around Columbus allow the user to enjoy both the natural beauty and the neighborhoods.
4. ENJOYMENT	***"A community connection happens while walking and biking in Columbus."*** Columbus' people trails and other bike and pedestrian facilities have added to the family fun available. Many bike and walk as an activity the whole family can enjoy. They are linked to the different parks, activities, and neighborhoods through biking and walking.
5. SAFETY	***"To be able to safely walk and bike away from cars on the People Trails."*** People feel relatively safe biking and walking in Columbus. They enjoy being separated from vehicles while on the People Trails.

Future Goals

The groups were also asked to choose the 5 most important improvements needed in the community. The following are the 5 highest prioritized improvements…

1.	**BIKE RACKS**	***"Increase bike racks!"*** Bike racks are needed. There is limited bicycle parking when people arrive at their destinations. People are using their bicycles not only for enjoyment and exercise, but to run errands, get to school or work, and to visit friends.
2.	**CONNECTIONS**	***"Most important improvement is connection to more destinations."*** Workshop attendees would like to see more connections among the existing trails. They enjoy what Columbus has and would like to see it enhanced and extended. The people trails are being used and are greatly enjoyed.
3.	**MORE FACILITIES**	***"Facilities – restrooms, fountains, trash cans, confidence course, maps.."*** Increased pedestrian and bicycle facilities are supported throughout the trail system. This includes water fountains, benches, restrooms, landmarks, and exercise stations. Keeping the trails free of trash and debris is another concern of trail users. They feel the trails are well maintained, but it is important to them that it remains that way.
4.	**SAFETY**	***"Safe routes between homes, schools, and parks for biking and walking."*** Safety is important among bicyclists and pedestrians. They feel safe but also feel that there is more that could be done to improve and ensure that safety. Safety includes better, more visible crosswalks, signage to bring awareness, safe routes to school and parks, and timed traffic lights with the pedestrian in mind.
5.	**EDUCATION**	***"Education to understand bike etiquette and rules."*** Education is very important. Education can create a safer, more bicycle and pedestrian friendly environment for the whole community. Educating the public to inform them that people use alternative forms of transportation, other than the vehicle, is important. It is also important to educate people on the health benefits of biking and walking.

Connections and Priorities

The participant groups were each given a map on which to indicate where they want to be able to walk or bike to. Specific locations were chosen, as well as general destinations.

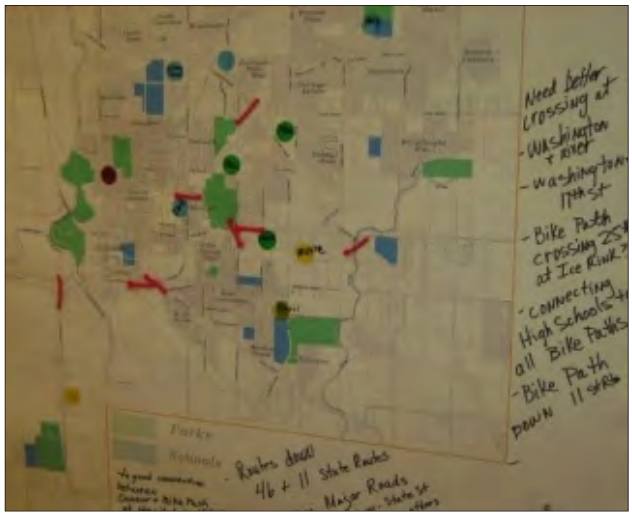
The following were the top destinations to be able to walk or bike to amongst the workshop attendees…

- **Downtown** – the library, government buildings and retail.
- **Retail** – Target, Wal-mart, and the Fairoaks Mall.
- **IUPUC/Ivy Tech and the Airport**
- **Local Schools** – North High School, Northside Middle School, Schmitt Elementary, East High School, and Southside Elementary School.
- **Mill Race and Noblitt Parks**
- **Donner Center**
- **Grocery stores** – several locations were identified throughout the City of Columbus.

Each person was then asked to select a mile of bike/pedestrian facilities (sidewalks, trails, bike lanes, etc.) that they would construct. There were many areas in Columbus that were chosen, the following were the most prominent selections:

- Second Street, Central Avenue, and State Street intersection
- Noblitt Park to Donner Park
- Washington Street
- From Southside Elementary School/Fairgrounds along County Road 200 South
- 10th Street and National Road intersection
- Columbus to Brown County
- Indiana Avenue
- Westenedge Drive

One of the maps created by the workshop participants



Planning Context:

This Bicycle & Pedestrian Plan is viewed primarily as a means to evolve and diversify the transportation system of the City of Columbus to meet growing demand for a variety of modes of travel. The plan also recognizes that its development is occurring in the context of growing concerns nationally about public health and energy costs.

Data from the 1995 National Personal Transportation Survey conducted by the Federal Highway Administration (FHWA) shows that one quarter of all trips made are one mile or less, forty percent are two miles or less, half are three miles or less and two-thirds are five miles or less. In 1969, 48 percent of school children walked or biked to school; today less than 16 percent of students between the ages of five and fifteen walk or bike to school.

In 1964, 50% of kids rode to school and the obesity rate was 12%...in 2004, 3% rode to school and the obesity rate was 45%.

Between 1960 and today the average weight of a 6-11 year old has increased 11 pounds.

Source: www.1world2wheels.com

Energy prices have escalated sharply in recent years. How the decline of the availability of oil and the growth of substitutes will play out is something that cannot be predicted. However the price of energy has been a topic of great discussion in the media and is of concern to the public at-large, and the possibility of rising energy prices does not seem unrealistic. In June of 2006, Mayor Armstrong joined thousands of fellow mayors from across the country in signing the Mayor's Climate Protection Agreement. This agreement commits the City to seek out means of reducing energy use and thereby protecting the environment. In light of this agreement and the uncertain future of energy prices, a diversification of the City's transportation system via the inclusion of bicycle and pedestrian facilities is a prudent strategy.

Elementary school students walking home from Lincoln School

Bicycle & Pedestrian System Plan Map:

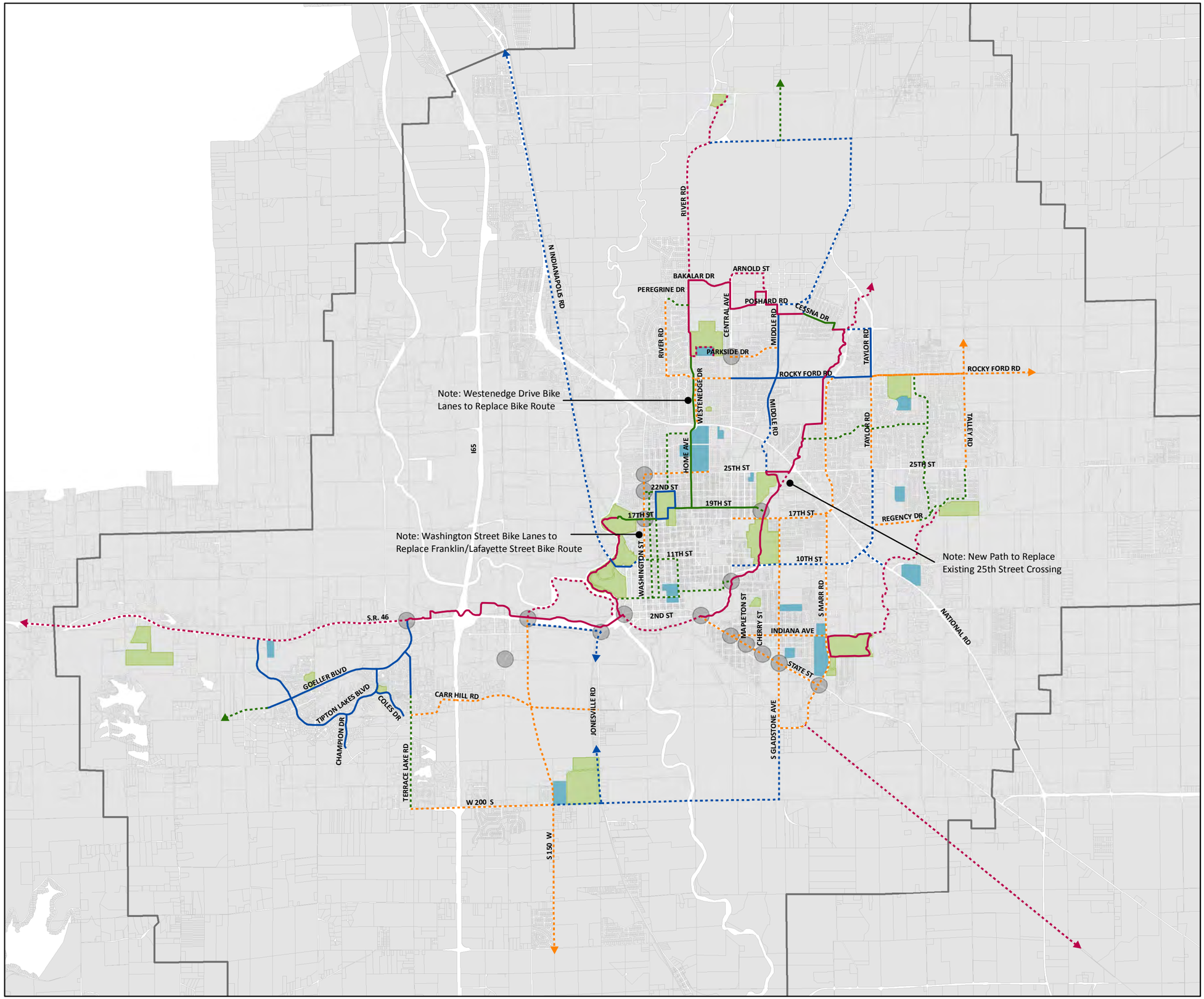
The Bicycle & Pedestrian Plan Map illustrates the current and future facilities. The recommended locations are conceptual on the map and should be interpreted as such. Any and all opportunities to construct a route making the connection shown on the map should be considered. The City should take advantage of opportunities to construct facilities as part of major street improvement projects, railroad closures, private developments, and any other appropriate occasions.

The City recognizes that different types of facilities may be required to accommodate different types of pedestrian and bicycle trips. Furthermore, the most appropriate type of facility will vary according to the skill and level of comfort of each user and the length and purpose of the trip. The Columbus bicycle and pedestrian system is designed based on a variety of facility types, each appropriate for specific combinations of users and locations in the community.

Knowing which users generally use which facilities enables the identification of connectivity gaps for different users in the network. Facilities are not mutually exclusive and a combination of these facilities is required to provide mobility to all users. These facility types are depicted on the System Plan map and are described on the pages that follow.

Walkers and bikers enjoying the Haw Creek Trail

Bicycle & Pedestrian System Plan Map



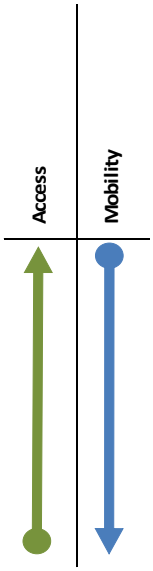
- Proposed Multi-Use Path
- Existing Multi-Use Path
- Proposed Bicycle Lanes
- Existing Bicycle Lanes
- Proposed Bicycle Route
- Existing Bicycle Route
- Proposed Sidepath
- Existing Sidepath
- Proposed Intersection Improvement
- Columbus Jurisdiction
- School Location
- Park Facility

Facility Types & Users Summary:

Roads are typically classified based upon their ability to provide access and mobility. As the degree of access provided to a road increases, the road's ability to provide mobility decreases. Inversely, as access decreases mobility increases. The following illustrates this relationship graphically as applied to bicycle and pedestrian facilities.

FACILITY TYPES & USERS

Facility Type	Expected User				
	Pedestrian	Child on Bicycle	Basic Adult Cyclist	Advanced Cyclist	Motor Vehicle
Sidewalks & Connectors	X	X			
Sidepaths	X	X	X	X	
Bicycle Routes			X	X	
Bicycle Lanes			X	X	
Multi-use Paths	X	X	X	X	
Local Street			X	X	X
Collector Street				X	X
Arterial Street					X
Interstate Highway					X



To successfully create a bicycle and pedestrian network in Columbus, it will be important to provide facilities for bicycles and pedestrians associated with collector and arterial streets. Collectors and arterials provide direct and continuous routes, in other words mobility. It is this same mobility that results in higher vehicular speeds and larger traffic volumes, thus the need to create a separate operating space for bicycles and pedestrians. Local streets on the other hand are often designed to prevent through movements; they focus on access provision. Local streets have lower vehicular speeds and lower traffic volumes. Separate operating space for bicyclists and pedestrians is not as necessary.

The recommended classification system for bicycle and pedestrian facilities will allow design standards to match the needs of the users of each type of facility. The functional classifications and facility types should be used for the development and organization of future bicycle and pedestrian facilities in Columbus.

Multi-use Paths:

Multi-use paths are intended to provide uninterrupted or minimally interrupted movement over distances of a mile or more for a variety of purposes and users. They are frequently part of, or connect to, a regional path system.

A portion of the Haw Creek People Trail at 8th Street

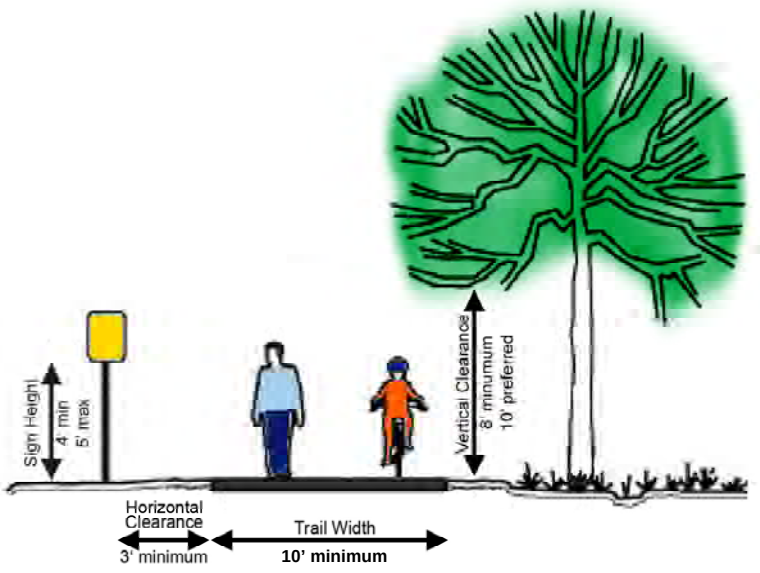
Multi-use paths serve bicycle commuters as well as recreational users. Therefore, higher bicycle speeds should be anticipated. Path width should be sized to accommodate higher bicycle speeds and to minimize conflicts between bicyclists and pedestrians. Multi-use paths are typically not located within street rights-of-way. They typically have exclusive right-of-way and limited cross traffic, making them very safe.

The majority of the current Columbus People Trail system consists of multi-use paths. On occasion the current paths do run parallel to existing streets. In these cases, the adjacent street has very few access points crossing the path. Some current examples include the Haw Creek Trail and the State Road 46 West Trail.

Multi-use paths should be designed and constructed to meet the standards as published by the American Association of State Highway and Transportation Officials (AASHTO), current edition and the design guidelines below.

Design Guidelines:

- Surface – asphalt or concrete pavement
- Width – 10 feet minimum (12 feet preferred)
- Intended Users – cyclists, joggers & pedestrians of all ages
- Design speed – 20 mph
- Horizontal clearance – 3 feet (from the trail pavement)
- Vertical clearance – 8 feet minimum (10 feet preferred)
- Maintenance – Parks & Recreation Department



Multi-use Path Cross Section

Above and Left: The Haw Creek Trail – multi-use path (part of the People Trail system)

Bicycle Lanes:

Bicycle lanes are designated areas of the street which are reserved for the exclusive use by bicyclists. Bicycle lanes are typically established with pavement markings and signs along routes where bicycle traffic is desired or expected and where there are distinct needs that can be served by them.

All bicycle lanes should be one-way facilities and carry bicycle traffic in the same direction as the adjacent motor vehicle traffic. Use of bicycle lanes on streets with on-street parking requires a higher level of awareness for both bicyclists and motorists.

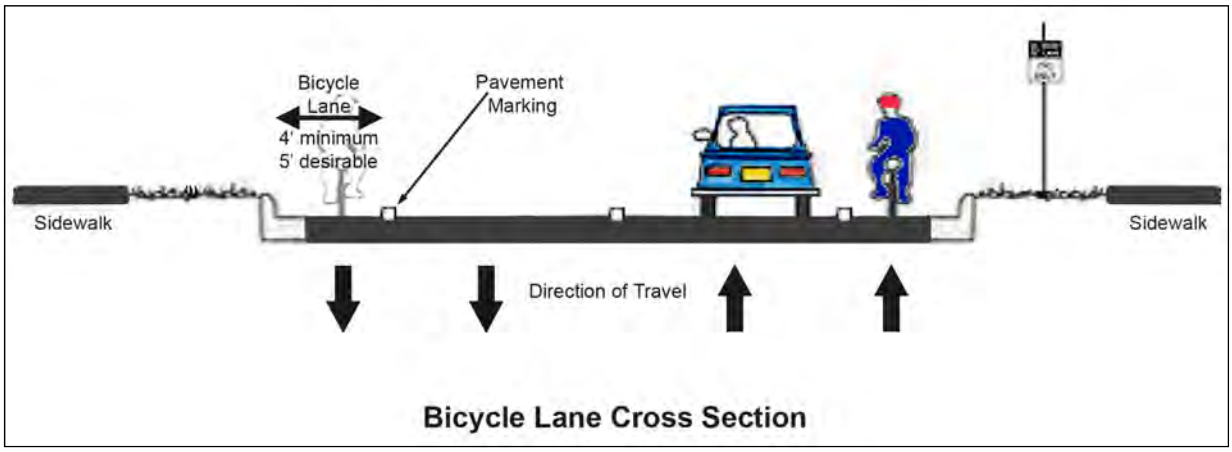
Bicycle lanes are intended for use by advanced and basic riders who prefer designated space and are not intended to serve children or less confident adult riders, these users should use the sidewalks. Bicycle lanes are intended to be used in combination with sidewalks. Bicycle lanes should connect with destinations or other bicycle facilities.

There are currently no bicycle lanes in use in the Columbus area.
Bicycle lanes may be retrofitted onto existing streets which have excess pavement. The inclusion of bicycle lanes should also be considered in association with most street improvement projects.

Bicycle lanes should be designed and constructed to meet the standards as published by the American Association of State Highway and Transportation Officials (AASHTO), current edition, the Manual on Uniform Traffic Control Devices (MUTCD), and the design guidelines below.

Design Guidelines:

- Surface – consistent with the street pavement
- Width – 4 feet minimum (5 feet preferred)
- Intended users – advanced and basic adult bicyclists
- Design speed – 20 mph
- Vertical clearance – 8 feet minimum (10 feet preferred)
- Street Classification – collector or minor arterial
- Vehicular design speed – 30 to 40 mph
- Maintenance – City Services



A typical bicycle lane (bicycle lane photo courtesy of www.bikepedimage.org)

Bicycle Routes:

Bicycle routes are streets that have been designated and marked with signage as bicycle routes. Local streets are particularly well suited for bicycle routes due to their function within the functional classification system. The primary function of a local street for vehicle traffic is to provide local access. A high degree of access means a low degree of mobility and thus equates to lower vehicular speeds.

Bicycle routes may also be appropriate on some urban and suburban collector and arterial streets where, due to physical constraints, a connection for bicyclists cannot otherwise be established. Bicycle routes are also appropriate for rural roads where they are used primarily by recreational bicycle riders.

Bicycle routes have been used in Columbus only once, on Cessna Drive. This route is used in combination with the sidewalks to form a link in the People Trail System between the Haw Creek and Blackwell-Airport multi-use paths.

Bicycle routes should be designed and constructed to meet the standards as published by the American Association of State Highway and Transportation Officials (AASHTO), current edition. All bicycle routes should feature signs in conformance with the Manual of Uniform Traffic Control Devices. These bicycle route signs are important for (1) identifying the route for bicyclists and (2) warning motorists of the possible presence of bicycle traffic.

A typical bicycle route sign.

Above: The bicycle route on Cessna Drive

Left: Bicycle Route signs can also feature route names, destinations and/or distances

Sidepaths:

A sidepath is an extra-wide sidewalk along one side of a street within the street right-of-way. Sidepaths are designed to carry both pedestrian and bicycle traffic.

Sidepaths have an advantage over bicycle lanes by having a curb separating the vehicle and bicycle traffic. An out of control vehicle will hit the curb prior to entering the space of the cyclist.

The major disadvantage to a sidepath is that bicycles are likely to conflict with both pedestrians and vehicles, particularly at street intersections. Sidepaths are typically provided on only one side of a street, with either a standard sidewalk or no sidewalk on the opposite side. This results in a counterflow of bicycle traffic (due to bicycles traveling in both directions on one side of the street). Some cyclists are therefore on the wrong side of the street at intersections and integrating them with vehicles at these intersections is very problematic. Driveway crossings also pose a serious safety problem for bicyclists and should be minimized.

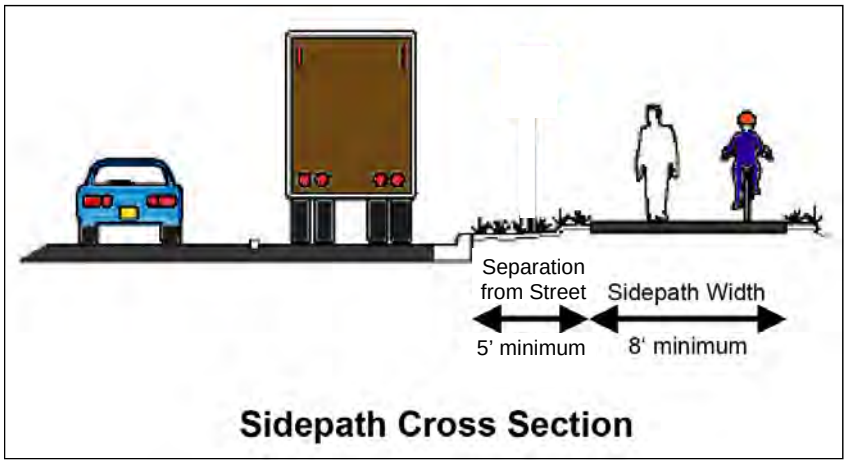
Generally, the use of sidepaths should be minimized in favor of bicycle lanes in combination with sidewalks on both sides of the street.

Sidepaths comprise a small portion of the current Columbus bicycle and pedestrian system. They can be found along Rocky Ford and Middle Roads.

Sidepaths should be designed and constructed to meet the standards as published by the American Association of State Highway and Transportation Officials (AASHTO), current edition and the design guidelines below.

Design Guidelines:

- Surface – asphalt or concrete pavement
- Width – 8 feet minimum
- Intended users – basic and child cyclists and pedestrians and joggers of all ages
- Design speed – 15 mph
- Horizontal clearance – 2 feet (from the path pavement)
- Vertical clearance – 8 feet minimum (10 feet preferred)
- Separation from the street – 5 feet minimum (from back of curb or edge of shoulder to the path pavement) unless a minimum 42 inch high barrier is provided
- Maintenance – Adjacent property owners



A sidepath in the Tipton Lakes area

Sidewalks:

Sidewalks are intended to be located in the street rights-of-way to connect pedestrians to their homes and destinations. The distance traveled by a pedestrian on a local sidewalk is expected to be less than one mile. Longer trips will generally include the use of multi-use paths; with the sidewalks serving as a link to these facilities.

Most recently developed residential subdivisions in Columbus feature sidewalks on both sides of all streets. Some examples include Breakaway Trails subdivision and McCullough's Run subdivision.

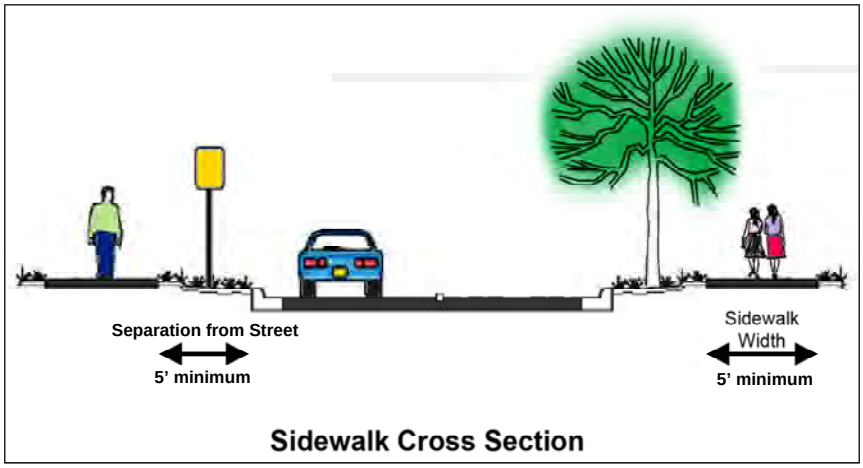
Sidewalks are narrower than sidepaths, generally ranging from three to five feet. Due to their comparatively narrow width, sidewalks are intended to serve pedestrians as well as children and other less confident bicycle riders. More experienced cyclists should use corresponding bicycle lanes or the street (where designated bicycle lanes are not present). Sidewalks should always be located on both sides of streets to ensure adequate, safe access to adjacent properties and to provide clear street crossings (which will occur primarily at intersections).

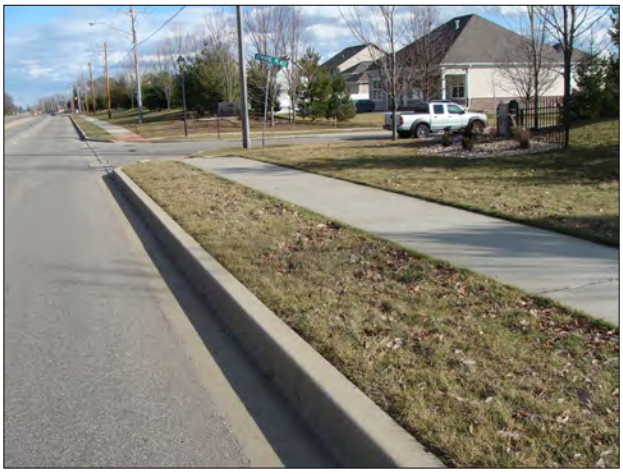
Sidewalks are currently located adjacent to most, but not all, streets in Columbus. Sidewalks are currently required by both the Columbus zoning and subdivision control ordinances adjacent to all streets in residential and commercial areas and adjacent to collector and arterial streets in industrial areas. Sidewalks are intended to be a component of a complete street system in all developing portions of the City.

Sidewalks should be designed and constructed to meet all applicable federal, state, and local standards and the design guidelines below.

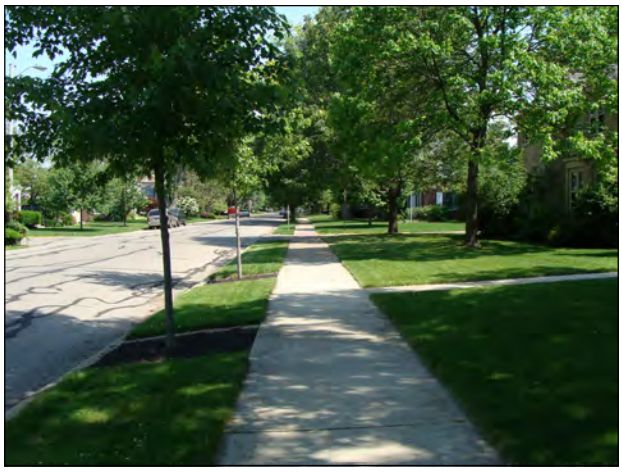
Design Guidelines:

- Surface – concrete pavement
- Width – 5 feet minimum on local streets
- Intended users - basic and child cyclists and pedestrians and joggers of all ages
- Vertical clearance – 8 feet minimum (10 feet preferred)
- Separation from the street – 5 feet minimum (from back of curb or edge of shoulder to the sidewalk pavement) unless located in an urban commercial area, where no separation is provided
- Maintenance – Adjacent property owners





Typical sidewalks in Columbus – installed on both sides of the street and separated from the street by a tree lawn



Connectors:

Connectors provide pedestrian access from cul-de-sac streets and other subdivision streets to nearby sidewalks, multi-use paths, and other bicycle and pedestrian facilities. They also provide access to key destinations, such as schools and parks.

Typical, current suburban subdivision design, with its curving streets and cul-de-sacs, seeks to discourage through traffic. This makes local streets in the more recently developed portions of the City poorly suited as bicycle or pedestrian routes due to the lack of direct connections. This disadvantage of modern subdivision design can be mitigated with pedestrian and bicycle connectors.

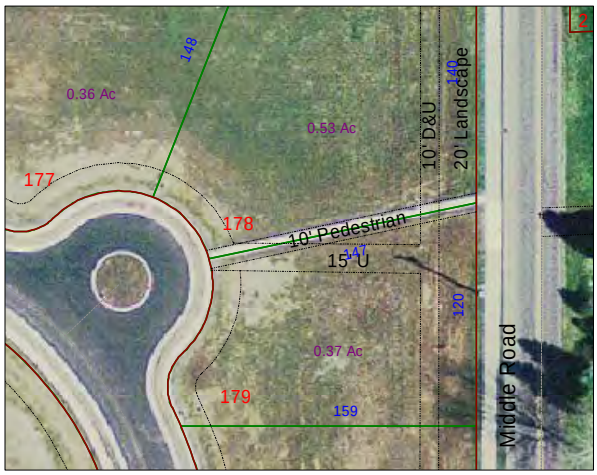
The use of connectors is encouraged for locations where pedestrians and cyclists would otherwise be required to travel more than 1,000 feet out of their way to reach the same destination. All new developments adjacent to bicycle and pedestrian facilities and/or key destinations (parks, schools, shopping centers, etc.) should provide connectors.

Connectors could be provided either (1) within easements where they are maintained by the lot owners, (2) in common areas where they are maintained by a lot owners association, or (3) in right-of-way or parcels dedicated or deeded to the City where they are maintained by the City.

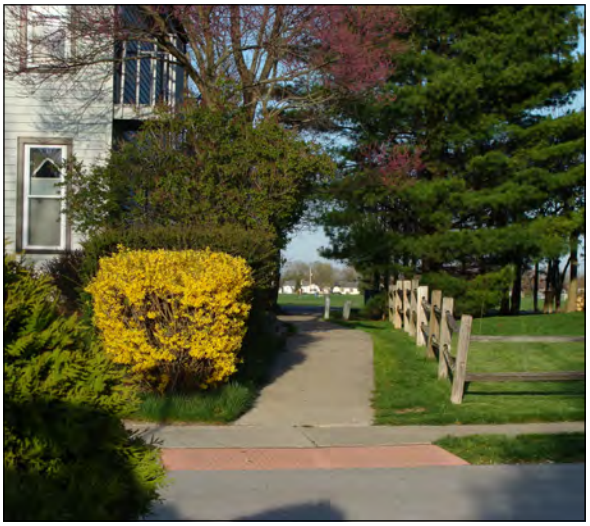
Connectors shall be designed and constructed to meet all applicable federal, state, and local standards and the design guidelines below.

Design Guidelines:

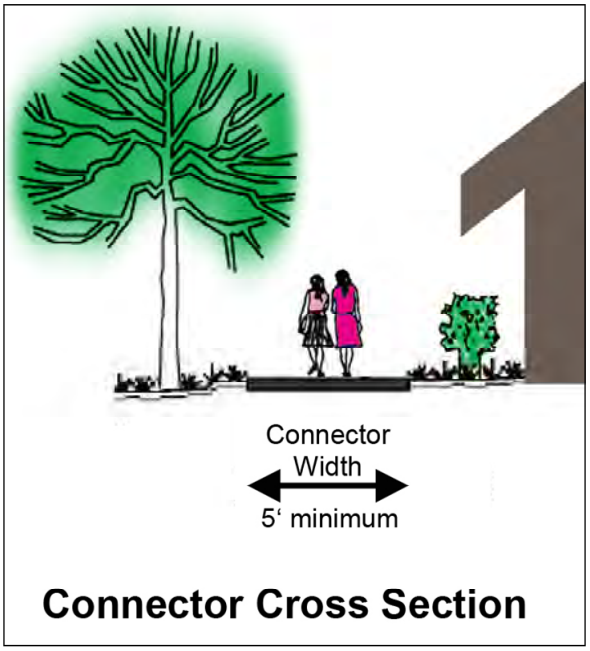
- Surface – concrete or asphalt pavement
- Width – 5 feet minimum (pavement) within a 10 foot easement, common area, parcel, or right-of-way
- Intended users – cyclists, pedestrians and joggers of all ages
- Horizontal clearance – 2 feet (from the pavement)
- Vertical clearance – 8 feet minimum (10 feet preferred)
- Maintenance – varies based on ownership of the property



An aerial photograph of the connector from Pawnee Trail to Middle Road



The pedestrian connector from Junco Drive to the Blackwell-Airport People Trail and Blackwell Park



Intersections & Street Crossings:

It is the goal of the City of Columbus to provide a safe, efficient, and balanced multimodal transportation system and a key part of that is providing safe street crossings for pedestrians and bicyclists. Intersections and street crossings are inherently hazardous locations for pedestrians and bicyclists because of the interaction with vehicle traffic. Currently, the City lacks a consistent standard pavement marking and sign policy for use at intersections and crossings. Some intersections have been designed to efficiently accommodate vehicular traffic which acts as an impediment to pedestrians and cyclists. Further, mid-block street crossings, as currently practiced, are unexpected by motorists and are therefore also hazardous.

Intersection and crossing measures that have been or are being used in Columbus include:

- marked crosswalks (various patterns),
- pedestrian crossing warning signs,
- curb extensions,
- flashing beacons,
- school crossing guards, and
- countdown timers and pedestrian signals.

The Manual on Uniform Traffic Control Devices (MUTCD) gives little guidance regarding when and where to mark pedestrian crossing locations. However, design guidelines for crossings are included in the appendix as the Pedestrian Crossing Treatment Guide. This Guide establishes guidelines for the consistent use of traffic control devices at pedestrian crossings based upon the roadway configuration, traffic volume, and vehicular speeds. The purpose of this section is to provide guidance for determining consistent engineering solutions to pedestrian and cyclist safety concerns, particularly with regard to crosswalks. This section can be used to both provide guidance for new construction and for retrofitting existing crosswalk locations.

Brown Street mid-block crossings link the Cummins Offices with the adjacent parking

Columbus East High School students cross Marr Road to access the athletic complex

Bicycle Parking:

Bicycle parking facilities, such as racks and lockers, are also an important element of a convenient, usable, bicycle and pedestrian system. A lack of secure bicycle parking facilities at cyclists' destinations may discourage people from using their bicycles for basic transportation. When bicycle racks are provided, the location and design are critical to their successful use.

Bike racks at Freedom Field Park (top) and downtown Columbus (bottom)

Bicycle parking has not typically been provided in Columbus at locations other than schools. The general lack of bicycle parking has often led to the locking of bicycles to signs, trees, light poles, and other inappropriate locations. Recent installations at Freedom Field and Central Middle School are examples of acceptable bicycle racks at suitable locations. Also, the City of Columbus has installed new bike racks at City Hall, the Columbus Visitors Center, Donner Center, the Jackson Street Parking Garage, and at various locations in the downtown.

Bike racks need to be located in high visibility, high foot-traffic areas near the entrance of the destination they are associated with, without being in the direct path of pedestrians. Bicycle parking facilities should be installed at the following destinations:

- commercial developments,
- parks,
- civic buildings,
- parking garages,
- bus stops and transit points,
- schools, and
- other locations where bicycling is anticipated.

Bicycle parking should generally be easy to use, durable, convenient, and attractive. Bicycle racks should have the following characteristics:

- racks should support the bicycle via its frame at 2 points above its center of gravity,
- racks should enable the frame and at least one wheel to be secured to it with a U-lock,
- Racks should not require the lifting of the bicycle to use any of the racks' parking positions, and
- racks should not hold a bicycle by its wheel.

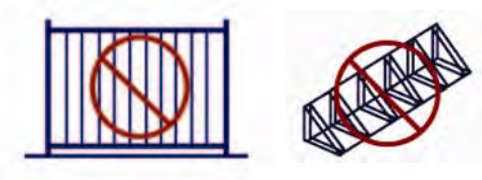
Preferred Rack(s)

Inverted "U" "A" Post & Loop

Acceptable Rack(s)

Wave

Discouraged Rack(s)



Comb Toast

Bicycle racks at Parkside School

Recently installed bike racks in use at Donner Center

General Recommendations:

The following recommendations are made to support and enhance the City of Columbus' efforts to accommodate pedestrian and bicycle travel.

Municipal Code Content: The City of Columbus should repeal the sections of the Municipal Code listed below. These sections address licenses and "play streets". The use of licenses and fees has not been applied for many years and seems to have little relevance. The establishment of play streets has not been exercised and does not seem appropriate.

- Section 10.56.030 License required.
- Section 10.56.040 Application and fee.
- Section 10.56.050 License issuance and records.
- Section 10.56.060 License or tag replacement.
- Section 10.56.070 Attachment of license number.
- Section 10.08.050 Authority to establish play streets.
- Section 10.08.060 Operation of vehicles on play streets.

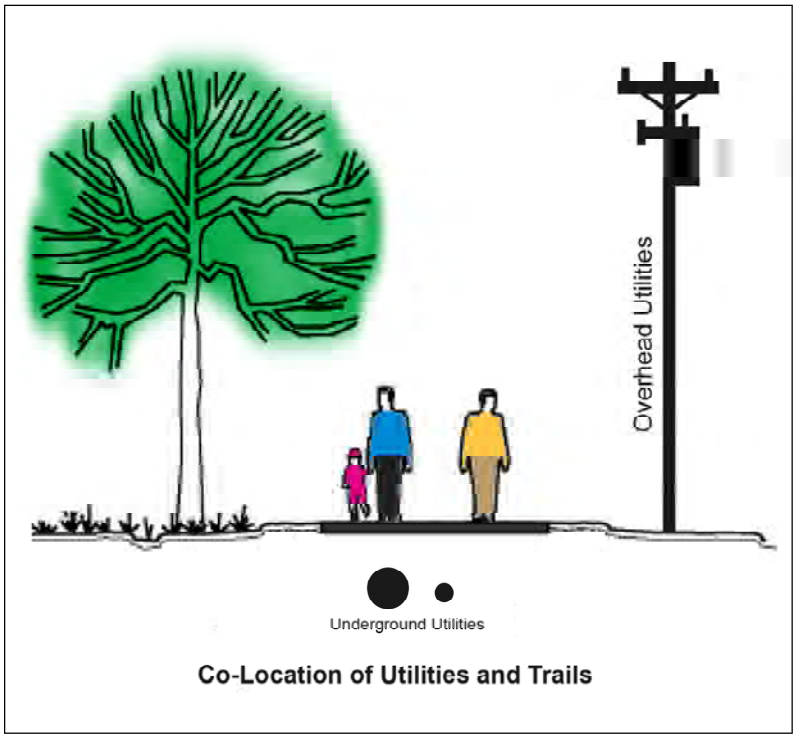
Subdivision Control Ordinance Content: The subdivision control ordinance should maintain the following requirements for new subdivisions:

- Increase sidewalk widths to 5 feet for all streets.
- Sidewalks should be installed on both sides of all residential and commercial streets in suburban and urban areas as defined in the Thoroughfare Plan.

Accessibility of Facilities: All bicycle and pedestrian facilities in the City of Columbus should be designed and constructed to comply with the Americans with Disabilities Act (ADA) and other applicable federal, state, and local standards and to be accessible to all members of the community.

Consideration during Improvement Projects: The needs of bicyclists and pedestrians should be incorporated in the planning, design, and review of all infrastructure projects within the City of Columbus.

<u>Co-Location of Facilities:</u> The City should co-locate trails and utility infrastructure in the same corridor whenever possible. Such co-location reduces the inefficiencies of owning multiple easements and provides the opportunity for the dual use of the trail as an access driveway for the occasional use by utility vehicles or other authorized vehicles.



People Trails Defined:

The People Trail System represents the origin of bicycle and pedestrian facilities in Columbus. Over time the initial multi-use path termed the "People Trail" has grown to include a system of paths linked together by less identifiable bicycle routes, sidewalks, and sidepaths. The People Trail System is well-known in Columbus, primarily as a safe location for family recreation.

Increasingly the system is also used for bicycle commuting, the walk to school, and other transportation needs. As the community's overall bicycle and pedestrian system continues to develop the original multi-use paths will no longer comprise the majority of the system's facilities. They will be replaced by bicycle lanes and bicycle routes paired with sidewalks as the most common facility type.

Clearly defining the People Trail system and distinguishing these routes from others will be beneficial for defining maintenance responsibilities and guiding users in search of facilities best suited for family leisure activity.

The People Trails are envisioned by this plan as a system-within-the-system; a subset of the overall bicycle and pedestrian network. The term People Trails is a brand name that refers to the network of multi-use paths, sidewalks, sidepaths, and bicycle routes that form the basis for walking and cycling recreation in Columbus. While this People Trail network is not intended to exclude commuters and other non-recreational riders, it is intended to continue to be recognized by leisure seeking individuals and families.

Bicycle and pedestrian related wayfinding and trail heads are planned to initially be based on the People Trail System. This focus is based on the belief that the People Trails will be the primary location where users change modes of transportation – unloading their bicycles, strollers, etc. from their vehicles. In contrast, users of the wider system will most likely travel by bicycle or foot directly from home to work, school, or shopping; without a change in mode of transportation.

A map of the People Trail System can be found on page 51.

Trail Heads & Wayfinding:

A clear, consistent mapping and wayfinding system is a key element of the People Trail System.

Maps of the People Trails should be readily available to both residents and visitors alike. These maps should be combined with a system of wayfinding markers; and should include the items listed below:

- parking areas,
- mileage,
- rules for the trails, and
- safety tips for biking and walking.

Trail heads are often used as gateways and anchors for wayfinding. Trail heads are most appropriately located at places where people change modes of transportation – exiting their vehicles to begin a walk, jog, or bicycle ride. Trail heads should provide access to the People Trails, act as identification markers, and provide directions for system users. All of these trail head elements should contribute to visible recognition of the People Trail System.

In Columbus, trail heads should include the following features:

- rules for the People Trails,
- map of the People Trial System and other bicycle & pedestrian facilities in the community,
- trash receptacles,
- parking lot, and
- landscaping.

Whenever possible, trail heads should be located in parks or near other public facilities where the following amenities would be available:

- drinking fountains,
- restrooms, and
- benches.

Currently, trail rules are only listed on the Noblitt Park People Trail Kiosk. As the larger bicycle & pedestrian system continues to develop, it is important that rules and safety tips for all types of facilities are well known throughout the community.

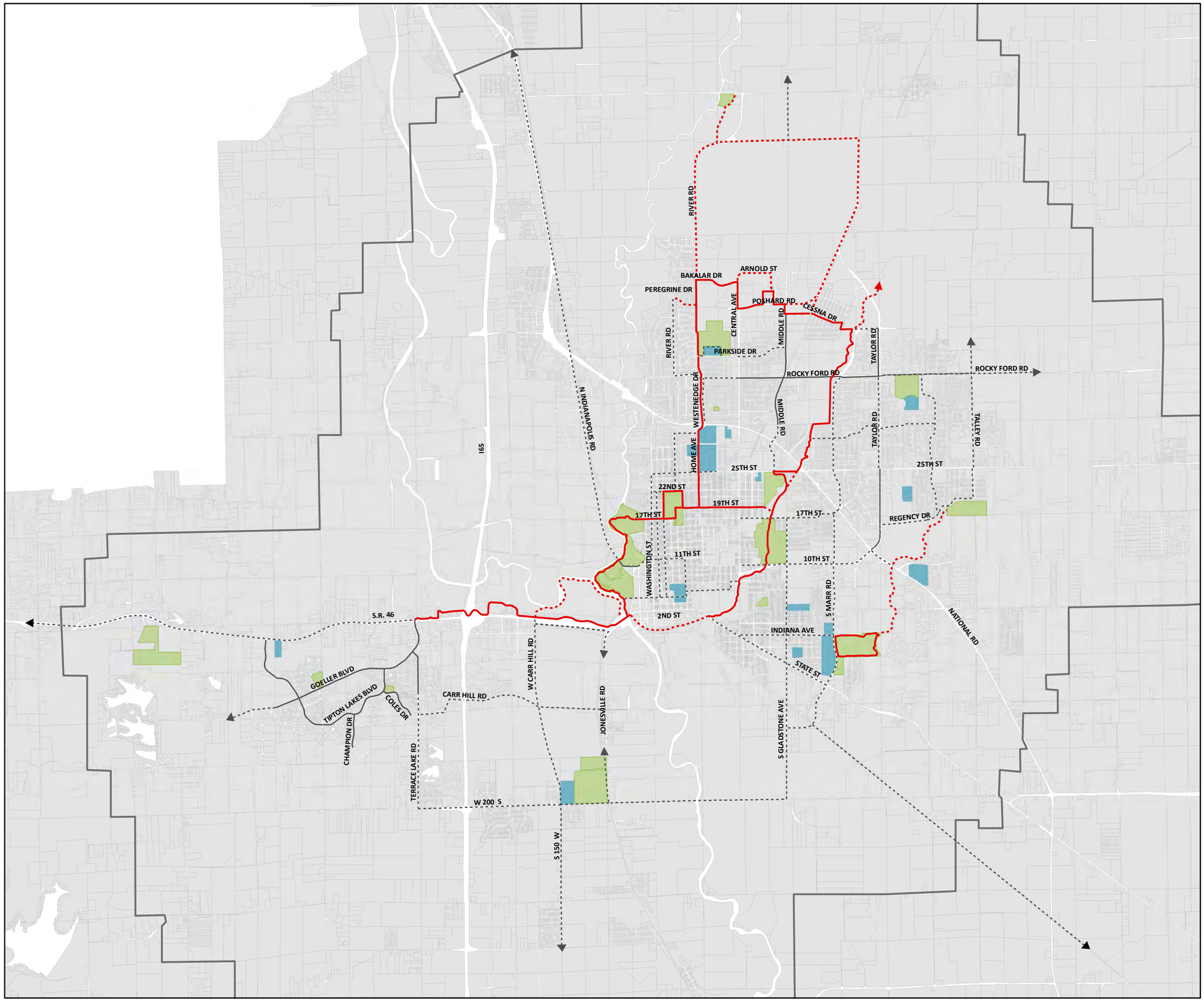
People Trail maps can be found throughout the City as well as on the Parks Department website. In 2008, the Parks Department began installing wayfinding signage on the surface of the trail centerline using 2 styles of markers. The goal of these markers is to eliminate confusion by clearly defining the type of trail and its destination.

- The green marker with the text "People Trail" identifies sections of multi-use path forming the majority of the People Trail system. Typically, these markers are placed every ½ mile in line with the existing mile markers. However, they are placed more often in areas of potential confusion, such as intersections.
- The black and white marker identifies a variety of sidewalks, sidepaths, streets, and bike routes that are used to link the multi-use paths and complete the People Trail system.

The Manual on Uniform Traffic Control Devices (MUTCD), Part 9 Traffic Controls for Bicycle Facilities should be the guiding document for signs, signals, and pavement markings for the People Trails.

Brenton Wolfe designed and installed the mile markers along the People Trails for his Eagle Scout project in 2006 and 2007. The Mill Race Park Tower is the starting point for the mileage system. Trails radiate from that point in 3 directions (west to Goeller Boulevard, north to the Columbus Airport, and northeast along Haw Creek).

Mileage markers have also been placed in Donner and Clifty Parks and along the Rocky Ford and Middle Road sidepaths.



People Trail System

Proposed People Trail

Existing People Trail

Proposed Other Facilities

Existing Other Facilities

Columbus Jurisdiction

School Location

Park Facility

Implementation:

This plan is intended to guide future bicycle & pedestrian facilities in the City of Columbus by identifying the conceptual location and type of these new facilities. These connections and designations are based on the best information currently available. This plan recognizes that the implementation of any single project will likely require involvement of area property owners, detailed engineering studies, fundraising, and the identification of exact routes. This plan intends for the actual design and construction of any new facility to be based on engineering studies, public participation, and the overall feasibility of that specific project. For example the labeling of a future connection as a "bicycle lane" in this plan should not be interpreted as preventing the installation of a "sidepath" instead if the design process for that route discovers that a sidepath or some other alternate facility type would be more appropriate.

Implementation of this plan should be accomplished via the following mechanisms:

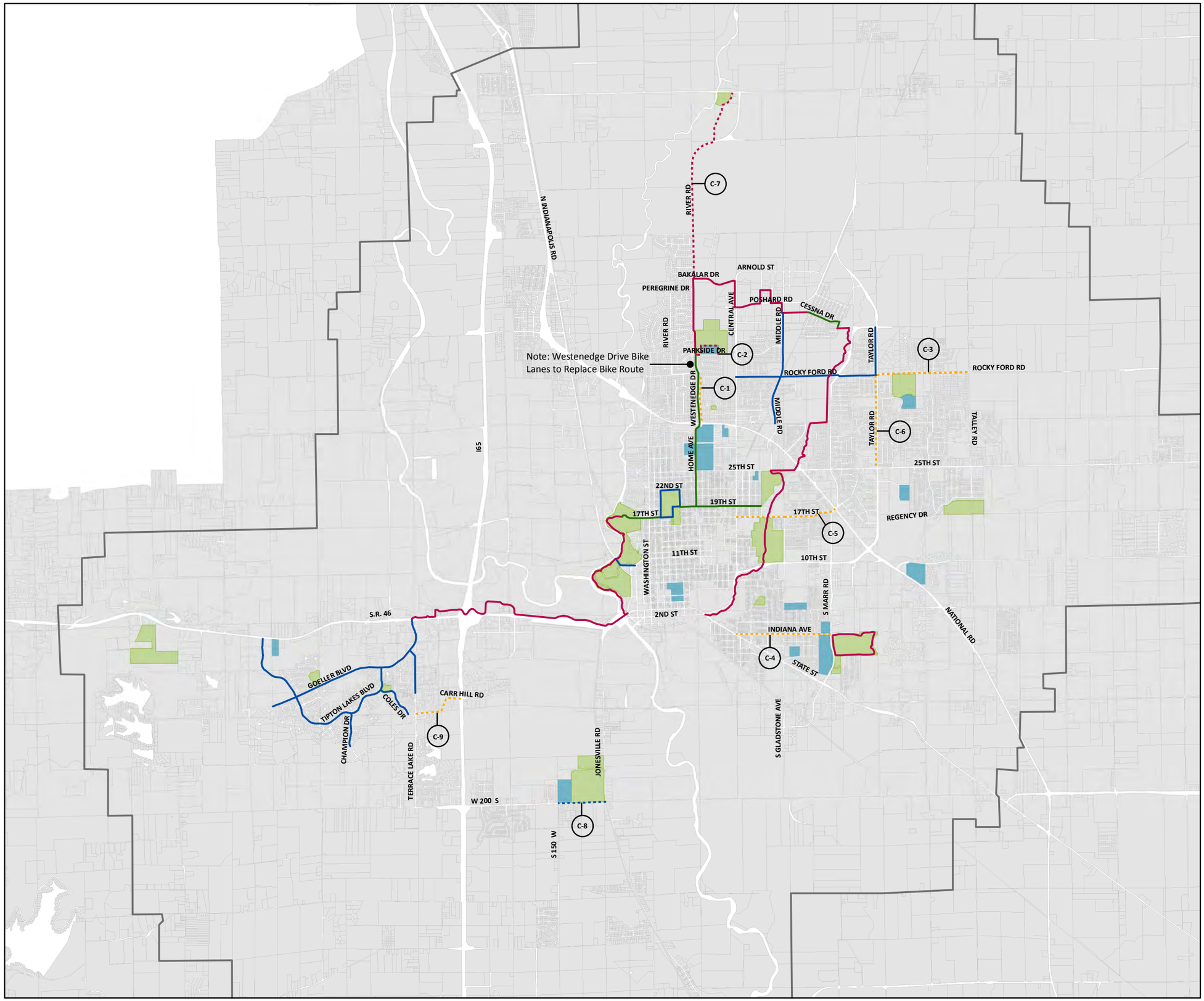
- Integration of planned facilities and routes into the City of Columbus Thoroughfare Plan and resultant projects.
- Integration of planned facilities and routes into the Columbus Area Metropolitan Planning Organization (MPO) 25 Year Transportation Plan and resultant projects.
- Integration of planned facilities and routes into the City of Columbus Parks and Recreation Master Plan and resultant projects.
- Integration of planned facilities into private development projects through the requirements of the City's zoning and subdivision control ordinances.
- Adoption of new City Ordinances and modification of existing City Ordinances.
- Education and encouragement.

The implementation of the bicycle and pedestrian system described in this document should be funded by a variety of sources:

- MPO and City Thoroughfare funds as part of street improvement projects.
- Parks Department capital project funds.
- Federal and INDOT funds as part of highway projects.
- Federal "Transportation Enhancement" funds.
- Private fund raising efforts, such as the Columbus Park Foundation.
- Private financing as part of subdivision development.

- Other funds and grants that may be available (such as any from the Indiana Department of Natural Resources, etc.).

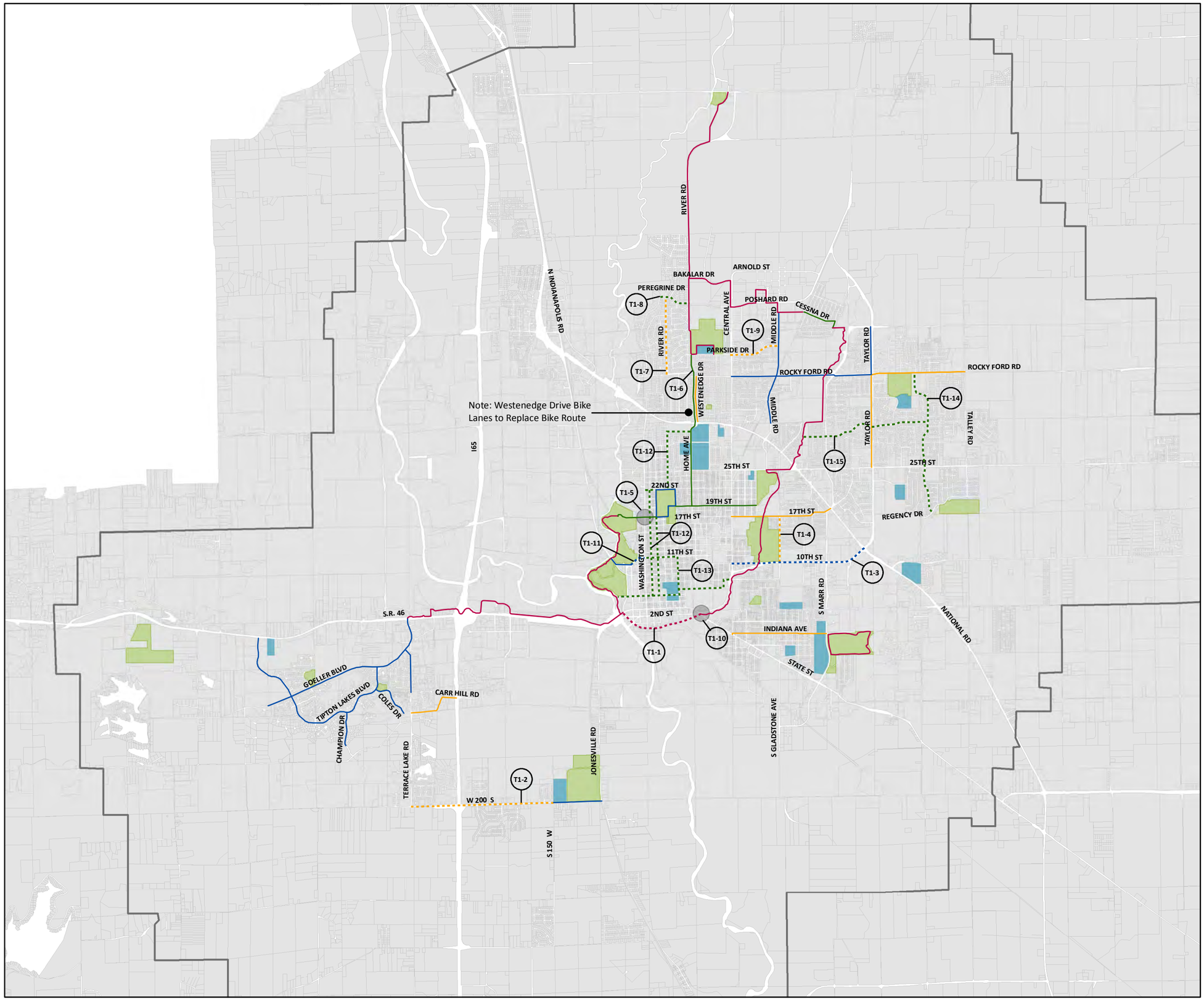
The development of a truly connected bicycle and pedestrian network for the City of Columbus is a long term effort that will not be completed quickly. The implementation of this plan will require phasing and long term commitment. In keeping with the concept of "crawl, walk, run" this plan outlines implementation priorities.



Current Projects Map

- Current Project Multi-Use Path
- Current Project Bicycle Lanes
- Current Project Sidepath
- Existing Multi-Use Path
- Existing Bicycle Route
- Existing Sidepath
- Columbus Jurisdiction
- School Location
- Park Facility

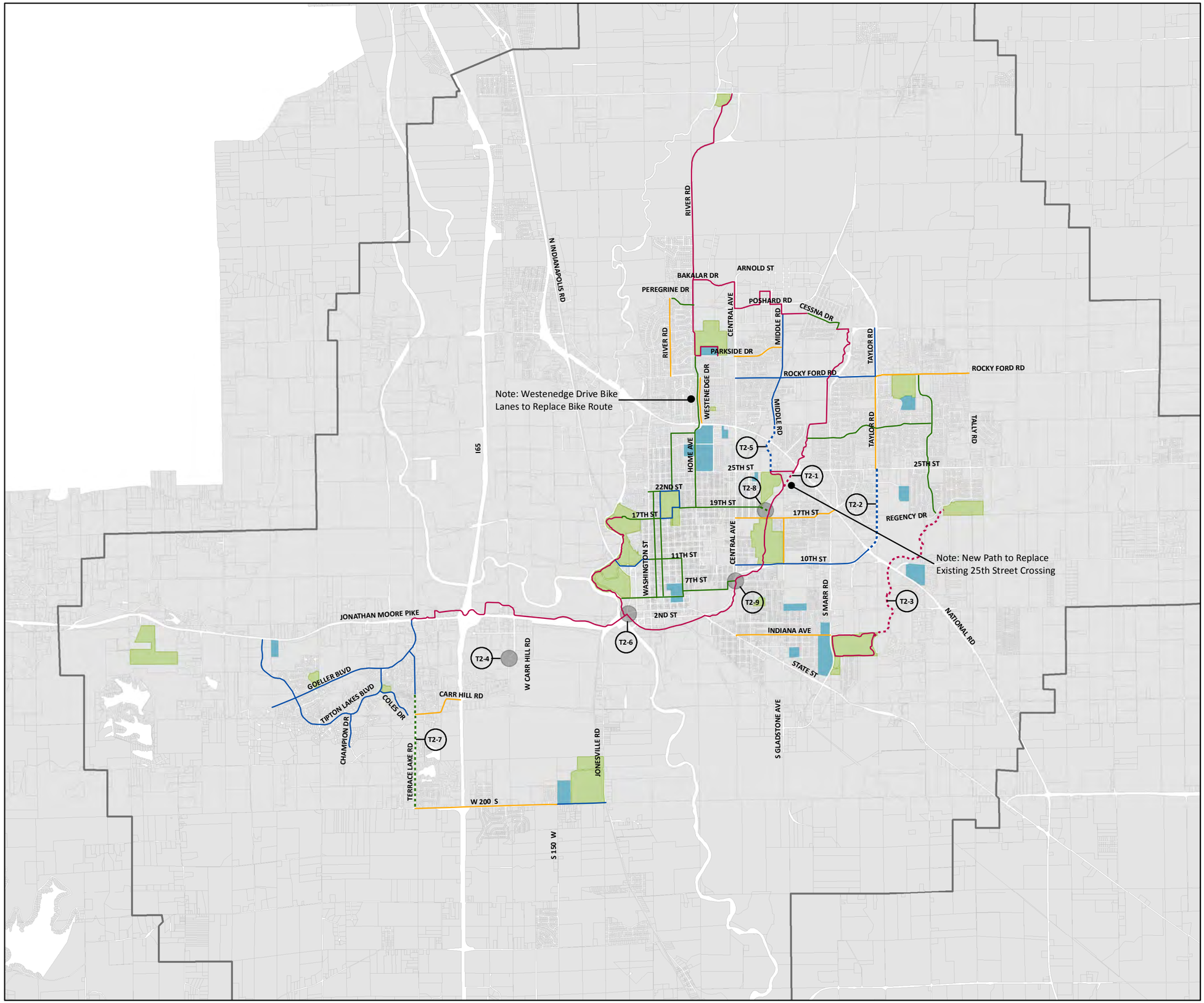
C-1	Westenedge Drive Bicycle Lanes
C-2	Parkside Trail Extension
C-3	Rocky Ford Road Bicycle Lanes
C-4	Indiana Avenue Bicycle Lanes
C-5	17th Street Bicycle Lanes
C-6	Taylor Road Bicycle Lanes
C-7	Owens Bend Trail
C-8	County Road 200 South Sidepath
C-9	Carr Hill Road Bicycle Lanes



Tier 1 - Immediate Priority Projects Map

- Proposed Tier 1 Multi-Use Path
- Proposed Tier 1 Bicycle Lanes
- Proposed Tier 1 Bicycle Route
- Proposed Tier 1 Sidepath
- Existing Multi-Use Path
- Existing Bicycle Lanes
- Existing Bicycle Route
- Existing Sidepath
- Proposed Intersection Improvement
- Columbus Jurisdiction
- School Location
- Park Facility

T1-1	Downtown Trail Connection
T1-2	County Road 200 South Bicycle Lanes & Sidewalks
T1-3	10th Street Sidepaths
T1-4	Gladstone Avenue Bicycle Lanes
T1-5	17th & Washington Street Intersection Improvement
T1-6	Westenedge Drive Bicycle Route Improvement
T1-7	River Road Bicycle Lanes
T1-8	Peregrine Drive Bicycle Route
T1-9	Parkside Drive Bicycle Lanes
T1-10	State Street, Central Avenue, 2nd & 3rd Street Intersection Improvement
T1-11	11th Street Sidepath Extension
T1-12	Franklin/Lafayette Bicycle Route
T1-13	Central Neighborhoods Bicycle Route
T1-14	Lockerbie / Flintwood Bicycle Route
T1-15	30th / 31st / Chapel Bicycle Route



Tier 2 - Secondary Priority Projects Map

- Tier 2 Proposed Multi-Use Path
- Tier 2 Proposed Bicycle Route
- Tier 2 Proposed Sidepath
- Exisitng Multi-Use Path
- Existing Bicycle Lanes
- Existing Bicycle Route
- Existing Sidepath
- Proposed Intersection Improvement
- Columbus Jurisdiction
- School Location
- Park Facility

T2-1	Haw Creek Re-alignment at 25th Street
T2-2	Taylor Road Sidepaths
T2-3	Clifty Creek Trail Extension
T2-4	Morgan Willow Trace and & Carr Hill Road Intersection
T2-5	Middle Road Sidepath Extension
T2-6	3rd & Lindsey Street Intersection Improvement
T2-7	Terrace Lake Road Bicycle Route
T2-8	17th/19th Streets Intersection Improvement
T2-9	7th Street & Central Avenue Intersection Improvement

City of Columbus Bicycle & Pedestrian Plan Project Priorities (page 1 of 4)

Current Projects (see also the "Current Projects" Map on page 55)

Ref. No.	Project Name	Project Type	Project Location			Notes
			General Location	From	To	
C-1	Westenedge Drive Bicycle Lanes	Bicycle Lanes	Westenedge Drive	US 31	Rocky Ford Road	In conjunction with current road improvement project.
C-2	Parkside Trail Extension	Multi-use Path	Parkside School			Funding to be determined.
C-3	Rocky Ford Road Bicycle Lanes	Bicycle Lanes	Rocky Ford Road	Taylor Road	Talley Road	In conjunction with current road improvement project.
C-4	Indiana Avenue Bicycle Lanes	Bicycle Lanes	Indiana Avenue	State Street	Marr Road	In conjunction with current road improvement project.
C-5	17th Street Bicycle Lanes	Bicycle Lanes	17th Street	Central Avenue	US 31	In conjunction with current road improvement project.
C-6	Taylor Road Bicycle Lanes	Bicycle Lanes	Taylor Road	Rocky Ford Road	25th Street	In conjunction with current road improvement project.
C-7	Owens Bend Trail	Multi-use Path	River Road Vicinity	Cunningham Drive	Owens Bend Park	Current Parks Department project.
C-8	County Road 200 South Sidepath	Sidepath	County Road 200 South	State Road 11	County Road 150 West	The sidepath is included on the north side of 200 South as part of a current improvement project
C-9	Carr Hill Road Bicycle Lanes	Bicycle Lanes	Carr Hill Road	I-65	Terrace Lake Road	In conjunction with current road improvement project.

Tier 1 - Immediate Priority Projects (see also the "Tier 1 Projects" Map on page 57)

Ref. No.	Project Name	Project Type	Project Location			Notes
			General Location	From	To	
T1-1	Downtown Trail Connection	Multi-use Path	Downtown	Haw Creek Trail at State Street	Mill Race Park	Provide a trail connection around the south side of the downtown area (south of 2nd Street).
T1-2	County Road 200 South Bicycle Lanes & Sidewalks	Bicycle Lanes (and sidewalks)	County Road 200 South	County Road 150 West	Terrace Lake Road	Sidewalks and bike lanes are needed to provide safe travel to Southside School.
T1-3	10th Street Sidepaths	Sidepath	10th Street	Central Avenue	US 31	Sidepaths are to be included on both sides of 10th Street.
T1-4	Gladstone Avenue Bicycle Lanes	Bicycle Lanes	Gladstone Avenue	17th Street	10th Street	
T1-5	17th & Washington Street Intersection Improvement	Intersection Improvement	17th and Washington Street Intersection			Create a more convenient crossing of Washington Street on the route between Noblitt and Donner Parks.
T1-6	Westenedge Drive Bicycle Route Improvement	Bicycle Route	Westenedge Drive	Rocky Ford Road	Parkside Drive	Involves improved signage in coordination with Westenedge bicycle lanes south of Rocky Ford (see also C-1).
T1-7	River Road Bicycle Lanes	Bicycle Lanes	River Road	Rocky Ford Road	Peregrine Drive	Coordinated with the designation of Peregrine Drive as a bicycle route (see also project T1-8).
T1-8	Peregrine Drive Bicycle Route	Bicycle Route	Peregrine Drive	River Road	Airport / Blackwell Park Trail	Coordinated with the installation of bicycle lanes along River Road (see also project T1-7).
T1-9	Parkside Drive Bicycle Lanes	Bicycle Lanes	Parkside Drive	Central Avenue	Middle Road	
T1-10	State Street, Central Avenue, 2nd & 3rd Street Intersection Improvement	Intersection Improvement	Central Ave.; 2nd, 3rd, & State St. Intersection			Create a more convenient and safe transition from the Haw Creek Trail to area streets and sidewalks.
T1-11	11th Street Sidepath Extension	Sidepath	11th Street	Washington Street	Jackson Street	Provides a sidepath as a connection to existing path west of Jackson Street and the Mill Race-Noblitt Trail; includes intersection improvements at the Jackson Street Intersection.
T1-12	Franklin / Lafayette Bicycle Route	Bicycle Route	Franklin, Lafayette & Sycamore Streets	Home Avenue	11th Street	Provides a designated bicycle route from Home Avenue along Tipton, south on Sycamore to 22nd Street, west on 22nd to Franklin Street, and to/from 5th Street via Franklin & Lafayette.
T1-13	Central Neighborhoods Bicycle Route	Bicycle Route	Central Neighborhoods	Haw Creek Trail	Mill Race Park	This project identifies a bicycle route from the Haw Creek Trail at 7th, west along 6th to Chestnut, splitting north and south on Chestnut, and to Mill Race Park along 11th and 5th Streets (see also project T2-9).
T1-14	Lockerbie / Flintwood Bicycle Route	Bicycle Route	Lockerbie / Flintwood Drives	Regency Drive	Rocky Ford Road	This project designates a bicycle route with signs, and includes a possible path extension from the Flintwood Drive temporary dead-end to Rocky Ford Road.
T1-15	30th / 31st / Chapel Bicycle Route	Bicycle Route	30th & 31st Streets and Chapel Drive	Flintwood Drive	Everroad Park	This project provides a signed bicycle route linking the Haw Creek Trail at Everroad Park with homes to the east.

City of Columbus Bicycle & Pedestrian Plan Project Priorities (page 2 of 4)

Tier 2 - Secondary Priority Projects (see also the "Tier 2 Projects" Map on page 59)

Ref. No.	Project Name	Project Type	Project Location			Notes
			General Location	From	To	
T2-1	**Haw Creek Trail Re-alignment at 25th Street**	**Multi-use Path**	25th Street / Haw Creek Trail Intersection			Provide a separate trail bridge over Haw Creek south of 25th Street and re-route trail as appropriate.
T2-2	**Taylor Road Sidepaths**	**Sidepath**	Taylor Road	US 31	25th Street	Sidepaths are to be included on both sides of Taylor Road.
T2-3	**Clifty Creek Trail Extension**	**Multi-use Path**	Clifty Creek	Clifty Park	McCullough's Run Park	
T2-4	**Morgan Willow Trace & Carr Hill Road Intersection**	**Intersection Improvement**	Morgan Willow Tr. & Carr Hill Rd. Intersection			Correct sidewalk gap along Carr Hill Road, north (east side) and south (west side) of Morgan Willow Trace.
T2-5	**Middle Road Sidepath Extension**	**Sidepath**	Middle Road / Herman Darlage Drive	Northpark Office Park	25th Street / Lincoln Park	This project may include improvements to the intersection of 25th Street and Herman Darlage Drive.
T2-6	**3rd and Lindsey Street Intersection Improvement**	**Intersection Improvement**	3rd and Lindsey Street Intersection			Create a more convenient and safe transition from the 3rd Street Bridge trail crossing to area streets and sidewalks.
T2-7	**Terrace Lake Road Bicycle Route**	**Bicycle Route**	Terrace lake Road	Existing Sidepath	County Road 200 South	The project involves officially recognizing and providing signs for this existing informal bicycle route.
T2-8	**19th Street / 17th Street / Haw Creek Trail Connection**	**Intersection Improvement**	Columbus Regional Hospital			This project creates clear linkages between the Haw Creek Trail, the 17th Street bicycle lanes and the 19th Street bicycle route.
T2-9	**7th Street & Central Avenue Intersection Improvements**	**Intersection Improvement**	7th Street & Central Avenue Intersection			Improve convenience and safety for cyclists crossing Central Avenue from the Haw Creek Trail to the Central Neighborhoods Bicycle Route (see also project T1-13).

City of Columbus Bicycle & Pedestrian Plan Project Priorities (page 3 of 4)

Future Projects Sheet 1 of 2 (see also the "Bicycle & Pedestrian System" Map on page 27)

Ref. No.	Project Name	Project Type	Project Location			Notes
			General Location	From	To	
F-1	State Road 11 (Jonesville Road) Connection	Sidepath	State Road 11	State Road 46	County Road 200 South	Create a safe pedestrian & cyclist connection from SR 46 to CR 200 S. This could occur as a SR 11 sidepath or a trail along the adjacent rail corridor. This project may include project F-2 also.
F-2	State Road 46 & 11 Intersection Improvements	Intersection Improvement	State Road 46 and 11 Intersection			Create safe crossings of SR 11, the railroad tracks and SR 46 (see also project F-1 and F-3).
F-3	State Road 46 South Side Sidepath	Sidepath	State Road 46	State Road 11 (Jonesville Road)	Morgan Willow Trace	Create a sidepath through the wooded area on the south side of State Road 46 (see also projects F-1, F-2 and F-6).
F-4	Woodside Connector	Bicycle Lanes	County Roads 150/175 West	State Road 46	Woodside Industrial Park	The project is based on a future CR 150 W extension from CR 200 S north to SR 46 (via Morgan Willow Trace), which may occur in phases if & when development takes place.
F-5	Carr Hill Road Connector	Bicycle Lanes	County Road 100 South / Carr Hill Road	State Road 11	I-65	The project is based on a future CR 100 S extension from SR 11 west to Carr Hill Road, which may occur in phases if & when development takes place.
F-6	State Road 46 / Morgan Willow Trace Intersection Improvements	Intersection Improvement	State Road 46 and Morgan Willow Trace Intersection			Create a safe crossing from Morgan Willow Trace to the trail on the north side of SR 46.
F-7	Marr Road Bicycle Lanes	Bicycle Lanes	Marr Road	Rocky Ford Road	Gladstone Avenue	This project may be divided into phases.
F-8	Talley Road Bicycle Lanes	Bicycle Lanes	Talley Road	25th Street	Sawin Drive	The bicycle lanes and sidewalks would be included with a future road improvement project.
F-9	Indianapolis Road Sidepath	Sidepath	Indianapolis Road	Noblitt Trail	Taylorsville Area	
F-10	State Street Bicycle Lanes	Bicycle Lanes	State Street	Haw Creek Trail	Marr Road	See also project F-12.
F-11	State Street Intersection Improvements	Intersection Improvement	State Street Corridor			Improve convenience and safety of State Street pedestrian crossings - at Marr Road, Cherry Street, Mapleton/Pence, Gladstone, and/or Indiana/Hege intersections (see also project F-11).
F-12	Gladstone Avenue Bicycle Lane Extension	Bicycle Lanes	Gladstone Avenue	10th Street	Marr Road	This project may be completed in phases.
F-13	Gladstone Avenue Sidepath	Sidepath	Gladstone Avenue	Marr Road	County Road 200 South	This project could be completed with a proposed CR 200 S extension crossing the White River.
F-14	County Road 200 South Sidepath	Sidepath	State Road 11	Marr Road	Gladstone Avenue	This project would be completed with the proposed CR 200 S extension crossing the White River.
F-15	Columbus to Nashville Trail	Multi-use Path	State Road 46	SR 46 Trail at Goeller Blvd.	Nashville, IN	
F-16	Old Railroad Trail	Multi-use Path	Former Louisville & Indiana Railroad Right-of-way	Marr Road	Elizabethtown, IN	
F-17	Haw Creek Trail Extension	Multi-use Path	Haw Creek	Northbrook Park	...the northeast along Haw Creek	This project is intended to occur in phases if & when development takes place in this area.
F-18	Talley Road Bicycle Lane Extension	Bicycle Lanes	Talley Road	Sawin Drive	Haw Creek Trail Extension	This project may be completed in phases by the City or developers as development occurs.
F-19	Rocky Ford Road Bicycle Lane East Extension	Bicycle Lanes	Rocky Ford Road	Talley Road	...the east along Rocky Ford Road	This project may be completed in phases by the City or developers as development occurs.
F-20	Regency Drive Bicycle Route	Bicycle Route	Regency Drive / Talley Road	Prairie Drive	25th Street	
F-21	Regency Drive / South Drive Extension Bicycle Lanes	Bicycle Lanes	Regency Drive / South Drive Extension	Taylor Road	Prairie Drive	This project would be completed with the proposed Regency/South Drive extension.
F-22	IUPUC Loop Trail	Multi-use Path	IUPUC / Ivy Tech Campus			This projects involves creating a loop by extending the existing trail along Arnold St. and Ray Boll Blvd.
F-23	Central Avenue & Parkside Drive Intersection Improvements	Intersection Improvement	Central Ave. & Parkside Dr. Intersection			Improve convenience and safety of Central Avenue crossing.
F-24	25th Street Road Diet & Bicycle Lanes	Bicycle Lanes	25th Street	Washington Street	Maple Street	This project would be completed as part of a 25th Street "road diet" from the current 4 lanes to 3 vehicle lanes and bicycle lanes.
F-25	Washington Street Road Diet & Bicycle Lanes	Bicycle Lanes	Washington Street	25th Street	11th Street	To be completed as part of a Washington St. "road diet" from the current 4 lanes to 3 vehicle lanes and bicycle lanes. Intended to replace Franklin/Lafayette bicycle routes from T1-12. See also projects F-27 and F-28.
F-26	Washington - 25th Street Intersection Improvements	Intersection Improvement	Washington Street & 25th Street Intersection			Improve convenience and safety of Washington Street crossing (see also project F-26).
F-27	Washington - 22nd Street Intersection Improvements	Intersection Improvement	Washington Street & 22nd Street Intersection			Improve convenience and safety of Washington Street crossing (see also project F-26).

City of Columbus Bicycle & Pedestrian Plan Project Priorities (page 4 of 4)

Future Projects Sheet 2 of 2 (see also the "Bicycle & Pedestrian System" Map on page 27)

Ref. No.	Project Name	Project Type	Project Location			Notes
			General Location	From	To	
F-28	**Rocky Ford Road Bicycle Lane West Extension**	**Bicycle Lanes**	Rocky Ford Road	Central Avenue	Flat Rock Trail	This project is associated with a future Rocky Ford Road improvement project and would connect with the Flat Rock Trail via a trail spur west of Washington Street (see also project F-9).
F-29	**Taylor Road - Haw Creek Trail Connector**	**Sidepath**	Marr Road	Taylor Road	Haw Creek Trail	This project will provide a connection from the Taylor Road Sidepath west to the Haw Creek Trail.
F-30	**Taylor Road - Clifty Creek Trail Connector**	**Sidepath**	US 31 (National Road)	Taylor Road	Clifty Creek Trail	This project will provide a connection from the Taylor Road Sidepath east to the Clifty Creek Trail.
F-31	**Goeller Blvd. & SR 46 Intersection Improvements**	**Intersection Improvement**	Goeller Blvd. & State Road 46 Intersection			Improve convenience and safety of State Road 46 crossing.
F-32	**Driftwood River Trail**	**Multi-use Path**	Driftwood River	3rd Street Bridge	Morgan Willow Trace / SR 46 Int.	Create a recreational trail loop along the Driftwood River beginning at the current SR 46 People Trail on the west side of the 3rd Street Bridge and ending near the SR 46 intersection with Morgan Willow Trace.
F-33	**Grandview / "Touch the Earth" Park Bicycle Route**	**Bicycle Route**	County Roads on Columbus' Southwest Side	Goeller Road	...west side rural destinations	Designate a formal / signed bicycle route from Tipton Lakes to rural destinations on Columbus' west side - such as Harrison Lakes, Grandview Lake, and the Sycamore Land Trusts' "Touch the Earth" Park.
F-34	**Airport Loop Trail**	**Sidepath**	Columbus Municipal Airport	Owens Bend Trail	Poshard Drive & Haw Creek Trail	Create a recreational trail loop around the perimeter of the Columbus Airport along CR 500 N from the Owens Bend Trail on the north with connections to the Haw Creek Trail and Poshard Drive to the southeast.
F-35	**Northside Rural Bicycle Route**	**Bicycle Route**	County Roads on Columbus' North Side	Airport Loop Trail (see project F-35)	...north side rural destinations	Designate a formal / signed bicycle route from the Columbus Airport to rural destinations on Columbus' north side.

Appendix A – Goals & Policies Review:

The Goals & Policies element of the City of Columbus Comprehensive Plan, adopted by the City Council in 1999, documents the community's desire for high quality bicycle and pedestrian facilities. The goals and polices are based on a description of community values, including the following:

- **Accessibility** - The citizens value safe, pedestrian friendly neighborhoods, and they believe that public pedestrian facilities should be accessible to all citizens to the extent possible.
- **Streets** – The citizens of Columbus expect high-quality, well-maintained public facilities that, among other characteristics, provide (1) availability of various modes of transportation and (2) a continuous system of safe pedestrian facilities.

The following Comprehensive Plan policies have had particular influence on this Bicycle & Pedestrian Plan:

- **Policy A-2-14** – Encourage street design which complements neighborhoods (i.e. narrower pavement in residential areas, traffic calming measures, alleys).
- **Policy A-2-15** – Encourage sidewalks in all areas of the community, requiring them or a pedestrian system in new developments. Sidewalks should be installed with a landscape strip between the sidewalk and the street or curb.
- **Policy A-3-2** – Ensure that all public rights-of-way are designed with proper access for persons with physical challenges.
- **Policy C-1-8** - Continue to link green spaces and parks with People Trails.
- **Policy C-1-10** - Consider developing a bikeway system on existing streets and in new subdivisions.
- **Policy E-2-9** - Encourage the installation of sidewalks as part of the road widening projects and as properties are redeveloped.
- **Policy F-2-2** - Consider pedestrian facilities and People Trails to be a component of all street construction or reconstruction projects.
- **Policy F-2-4** - Ensure that pedestrian facilities are accessible to persons with physical challenges.
- **Policy F-2-5** - Ensure that pedestrian facilities are safe, attractive, and properly lighted.
- **Policy F-3-2** - Develop a safe network of pedestrian and bicycle paths throughout the community.
- **Policy I-1-1** - Ensure that pedestrian connections to public facilities are provided in conjunction with new development and that these pedestrian systems are designed to promote safety and efficiency.

Appendix B –Existing Regulation Review:

Municipal Code

The City of Columbus has a number of ordinances related to the use or operation of bicycles. Many of these ordinances are out of date and in some cases contradict current practices. Ordinances related to the operation of bicycles are found in Chapter 10.56 of the Columbus City Code and are listed for reference below.

One common misconception is that the City Code prohibits bicycle riders from using sidewalks. Section 10.56.160 prohibits riding bicycles upon sidewalks only within a business district. Business district is defined as an area where front doors open directly onto the sidewalk.

The City also has several ordinances related to pedestrian activity. Ordinances related to the pedestrians are found in Chapter 10.08 of the Columbus City Code and are also listed below.

10.08.050 Authority to Establish Play Streets

The city engineer shall have authority to declare any street or part thereof a play street and to place appropriate signs or devices in the roadway indicating and helping to protect such street.

10.08.060 Operation of Vehicles on Play Streets

Whenever authorized signs are erected indicating any street or part thereof as a play street, no person shall drive a vehicle upon any such street or portion thereof except drivers of vehicles having business or whose residences are within such closed area, and then any such driver shall exercise the greatest care in driving upon any such street or portion thereof.

10.08.070 Designation of Crosswalks and Safety Zones

The city traffic engineer is authorized to:

A. Designate and maintain, by appropriate devices, marks or lines upon the surface of the roadway, crosswalks at intersections where in his opinion there is particular danger to pedestrians crossing the roadway, and at such other places as he may deem necessary;
B. Establish safety zones of such kind and character and at such places as he may deem necessary for the protection of pedestrians;
C. Mark lanes for traffic on street pavements at such places as he may deem advisable and are consistent with this chapter and other traffic ordinances of this city.

10.56.010 Effect of Violation—Applicability

A. It is an ordinance violation for any person to do any act forbidden or fail to perform any act required in this chapter.
B. The parent of any child and the guardian of any ward shall not authorize or knowingly permit any such child or ward to violate any of the sections of this chapter.
C. These regulations applicable to bicycles shall apply whenever a bicycle is operated upon any street or upon any public path set aside for the exclusive use of bicycles, subject to those exceptions stated herein.

10.56.090 Obedience to Traffic Control Devices

A. Any person operating a bicycle shall obey the instructions of official traffic control signals, signs and other control devices applicable to vehicles, unless otherwise directed by a police officer.
B. Whenever authorized signs are erected indicting that no right or left or U-turn is permitted, no person operating a bicycle shall disobey the direction of any sign, except where such person dismounts from the bicycle to make any such turn, in which event such person shall then obey the regulations application to pedestrians.

10.56.100 Riding on Roadways and Bicycle Paths

A. Every person operating a bicycle upon a roadway shall ride as near to the right hand side of a roadway as practicable, exercising due care when passing a standing vehicle or one proceeding in the same direction.
B. Persons riding bicycles upon a roadway shall not ride more than two abreast except on paths or parts of roadways set aside for the exclusive use of bicycles.
C. Whenever a usable path for bicycles has been provided adjacent to a roadway bicycle riders use such path and shall not use the roadway.

10.56.110 Speed

No person shall operate a bicycle at a speed greater than is reasonable and prudent under the conditions then existing.

10.56.120 Emerging from Alley or Driveway

The operator of a bicycle emerging from an alley, driveway or building shall upon approaching a sidewalk or the sidewalk area extending across any such alleyway yield the right-of-way to all pedestrians approaching on such sidewalk or sidewalk area, and upon entering the roadway shall yield the right-of-way to all vehicles approaching on such roadway.

10.56.130 Attachment to Vehicles
No person riding upon any bicycle shall attach such bicycle or himself any vehicle upon a roadway.

10.56.140 Carrying articles
No person operating a bicycle shall carry any package, bundle or article which prevents the rider from keeping at least one hand upon the handle bars.

10.56.150 Parking
No person shall park a bicycle upon a street other than upon the roadway against the curb or upon the sidewalk in a rack to support the bicycle or against a building or at the curb in such manner as to afford the least obstruction to pedestrian traffic.

10.56.160 Riding on Sidewalks

A. No person shall ride a bicycle upon a sidewalk within a business district.
B. The chief of police in cooperation with the city traffic engineer is authorized to erect signs on any sidewalk or roadway prohibiting the riding of bicycles thereon by any person, and when such signs are in place no person shall disobey such signs.

10.56.020 Riding on Bicycles Generally

A. A person propelling a bicycle shall not ride other than astride a permanent and regular seat attached thereto.
B. No bicycle shall be used to carry more persons at a time than the number for which it is designed and equipped.

10.56.030 License Required
No person who resides within the city shall ride or propel a bicycle on any street or upon any public path set aside for the exclusive use of bicycles unless such bicycle has been licensed and a license tag is attached thereto as provided herein.

10.56.040 Application and Fee
Application for a bicycle license and license tag shall be made upon a form provided by the city and shall be made to the chief of police. The license tag shall be a permanent tag and a fee of one dollar shall be paid to the city before each license is granted.

10.56.050 License Issuance and Records
The chief of police upon receiving proper application there from is authorized to issue a bicycle license which shall be effective from January 1st until December 31st of each year. The chief of police shall not issue a license for any bicycle when he knows or has reasonable ground to believe that the applicant is not the owner of or entitled to

the possession of such bicycle. The chief of police shall keep a record of the number of each license, the date issued, the name and address of the person to whom issued and the number of the frame of the bicycle for which issued, and a record of all bicycle license fees collected by him.

10.56.060 License or Tag Replacement

If any license and tag issued under this chapter is lost, stolen or removed from any bicycle, a replacement license or tag may be issued after making application therefore to the chief of police. Application for a replacement license shall also be filed within ten days of the time ownership of any such bicycle is transferred. The replacement license tag shall be one dollar and paid to the city before such a replacement license is issued.

10.56.070 Attachment of License Number

A. The chief of police upon issuing a bicycle license shall also issue a permanent license tag bearing the license number assigned to the bicycle, and the name of the city.
B. The owner of the bicycle shall cause such license tag to be firmly attached to the frame of the bicycle for which it is issued in such position as to be plainly visible from the rear.
C. No person shall remove a license tag from a bicycle during the period for which issued.

10.56.080 Traffic Laws to apply to Persons Riding Bicycles

Every person riding a bicycle upon a roadway shall be granted all the rights and shall be subject to all of the duties applicable to the driver of a vehicle by the laws of this state declaring rules to the road applicable to vehicles or by this code of the city applicable to the driver of a vehicle, except as to special regulations in this chapter and except as to those provisions of laws and ordinances which by their nature can have no application.

10.56.170 Lamps and other Equipment

A. Every bicycle when in use at nighttime shall be equipped with a lamp on the front which shall emit a white light and with a red reflector on the rear of a type which shall be visible to the rear when directly in front of lawful upper beams of headlamps on a motor vehicle.
B. Every bicycle shall be equipped with a brake which will enable the operator to maintain safe control over his bicycle.

Subdivision Control Ordinance:

In addition to the general ordinances listed previously, the Columbus Subdivision Control Ordinance contains requirements for pedestrian and bicycle facilities in new subdivisions. Ordinances related to pedestrians and bicycles found in the Subdivision Control Ordinance are as follows:

Section 16.24.020.4 Streets

The existing street system and proposed new roads shall provide a safe, convenient and functional system for vehicular circulation; shall be consistent with the comprehensive plan, and shall be appropriate for the traffic characteristics of the subdivision.

Section 16.24.030 Streets

All streets shall conform to the principles and standards of design set forth in this section. The arrangement and character of all streets shall conform to the thoroughfare plan. Where necessary, additional right-of-way for widening, continuance or alignment as required in the thoroughfare plan shall be provided. Residential streets shall be designed to encourage traffic calming.

Section 16.24.060 Sidewalks and Pedestrian Systems

A. Sidewalks or other pedestrian systems approved by the plan commission shall be required in all subdivisions except administrative and agricultural subdivisions. Pedestrian ways are intended to provide opportunities for recreation, to provide access to properties in the neighborhood, and to provide links to other facilities and services. It is recognized that some pedestrian facilities will not provide an immediate link nor be part of an existing system. It is the intent of this section that over time, there will be a functional pedestrian system throughout the community.
B. When sidewalks are installed to meet this requirement, they shall be placed in the following locations:
    1. Along all public and private street frontages;
    2. In midblock locations in residentially zoned areas where blocks are over nine hundred feet in length (See Section 16.24.150); when the midblock locations are necessary to provide proper access to public or semipublic facilities, recreational areas, shopping areas, or other similar facilities.
A. Sidewalks shall be located in the right-of-way or in a platted pedestrian easement. A landscape strip at least four feet in width shall be retained between the sidewalk and the curb or pavement. If the plan commission finds that a location less than four feet from the curb is necessary to protect existing landscaping or natural terrain, the commission may permit a

lesser separation between the sidewalk and the curb. In these cases, a minimum six inch vertical curb is required, and the sidewalk shall be one foot wider than the minimum. Sidewalks may meander within the right-of-way or easement rather than be placed parallel to the street or curb. The alignment shall be designed to preserve natural features such as existing trees or topography.

B. The sidewalks shall be constructed of portland cement, shall have a minimum width of five feet on collector and arterial streets and four feet on all other streets
C. The area between the sidewalk and curb or pavement edge shall be maintained by the adjacent property owner as a landscaped area. Street trees planted within these areas shall be of a variety appropriate to their locations, considering such factors as location of and effects on utility lines, effect on visibility, resistance to environmental conditions (such as road salt), and effect of root systems on pavements.
D. All public sidewalks shall comply with state and federal accessibility requirements.
E. In lieu of sidewalks, the plan commission may approve another pedestrian system that satisfies the intent of this chapter and of the comprehensive plan.

16.24.070 Wheelchair Ramps

Wheelchair ramps shall be provided at all corners and any other locations where sidewalks intersect with streets.

16.24.150 Blocks

A. Configuration. The lengths, widths and shapes of blocks shall be determined with due regard to the provision of building sites suitable to accommodate the needs of the type of use contemplated, and the zoning requirements as to lot sizes and dimensions.
B. Shape. Irregularly shaped blocks, those intended for cul-de-sacs or loop streets, and those containing interior parks or playgrounds, may be approved by the commission if properly designed and located and if the maintenance of interior public places is covered by agreements.
C. Length. No block shall be longer than fifteen hundred feet.
D. Walkways. Where blocks are over nine hundred feet in length a sidewalk in an easement not less than ten feet in width at or near the halfway point may be required, if necessary, to provide proper access to schools, recreational areas, shopping centers, and other facilities.

Zoning Ordinance

The Zoning Ordinance includes the following regulations that relate to bicycle and pedestrian infrastructure:

Section 7.1(Part 2)(C) Bicycle Parking Requirements

All commercial and public/semi-public uses shall provide parking facilities for bicycles, consistent with the following requirements:

1. Number of Bicycle Spaces: All commercial and public/semi-public uses shall provide bicycle parking based on the number of vehicle parking spaces provided consistent with the Bicycle Parking Standards Table *(the table requires that 2 bicycle parking spaces be provided for all parking lots of more than 100 vehicle spaces).*
2. Bicycle Racks: Bicycle racks shall support the bicycle upright by its frame in 2 places above the bicycle's center of gravity, shall enable the frame and one or both wheels to be secured with a lock, and shall not require the lifting of the bicycle to use any of the rack's parking positions.
    a. Examples of appropriate racks include an inverted "U" rack, the "A" rack, and the post and loop rack (also allowed in Columbus jurisdiction are the wave rack and the comb rack).
    b. The toast rack is prohibited (also prohibited in Bartholomew County are the wave and comb racks).
    c. The use of bicycle lockers is encouraged, but lockers shall not serve as an alternate to the bicycle rack requirements.
3. Location: Bicycle parking facilities shall be located in a high visibility area that provides convenient and safe pedestrian access to main entrances or activity areas.

Section 7.3(Part 2) Pedestrian Circulation Standards

All developments in Multi-Family Residential, Commercial, Public/Semi-Public and Industrial zoning districts shall provide public sidewalks within all adjoining rights-of-way.

1. Exemptions: Development in Industrial Zoning Districts shall not be required to provide sidewalks along any Local Street or Road. Also, any properties for which the Plan Commission granted a modification of the sidewalk requirement of the Subdivision Control Ordinance shall not be subject to the requirements of this Section, provided that the construction activity occurs within 10 years of the modification approval.
2. Design and Construction Requirements: All sidewalks shall be designed and constructed consistent with the requirements for sidewalks associated with new streets established by the Subdivision Control Ordinance.

3. Sidewalks Beyond Existing Right-of-Way: A sidewalk easement shall be provided adjacent to the existing right-of-way in all instances where that right-of-way is of an insufficient width for sidewalk installation.
4. Asphalt Path Option: The Planning Director may authorize an asphalt path as an alternate for a sidewalk either (a) in rural areas of the jurisdiction of Bartholomew County and (b) where such a path is specified by an adopted pedestrian system plan for the jurisdiction.

Whenever provided, sidewalks that link the public sidewalk to the entrance of the building shall be a minimum of 5 feet in width. When a sidewalk link passes through a parking lot pavement markings shall be used to delineate the sidewalk link.

Appendix C – Crossing Treatment Guide:

Background Information

Designers, engineers, and planners all share a responsibility to find ways for vehicles, pedestrians, and bicyclists to coexist safely and conveniently. Accommodating pedestrians with disabilities is required in the planning, design, and construction of pedestrian facilities.

The following guidelines are intended to serve engineers and planners who are responsible for planning and designing pedestrian facilities. These guidelines are not to be used as warrants, as circumstances may vary depending on location and no set of guidelines can cover every condition or guarantee improved safety. These guidelines are intended to provide guidance for determining consistent engineering solutions to pedestrian safety concerns, particularly with regard to crosswalks. This document should be used to provide guidance for new and future construction projects and for retrofitting existing crosswalk locations.

Marking crosswalks serves two purposes: (1) it shows the pedestrians the best place to cross; and (2) it warns drivers that pedestrians may be present. There are advantages and disadvantages of marking crosswalks.

Advantages include:

- helping pedestrians find their way across complex intersections,
- designating the shortest path, and
- directing pedestrians to the location of best sight distance.

Disadvantages include:

- possibly creating a false sense of security for pedestrians,
- higher maintenance costs, and
- higher construction costs.

General Guidance:

As with the installation of any traffic control devices, engineering judgment is essential. All crosswalk pavement markings and signs shall be selected, designed, and installed in conformance with the MUTCD.

Crosswalk markings should not be used at all intersections. If used extensively, motorists would become desensitized to their presence. Crosswalk markings should generally be used only at locations where pedestrian activity is significant. Significant pedestrian activity is defined as meeting one or both of the following:

- at least 15 pedestrians crossing the street during each of the two highest one hour periods, in a day, and/or
- on a school route.

The design of intersections should be completed with pedestrian crossings in mind.

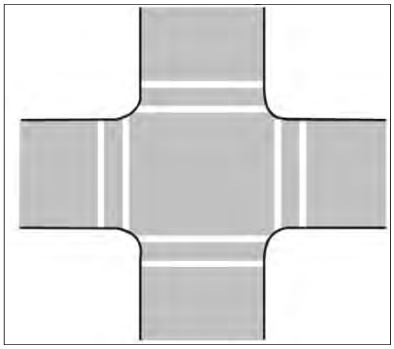
Table 1 provides guidance for the selection of the recommended traffic control devices for most circumstances as determined by the street characteristics, posted speed limits, and traffic volumes.

RECOMMENDED CROSSWALK TREATMENT LEVEL

Street Configuration / Crossing Type	Interstate Highway	Principle Arterial	Minor Arterial	Collector	Local
Signalized	5	1	1	1	1
2 Lanes	Not Applicable	2	1	1	0
4 Lanes	5	3	3	2	1
Mid-block Crossing	Not Applicable	+1	+1	+1	+1
School Route	Not Applicable	+1	+1	+1	+1

Level 1 Crosswalks

Level 1 crosswalks should be marked with parallel lines. The lines should be white and reflective. The lines may be painted at low vehicular traffic locations and should be thermoplastic or preformed plastic at high volume locations. At stop or signal controlled intersections, stop bars should be installed in advance if the crosswalk lines in conformance with the MUTCD.

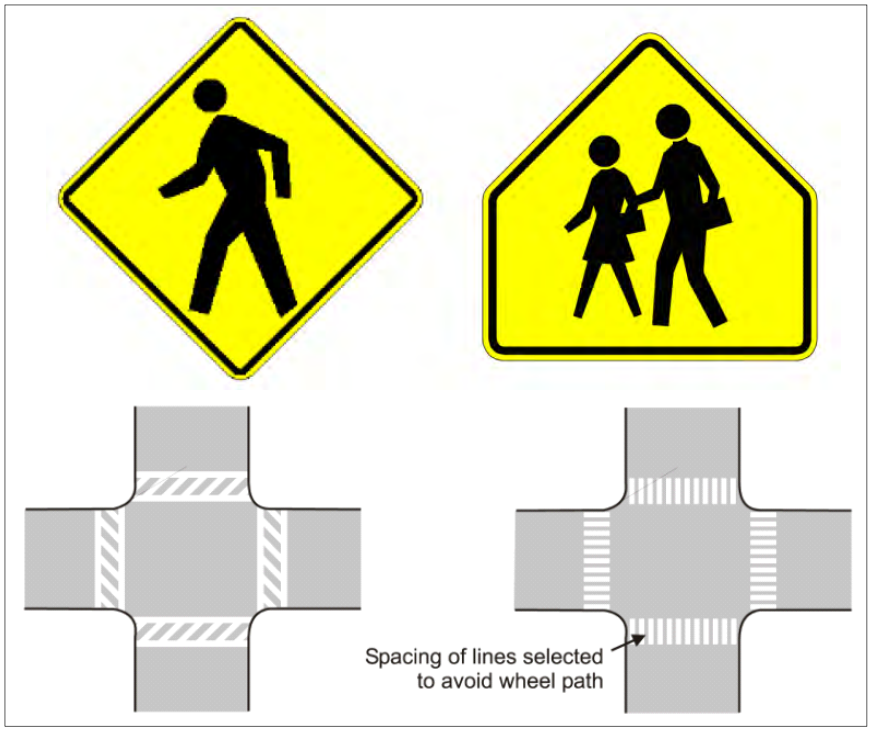


Suggested Level 1 Crosswalk Markings

Level 2 Crosswalks

Level 2 crosswalks should be marked with high visibility pavement markings and advance warning and crossing signs. High visibility markings should include hatching (ladder or zebra designs) and advance "Ped Xing" or "School Xing" markings. All signalized intersections with pedestrian indications shall be marked with Level 2 markings.

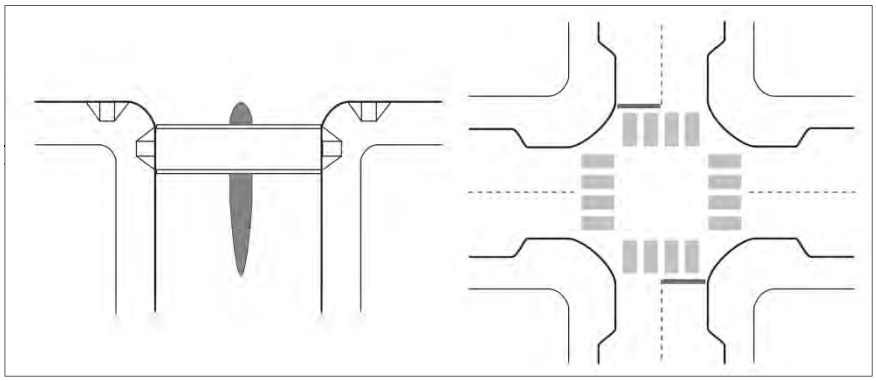
Suggested Level 2 Crosswalk Markings and Signage



Level 3 Crosswalks

Level 3 crosswalks should have pedestrian refuge islands and curb extensions (bulbouts) in addition to the Level 2 markings and signs.

Suggested Level 3 Crosswalk Designs



Level 4 Crosswalks

Level 4 crosswalks should be marked with overhead warning signs, flashing beacons, or in-pavement lighting in addition to the Level 2 and 3 traffic control devices.

Examples of Level 4 Crosswalk Designs

Level 5 Crosswalks

Level 5 crossings should be considered for pedestrian signals or grade separation. Pedestrian signals shall be installed only when determined to be warranted and designed and installed in conformance with the MUTCD. Pedestrian signal locations shall include Level 2 and 3 traffic control devices and may include Level 4 devices.

Examples of Level 5 Crosswalk Designs

Recommendations

Following is a list of general recommendations for consistent crosswalk design:

Mid-Block Pedestrian Crossings

Mid-block pedestrian crossings should be carefully considered. They are most acceptable in low speed, low traffic areas, such as downtown. However, their use may also be necessary to provide adequate pedestrian connections along long street segments that lack suitable intersection crossings. Because drivers are unaccustomed to these mid-block crossings careful design and placement is essential for their use and safety. When used, mid-block crossings should have Level 2 markings or higher.

Guidelines for the Removal of Marking Crosswalks

Conditions that contribute to the need for crosswalks or crossing treatments may change over time and an existing crosswalk or treatment may no longer be needed. Whenever a street surface is being impacted by a reconstruction or resurfacing project, the City Engineer should review all impacted crosswalks and crossings to determine if the existing markings are warranted. Engineering judgment should be exercised when removing or reducing the level of markings.

Curb Ramps

Curbs ramps should be installed at all intersections with pedestrian facilities. Diagonal ramps at intersections are not recommended.
Curb ramps shall comply with the American with Disabilities Act (ADA), Indiana Accessibility Code requirements, and the adopted policies of the Columbus Board of Public Works & Safety.

Traffic Calming

Approved traffic calming measures may be installed in addition to the markings. All traffic calming measures shall be consistent with the adopted policies of the Columbus Board of Public Works & Safety.

School Crossing Guards

The use of school crossing guards is determined by the Columbus Police Department and shall be in addition to the traffic control devices recommended in this document.

Pedestrian Signals

Pedestrian signals should automatically display a “walk” signal when the traffic signal in the same direction of travel indicates “green”, unless the pedestrian signal actuates an extended “green” signal.