

Active Transportation and Open Space Plan



Fairfield County, Ohio

Fairfield County Regional Planning Commission

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morpc
Mid-Ohio Regional Planning Commission

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1 Introduction

1.1 Background

Local governments in Fairfield County have been actively pursuing various walking and biking plans and projects in recent years. In addition, there is significant interest within the county in preserving and conserving lands that are agricultural, scenic or perform critical ecosystem functions. Recent activities that have prompted the development of this plan include:

- Adoption of the Fairfield County Development Strategy and Land Use Plan
- A Healthy and Smart Development project from the Fairfield County Health Department
- Two applications to the Safe Routes to School Program
- The City of Lancaster comprehensive bike trail
- The City of Pickerington trail along Diley Road
- The City of Pickerington Comprehensive Bikeway Plan

As a result of this interest and previous work, Fairfield County Regional Planning Commission (FCRPC) contracted with the Mid-Ohio Regional Planning Commission (MORPC) to develop this plan to examine two distinct, but interconnected, interests for Fairfield County: active transportation and open space. The active transportation component provides the framework for the development of a safe and convenient transportation system for bicycles, pedestrians, and other non-motorized travel modes connecting communities, major destinations, and areas of interest outside the county. The open space component provides for the identification, preservation and interconnection of several types of open space, including parks, conservation areas and greenways.

1.2 Purpose and Need

Fairfield County, Ohio, is on the growing fringe of the Greater Columbus area. As the county population

grows, there is concern about the ability to maintain a high quality of life in the face of potentially uncoordinated development activities. Therefore, the purpose of this study is twofold: (1) To coordinate the activities of local governments to ensure the creation of an interconnected countywide system of active transportation and open space infrastructure, and (2) To guide private development to ensure integration with current and future public infrastructure systems across the county.

1.3 Previous Work

There have been several plans and other work efforts related to active transportation and open space in Fairfield County. Although most relate only to portions of the county, the following list of documents were reviewed to determine what work has already been accomplished and to identify if any existing or new recommendations may be inconsistent with each other.

List of Planning Documents in Fairfield County

- Fairfield County Development Strategy and Land Use Plan, 2002
- Violet Township Land Use and Transportation Plan, 2005
- City of Pickerington Bicycle and Pedestrian Facilities Master Plan, 2000
- Pickerington Comprehensive Land Use and Development Plan, 2001
- MORPC'S Regional Bicycle Transportation Facilities Plan, 2006
- Fairfield County Subdivision Regulations, Revised July 5, 2006

Additional resources consulted during the course of this study are shown in the bibliography.

1.4 Beyond the Scope of the Plan

The scope of this plan is broad, covering a range of issues related to the topics of transportation and open space. Although the resulting recommendations will provide guidance to the county and local governments on how to achieve the goals of the plan, many details will remain to be worked out by implementing agencies.

In some cases, a range of alternatives will be provided allowing local communities to pick the best option for them. In other cases, a specific alternative will be recommended, but the manner of implementation may be flexible. In each case, some discretion will need to be exercised by local governments and other agencies, residents and property owners to ensure the programs and regulations ultimately adopted fit the individual needs and circumstances of those involved.

2 Process and Goals

2.1 Overview of Study Area and Process

The focus area of this study is Fairfield County, Ohio. Additional small areas outside the county have been considered due to the presence of destinations, facilities or transportation routes in nearby areas of surrounding counties.

This plan was developed over the course of a year in cooperation with the staff of the Fairfield County Regional Planning Commission and other technical agencies. An extensive process of stakeholder consultation and review led to the development of the plan's goals and conceptual alternatives. A thorough technical analysis followed the collection of various data necessary to understand the current conditions within the county and the possible implications of various conceptual alternatives. Finally, the conceptual alternatives were vetted through a public and stakeholder process to arrive at recommendations of active transportation and open space policies and projects for Fairfield County. A complete list of outreach activities and meetings can be found in the Appendix.

2.2 Goals, Objectives and Policies

For each component of this plan, a set of goals, objectives and policies were developed by stakeholders within the county. These establish the aspirations of the county with regard to active transportation and open space as well as identify challenges to the plan's implementation.

2.2.1 Active Transportation

GOAL: Encourage the development of a safe and context appropriate bikeway and pedestrian system for all users in Fairfield County including special populations.

Objective 1 - Encourage a range of non-motorized facilities connecting existing systems and destinations.

Policy 1.1 - Support local communities and encourage private development of a complete system of bikeways, pedestrian facilities, bicycle parking and safe crossings with emphasis on connecting existing local and regional systems, residences, schools, businesses and public places.

Policy 1.2 - Integrate efforts of planning, recreation, public works, public service and other departments of city and county government and other agencies, such as ODNR State Wide Trail Plan that are involved in planning, construction or operational elements of the bikeway and pedestrian system.

Objective 2 - Encourage a non-motorized system that is cost-effective and minimizes cost without sacrificing safety and aesthetics.

Policy 2.1 - Promote the economic benefits of bikeways and sidewalks to landowners to encourage support and participation in granting easements.

Policy 2.2 - Fairfield County should schedule expansions to the bikeway and pedestrian system to utilize funding opportunities through grants, new and redevelopment, capital improvements, infrastructure improvements, and utility projects.

Policy 2.3 - Identify bikeway, pedestrian and connecting route needs early in design phases of any public facility project and incorporate anticipated costs into future capital improvement programs.

Policy 2.4 - The non-motorized system should be designed to utilize existing corridors and rights-of-way to reduce costs of land acquisition.

Objective 3 - Encourage a non-motorized system that expands in parallel to county growth and provision of public services.

Policy 3.1 - Fairfield County should amend the Fairfield County Subdivision Regulations to require non-motorized facilities within proposed subdivisions.

Policy 3.2 - Fairfield County should encourage bicycle parking at public buildings.

Policy 3.3 - Fairfield County should implement the policy of “Complete Streets”¹ as a guiding principle for infrastructure.

Policy 3.4 - Fairfield County should develop maintenance policies for roadside and separate non-motorized systems to ensure safe, year-round access and operation.

2.2.2 Open Space

GOAL: Preserve natural, cultural and agricultural resources while recognizing private landowner rights.

GOAL: Provide adequate open space and recreation facilities throughout the county.

Objective 4 - Protect water quality.

Policy 4.1 - Develop riparian setbacks that allow for floodplains, natural stream channel migration and prevention of future damages to the waterway and surrounding areas.

Policy 4.2 - Ensure property owners and the public are educated on the importance of riparian and wetland buffers for protecting and enhancing water quality.

Policy 4.3 - Provide assistance and funding where possible to ensure such corridors and setbacks reflect native grass, trees, and heritage species that are best suited to the continuation and preservation of such areas.

Objective 5 - Encourage land use and development patterns which maximize the conservation and provision of natural areas, cultural resources and open space.

Policy 5.1 - Develop programs, incentives and regulations for long term protection of critical resource areas, cultural resources and lands designated for protection by the 2002 *Fairfield County Development Strategy and Land Use Plan*.

Policy 5.2 - Protect woodlots and mature forests from fragmentation.

Policy 5.3 - Protect steep slopes which are undevelopable.

Policy 5.4 - Protect and conserve ecosystems or habitats of rare, threatened or endangered species.

Policy 5.5 - Protect and conserve noteworthy land features including, but not limited to, waterfalls, gorges, caves, highly productive farmland, floodplains, flood pools, riparian corridors, scenic vistas, wetland areas that include man-made areas, green space buffers, and valuable historical and archaeological lands.

Objective 6 - Encourage development and further enhancement of parks and open space meeting environmental and recreational needs of county residents and visitors. Promote open space and park connectivity.

Policy 6.1 - Buffer adjacent, non-compatible land uses with parks and open spaces.

Policy 6.2 - Ensure adjacency between open spaces and parklands.

¹ More information on Complete Streets can be found at: <http://completestreets.org/>

Policy 6.3 - Ensure public access to or public use of protected areas, except where sensitive areas may be negatively impacted by such access.

Policy 6.4 - Encourage collaboration between various entities for land acquisition, development and maintenance of parks and open space.

Policy 6.5 - Ensure property owners and the public are educated on the importance and maintenance of parks and open space.

3 Existing and Future Conditions

Fairfield County is a mostly rural, agricultural county rich with historical significance. Many of the non-urbanized townships have lush wooded areas and winding streams. This chapter describes conditions in Fairfield County today and anticipated changes in the future, as appropriate. The following sections provide information on the county's geography, population, existing facilities for open space, bicycling and walking, and policies affecting either active transportation or open space.

3.1 Geography

Fairfield County, with an area of over 505 square miles, lies just southeast of the state capital in central Ohio and includes a portion of the growing Columbus metropolitan area. Lancaster, the county seat, is centrally located and the largest city wholly within the county. U.S. Route 33 is the county's most prominent transportation route, connecting southeast Ohio to central Ohio. In addition, a small portion of I-70 crosses the northern edge of the county serving commuter and long-distance travel needs to the east.

Fairfield County sits on the northern edge of Ohio's Appalachian region. The once-glaciated northern portion of the county is fairly flat while the southern portion is the beginning of the Appalachian foothills. The scenic Hocking Hills region lies immediately to the south, mostly in neighboring Hocking County. Fairfield County has significant water resources: a large portion of Buckeye Lake is located in northeastern Fairfield County, and the Hocking River originates in the western part of the county and flows south through Lancaster toward the Ohio River.

3.2 Demographics

Fairfield County is the fourth most populous county in central Ohio following Franklin, Licking and Delaware counties. The population of the county was 122,759 according to the 2000 U.S. Census, which reflected a nearly 19% growth over the 1990 population of 103,461. According to MORPC, the estimated 2008 population was 141,503, and is forecasted to grow to 204,624 by the year 2030, an increase of 67% over 30 years.

About half of Fairfield County's residents are urban or suburban living within developed Violet Township and the municipalities of Lancaster, Pickerington, Columbus and Baltimore. The remaining half live in the rural townships and small towns. Future population estimates show Lancaster will remain the county's most populous city.

3.2.1 Youth and Seniors

According to the 2000 U.S. Census, Lancaster and Violet Township together comprise nearly 50 percent of the total population of Fairfield County children between 5 and 14 years of age. This age group is a prime target group for bicycle and pedestrian facilities as they are unable to drive to school, major activity centers and destinations.

Violet Township is the home of over 50 percent of the 18,614 seniors, age 60 and over, in Fairfield County. Lancaster comes in second with over 7,000 seniors.

Table 1: Population of Youth and Seniors by City and Township

Jurisdiction	Population 5 to 14 years	Population over 60 years
Fairfield County	18,798	18,614
Amanda Twp	380	379
Berne Twp	790	785
Bloom Twp	1011	980

Jurisdiction	Population 5 to 14 years	Population over 60 years
Clearcreek Twp	563	465
Columbus City*	1323	232
Greenfield Twp	681	1018
Hocking Twp	445	530
Lancaster City*	4638	7107
Liberty Twp	1096	1182
Madison Twp	238	172
Pickerington City*	1901	748
Pleasant Twp	807	1080
Richland Twp	301	339
Rushcreek Twp	589	574
Violet Twp	4982	9759
Walnut Twp	954	1132

* City populations are not included in township population figures

3.2.2 Amish Population

Ohio has the largest Amish population in the world. It is estimated that over 55,000 Amish live in Ohio.² While most live in the Northeastern part of the state, Amish communities also can be found in eastern Fairfield County, primarily in Rushcreek Township. The Amish live simply and reject most modern conveniences including electricity and motorized vehicles, generally relying on horses and buggies for transportation.

3.2.3 Other Populations

The 2000 U.S. Census estimated that 7.5 percent of all people in Fairfield County have incomes below the poverty level. As well, the Census showed that over 17,000 residents, over the age of five, have a disability.

3.3 Existing Transportation System

The Fairfield County roadway system is made up of approximately 582 miles of township roads, 362 miles of county roads, 240 miles of municipal roads and 235 miles of state roads. The county and township roads are primarily rural two-lane asphalt roadways with narrow shoulders. Most county and township roads have lane widths of eight to nine feet with some of the more recently constructed sections having 10 to 11-foot lanes. The majority of county roads do not meet current design standards that recommend 11 to 12-foot-wide lanes with adequate shoulders for safety and capacity. Roadways under county jurisdiction have right-of-way widths typically ranging from 30 to 72 feet. Over half of the roads have 60 feet right-of-way widths.³

There are two major active rail lines within the county. The Indiana and Ohio Railroad Inc. (I&O) runs through the county from northwest to southwest roughly paralleling US 33 and County Road 331, terminating in neighboring Hocking County at Logan. The Norfolk Southern (NS) Corporation's West Virginia secondary line runs through the three northern and two eastern townships in Fairfield County.

The I&O is a "shortline"; a regional railroad that provides services to businesses and communities not served by the major carriers. The NS is one of the four major railroads remaining in the US and has an extensive network east of the Mississippi. It typically carries three to four trains daily. It is anticipated that the number of trains on this line will remain fairly constant with a relatively low growth rate.⁴

Some abandoned canals and railroads remain as linear corridors and public rights of way that are no longer used for transportation purposes. However, some of these former rights of way have been encroached upon by development or have reverted back to private

²

http://www2.etown.edu/amishstudies/Population_by_State_2008.asp

³ Township and county road information is from Fairfield County Engineer.

⁴ *Fairfield County Development Strategy and Land Use Plan*

ownership making the corridors discontinuous in some areas.

3.3.1 Bicycle Conditions

Currently, there are nearly 20 miles of bikeways in Fairfield County.

- A 5½ mile shared-use path exists along Diley Road between Cherry Hill Drive and the northern Violet Township boundary.
- A ½ mile shared-use path along Sycamore Creek connecting Pickerington High School, Junior High School and Municipal Building.
- A seven mile bike lane exists along SR 256 between Norfolk Southern Railroad in Pickerington and the Baltimore Municipal Boundary.
- A 2 mile shared route exists on Waterloo Eastern Road and Benadum between Hill Road and Pickerington Road.
- A ½ mile shared route exists on Winchester Road between Lithopolis-Winchester Road and Waterloo Road.
- A ½ mile shared route exists on Walnut Street in Lithopolis and Waterloo Street in Violet Township.
- 4 miles of paved shoulder are present on SR 37 between Lancaster and Bremen.
- An existing shared-use path from Forest Rose School in Lancaster to Olivedale Senior Citizens Center.
- A shared route exists on Fair Avenue between Wilson and Columbus Street in Lancaster.
- 1.11 mile shared-use path along Blacklick Creek will be completed end of July 2009. The path will connect Blacklick Woods Metro Park to Tussing Road.

Map 1, shown at the end of this chapter, shows existing and committed bicycle facilities in Fairfield County.

There are no up-to-date signs or wayfinding systems for cyclists in Fairfield County. The only existing bikeway map is the map of the Fairfield Heritage Trail and maps associated with the Lancaster Trail.

3.3.2 Pedestrian Conditions

Pedestrian transportation networks consist of both roadside and off-road facilities designed for safe access and use by people on foot or using mobility aids like wheelchairs, walkers, etc. Roadside facilities are facilities within the public right of way of streets. These include facilities designed for people to walk safely along the direction of the road, typically consisting of sidewalks, and those for safely crossing the road, typically consisting of marked crosswalks. Off-road facilities include mixed use paths and trails that may be part of a greenway or trail system and may carry many non-motorized forms of traffic including both pedestrians and bicycles.

Very few streets in unincorporated Fairfield County currently have roadside pedestrian facilities. While most of these streets with facilities are local streets within residential subdivisions, some of these are major thoroughfares like Refugee Road, Harmon Road and Blacklick Eastern Road.

Fairfield County's few off road shared use paths are mostly in Violet Township. Utility corridors and abandoned rail corridors exist but are not used as or consolidated into connected networks of public rights of way. In most instances, they have been taken over for private use.

3.4 Existing Open Space Network

Open Space is a general term describing undeveloped land set aside for public or private use or enjoyment and/or conservation. Parks are open spaces used for recreation and pleasure activities. The categorization and typology of parks and open spaces in this document are based on the *Fairfield County Development Strategy and Land Use Plan* (Fairfield Land Use Plan) and industry standards.

The Fairfield Land Use Plan and national standards categorize open space based on size, type and service area. It is important to note that parks may not be

categorized based on their names but rather based on their service area and the nature of their use. For example, Fairfield County residents described the Columbus Metro Parks as community parks (not metropolitan parks) because of their perception of the use and service area of the parks.

In this report, open space is organized into the following categories:

- Mini- and neighborhood;
- Community; or
- Metropolitan

The Fairfield Land Use Plan includes a standard for the number of acres per person for all of the categories used in this plan except for mini open spaces. However, it is important to acknowledge mini open spaces since their small size indicates that they serve the need for “pocket parks” in areas where private yards are lacking. Mini open spaces will be identified as a sub-category of neighborhood open spaces, and they will be analyzed based on the same standards as the neighborhood category. The standards have been modified based on professional judgment and stakeholder input on the specific qualities of and needs within Fairfield County.

Some adjustments were also made to the size range for open space in each category. Two sources for national standards (DeChiara, 1982, and National Parks and Recreation Association, 1990), as well as the Fairfield Land Use Plan, were referenced initially and professional discretion was used to develop standards considering all of the sources. Mini open spaces are described as one acre in size or less, and neighborhood open spaces as 15-to-25 acres. To compensate for the lack of categorization of open spaces between one acre and 15 acres in size, the maximum size for mini open spaces was increased while the minimum size for the neighborhood category was lowered. In addition, The Fairfield Land Use Plan notes that school playing fields may fall into the neighborhood open space category. For this reason, all playing fields associated with schools have been placed into the neighborhood category unless they are 25 acres or larger.

Each open space category can also be described qualitatively. **Mini** open spaces typically cater to households without yard space. They sometimes include small-scale playground equipment or facilities for other small-scale activities such as chess boards. Small swimming pools and facilities found in mini parks are characteristic of **neighborhood** open spaces. Neighborhood open spaces are often associated with elementary school playing fields. **Community** open spaces usually contain larger pool facilities and athletic fields, many of which are associated with junior high and high schools. Natural features such as ponds and wetlands, and environmentally sensitive areas needing permanent protection and conservation are commonly found in community open spaces. **Metropolitan** open spaces can accommodate the widest range of facilities, including everything from small-scale playground equipment to boating and campgrounds. Metropolitan parks are also ideal for preserving and conserving environmentally sensitive areas. It should be noted that the term “metropolitan open space” does not necessarily refer to an urban location. Rather, as noted above, it refers to a large service area and wide range of facilities.

Table 2: Open Space Categories and Associated Size Standards

Open Space Category	neighborhood	community	metropolitan
Sub-Category	mini ⁵		
Size Range (acres)	.01 - 25	25 - 100	100 +

Open spaces are also organized by purpose into one of four types:

- Active;
- Passive;
- Greenways; and
- Conservation

⁵ Mini open spaces range in size from .01 acres to 5 acres.

Active open spaces are defined as being designed for a particular purpose such as golf courses and pools. Active parks include infrastructure for recreational activities such as team sports, playgrounds, and exercise. They are identified as “special activity areas” in the Fairfield Land Use Plan.

Passive open spaces are relatively undeveloped but may include walking paths, benches and other minor facilities. Passive parks may also include shelter houses. While they are not specifically described in the Fairfield Land Use Plan, it is inferred that they include any open space that does not fit into the active typology.

Conservation open spaces are areas dedicated to the protection of a particular natural feature such as steep slopes, wetlands, ecological function or endangered species. Greenways are a specific type of conservation open space which is a linear space along a watercourse. Greenways are most easily described as a type of conservation open space because they are usually permanently dedicated to protect the waterway with which they are associated, but they may also include or connect with parks and trails. Greenways are addressed separately within this plan due to the unique aspects of this park type. Conservation open spaces and greenways can be active or passive open spaces.

In this plan, some open spaces categorized as conservation areas and greenways may not be legally dedicated as protected land, but their intent is to protect a particular feature or population.

This analysis of open space in Fairfield County by type will not be as in-depth as the analysis based on category, but it is important to be familiar with the typology because observations will be made and recommendations based on them both.

3.4.1 General Open Space Conditions

There are approximately 18,300 acres of open space serving Fairfield County. This includes open space acreage that has a service area within Fairfield County

even if the open space itself is located outside the county. Proposed open spaces or those under construction are not included in this amount (see Appendix for information on open spaces that are proposed or under construction).

These 18,300 acres are made up of 115 individual open spaces (see Table 9 and Map 37: Open Spaces by Category in the Appendix for details). Community parks account for nearly half of the county’s open spaces and most of the open space acreage. Open spaces in Fairfield County are most commonly located in cities and towns, in urbanized unincorporated areas, and along major roadways.

Active open space accounts for 78 percent of all open space acreage. The passive open spaces are mostly comprised of conservation areas which account for nearly 85 percent of passive open space (see Table 3 and Table 4).

Table 3: Quantity and Acreage of Categories of Existing Open Spaces

Category	Quantity	Acreage
mini	22	51.88
neighborhood	46	503.90
community	34	10,970.27
metropolitan	13	6,742.74

Table 4: Quantity and Acreage of Types of Existing Open Spaces

Type	Quantity	Acreage
active	81	14,219.26
► greenway	0	0
► conservation	1	222.38
passive	34	4,079.31
► greenway	2	35.43
► conservation	4	3,463.90

Mini open spaces in Fairfield County are predominantly located in incorporated areas, with the highest concentrations in the larger cities of Lancaster and

Pickerington. Rockmill Park and Clearport Road Park to the north of Hanaway Covered Bridge Park are the only mini-parks located in relatively sparsely populated unincorporated areas. Harmon Road Park and Nelson Park are both in unincorporated Violet Township, but they are located near Pickerington in residential subdivisions.

The highest concentration of neighborhood parks are also located in incorporated areas throughout the county, specifically in Baltimore, Lancaster and Pickerington. Two residential subdivision green spaces, Fairfield and Violet elementary school fields, and Harmon Middle School fields, are located in unincorporated Violet Township, but they are near Pickerington.

The standard size range for neighborhood parks is between five and 25 acres. Some school playing fields that are smaller than five acres have been placed into the neighborhood parks category because they meet the qualitative definition for neighborhood parks. Alternately, several middle and high school playing fields were placed into this category because they are much smaller than 25 acres in size – the minimum size for the community park category in which they are generally placed. The Flight of the Hawk Park is home to *Quadrula cylindrica cylindrica*, an endangered species of mollusk, and Johnston Covered Bridge Park is home to an endangered vascular plant, *Cystopteris tennesseensis*. See Appendix 8 for a comprehensive list of endangered species in Fairfield County and their common names.

Community and metropolitan parks, including the largest open spaces, are more predominant in unincorporated areas than in cities and villages. When in close proximity to an incorporated area, open spaces in these two categories are usually located on the fringe of these urbanized areas, although there are exceptions – the cities of Columbus, Lancaster, Pickerington and Reynoldsburg are each home to one or more community parks.

The community park category includes many open spaces whose sizes alone would place them in a different

park category. The Fairfield Land Use Plan defines all Columbus Metro Parks open spaces as community parks, regardless of their sizes which range from approximately 482 acres (Chestnut Ridge) to 5,038 acres (Clear Creek). The three Buckeye Lake parks – Lakeshore Drive, Leib's Island, and South Bank Road parks – have also been categorized as community parks even though they are all less than 25 acres in size. These open spaces serve a special function, allowing access to the lake for water sports and other activities associated with bodies of water. The Pickerington Swim Club and the Retreat at Turnberry are also included in the community parks category despite their sizes of approximately four and 20 acres, respectively. They are both unique facilities to the area, serving special interests.

A community park outlier is the Thomas Ewing Junior High School Fields. As mentioned previously about neighborhood parks, junior and senior high school playing fields are typically considered to be community parks. The Thomas Ewing Junior High School Fields is categorized as a community park because the property is nearly 25 acres in size.

Three out of the 34 community parks are conservation open spaces, each home to several endangered species. Five endangered animals, five plants and one fungus are located in Clear Creek Metro Park. *Ardea Herodias*, *Anas crecca*, and *Cistothorus platensis* – two birds and a vertebrate animal – are located in Pickerington Ponds. *Ichthyomyzon fossor*, a fish, can be found on the property of the Retreat at Turnberry.

The metropolitan parks encompass a wide variety of activities. Out of the 13 metropolitan parks, seven are golf courses and three are conservation open spaces. The conservation open spaces in this category are based on their sizes of greater than 100 acres, but golf courses were identified as being metropolitan parks in the Fairfield Land Use Plan, despite their sizes. Similarly, the Fairfield County Fairgrounds and camp grounds are considered to be metropolitan parks according to the Fairfield Land Use Plan. They are also very unique facilities which draw visitors from the entire region.

Existing camp grounds have not been included in this plan, however.

Two of the conservation metropolitan parks are home to endangered species. The Charles R. Goslin Nature Preserve is home to three endangered types of forests: Mixed mesophytic, Appalachian oak, and Floodplain. *Ramalina petrina*, *Maxilus unifolia*, and *Ardea herodias* are also found there. Four endangered plant species (*Aster oblongifolius*, *Rhododendron maximum*, *Juglans cinerea*, and *Maxalis unifolia*), one fungus (*Canoparmelia texana*) and one invertebrate animal (*Cordulegaster erronea*) can be found in the Wahkeena Nature Preserve.

Twenty percent of the open spaces in Fairfield County are connected to each other or to other destinations by bikeways (see Appendix for Table 11: Existing Open Spaces and Connections to Bikeways). According to adopted plans across the county, three times as many open spaces – 56 percent – are proposed to be connected to a bikeway.

Twelve of the open spaces in Fairfield County are located on a stream or river offering potential connection to a greenway system:

- Walnut Creek: Smeck Historical Park and Zeller Soccer Park
- Hocking River: Alley Park, Cenci Lake Park, Hocking Park, Maher Park, Miller Park, Rockmill Lake Park, General Sherman Junior High School playing fields
- Clear Creek: Clear Creek Metro Park, Johnston Covered Bridge Park, Hanaway Covered Bridge Park.

Open spaces as destinations of special interest are also important to the county and regional open space, greenways and bikeways network. Unique points of interest attract visitors and increase the demand for easier access to them. Such destinations in Fairfield County include culturally significant places, and open spaces that cater to people with special interests. The Rockmill Historic Grist Mill, Johnston Covered Bridge

and Hanaway Covered Bridge Parks are examples of open spaces that contain culturally significant historic landmarks. The Smeck Historical Farm is also focused on the history of the county with its unique amenities – a recreated town of historic buildings and artifacts. The work of local artist, Ric Leichter, is permanently displayed at The Flight of the Hawk Park in the form of metal sculptures of native wildlife, potentially drawing art and wildlife enthusiasts to the open space. Conservation open spaces may also attract visitors who are interested in wildlife and endangered species.

Other special interests include water-based activities. Natural water bodies and constructed water features and amenities exist throughout the county. Cenci Lake Park features open space, a walking path surrounding Cenci Lake, and a connection to the Lancaster Trail system. Buckeye Lake, and the three parks around its shore, offer water access and active and passive recreational opportunities at the water's edge. Buckeye Lake is the only lake in the county which allows unlimited outboard horse power for boats. Colfax, Oakthorpe, Rockmill, and Rushcreek lakes offer public fishing. People interested in swimming in a pool for exercise and leisure may visit the Pickerington Swim Club or any smaller pool facilities throughout the county.

Destinations serving other various interests include the Fairfield County Fairgrounds, and the dog park in Violet Township.

While this is not an exhaustive description of open spaces associated with points of special interest throughout Fairfield County, it is clear that many opportunities exist throughout the county to create connections between open space and active transportation.

3.4.2 Greenway Open Space Conditions

In recent years the use of the term greenways has expanded greatly, especially in North America. In this plan, “greenway” refers to greenways as a linear open space in a riparian area (i.e., along a waterway). Because of their relationship with waterways, the riparian

greenways in this plan must be examined from the perspective of the watersheds within which they are situated as described below.

In Fairfield County there are a total of 1,118 miles of inland rivers and streams. About a third of Fairfield County drains into the Scioto River watershed, with the remaining area in the Hocking River watershed. Both rivers flow into the Ohio River and ultimately into the Gulf of Mexico.

Walnut Creek is Fairfield County's major tributary of the Scioto River, covering the northern one-third of the county. The Hocking River originates in west central Fairfield County and continues southeast out of the county to its mouth at the Ohio River. Rush Creek and Clear Creek are the two major tributaries of the Hocking River located in the county. (See Map 2: Water Bodies and Topography.)

Surface waters are affected by soil type, geology, the topography of adjacent land, and land uses. The soil and terrain also influence the amount of runoff because of infiltration, percolation, and water holding characteristics. With some soils, rainfall is more likely to run off, while other soils allow water to infiltrate more readily.

There are 126 different soil types in Fairfield County.⁶ These soil types vary in drainage quality from 40 percent well drained to 20 percent poorly drained. The poorly drained soils limit agricultural, residential and industrial land uses.

In this document, greenway corridors are examined along the county's four major waterways – Walnut Creek, Hocking River, Rush Creek, and Clear Creek – and riparian areas throughout the county. Following a review of general information, each major waterway is described with available information regarding water quality and watershed organizations.

3.4.2.1 Existing Activities and Regulations

Fairfield County administers federal floodplain regulations which specify the type, location, and elevation of structures in delineated flood hazard areas. These regulations pertain to most new construction. Fairfield County and most of the incorporated areas have adopted and enforce floodplain regulations as the criteria for participation in the National Flood Insurance Program. In exchange for enforcing flood hazard regulations, Fairfield County is eligible for federally backed flood insurance which is available for persons living in flood hazard areas.

Prior to construction, floodplain development permits are required within a flood hazard area identified by Federal Emergency Management Agency. Fairfield County reviews the permits to determine compliance with the Special Purpose Flood Damage Protection Regulations.⁷

In the Fairfield County Subdivision Regulations it is required that an erosion and sediment control plan be submitted and approved before any land disturbance or development over one acre or more can take place. Final Plats that are a portion of a larger preliminary plan should submit an erosion and sediment control plan regardless of the number of acres.

Violet Township also has a program that is administered by the Fairfield County Soil and Water District that is called *Violet Township Drainage, Erosion, and Sediment Control (DESC) Regulations*. The regulation is in place to promote the public health and safety of its citizens under the Violet Township, Limited Home Rule Law, under the Ohio Revised Code and other State and Federal Law. The purpose of this law is to protect people and property, avoid damage to the environment, and encourage public safety by guiding, regulating, and controlling the design, construction, use, and maintenance of any development or other activity which

⁶ Fairfield County GIS

⁷ Fairfield County Regional Planning Commission

disturbs the topsoil or results in the movement of earth on land located in Violet Township.

The Clean Water Act of 1972 was developed in response to polluted waterways throughout the United States. The goal is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Greenways can be preserved or restored through required mitigation or water quality trading in association with the Clean Water Act permits and programs. The National Pollution Discharge Elimination System is the Clean Water Act's primary point source control program. This program applies to factories, sewage treatment plants, urban storm sewers and construction sites. The Total Maximum Daily Load (TMDL) program focuses on identifying and restoring polluted rivers, streams, lakes, and other surface waters. A TMDL is a written, quantitative assessment of water quality problems in a body of water and contributing sources of pollution. The TMDL provides the basis for taking action needed to restore a body of water. A Section 401 certification from Ohio EPA and a Section 404 permit from the U.S. Army Corps of Engineers is needed for anyone who wishes to discharge dredge or fill material into the waters in the United States.

3.4.2.2 Water Quality General Information

Human activities and natural processes affect the quality of our water supplies. "Point source pollution is the introduction of impurities into water from an identifiable, known location. Nonpoint source (NPS) pollution also involves the introduction of impurities into a surface-water body or an aquifer, except the route is usually non-direct and the sources are diffuse in nature."⁸ NPS can enter the waters through sediment, nutrients, acids and salts, heavy metals, toxic chemicals, and pathogens.

Water quality monitoring by the Ohio EPA indicates that all or parts of the following Fairfield County streams are affected by NPS pollution. NPS pollution

affects: Licking River (including Buckeye Lake), Hocking River, Clear Creek, Rush Creek, Amanda Creek, Blacklick Creek, and Pawpaw Creek. Point source affected streams are: Baldwin Run, Georges Creek, Sycamore Creek, and Walnut Creek. Monitoring has shown that all or parts of the following streams have good water quality: Little Walnut Creek, Muddy Prairie Run, Turkey Run (Rushcreek Township), Muddy Prairie Creek, and Hunters Run.⁹ (See Map 3: Water Quality Attainment.)

Water quality and availability are important public concerns. Water problems can be costly and inconvenient. While Fairfield County water quality and availability is good, water is a precious resource that must be conserved and protected. The communities must work together to maintain a sufficient supply of good quality water.

3.4.2.3 Walnut Creek

Walnut Creek and some of its tributaries are tested every four years by the Ohio Environmental Protection Agency (OEPA). After the testing of the watercourses is complete a Total Maximum Daily Load (TMDL) report is completed. The TMDL report provides information on the waterways and from the data that is collected the quality of the water is established. Below is the information for Walnut Creek and some of the tributaries from the 2006 TMDL report.

Of the 55 sites evaluated in the two hydrologic units comprising the Walnut Creek catchment, 44 sites had biological communities fully meeting their designated aquatic life use, 10 sites had impaired biological communities, and 1 site requires further evaluation. All the sites sampled along the Walnut Creek mainstream supported biological communities fully meeting expectations for warm water habitat (WWH) streams. Also, biological communities in the

⁸ OSU Fact Sheet

⁹ Ohio EPA

Walnut mainstream generally improved compared to those measured in the 1996 survey, owing to improved municipal wastewater treatment. The overall quality of headwater tributaries feeding the mainstream remained similar between the 1996 and 2005 surveys, most notably among sites draining the rapidly suburbanizing Violet Township.

The Walnut Creek Action Group (WAG) is the watershed action group for Walnut Creek. The group meets quarterly to discuss Walnut Creek and its tributaries. WAG has a watershed action plan that was developed nine years ago and consists of various townships, villages, and cities that are within the Walnut Creek watershed. The watershed includes portions of Fairfield, Franklin, and Pickaway counties.

3.4.2.4 Hocking River

The TMDL report will be complete for the Hocking River and its tributaries summer 2009 by the OEPA. When testing the streams OEPA is looking for bacteria, aquatic life, and benthic macroinvertebrate. Below is the information provided by the OEPA for the Hocking River and two of its tributaries, Rush Creek and Clear Creek, from the TMDL report that will be available in full later in 2009.

Of the 395 aggregate linear stream miles of the Hocking River watershed assessed in 2004, 294.9 miles (74.6%) were found to fully support existing and recommended aquatic life uses. Partial attainment was indicated for 62.3 miles (15.8%) and non-attainment for the remaining 37.8 miles (9.6%). Multiple and diverse causes and sources were identified with impaired areas. The leading cause of aquatic life use impairment (partial and non attainment) was sedimentation. This category includes both impacts derived from fine clayey silts and excessive sand bedload. Associated sources of sedimentation were wide ranging and included agriculture, riparian encroachment, channelization or channel

incision, and natural conditions.” “Taken together, sediment impacts and associated causes and sources accounted for 27.3% of impaired miles. Nutrient and organic enrichment accounted for 15.4% and 13.1%, respectively, of impaired miles. The sources of these impact types were, again, diverse but were principally associated with major and minor Publicly Owned Treatment Works (POTWs), and various agricultural activities and related land uses. The raining (sic) source¹⁰ of significant impairment was derived from mine drainage. This source accounted for 11.5% of the impacted miles. Areas affected by mine drainage were concentrated in the upper Rush Creek watershed (HUC 020). Taken together these account for 80% of all impaired miles identified in the 2004 Hocking River study area. The remaining, primary, secondary, tertiary or coequal causes and sources of use impairment accounted for 20% of the impacted miles.

There is no watershed action group for the Hocking River at this time.

3.4.2.5 Rush Creek

Rush Creek is 28 miles long within Fairfield County and was found to support fish and benthic macroinvertebrate communities consistent with the applicable biocriteria. Rush Creek is in full attainment of state water quality standards despite active channel maintenance.¹¹

Rush Creek does not currently have a watershed action group.

¹⁰ Should read “remaining source”

¹¹ Ohio EPA

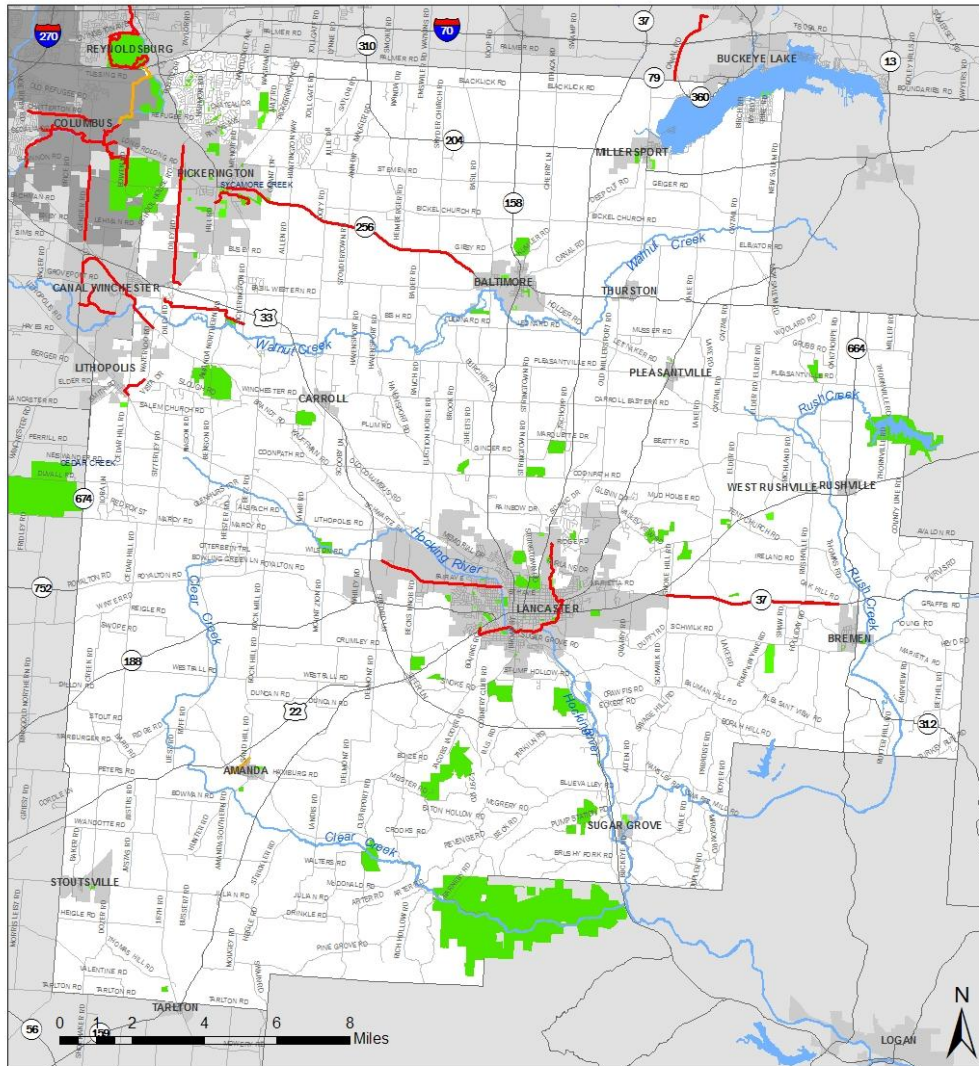
3.4.2.6 Clear Creek

Clear Creek is 24 miles long within Fairfield County and was found to contain fish and benthic macroinvertebrate communities consistent with applicable biocriteria. Based on studies from the Ohio EPA Clear Creek is in full attainment of state water quality standards.¹²

The Friends of Clear Creek is a volunteer group that has functioned as a watershed action group but is not currently active.

¹² Ohio EPA

Map 1: Existing and Committed Bikeways



Legend

Bikeways

- Existing
- Committed

The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
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FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN
EXISTING AND COMMITTED BIKEWAYS



Map 2: Water Bodies and Topography



Legend

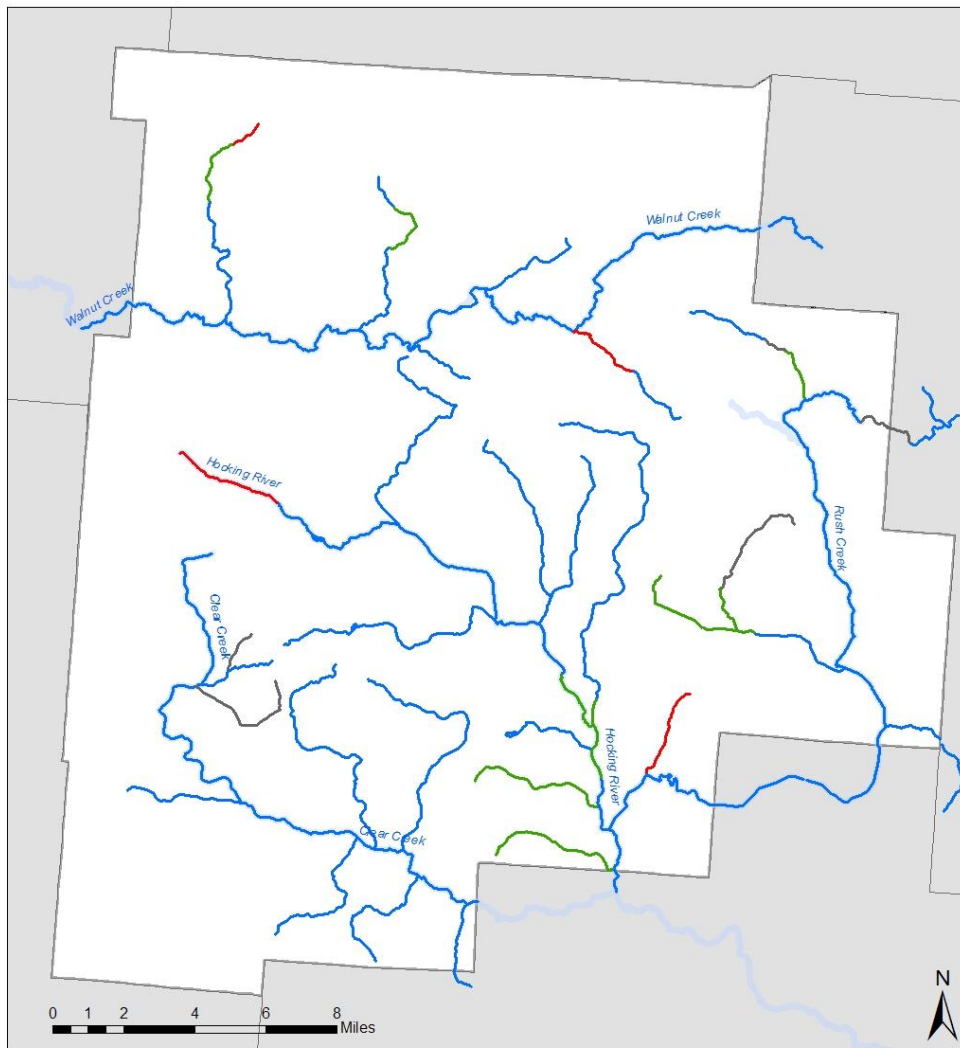
Streams	Topography
Greenways	Percentage slope
	6 - 12 %
	12 - 25 %
	25 - 40 %
	40 - 70 %

The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
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FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN
WATER BODIES AND TOPOGRAPHY



Map 3: Water Quality Attainment



Legend

- Greenways
- Full Attainment
- Partial Attainment
- Non Attainment
- Not Assessed

The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
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FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN

WATER QUALITY ATTAINMENT



4 Needs Analysis

Many sources can be used to identify Fairfield County's needs for active transportation and open space facilities. The three primary sources of information for this study are: previously identified needs in existing plans, needs identified by stakeholders during the development of this plan, and analysis of data. Each of these sources is described in this chapter for the different topics of the plan.

4.1 Previously Identified Needs

This section describes needs that were identified in previously completed plans and studies. Some are recommendations from those documents, others are policy statements or data results.

4.1.1 Active Transportation

Any trip, regardless of the mode of transportation, begins and ends with a pedestrian trip. Walking as a means of transportation gains importance since a large proportion of the population who cannot drive or afford vehicular transportation including children, the disabled, senior citizens and low income populations depend on alternative modes of transportation. In addition, walking has other benefits like promoting active lifestyles and helping to improve public health, improving environmental quality by reduced tailpipe emissions and alleviating traffic congestion. Development patterns that are designed with the pedestrian in mind tend to be more focused on people than on automobiles, resulting in better public places for the community, thereby improving the overall quality of life. Children walking to school, people walking from their residence or work place to local retail outlets to run errands or for leisure are typical of the kind of pedestrian activity that occurs in healthy built environments.

To facilitate safe pedestrian access and use, adequate pedestrian facilities (both roadside and off-road) are

needed to connect destinations within the county. Pedestrian trips tend to be of shorter distances, typically not over a mile, but the success of pedestrian infrastructure depends on the development of networks which provide direct travel routes and connections to desired destinations.

The county subdivision regulations make mention of sidewalks. However, these regulations affect the development of pedestrian facilities only within subdivisions and not between them or to outside destinations.

Violet Township is the only township in Fairfield County to have formally identified pedestrian needs. The Violet Township Land Use and Transportation Plan adopted in March 2005 identifies in its vision statement:

Violet Township will have transportation systems that support appropriate uses and sidewalks and trails that connect residential neighborhoods with other neighborhoods and community activity centers. Violet Township will promote efficient public transportation.

The plan identifies minor arterials, collectors and local streets with pedestrian infrastructure needs, with emphasis placed on the collectors and local streets requiring sidewalks to promote pedestrian connections and safety. The plan recommends the preparation of a sidewalk and trail master plan that outlines the connectivity of subdivision sidewalk networks to other destinations.

The land use plan and development standards developed by Violet Township and Canal Winchester for the Violet Pointe Cooperative Economic

Development Area (CEDA)¹³ identify pedestrian circulation standards for the small area in southern Violet Township addressed by the document. This area is bounded by US 33 on the south, Busey Road on the north, the Franklin County line on the west and the limits of Canal Winchester School District on the east. According to these standards:

- Developments will be required to contribute to the existing or planned bikeway network.
- Sidewalks adjacent to or paralleling major streets shall be located within the right of way of each parcel. As an alternative, sidewalks may be located in the Open Space Corridor.
- Pathways in all areas shall be aligned to conform with and continue for a reasonable distance the alignment of walks on adjacent properties or parcels.
- Bike paths and pedestrian walkways should be shown on the site development plan. The final location of bike paths and pedestrian walkways may be negotiated as part of the final development plan.

The *Fairfield County Development Strategy and Land Use Plan* recommends that roadways in locations where traffic growth is not desirable (i.e., critical resource areas and agriculture preservation areas) should not be considered for capacity improvements except as dictated in some cases for safety considerations. The ten highest accident locations and highest non-intersection accident locations from 1997-1999 were identified for possible improvements, which should include pedestrian and bicycle facilities:

► Highest accident locations

- US33 at CR 18 (Hill)
- SR 37 at CR 31 (Coonpath)
- SR 188 @ CR 31 (Coonpath)
- SR 204 @ SR 158

- SR 37 at CR 79 (Rainbow)
- US 22 at TR 189 (Beck's Knob)
- SR 256 at SR 37
- CR 16 (Amanda-Northern) at CR 39 (Lithopolis)
- SR 188 (Lancaster-Thornville) at SR 256 (Baltimore-Somerset)
- CR 13 (Basil-Western) at CR 20 (Pickerington)

► Highest Non-intersection accident locations

- SR 188 in Pleasant Township
- SR 37 in Pleasant Township
- US 22 in Pleasant Township
- CR 23 (Winchester Road) in Bloom Township
- CR 50 Sugar Grove Road in Berne Township
- SR 674 in Bloom Township
- CR 34 (Carroll-Southern Road) in Greenfield Township
- CR 21 (Carroll-Eastern Road) in Greenfield Township
- CR 13 (Basil-Western Road) in Violet Township
- CR 40 (Havensport Road) in Greenfield Township

As previously mentioned, Fairfield County contains a significant Amish population. This group makes regular use of horse drawn vehicles which present unique issues for local transportation planning. The Ohio Department of Transportation has analyzed the potential safety issues that occur when horse drawn vehicles moving at approximately 5-8 mph, share the roadways with motor vehicles traveling at speeds up to 55 mph.

A review of the data found that a combination of speed differential and motor vehicle driver's misjudging the paths and turning movements of the horse drawn buggies seem to be the primary cause of crashes. The motor vehicle drivers inaccurately estimate the speed of the horse drawn buggies and how long it takes to overtake or come up behind the buggy resulting in rear end collisions. ODOT most recently reported this information in the *Amish Buggy Safety on Ohio's State*

¹³ *Violet Pointe: CEDA Area Land Use Plan & Development Standards*

Roadway System, Analysis and Action Plan based on crash data from 1990 to 1998.

In particular, the Amish Buggy Safety Report found the following:

- The majority of the crashes, 56 percent, occurred during daylight hours.
- The most frequent time for travel was between 7 a.m. and noon.
- The second most frequent time for travel was from 3 p.m. to dusk.
- A greater chance of a buggy crash occurs after dusk.
- Six percent of the crashes between 1990 and 1998 occurred in ODOT's District 5. Rushcreek Township is located in District 5.

The report recommended:

- Widen shoulders to 6 to 8 feet on state roadways heavily traveled by horse drawn vehicles
- Use heavy duty asphalt mix
- Plow shoulders during snow removal
- Cut vegetation to improve sight distance
- Consider changing speed limits
- Re-evaluate vertical and horizontal geometries on state roadways heavily traveled by horse drawn vehicles
- Possible improvements to three state roadways in Fairfield County: SR 37, SR 312, and SR 664.

While state roads located in Rushcreek Township are not in the top statewide buggy crash locations, safety has been identified as a local issue. As an example, a group of Rushcreek Township residents petitioned local officials for help in having the Amish better light their buggies.

The Fairfield Heritage Trail Association is a group of Fairfield County citizens committed to developing a network of public trails linking Fairfield County. The Fairfield Heritage Trail is a network of the following trails:

- Lancaster Trail - The Lancaster City Bike Trail is a linear park that will eventually connect bike trails in Franklin, Fairfield and Hocking counties. The proposed City Trail will encircle the City with a 9.6 mile loop available to pedestrians and bicycles, interconnecting parks, schools, retail, and waterways within Lancaster. There are several miles of existing bikeways. Over \$1.2 million have been identified from various sources to fund the completion of this trail.
- Lancaster-Stoutsville Trail - Plans are underway within the Village of Amanda to convert rail to a rail-trail.
- Lancaster-Bremen Trail
- Upper Hocking Trail
- Lancaster-Buckeye Lake Trail
- Thurston-Bremen Trail
- Clear Creek Greenway
- Lancaster Lateral Trail
- Smeck Farm Canal Trail
- Route 256 Bike Route - Existing bike lanes between Pickerington and Baltimore
- Fair Avenue Bike Route
- Fox Trail
- Waterloo-Pickerington Trail

Pickerington

- Pickerington has an existing shared-use path along Diley Road between the railroad tracks and Dove Parkway. There are also existing shared use paths located in the central business district.

Canal Winchester

- There is an existing shared use path located along Waterloo-Eastern Road between Waterloo-Eastern Court and Pickerington Road.

Lithopolis/Bloom Township

- There is a signed shared route along Waterloo Road between Lithopolis-Winchester Road and Slough Road.

Reynoldsburg

- There is an existing shared use path in Blacklick Metro Park. A 1.11 mile path connecting Blacklick Woods Metro Park to Tussing Road will be completed end of July 2009. A 1.5 mile proposed path continues from Tussing Road to Hines Road and connects south of Refugee Road at Portman Park.

The *Fairfield County Development Strategy and Land Use Plan* recommends the following:

- The Rails-to-Trails conversion of an abandoned railroad corridor to the Fairfield Heritage Trail is supported. Local communities should be encouraged to consider connections to this trail in their own planning efforts.
- The concept of bike lanes like those seen on SR 256 east of Pickerington be expanded.
- Connections to the ODOT bike plan should be explored. The current ODOT bike plan shows a cross-state bike route from Cincinnati to Marietta that passes through north central Fairfield County.

4.1.2 Open Space

Several local plans address needs associated with open space. There are several common themes among the plans regarding open space needs as summarized below:

- Preservation of environmental resources
- Preservation of cultural and historic resources
- Recreational opportunities within walking distance of all residential areas
- Buffering of incompatible land uses

- A balanced distribution of parks throughout the county
- Collaboration between school and park land acquisition
- Connection of open space
- Recreational activities that reflect the people who use them

A couple of specific needs regarding the first item, preservation of environmental resources, are important to note. First, the *Violet Pointe* plan requires an environmental analysis under certain circumstances before any use or development involving new construction, reconstruction or expansion of structures can begin. The criteria used to determine if an environmental analysis is required are as follows:

- Any portion of the parcel is in the 100-year floodplain.
- The parcel contains one or more wetlands.
- 15 percent or more of the soil is hydric or contains hydric soil inclusions.
- A stream or other natural feature crosses any portion of the parcel.
- The parcel contains an agricultural drainage ditch.
- 25 percent or more of the total area of the parcel has slopes over 20 percent.
- 25 percent or more of the site is woodlands, as defined in the Village of Canal Winchester Zoning Ordinance.

Also, the *Fairfield County Development Strategy and Land Use Plan* identifies a need for protection of riparian land along with the following recommendation: “Encourage the preservation of open space along major creeks and rivers as well as numerous other waterways and reservoirs. Minimum preservation should include all floodways as determined by the county engineer or 200 feet from centerlines whichever is greater....”

4.2 Needs identified by stakeholders

In addition to the needs identified by previous plan documents, stakeholders identified needs as part of this planning process. This information was gathered during advisory committee meetings and one-on-one meetings with individuals in many parts of the county.

4.2.1 Active Transportation

The major input received regarding pedestrian facilities was the need to modify the subdivision regulations to accommodate pedestrians while also contributing to built environments that discourage vehicular speeding, especially on residential streets.

The following needs were identified at various Technical and Stakeholder advisory group meetings:

- Focus on greenway/recreational travel in rural areas and work/errand travel in developed areas.
- Make sure new facilities are placed where demand exists/is likely and that connect to destinations.
- Identify and pursue easy wins with state highway improvements to add pedestrian/bicycle facilities.
- Recognize Amish population and travel needs.
- Address interest from businesses in recreational/quality of life aspects of county (esp. site selection, relocating businesses).
- Identify populations with special travel needs – seniors, children.
- Identify canal lands as potential parts of bike/pedestrian network.
- Concerns from townships and the county engineer regarding maintenance of facilities along roadways – possible preference for greenway trails.
- Connect Metro Parks in and around the county.
- A circular element of the bikeway network be added in Baltimore connecting each of the four parks in that jurisdiction.

4.2.2 Open Space

Stakeholders identified two specific needs regarding open space:

- Connect existing parks
- Protect natural, cultural, and agricultural areas

The Fairfield County stakeholders also expressed a need to set standards for maximizing surface water quality. The Stakeholders want to maximize the conservation and provision of natural areas, cultural resources and open space. There is a need to protect natural vegetation along the greenway corridors; also there is a need to protect endangered species that live in our ecosystem. The Stakeholders want to use the greenways system as a means for connecting communities together throughout Fairfield County.

4.3 Data Analysis

In some cases, MORPC collected or obtained data to analyze the county's needs directly. Data sources vary, coming from state and local sources, as well as MORPC's own in-house information.

4.3.1 Active Transportation

Based on existing demographics presented in Section 3.2 Demographics, there is a significant population of individuals with disabilities and those with low incomes. With limited public transit in Fairfield County, the most cost effective transportation mode for many will be by walking and bicycle.

Typically, pedestrian needs analyses also tend to look at pedestrian crash statistics to identify existing issues with pedestrian safety. This information is taken in context of the development pattern, land use, specific destinations, street configuration, etc. to identify safety concerns that may be addressed through education, engineering or enforcement. However, in a rural context like most of Fairfield County, crash statistics may not prove as useful.

As seen in Map 4: Pedestrian and Bicycle Crashes, pedestrian crashes are clustered in the more developed, incorporated areas, but this does not mean that the other parts of the county are safe for pedestrians. On the contrary, the lack of pedestrian facilities, the high speed and high volume traffic on some roads and the widely dispersed destinations typical of a rural development pattern create unfriendly conditions to pedestrians and contribute to very little pedestrian traffic except near the incorporated areas.

Approximately 101 bicycle/pedestrian crashes were identified in Fairfield County by the Ohio Department of Transportation from January 2005 through December 2007. The majority of these crashes occurred in the more urban areas of the county. Additional data shows the following information on the crashes:

- 55 percent are pedestrians
- 45 percent are bicyclists
- Most frequent days of the week: Friday & Monday
- Most frequent hours of the day: 2 p.m. and 6 p.m.
- Over 50 percent of the crashes occurred at intersections

The Ohio Department of Natural Resources conducted a survey of a random sample of Ohioans during the summer of 2001 as a component of a statewide trails planning process. The survey was administered to a sample of 2,000 Ohio households to assess participation rates and attitudes dealing specifically with trail activities and related topics. The survey yielded a response rate of 26 percent and, as a result, caution should be exercised in aggregating these data to a statewide level. The most significant finding of this survey revealed the following.

Table 5: Household Participation in Trail Activities, 2001

Trail Activity	Percentage of Households Participating	Average Number of Household Activity Occasions
Walking for pleasure	73.4	68.4
Nature appreciation	44.3	45.9

Trail Activity	Percentage of Households Participating	Average Number of Household Activity Occasions
Bicycling on hard surface	44.1	35.3
Day hiking	42.9	19.3
Jogging/exercise running	24.8	81.7
Canoeing/kayaking	18.4	4.5
Bicycling on natural surface	18.9	20.5
Horseback riding on trails	8.9	16.5
Backpacking overnight	7.0	3.3
ATV-riding	6.4	29.7
Off-highway vehicle riding	5.9	14.9
Cross-country skiing	5.0	4.6
Off-road motorcycle riding	3.4	33.3
Snowmobile riding	2.7	10.1

The data reveal that the most popular trail activities in terms of the percentage of households that participate were walking for pleasure, nature appreciation, bicycling on hard surfaces, day hiking, and jogging/exercise running. The most popular activities by frequency were jogging/exercise running, walking, nature appreciation and bicycling on hard surfaces. The data suggest that recreation providers should develop trail opportunities that serve the traditional trail activities.

Most pedestrian trips are less than 1 mile in distance, but the success/usefulness of pedestrian infrastructure depends on connectivity with a larger network of sidewalks that provide access to a variety of destinations. With local pedestrian systems that integrate with bikeway and greenway systems, regional pedestrian networks can be established. The distribution of potential destinations in the county, however, shows that if adequate facilities are developed, there are destinations to which people could walk. (See Map 5: Points of Interest.)

4.3.2 Open Space

A major focus of this plan is connecting people through active modes of transportation, so *functional distance* was added as a variable defining an open space category. This means that a category of open space is meant to be located either within walking and biking distance or within driving distance of the population it serves. Public input resulted in defining walking/biking distance as one mile within urbanized areas and two miles within non-urbanized areas, which is different than the service areas as described in the Fairfield Land Use Plan and in national standards.

Table 6: Open Space Categories and Associated Service Standards

Open Space Category	neighborhood	community	metropolitan
Sub-Category	mini		
Functional Distance	walk/bike	walk/bike	drive
Maximum Service Area in Urbanized Areas (miles)	1	1	10
Maximum Service Area in Non-Urbanized Areas (miles)	2	2	10
Acreage Required per 1000 Residents	3	10	10

It was also necessary to make adjustments to the service standards for the minimum acreage required per person because the standards varied in each of the reference sources. Please see the Appendix for Table 12: Open Space Service Standards, a table comparing both sources of national standards and those from the Fairfield Land Use Plan to the standards developed for use in this plan. **Error! Reference source not found.** shows each open space category and the standards associated with them.

4.3.2.1 Analysis Methodology

The goal of the needs analysis process is to determine how many acres of open space are needed to serve the population in Fairfield County and where the open space should be located. To do this, it is necessary to 1) determine the population not located within the open space service boundaries for each category of open space and 2) determine the population not having access to the minimum standard of open space for each open space category¹⁴.

After testing some different standards (see the Appendix for a description of two initial approaches), stakeholders reached consensus to use a 1-mile walking/biking-distance service areas for urbanized areas and 2-mile walking/biking-distance service areas for non-urbanized areas. Urbanized areas are defined as a combination of urbanized areas from the 2000 U.S. Census plus incorporated areas not included in the Census Bureau's definition of urbanized areas.

Once the service standards were established, needs were determined for the locations and population served and not served by each category of open space. The Appendix provides details on the methods used to determine needs.

¹⁴ Open spaces within Fairfield County are used by people who live in other counties, reducing the acres of open space per Fairfield County resident. Only the population of Fairfield County is considered in this plan due to complexities in determining the quantity and origin of users outside of the County.

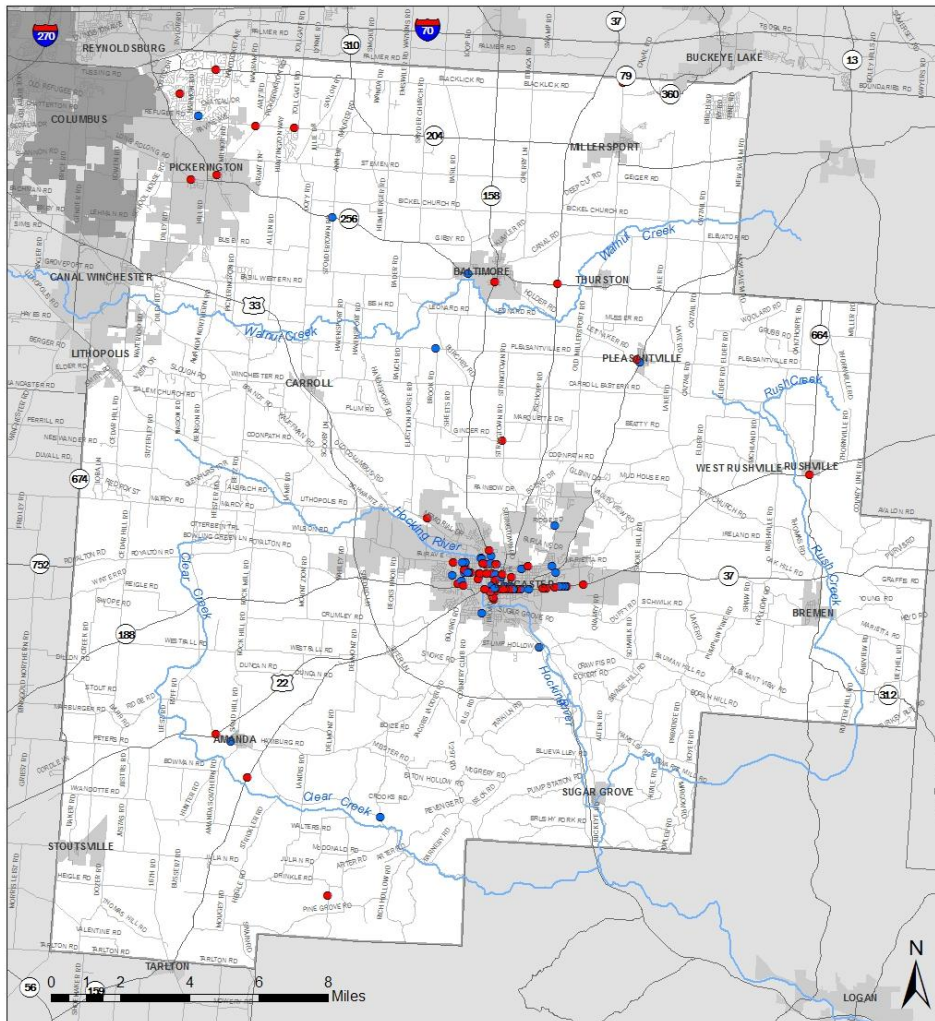
4.3.2.2 Analysis Results – Current

Based on the current estimated Fairfield County population (2008), all residents of Fairfield County live within the metropolitan park service area, meaning that a metropolitan park is less than a 10-mile drive from their places of residence. However, additional acreage of mini- and neighborhood and community parks are needed across the county to serve both the urbanized and non-urbanized population. Seventy-five percent of the urban population lives within 1 mile of mini- and neighborhood parks and 66 percent within 1 mile of community parks. Half of the non-urban population lives within 2 miles of mini- and neighborhood parks, while 61 percent lives within 2 miles of community parks. Map 6 and Map 8 show the areas where residents do not live within walking and biking distance of mini- and neighborhood parks and community parks, respectively.

On average, the minimum acres-per-person standard for each park category is met across the county. There are 3.7 acres of mini- and neighborhood parks, 73.5 acres of community parks, and 45.2 acres of metropolitan parks per 1,000 residents (based on Census data and MORPC estimates). However, at a more detailed scale of analysis, the requirements are not met for many geographic areas.

Approximately 530 acres of open space are needed across the county. The need for metropolitan open space accounts for approximately 43 percent of the overall acreage needed. The greatest need among the other two categories of open spaces exists for community open spaces serving urbanized areas – 21 percent. Alternately, the least need exists for community open spaces serving the non urban population. Map 7, Map 9 and Map 10 show areas in need and generalized additional acreage required by TAZ or portions of a TAZ. Estimated acreage requirements by TAZ are provided in the Appendix in Table 13.

Map 4: Pedestrian and Bicycle Crashes



Legend

- Bicycles
- Pedestrian

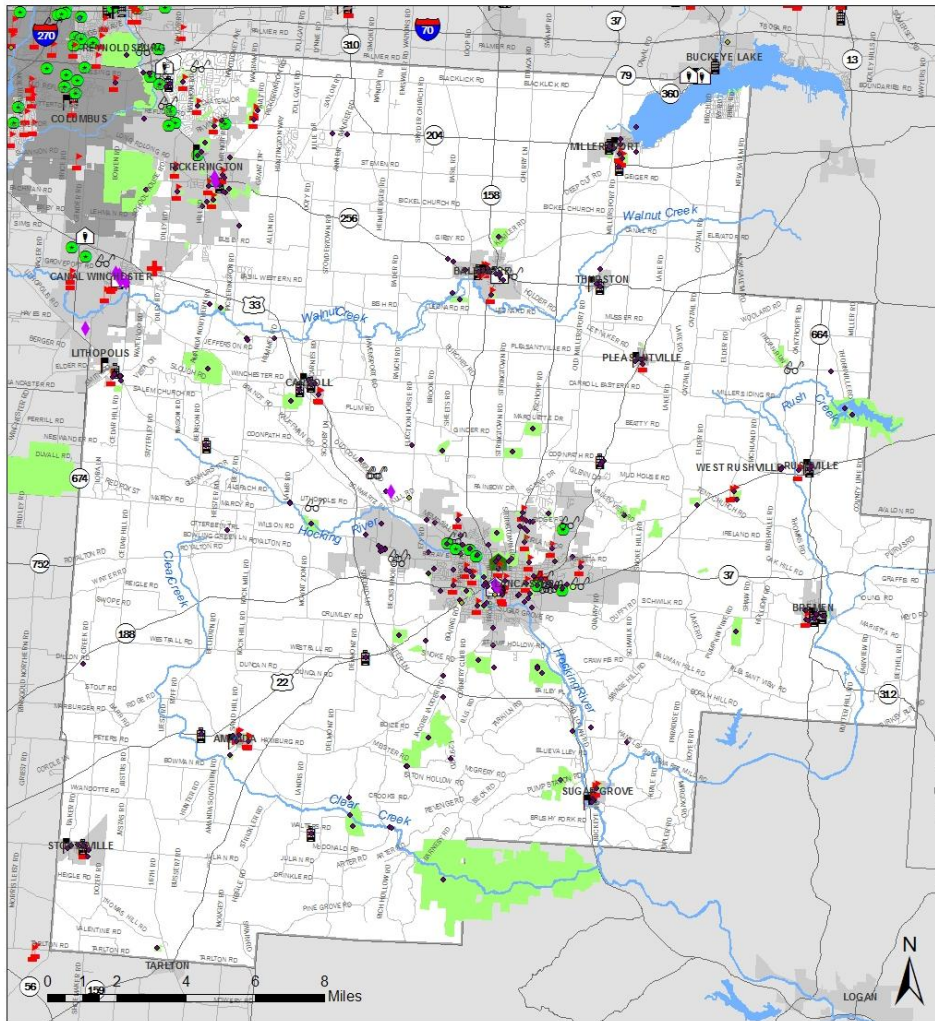
The information shown on this map is compiled from various sources made available to us which we believe to be reliable. N:\ArcGIS\LOCAL\Fairfield County Plan\Final MXDs for Report\22PedBikeCrashes.mxd

FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN

PEDESTRIAN AND BICYCLE CRASHES: 2005 - 2007



Map 5: Points of Interest



Legend

- Community Recreation Centers
- ◆ Cultural Sites
- Landmarks
- ◆ Libraries
- 🏠 Museums
- 📧 Post Offices
- 🎓 Schools
- 👥 Senior Group Quarters
- Shopping Centers
- 🎭 Theaters
- 🎵 Music Venues
- 🏃 Sports Venues
- 🏛 Government Buildings
- ✚ Hospitals
- 🏨 Hotels
- 🏟 Fairgrounds

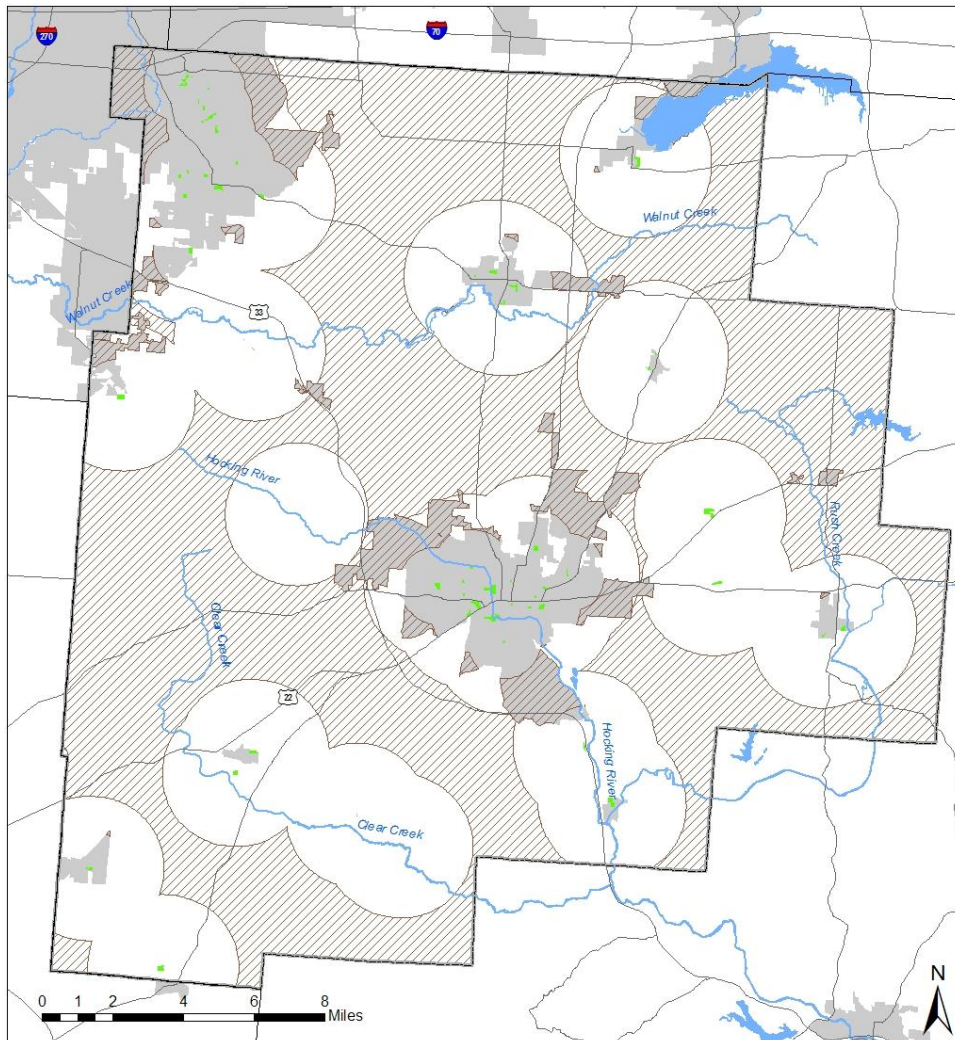
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FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN




POINTS OF INTEREST: POTENTIAL DESTINATIONS



Map 6: Areas Not Served by Mini- and Neighborhood Open Spaces



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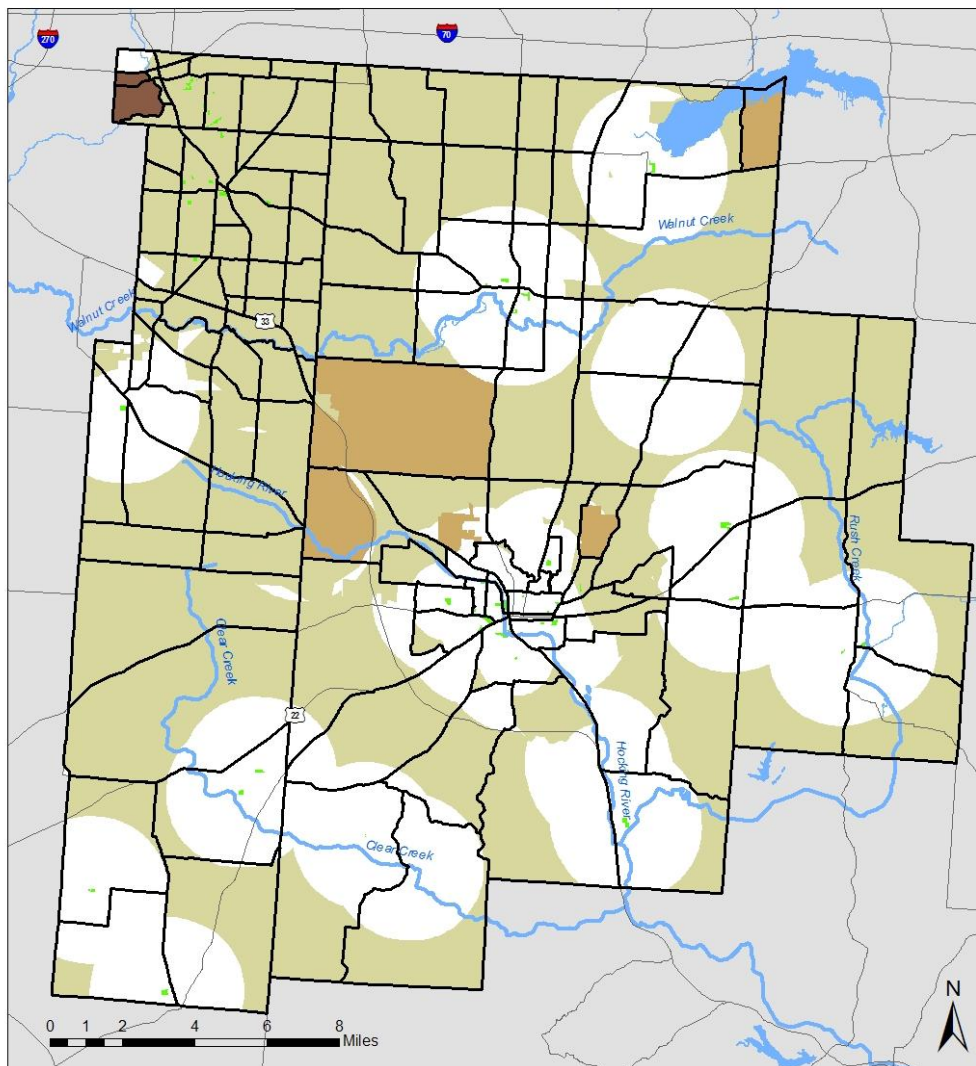
-  Area not served
-  Mini- and neighborhood open space
-  Urbanized area

The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
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FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN
AREAS NOT SERVED BY MINI- AND NEIGHBORHOOD OPEN SPACES



Map 7: Mini- and Neighborhood Open Space Acreage Needed



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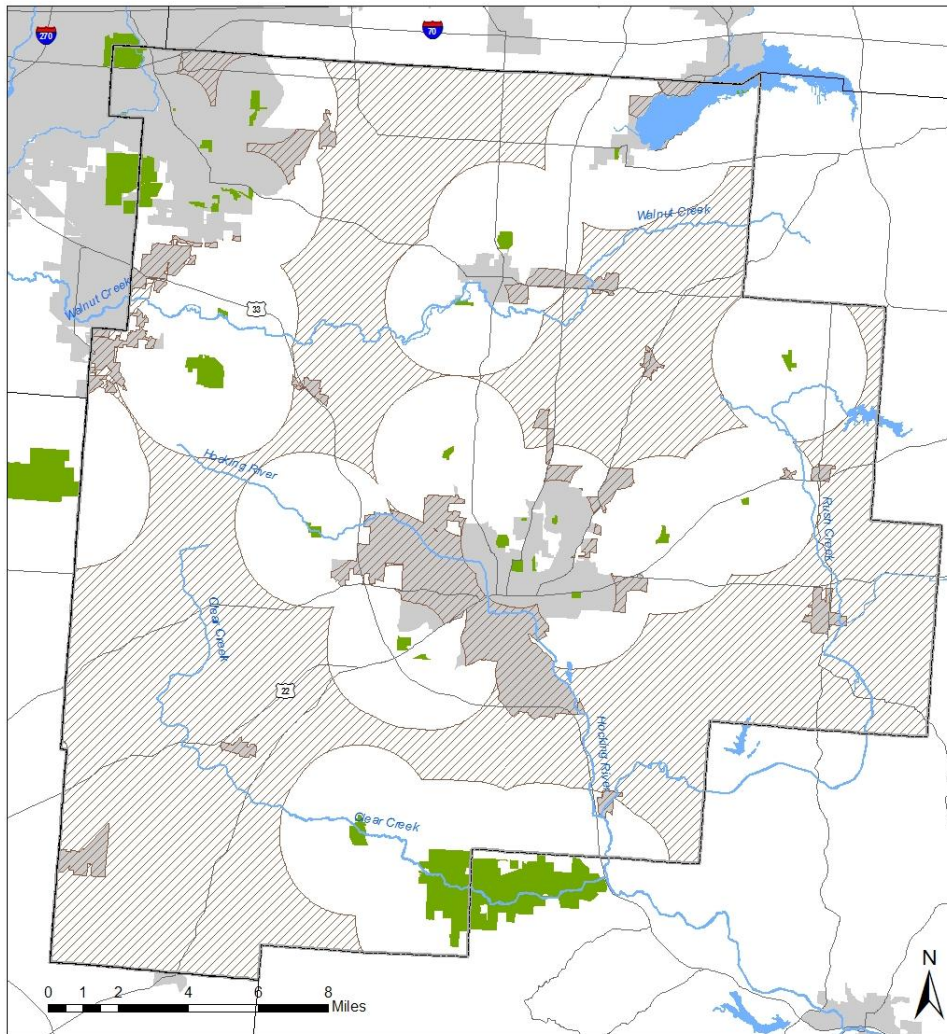
- 0.01 - 5 acres needed per TAZ segment
- 5.01 - 10 acres needed per TAZ segment
- 10.01 - 15 acres needed per TAZ segment
- Mini- and neighborhood open space
- TAZ (Traffic Analysis Zone)

The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
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FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN
MINI- AND NEIGHBORHOOD OPEN SPACE ACREAGE NEEDED



Map 8: Areas Not Served by Community Open Spaces



Legend

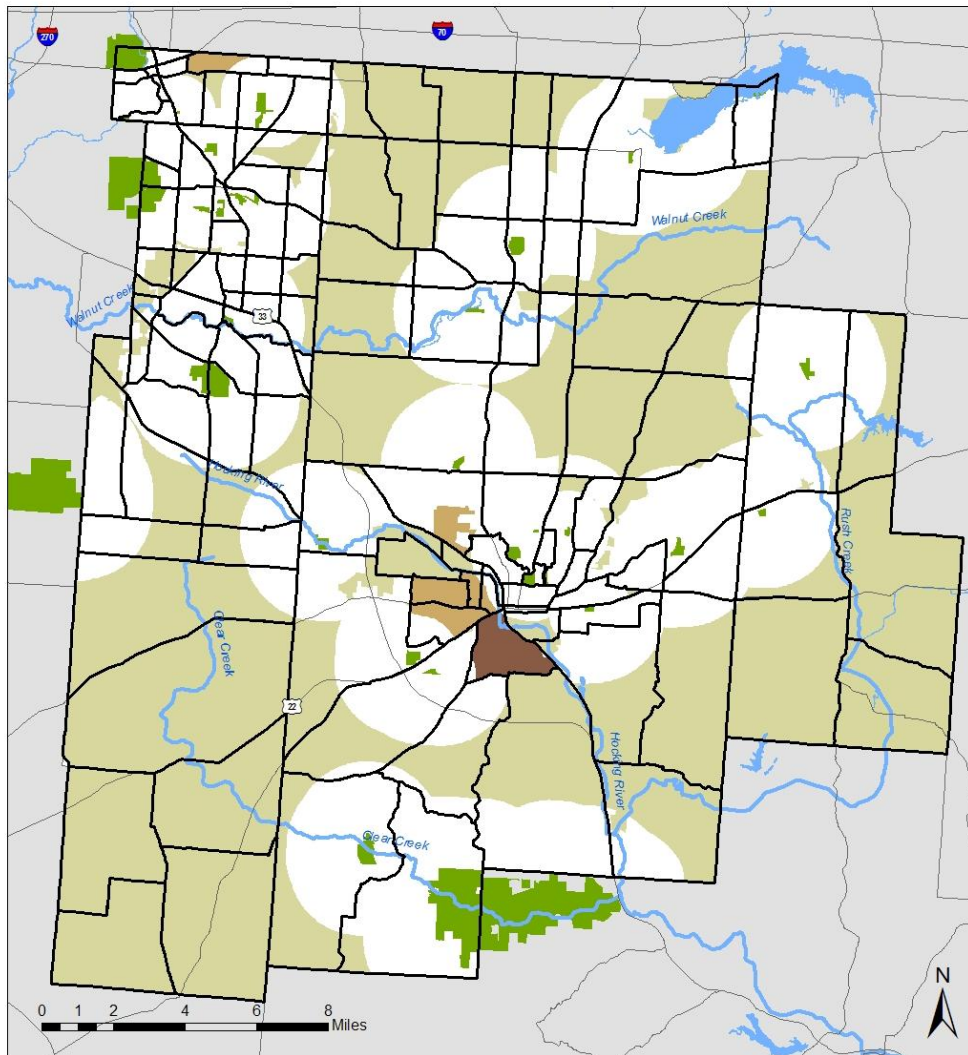
-  Area not served
-  Community open space
-  Urbanized area

The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
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FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN
AREAS NOT SERVED BY COMMUNITY OPEN SPACES



Map 9: Community Open Space Acreage Needed



Legend

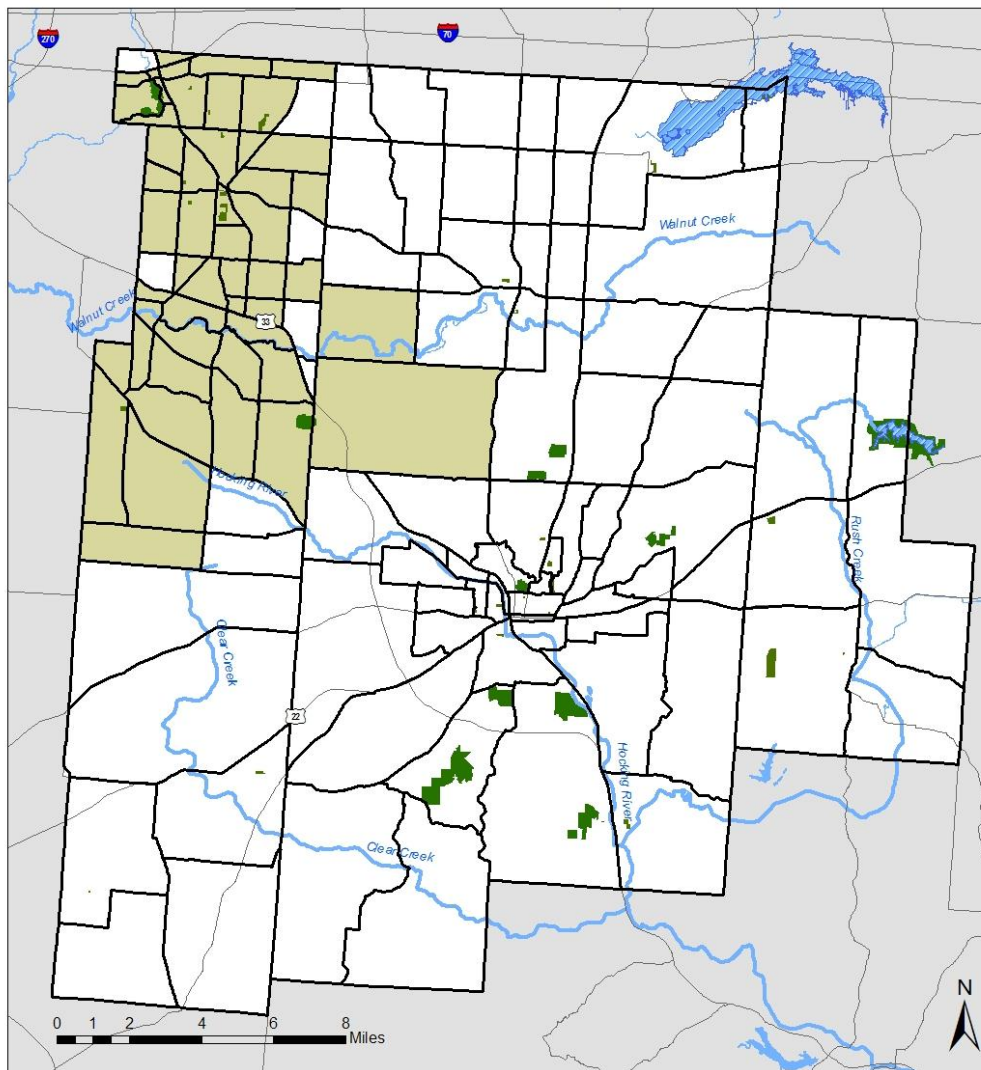
- 0.01 - 5 acres needed per TAZ segment
- 5.01 - 10 acres needed per TAZ segment
- 10.01 - 15 acres needed per TAZ segment
- Community open space
- TAZ (Traffic Analysis Zone)

The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
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FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN
COMMUNITY OPEN SPACE ACREAGE NEEDED



Map 10: Metropolitan Open Space Acreage Needed



Legend

- 0.01 - 5 acres needed per TAZ segment
- 5.01 - 10 acres needed per TAZ segment
- 10.01 - 15 acres needed per TAZ segment
- Metropolitan open space
- Water feature as Metropolitan open space

TAZ (Traffic Analysis Zone)

The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
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FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN
METROPOLITAN OPEN SPACE ACREAGE NEEDED

morpc

5 Conceptual Alternatives

5.1 Summary of Unmet Needs

Based on the needs analysis from Chapter 4, it is clear that Fairfield County has identified needs for both active transportation and open space. To summarize broadly:

- Fairfield County has no county-wide bike or pedestrian system, although there are some existing pieces that can be connected into a system.
- Fairfield County has population that is unserved or underserved by existing open space.
- Fairfield County has few tools with which to protect its waterways from water quality degradation.

5.2 Alternatives for Meeting Identified Needs

Using the identified needs, a package of alternatives was developed that include conceptual projects and policies to improve active transportation and open space in the county. These conceptual alternatives have been organized into two categories: Countywide Alternatives and Corridor Alternatives. Countywide alternatives are mostly policies that would be implemented across the county, while corridor alternatives are projects and policies specific to certain geographic areas of the county.

The corridors are based on two goals for the project: providing connectivity among communities and connectivity to parks. They were developed following waterway and major travel routes, so they have a linear shape, and they attempt to connect major destinations both commercial and recreational. The corridors identified for purposes of this plan are shown on Map 11: Plan Corridors.

5.2.1 Countywide Pedestrian Alternatives

Complete Streets is an approach towards transportation planning where all streets and public rights of way are

routinely planned, designed, constructed and operated to ensure that all users of all ages and abilities using any mode of transportation, including non motorized modes like walking and biking, can safely travel along and across the street. Complete Streets is supported as a policy statement in this plan (see Policy 3.3 in Chapter 2 Process and Goals). It is important to emphasize the routine maintenance of pedestrian facilities to keep them clear of obstructions like debris and cleared snow. Since pedestrian infrastructure is associated with every street, it is useful to evaluate alternatives from a big picture perspective rather than a project based approach. In order take this big picture approach, it is useful to observe that development patterns in unincorporated Fairfield County consist largely of residential subdivisions and a street network that connects them to destinations like commercial developments and incorporated areas. For the purposes of this plan, pedestrian facilities are categorized under three conceptual alternatives which are not mutually exclusive.

- The first alternative is roadside pedestrian facilities within residential subdivisions. These are governed by subdivision regulations.
- The second alternative is roadside pedestrian facilities outside of these residential subdivisions that connect these residential areas to destinations outside of them.
- The third alternative is off road pedestrian facilities around the county.

5.2.1.1 Pedestrian Facilities Within Subdivisions

The Fairfield County Subdivision Regulations is the only regulatory tool currently that helps influence the kind of pedestrian infrastructure in the county. These regulations control the development within residential subdivisions, which for the most part, are low to medium density single family homes along a controlled network of curved local streets, many of which end in culs-de-sac. Subdivisions are typically developed by private developers and the regulations provide guidance

as to what kinds of facilities they are required to include in these developments. While the purpose of subdivision regulations is to ensure a wholesome residential environment reflecting the values of the community, current developments demonstrate an auto-oriented built environment of wide streets, making the residential neighborhoods conducive to speeding. Pedestrians are more directly affected by their surrounding environment than motorists, so the surrounding built form has a particularly large impact on pedestrians' perception of safety on a street.

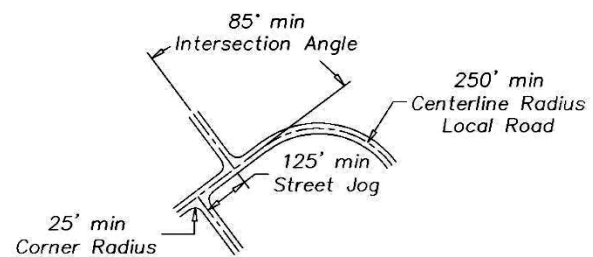
While current subdivision regulations already require sidewalks and pedestrian infrastructure, there are changes that can be made to the regulations to ensure that local streets in these residential areas do not support high speed traffic. Some examples of the many possible changes include reducing curb radii at intersections, reducing the radii of street curves, and narrowing street pavement or lanes. These examples are described below for illustrative purposes.

Corner radius reduction: At the intersection of streets within a subdivision, the radius of curvature of the corner plays a significant role in determining the speed at which automobiles can negotiate a turn. Tighter corner radii require that vehicles slow down to turn while large radii allow for higher speed turns. This reduction in corner radii has the added advantage of decreasing the distance a pedestrian has to travel to cross the intersection since it reduces the size of the intersection as shown in Figure 1.¹⁵

Street centerline radius reduction: Similar to the situation with corner radii, when the centerline radius of curving streets in subdivisions is large, automobiles can maintain higher speeds compared to smaller centerline radii which make drivers slow down to stay in their lane. An example of centerline radius is also shown in Figure 1.

Curb to curb distance reduction: When the curb to curb distance is large in a subdivision the street can simulate highway conditions and encourage speeding. This situation is exacerbated by larger setbacks of buildings from the curb, a lack of on-street parking, and no street trees. By contrast, when curb to curb distances are reduced, or narrower lanes are provided, less asphalt is available to the motorist for speeding. Providing for on-street parking, street trees or smaller building setbacks all help to create a greater sense of enclosure and place, also resulting in slower speeds.

Figure 1: Example of corner and street centerline radii



Ways to reduce the curb to curb distance at selected locations include the use of traffic calming devices like intersection “neck downs” or curb extensions at intersections.

5.2.1.2 Pedestrian Facilities Outside Subdivisions

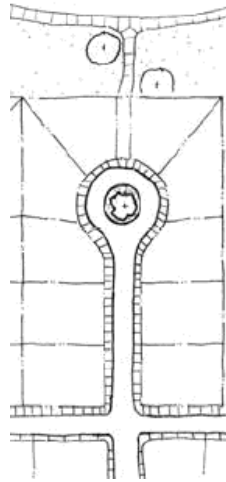
The second alternative addresses the connectivity between pedestrian networks within residential subdivisions to destinations outside them. This can be achieved in different ways as described by the two general approaches below.

Connect to adjacent destinations from within subdivisions: This is applicable in cases where residential subdivisions are adjacent to significant pedestrian destinations like schools, commercial developments, trails etc. Since

¹⁵ Fairfield County Engineer

subdivisions typically have a major street connecting to the thoroughfare network and local streets and culs-de-sac connecting internally, depending on the size of the subdivision, it may not be feasible to expect a person to walk all the way to the thoroughfare street and walk along it beside high speed traffic to reach the adjacent destination. In such cases, pedestrian connections could be provided within the existing subdivision connecting to the adjacent destination, or, if the adjacent property is not developed, pedestrian connectors could be provided for linkages when future development occurs. These connectors must be developed with the subdivision even if adjacent property is not yet developed to ensure their availability when the adjacent destination develops. An example of a pedestrian connection from a cul-de-sac is shown in Figure 2.¹⁶

Figure 2: Example of a pedestrian connection



Connect to destinations outside of subdivisions using different planning approaches: A “Scenario Based” approach considers pedestrian facilities in destination specific scenarios like schools, libraries, post offices and retail developments as well as contextual scenarios like streets in rural, suburban and urban contexts and development patterns.

As in the case of townships like Violet Township which have clearly defined comprehensive plans, development patterns are correlated with destinations and specific gaps in connection have been identified and planned for. In other parts of the county, especially in townships around major incorporated areas like Lancaster, such needs have not been identified township-wide. In these cases, it may be useful to identify certain scenarios

which could serve as guidelines for the development of pedestrian facilities. The most important of these are pedestrian facilities that connect residential subdivisions in townships to schools and to the larger pedestrian infrastructure network in the incorporated areas. Other scenarios could include connections to pedestrian destinations like libraries, post offices, retail centers, etc. In areas where drainage is not an issue, cost effective pedestrian facilities can be developed without curb and gutter. Important criteria are the width of the pedestrian facility, the size of the buffer or lateral separation from traffic and vertical elements like trees or utility poles in the buffer to provide a sense of safety to the pedestrian. Clearly marked crosswalks at logical locations with adequate sight distance, lighting and signage for motorists is important to help pedestrians safely cross the street.

In order to develop cost effective and demand responsive pedestrian infrastructure, it is useful to think in terms of context sensitive facilities. Requiring sidewalks along all streets may not be necessary, especially in the case of rural roads with a low density of pedestrian destinations, which is typical of most parts of the county. In such cases, the provision of wide shoulders on these streets could be sufficient for accommodating pedestrians as well as bicyclists and other non-motorized travelers.

A more specific approach to identifying and addressing pedestrian facility needs is to develop a “Pedestrian Thoroughfare Plan” or similar planning tool that considers street specific information in the overall context of the county. A more involved process is required to develop such a tool, but, once implemented, it can result in a more integrated and effective pedestrian system.

5.2.1.3 Off-Road Pedestrian Facilities

It is important to identify connections to open space and trail systems as well in order to create regional pedestrian networks where possible. Utility corridors and multipurpose trails can both be used for pedestrian

¹⁶

http://www.nashville.gov/mpc/subdivregs/images/figure_5_4_big.gif

travel with appropriate easements and connections to destinations.

5.2.2 Countywide Greenways Alternatives

Greenways provide services to our community in a multitude of ways. They protect the quality of our waters for drinking and recreational uses, remove pollutants from the air, store flood waters, stabilize stream banks, and provide habitat for wildlife and natural areas for community enjoyment. When connected through a trail system, greenways provide recreational opportunities and alternative transportation routes. Greenways increase property values, tourism, connect communities, attract and retain employers, and provide community identity.

Greenways Trails connect neighborhoods to downtown, parks, schools, employment, shopping areas, cultural amenities and other activity centers. They provide an alternative transportation route for children, families and commuters. Greenway Trails also provide safe routes for horse-drawn buggies in Amish communities.

Our floodplains, wetlands, rivers, ravines, streams and streamside forest, when combined, are commonly referred to as a Greenways system and serve as our natural green infrastructure. Green infrastructure is an interconnected network of land and water that sustains our air and water resources by maintaining and enhancing natural ecological processes. Greenways provide services to our community by reducing flooding and erosive damages, improving air and water quality, and providing habitat for wildlife. Additionally, greenways provide a focus for cultural activities, service for recreation and open space needs, and provide for emotional and mental relief from the stresses of daily life.

Greenways can be used to connect people with parklands, natural or historic sites, and enhance and protect recreational opportunities, natural habitat and scenic areas. Greenways have also been shown to have a variety of positive economic impacts, such as increasing the value of adjacent private properties and

providing an attractive setting for low impact commercial uses – e.g. cafes or restaurants.

Greenways also can provide solutions to flood and stormwater problems within watersheds. One example of urban stormwater practice is bioretention. Bioretention is a landscaping feature adapted to treat stormwater runoff or retrofit a site. Bioretention uses native forest, ecosystems, and landscape practices to improve stormwater quality. “Bioretention areas capture sheet flow from impervious areas and treat stormwater using a combination of microbial soil processes, infiltration, evapotranspiration and plants.”¹⁷

Throughout Fairfield County there is a need to protect and conserve the greenway corridors. There are different methods to accomplish these tasks. The *2006 Central Ohio Greenways Implementation Guide* provides guidance for communities in the region who wish to accomplish greenway conservation. The three categories of methods described in the *Implementation Guide* and shown below can be implemented individually or in combination with each other.

- Option A. Plans and Regulations
- Option B. Land Acquisition
- Option C. Private Land Protection through Education/Incentive Programs

5.2.2.1 Plans and Regulations

Aside from existing regulations, such as those associated with the Clean Water Act of 1972, Fairfield County can establish additional policies and regulations to better ensure greenway protection throughout the county. The regulatory approaches described below are: comprehensive plans, zoning overlays, riparian setbacks, conservation development, official maps, and parkland dedication.

¹⁷ Urban Subwatershed Restoration Manual Series

Cities, villages, townships, and counties may adopt **comprehensive plans** under Ohio law. Comprehensive plans serve as one of the basic policy documents of local governments. In particular, these plans form the policy basis for local zoning regulations.

As outlined in a comprehensive plan, local governments can adopt a **zoning overlay** which is an additional protective standard placed on top of existing, underlying zoning districts. Overlays can be useful to protect important and sensitive areas, such as greenways, in a geographically specific manner. Overlays may identify setbacks from sensitive features like streams, wetlands and steep slopes where these features are specifically delineated. As with all zoning provisions, overlays and setbacks must be publicly reviewed and formally adopted as part of a zoning ordinance or resolution.

Setbacks are used to protect and preserve the greenways corridors. Riparian setbacks minimize property damage and protect water quality by providing areas where over bank flooding, meander migration, and stream processes freely occur and thereby encourage stability, habitat, and water quantity and quality functions. To provide the greatest benefits, riparian areas should be predominantly native vegetation, preferably forested. Also, passive uses such as trail and picnic areas can be beneficial. In some cases, communities include stream setbacks within their required stormwater manual or management plan in response to the Clean Water Act.

The size of setbacks can be determined in different ways. The idea is to cover the most critical land area needed to sustain natural stream processes. These processes are responsible for the common meandering pattern that streams exhibit and for channel and floodplain forms that are dynamically stable and beneficial to water quality and overall stream integrity.

The simplest approach to establishing setbacks is to define a fixed width buffer that is measured from the center of the waterway. Setbacks can also be based on other features such as a waterway's banks or floodplain or watershed size. The Ohio EPA requirements include

several types of setbacks. They require the development setback distance from the centerline of the stream to be sized as the greater of the following:

- The regulatory 100 year floodplain based on FEMA mapping;
- A minimum of 100 feet on each side; or
- Distance calculated using the following equation:

$$W = 129 (DA)^{0.43}$$

DA = drainage area in square miles

W = total width of riparian setback in feet ¹⁸

Conservation development is another regulatory approach. This is the concentration of development on a section of a site to preserve open space and protect natural features on the rest of the site. This technique, implemented through zoning and negotiation, can reduce infrastructure costs for the developers. Typically, the open space remains privately owned and its maintenance is ensured through a contractual development agreement with the community.

Official maps may be adopted by cities and villages to designate boundaries for planned streets, parks and other areas. This is often used in partnership with another method, **parkland dedication**, where local legislation formalizes the process of “bargaining” for parkland as part of the rezoning process. Therefore, as part of this process developers are asked, based on a formula, to either dedicate a portion of land or donate money to purchase that is considered to have priority protection status as deemed by the local government.

Preserving greenways through regulatory methods can be the most cost effective method for jurisdictions to prevent damages from flooding and erosion ultimately protecting the community's health and safety.

¹⁸ www.epa.state.oh.us

5.2.2.2 Land Acquisition

Greenways can be protected through formal acquisition of land or interests in land. As applied to greenways, these acquisitions are usually transactions between a public agency or a private land conservancy and a landowner. For those transactions that require funding, several options are available: federal and state grants, loans and affiliated programs, taxes and user fees, fines and mitigation.

There are three basic types of acquisition: fee simple, easement, and option to buy. Each type can be acquired in one of two ways: purchase or donation. Below is a discussion of each type and method of acquisition.

The first, and simplest, type of acquisition is fee simple. With fee simple ownership, the owner controls all aspects of the land, including access, development, and eventual disposition. Many local communities and park districts obtain land and protect greenways using this method. The price per acre to purchase fee simple ownership is dependent upon the real-estate market of the area and accessibility to services. Costs vary widely for greenways, depending on their development potential and proximity to major streets and roads. Appraisal of potential acquisitions is recommended and can provide a baseline to help keep costs reasonable. If purchased, this is the most costly of the three types of acquisition.

An easement is another type of land acquisition. With this type specific right, rather than full ownership, are obtained from a landowner. For example, an easement may allow public access (such as a trail easement) or may specify that land be left in a natural state (such as a conservation easement). The landowner retains ownership and all other previous rights associated with ownership, including the right to occupy, lease, farm or sell the land. Assessment and therefore property taxes and estate taxes could be reduced in proportion to any reduction in land value due to an easement (if processed through the Board of Revision). Use caution if the land is assessed based on Current Agricultural Use Value

(CAUV). CAUV is a differential real estate tax assessment program that offers farmland owners the opportunity to have their land taxed according to its agricultural value rather than full market value. CAUV includes a penalty for the conversion of farmland into non-agricultural uses. If farmland is converted, the county recoups a portion of the lowered tax which is equal to the landowner's tax savings from the previous three years. Easements may be written in perpetuity or for a limited duration. A few steps are recommended for acquiring easements:

- Local park departments, park districts, land trusts and some Soil and Water Conservation Districts can hold conservation easements.
- Whoever holds the easement must monitor the restriction to make sure it is enforced in perpetuity (or for its duration) or else the easement may not stand up in court.
- To do this, a legal fund should be established to ensure that the easement can be enforced in case of legal action.

The final type of acquisition is an option on land, in which the seller gives the buyer the right to buy the land (or an easement) at a specified price until a specified date. This is typically a temporary technique to allow time to raise funds or make arrangements for permanent protection. This is especially useful if a priority piece of greenway property has come up for sale and the funds for acquiring it, such as through a grant proposal, are pending approval. An option on the land can even be made contingent on the awarding of a grant by a certain date.

As mentioned above, each type of acquisition can be made by either purchase or donation. Typically, in a purchase a landowner is paid in cash for the acquisition. In some cases, an exchange of property or similar approach could also be used to “pay” for the acquisition. Another situation is a bargain sale where the sale of land at a price below the land's appraised value. The seller may be able to deduct the sacrificed value from taxable income and exclude it from capital gains. The purchaser receives all rights in land. Another

method is a lease use agreement which is land rental or negotiated use (usually for a fee) for specific purposes and explicit durations.

Acquisitions can also be made by donation from a landowner to the public agency or private land trust. Life estates are a specific class of donations that have deferred benefits for estate taxes. Life estates can also be part of a fee-simple purchase that allows the property owner to reside on the land until moving or upon death. This could allow the donor to deduct the appraised value of the donation from income or federal taxes and could remove the value from amounts subject to capital gains and estate taxes. Donation of an interest or option in land can reduce the donor's taxes in proportion to the donation's value. There are two types of tax advantages for donations: income tax based and estate tax based.

A word of caution regarding easement purchases, easement or fee-simple land donations and bargain sales: *never* give tax advice to a potential donor. Refer them to their tax-advisor. Tax benefits vary from person to person, situation to situation and can be misleading to generalize benefits gained.

5.2.2.3 Private Land Protection

There are many examples of effective programs to preserve greenways through education and incentives to private landowners. Best management practices (BMPs) are measures installed to control, reduce or eliminate nonpoint source pollution (runoff and/or physical alterations to water resources). Voluntary BMPs are installed by landowners and often have public assistance to cost share. Technical assistance for choosing BMP alternatives, finding cost share options and providing installation guidance is available through the Natural Resource Conservation Service (NRCS) field offices, Ohio State University (OSU) Extension, local watershed groups, environmental nonprofit organizations, or through the local soil and water conservation district (SWCD).

5.2.3 Corridor Alternatives

Fairfield County was divided in ten travel corridors. Travel corridors are a general area in which an alignment will provide essentially the same service to traffic. The ten travel corridors are:

- Corridor 1. Amanda to Perry County
- Corridor 2. Hocking River and US 33
- Corridor 3. Millersport to Lancaster
- Corridor 4. Pickerington Ponds to Buckeye Lake
- Corridor 5. Pickerington to Tarlton
- Corridor 6. Reynoldsburg to Rushville
- Corridor 7. Rush Creek and SR 664
- Corridor 8. Slate Run to Bremen
- Corridor 9. Stoutsville to Lancaster
- Corridor 10. Walnut Creek

As mentioned previously, the corridors identified for purposes of this plan are shown on Map 11: Plan Corridors.

5.2.3.1 Bicycle Alternatives

Local communities have carefully planned connections and have begun to construct bicycle facilities allowing bicyclists to travel more safely to destinations. There are a number of potential opportunities for the development of additional bicycle facilities. The canals that are no longer used and the abandoned railroads provide an excellent opportunity for trail development.

There are also constraints on implementing these alternatives, however. Encroachment upon former canal and railroad corridors and agricultural protection in some areas constrain extending and continuing bikeway corridors through Fairfield County. Also, the wooded, hilly terrain in townships such as Berne, Rushcreek and Madison will make bikeway connectivity difficult and possibly attractive only to more experienced cyclists.

Corridor 1: Amanda to Perry County

Amanda to Perry County provides east-west service across the southern portion of Fairfield County and part of Hocking County. This travel corridor encompasses six townships; Amanda, Clearcreek, Hocking, Madison, Berne and Rushcreek. The hilly terrain is home to Clear Creek Metro Park, Charles Goslin Nature Sanctuary, Flight of the Hawk Park, Slippery Elm Park, Howell Park, Hanaway Covered Bridge Park, Mink Hollow Covered Bridge, the Southeastern Correctional Institution, Amanda Clearcreek, Berne Union, and Fairfield Union local school districts and Lancaster City Schools. It provides service to Amanda, Sugar Grove, Bremen and onto Junction City in Perry County. The Fairfield Heritage Trail has proposed a shared-use path along Clear Creek. The Clear Creek Greenway is from the abandoned railroad to Clear Creek Metro Park.

Three alternatives were proposed to provide service to and through the corridor:

- 1a. A continuation of Clear Creek from the Clear Creek Metro Park to Perry County (this alternative passes through Hocking County) SR 312 from Clear Creek to Perry County.
- 1b. A series of county and township roads; Hamburg, Meister, Crooks, Eaton Hollow, Revenge, Beck, Blue Valley, Old Logan, Sharp Road and Sugar Grove
- 1c. A series of county, State and township roads; Hamburg, SR 159, Amanda Clearport, Clearcreek, Revenge, Beck, Blue Valley, Old Logan, Sharp Road and Sugar Grove.

Corridor 2: Hocking River and US 33

Hocking River and US 33 provides service from one corner of the county to the other. This travel corridor encompasses four townships; Violet, Bloom, Greenfield and Berne. This corridor provides service to the following destinations; Canal Winchester, Bloom-Carroll, and Berne Union local school districts and Lancaster City Schools, Canal Winchester, Greencastle,

Carroll, Zeller Soccer Park, Chestnut Ridge Metro Park, Rock Mill Covered Bridge Park, Rock Mill Lake Park, Wahkeena Nature Preserve, Hutchins Covered Bridge, Alley Park, Charles Goslin Nature Sanctuary, Flight of the Hawk Park and an existing bike path in Lancaster from Forest Rose School to Olivedale Senior Citizens Center.

There are three existing bike routes in Violet Township:

- Waterloo Eastern Road from Waterloo Road to Pickerington Road
- Walnut Street and Waterloo Road from Lithopolis-Winchester Road to Slough Road
- Winchester Road from Lithopolis-Winchester Road to Waterloo Road

There are existing bikeways in Lancaster:

- Fair Avenue Bike Route from Wilson to Columbus Street
- Shared-Use path from Forest Rose School (near SR 37) to Olivedale Senior Citizen Center.

Five alternatives were proposed to provide service to and through the corridor:

- 2a. The first alternative is a proposed route in MORPC's 2006 Regional Bikeway Plan and the Fairfield Heritage Trail that includes Hill, Waterloo Eastern, Benadum and Indiana Ohio Central Railroad (Lancaster Lateral Trail)
- 2b. Alternative two includes an existing bike route along Winchester Road and proposed Winchester Road from Jefferson to Pickerington Road
- 2c. Alternative three includes Lithopolis Road which is a proposed bikeway corridor in MORPC's 2006 Regional Bikeway Plan and an existing bike route on Walnut Street
- 2d. Alternative four includes the Hocking River from west of Amanda Northern Road to Camp Ground Road in Lancaster. This alternative will serve Greencastle residents some of whom currently walk

for exercise in a grassy area behind the Bloom Township administrative building.

- 2e. Alternative five is Wilson Road from Mt. Zion Road to Fair Avenue in Lancaster. Fair Avenue is an existing bike route
- 2f. There are two alternatives for the portion of this corridor south of Lancaster.
 - Hocking River from Lancaster to Hocking County
 - Old Logan Road from Memorial Drive to Hocking County

Corridor 3: Millersport to Lancaster

Millersport to Lancaster provides north-south service from the Millersport/Buckeye Lake area to Lancaster. This travel corridor encompasses two townships, Walnut and Pleasant, and provides service to the following destinations: Buckeye Lake, Millersport, Thurston, Baltimore, Pleasantville, Lancaster, Wacker Park, Estate Golf Club, Pleasant Valley Golf Course and Walnut Township, Liberty Union-Thurston, Fairfield Union local school districts and Lancaster City Schools.

There are three alternatives that were proposed for this corridor:

- 3a. SR 37 from I-70 to Lancaster
- 3b. Canal from Millersport to SR 256, then SR 158 from Norfolk Southern RR to Fair Avenue
- 3c. Abandoned railroad, SR 79 and Old Millersport Road from Licking County to Lancaster

Corridor 4: Pickerington Ponds to Buckeye Lake

Pickerington Ponds to Buckeye Lake provides east-west service from Pickerington to Buckeye Lake. This travel corridor encompasses three townships; Violet, Liberty and Walnut. This corridor provides service to the following destinations; Canal Winchester, Pickerington, Bloom-Carroll, Liberty Union-Thurston and Walnut Township local school districts, Pickerington Ponds, Pickerington, Millersport, Millersport Park, Buckeye Lake, Buckeye Lake State Park and Thornville.

Three alternatives were proposed for this corridor:

- 4a. Refugee Road, a proposed bike route in Pickerington's Parks & Recreation Facilities Master Plan and SR 204
- 4b. Stemen Road, Cherry Lane and SR 204
- 4c. SR 256, an existing bike lane, Doty Road, Bickel Church Road, SR 37 and Deep Cut Road

Corridor 5: Pickerington to Tarlton

Pickerington to Tarlton provides north-service along the western edge of the county. This travel corridor encompasses seven townships, Violet, Bloom, Greenfield, Amanda, Hocking, Clearcreek and Madison. This corridor provides service to the following destinations: Zeller Soccer Park, Chestnut Ridge Metro Park, Pickerington, Pickerington, Canal Winchester, Bloom-Carroll, Teays Valley and Amanda Clearcreek local school districts, Tarlton, Pickaway County, Hannaway Covered Bridge, Clear Creek Metro Park, Cenci Park, Shallenberger Nature Preserve, Hunter Community Center, and Olivedale Senior Citizens Center.

Five alternatives were proposed for this corridor:

- 5a. Amanda Northern from Waterloo Eastern Road to Amanda
- 5b. Doty Road, Carroll Northern Road, Carroll Southern Road, Lamb Road, Lithopolis, Mt. Zion Road, Crumley Road, Shaw Road, Westfall Road, Sand Hill Road, Main St, Hamburg, and SR 159
- 5c. SR 159 from US 22 to Tarlton Adelphi Road
- 5d. Mill Park Drive, Delmont Road and Muddy Prairie Run
- 5e. Clear Creek from Amanda Northern Road to US 22

Corridor 6: Reynoldsburg to Rushville

Reynoldsburg to Rushville provides service from one side of the county to the other. This travel corridor encompasses six townships: Violet, Greenfield, Pleasant, Walnut, Richland and Rushcreek. This corridor provides service to the following destinations:

Reynoldsburg, Pickerington, Liberty Union-Thurston, and Fairfield Union local school districts, Pickerington Ponds, Baltimore, Thurston, Pleasantville Park, West Rushville, Rushville, Bremen, Reynoldsburg, Baltimore, Bibler Lock, and Smeck Farm. There is an existing bike lane on SR 256 from Norfolk Southern Railroad in Pickerington to Baltimore.

Three alternatives were proposed for this corridor:

- 6a. Blacklick Road, SR 158, SR 256, Old Millersport Road, Leitnaker Road, Pleasantville Road, Richland Road, Elder Road, and Coonpath Road
- 6b. SR 256 from I-70 to Baltimore
- 6c. Norfolk Southern Railroad from Thurston to Rushville Road proposed trail of the Fairfield Heritage Trail

Corridor 7: Rush Creek and SR 664

Rush Creek and SR 664 provide north-south service from Perry County through Bremen and into Hocking County. This travel corridor encompasses two townships: Richland and Rushcreek. The corridor serves an existing Amish population and the following destinations: Perry County, Oakthorpe Lake, Rushcreek Lake, West Rushville, Rushville, Bremen, Howell Park, Pumpkin Vine Golf Course and Fairfield Union Local School District.

Four alternatives were proposed for this corridor:

- 7a. SR 664 from Perry County to Hocking County
- 7b. Oakthorpe Road, Pleasantville Road, Gun Barrel Road, Rushville Road, W. Rushville Road, Marietta Road, Zion Road, Bremen Road and Mt. Zwingli Road.
- 7c. Rush Creek from SR 37 to Hocking County
- 7d. Tent Church Road from West Rushville to Fairfield Union Land Lab (This is a spur that provides service to Fairfield Union schools.)

Corridor 8: Slate Run to Bremen

The Slate Run to Bremen corridor cuts through the middle of the county from Pickaway County on the west to Perry County on the east. This travel corridor encompasses six townships; Bloom, Greenfield, Pleasant, Berne, Richland and Rushcreek. This corridor already has:

- A bike route on Fair Avenue in Lancaster
- Wide paved shoulders on SR 37

This corridor provides service to the following destinations: Slate Run Metro Park, Canal Winchester, Rock Mill Lake Park, Pumpkin Vine Golf Course, Canal Winchester Bloom-Carroll, and Fairfield Union local school districts and Lancaster City Schools, West Rushville, Rushville, Bremen, Bremen Historical Society Museum and Howell Park.

Three alternatives were proposed for this corridor:

- 8a. Marcy Road, Rock Mill, and Lithopolis to Lancaster, then SR 37 from Lancaster to Perry County
- 8b. Royalton, Rock Mill and Wilson Road to Lancaster, then Raccoon Run, Lake Road and Bremen Road
- 8c. US 22 from Lancaster to Perry County

Corridor 9: Stoutsville to Lancaster

Stoutsville to Lancaster provides service from southwest Fairfield County to Lancaster. This travel corridor encompasses three townships: Clearcreek, Amanda and Hocking. This corridor has a 1.32 mile rail trail under development in Amanda. With Hocking Township having no schools, the rail-trail can serve a transportation purpose for students attending Amanda Clearcreek schools.

This corridor provides service to the following destinations: Amanda, Lancaster, Shallenberger Park, Stonewall Cemetery, Amanda Clearcreek Local School

District, Lancaster City Schools, School House Park and Stoutsville.

No new alternatives were proposed for this corridor. Two routes are already proposed in the Fairfield Heritage Trail plan:

- 9a. US 22 from Pickaway County to Lancaster
- 9b. Abandoned railroad from Stoutsville to Lancaster.

Corridor 10: Walnut Creek

Walnut Creek provides east-west service between the Lithopolis / Canal Winchester area and Thurston / Pleasantville area. This travel corridor encompasses six townships: Violet, Bloom, Liberty, Greenfield, Walnut and Pleasant. There is an existing bike route on Winchester Road between Lithopolis-Winchester Road and Waterloo Road.

This corridor provides service to the following destinations: Lithopolis, Canal Winchester, Chestnut Ridge Metro Park, Hartman Covered Bridge, Lockville, Lockville Park, Carroll, Pine Hill Golf Course, Baltimore, Smeck Farm, Thurston, Pleasantville and Pleasantville Park.

Three alternatives were proposed for this corridor:

- 10a. Walnut Creek from Franklin County to Millersport Road
- 10b. Basil Western Road and SR 256
- 10c. Winchester Road, Jefferson Road, Lithopolis, Carroll Eastern Road

5.2.3.2 Open Space Alternatives

Six potential alternatives were initially identified to meet Fairfield County's open space needs:

Conceptual Alternative A: No Change

- This is a standard alternative to consider, assuming that no additional open space will be created in the County.

Conceptual Alternative B: Existing Land Use

- Alternative B would propose open space to meet the needs of the existing (2008) population. This alternative would consider existing open spaces, population size and distribution, and other conditions such as land use and the natural environment.

Conceptual Alternative C: Future Land Use

- This alternative would propose open space to meet the needs of the anticipated future (2030) population size and distribution. It would consider the future population size and distribution, and land use. It would also consider the existing 2008 conditions of open space, the natural environment and other variables for which future estimates are not obtainable.

Conceptual Alternative D: Environmental Considerations

- This alternative focuses on creating open space that preserves natural assets and lands on which development may have major constraints. The intent of this alternative would be to give highest priority to the natural environment.

Conceptual Alternative E: Combination of B through D

- Alternative E is intended to provide a more comprehensive recommendation to address the needs of the population and natural environment. It would include the consideration of existing and future population and land use conditions, as well as place emphasis on environmental factors.

Conceptual Alternative F: Policy Recommendations

- This alternative would provide general guidelines for meeting the open space needs of the population. They would not be location-specific, but rather recommendations to be used when implementing the chosen alternative(s).

After consideration by Fairfield County staff and stakeholders, conceptual alternatives A, C, D and E were not considered for recommendation.

Alternative A was eliminated because the County anticipates developing more open space, and a goal of this plan is to determine where new open space is needed.

Alternative C was eliminated for several reasons. Generally, there were concerns regarding any alternatives using future population estimates. Such estimations of future population growth and distribution are assumptions that may or may not occur, and can be influenced by factors unknown at the time the estimation is made.

Policy decisions are a major factor that can play a role in the way populations grow. Policy factors may include efforts toward many types of preservation and conservation such as agricultural, environmental and historical. Land use policies are also subject to change over time and can have a significant influence on population distribution. Future plans and regulations could focus development in particular areas or change the development pattern in some other way.

Any estimation has the potential for inaccuracy, but a particular concern in the development of this plan is that a needs analysis based on a date over twenty years into the future has the potential for an unacceptable margin of error. It was decided by the Fairfield County project team that using the 2008 population estimate is not only sufficient, but preferred to utilizing estimated future population size and distribution. Alternative A can produce recommendations for the amount and location of new open space acreage based on the

population and open spaces which exist today, potentially providing more confidence to the implementers of the plan. For these reasons, Alternative C was not pursued further.

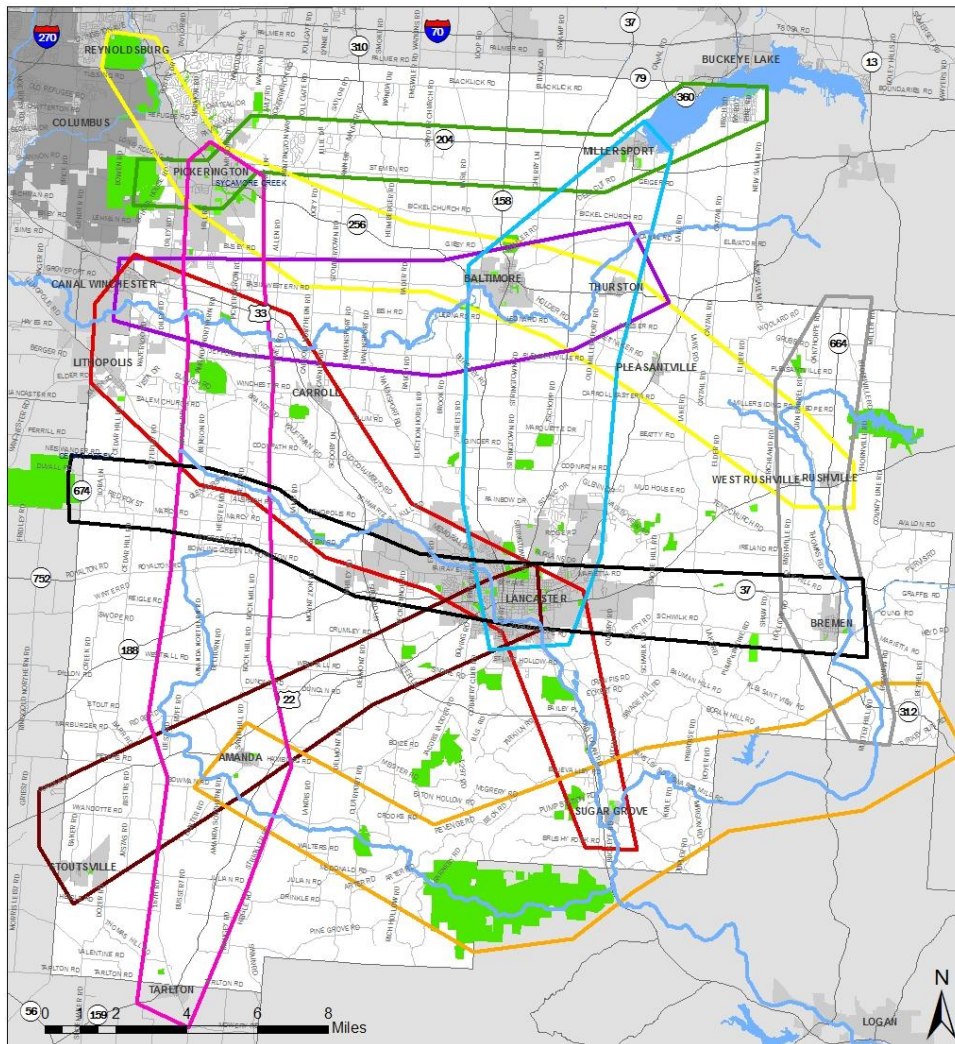
Alternative D was eliminated as a separate alternative because environmental assets and constraints were to be part of the analysis for the alternative addressing existing conditions. The natural environment and built environments are interrelated, so it is important to consider them together.

Alternative E was eliminated along with C and D which it included.

Therefore, the alternatives that appear as recommendations are:

- Alternative A: Existing 2008 Land Use
- Alternative B: Policy Recommendations

Map 11: Plan Corridors



Legend

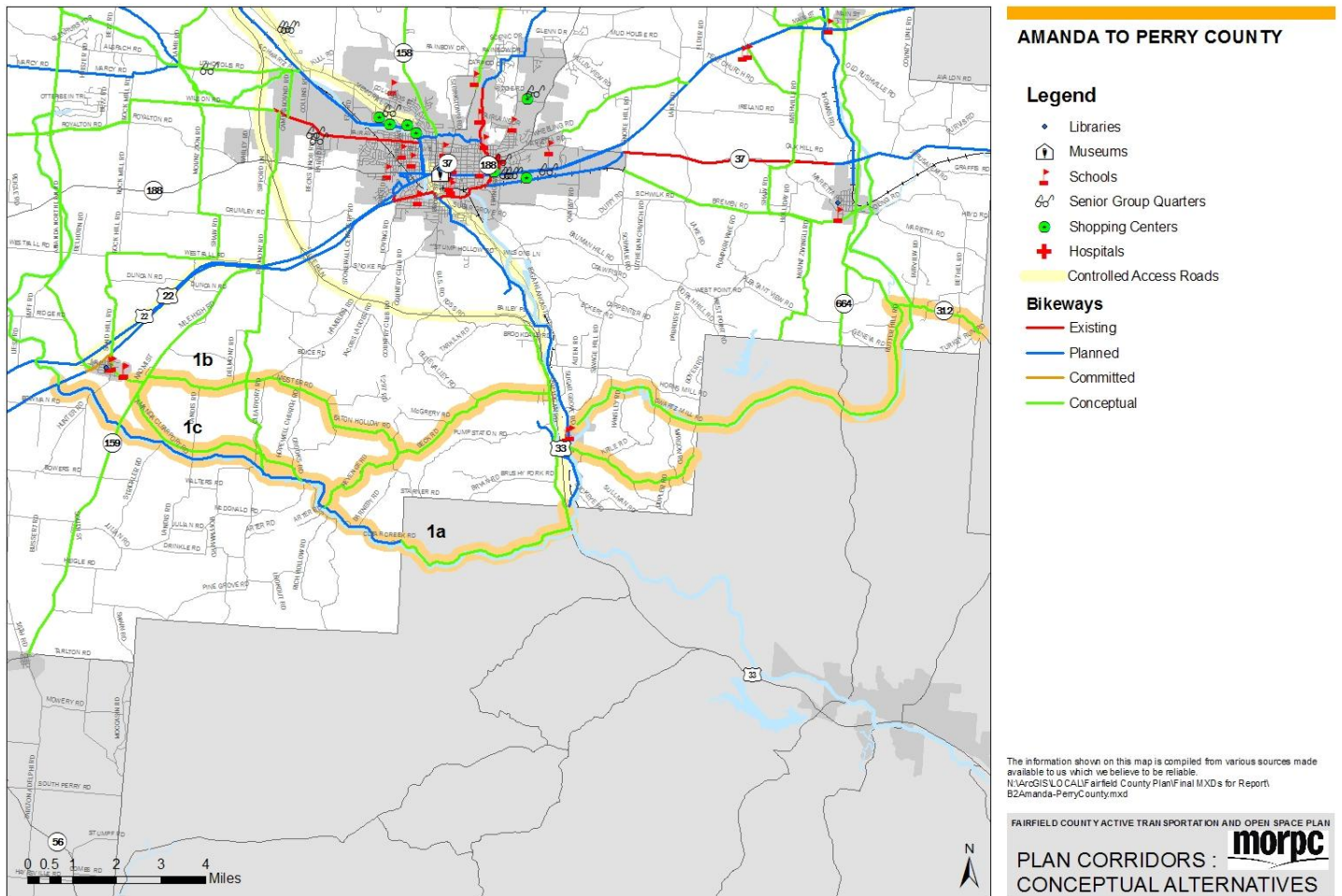
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|--|--|
| Amanda to Perry County | Reynoldsburg to Rushville |
| Hocking River and US 33 | Rush Creek and SR 664 |
| Millersport to Lancaster | Slate Run to Bremen |
| Pickerington Ponds to Buckeye Lake | Stoutsville to Lancaster |
| Pickerington to Tilton | Walnut Creek |

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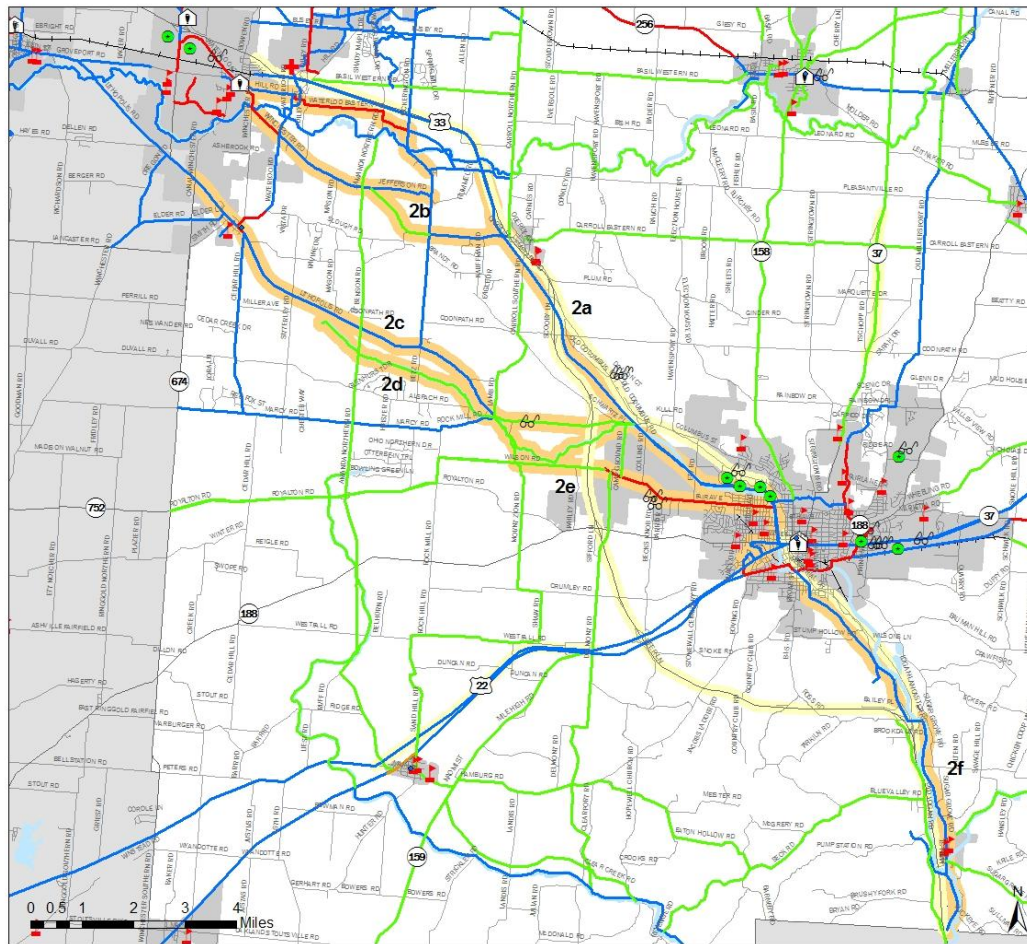
FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN
PLAN CORRIDORS



Map 12: Amanda to Perry County Conceptual Alternatives



Map 13: Hocking River and US 33 Conceptual Alternatives



HOCKING RIVER AND US 33

Legend

- Libraries
- Museums
- Schools
- Senior Group Quarters
- Shopping Centers
- Hospitals
- Controlled Access Roads

Bikeways

- Existing
- Planned
- Committed
- Conceptual

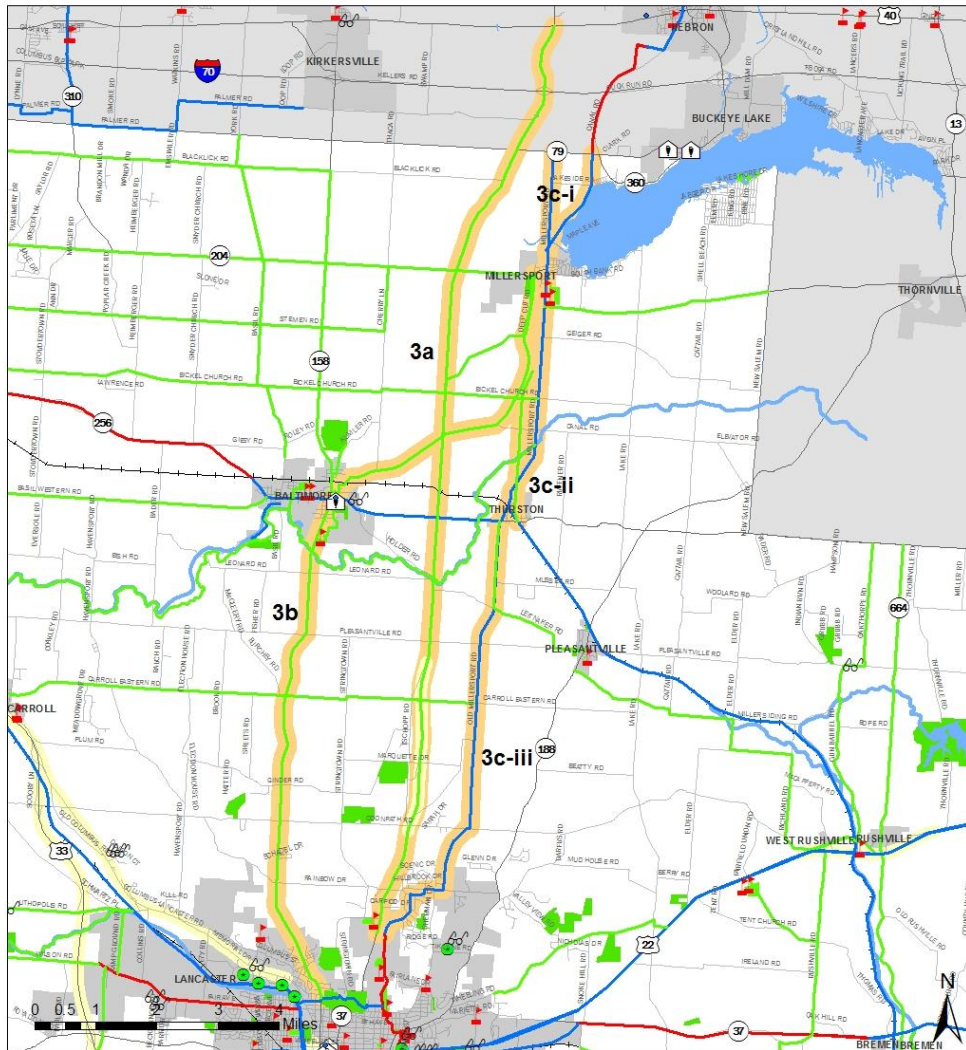
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FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN

PLAN CORRIDORS: morpc

CONCEPTUAL ALTERNATIVES

Map 14: Millersport to Lancaster Conceptual Alternatives



MILLERSPORT TO LANCASTER

Legend

- | | |
|---------------------------|-----------------|
| ♦ Libraries | Bikeways |
| 🏛 Museums | — Existing |
| 🎓 Schools | — Planned |
| 👴 Senior Group Quarters | — Committed |
| 🛒 Shopping Centers | — Conceptual |
| 🏥 Hospitals | |
| 🚧 Controlled Access Roads | |

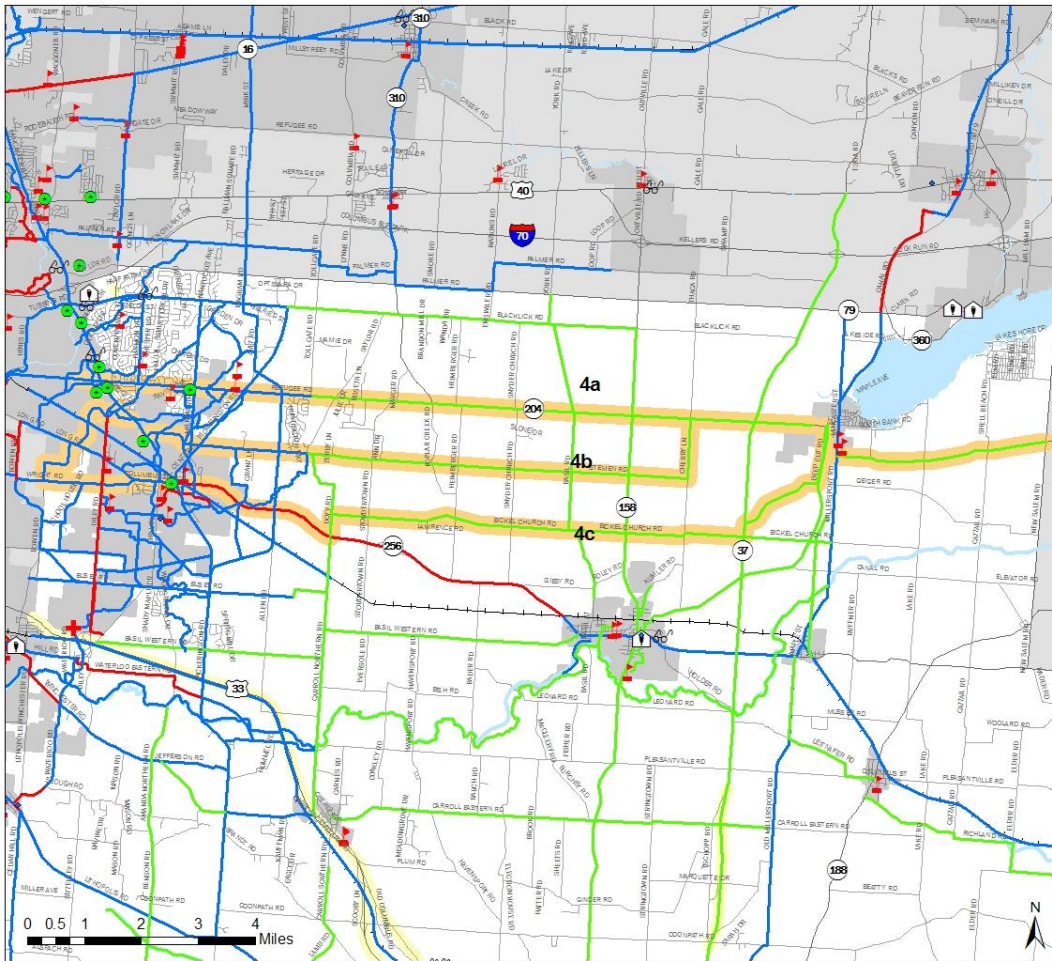
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FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN

PLAN CORRIDORS : CONCEPTUAL ALTERNATIVES



Map 15: Pickerington Ponds to Buckeye Lake Conceptual Alternatives



PICKERINGTON PONDS TO BUCKEYE LAKE

Legend

- Libraries
- 🏛️ Museums
- 🎓 Schools
- 👴 Senior Group Quarters
- 🟢 Shopping Centers
- 🏥 Hospitals
- 🚧 Controlled Access Roads

Bikeways

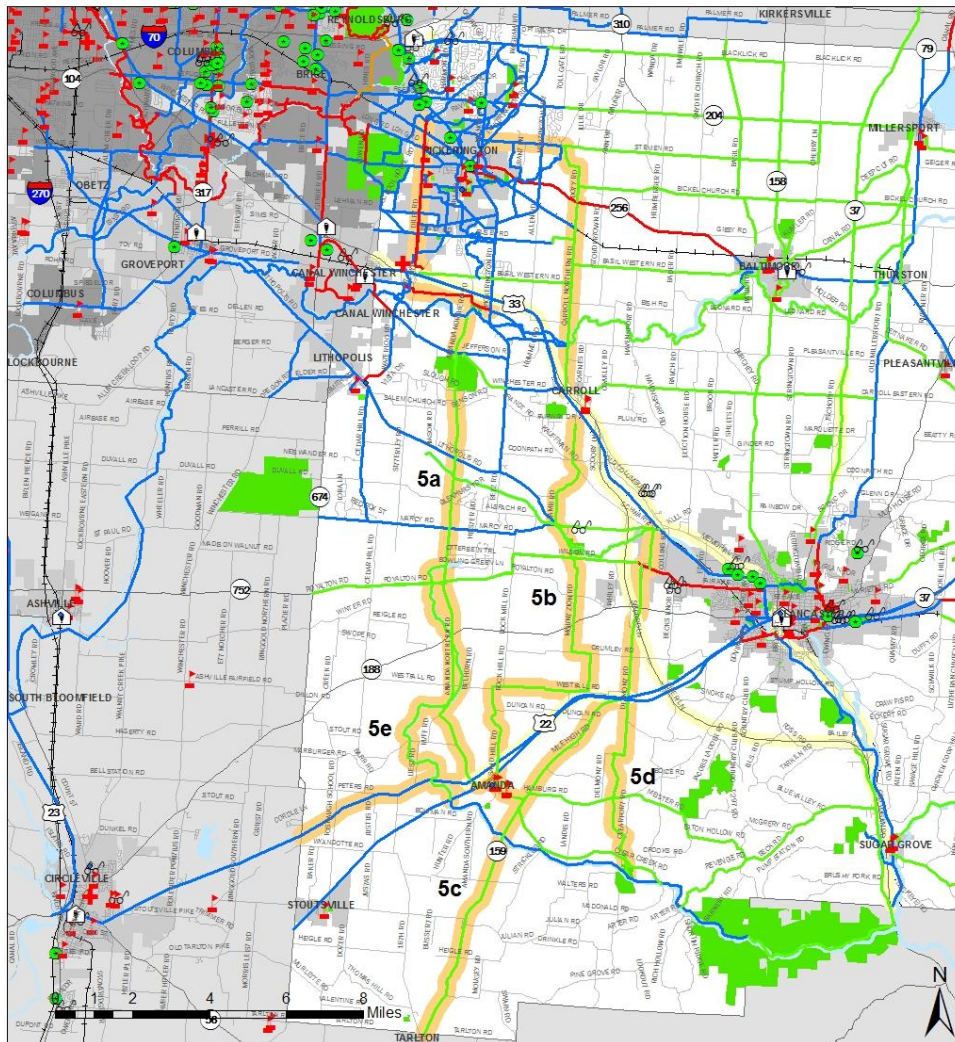
- Existing
- Planned
- Committed
- Conceptual

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FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN

PLAN CORRIDORS : **morpc**
 CONCEPTUAL ALTERNATIVES

Map 16: Pickerington to Tarlton Conceptual Alternatives



PICKERINGTON TO TARLTON

Legend

- | | |
|---------------------------|-----------------|
| ♦ Libraries | Bikeways |
| 🏠 Museums | — Existing |
| 🎓 Schools | — Planned |
| ♿ Senior Group Quarters | — Committed |
| 🛍 Shopping Centers | — Conceptual |
| 🏥 Hospitals | |
| 🛣 Controlled Access Roads | |

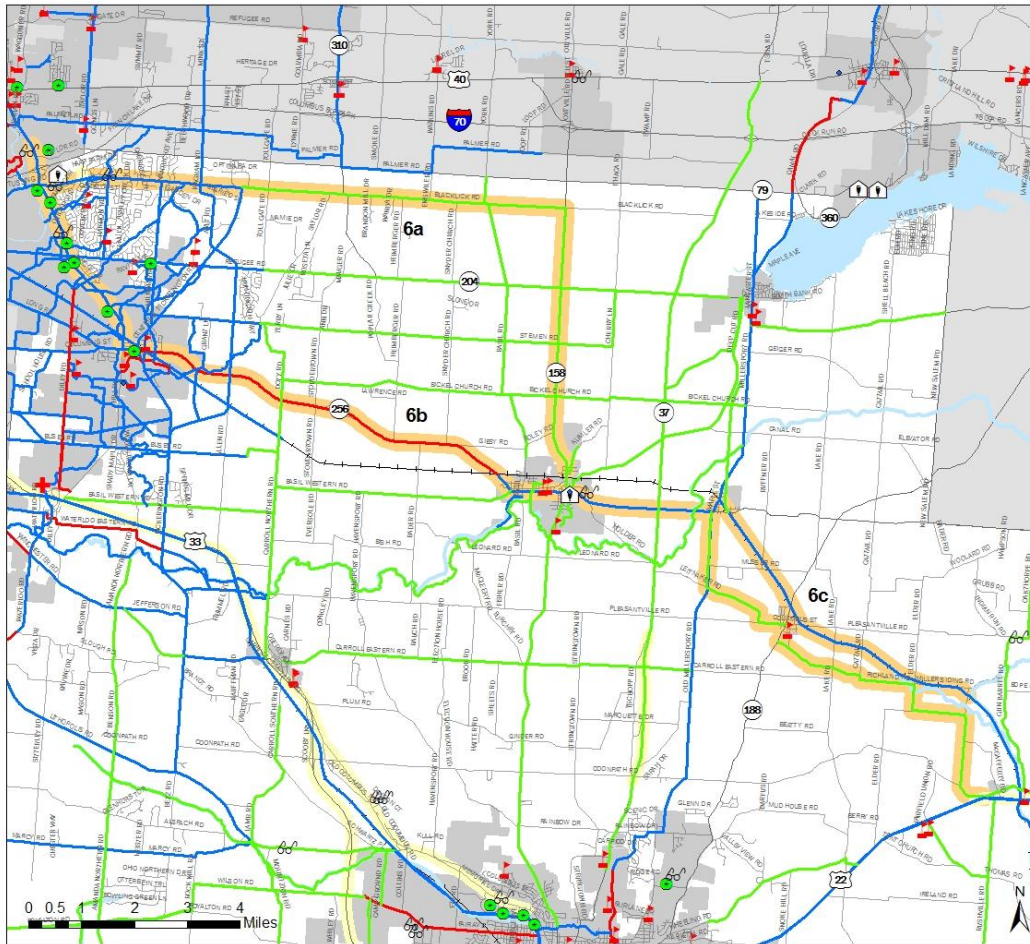
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FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN

PLAN CORRIDORS : CONCEPTUAL ALTERNATIVES



Map 17: Reynoldsburg to Rushville Conceptual Alternatives



REYNOLDSBURG TO RUSHVILLE

Legend

- ◆ Libraries
- 🏛️ Museums
- 🎓 Schools
- 👴 Senior Group Quarters
- 🟢 Shopping Centers
- 🏥 Hospitals
- 🛣️ Controlled Access Roads

Bikeways

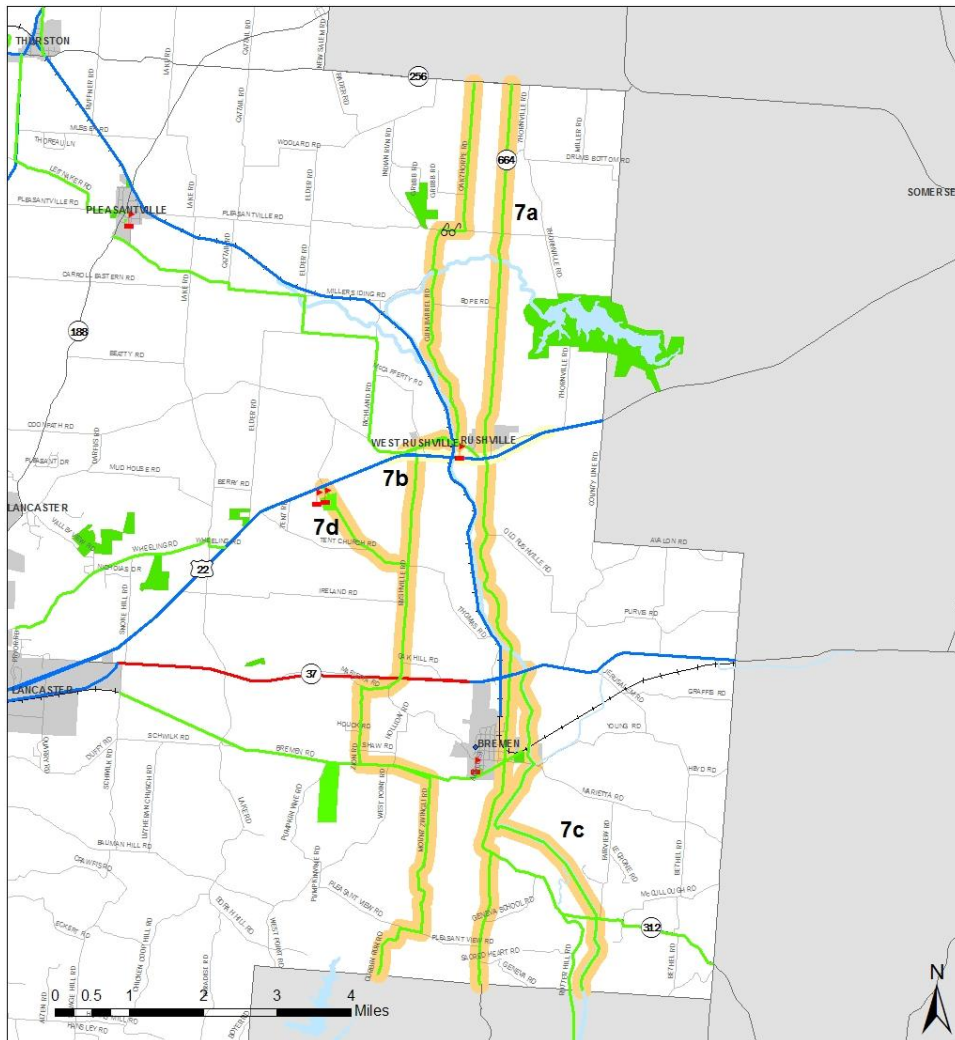
- Existing
- Planned
- Committed
- Conceptual

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FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN

PLAN CORRIDORS : **morpc**
CONCEPTUAL ALTERNATIVES

Map 18: Rush Creek to SR 664 Conceptual Alternatives



RUSH CREEK TO SR 664

Legend

- ♦ Libraries
- 🏛️ Museums
- 🎓 Schools
- 👴 Senior Group Quarters
- 🌳 Shopping Centers
- 🏥 Hospitals

Controlled Access Roads

Bikeways

- Existing
- Planned
- Committed
- Conceptual

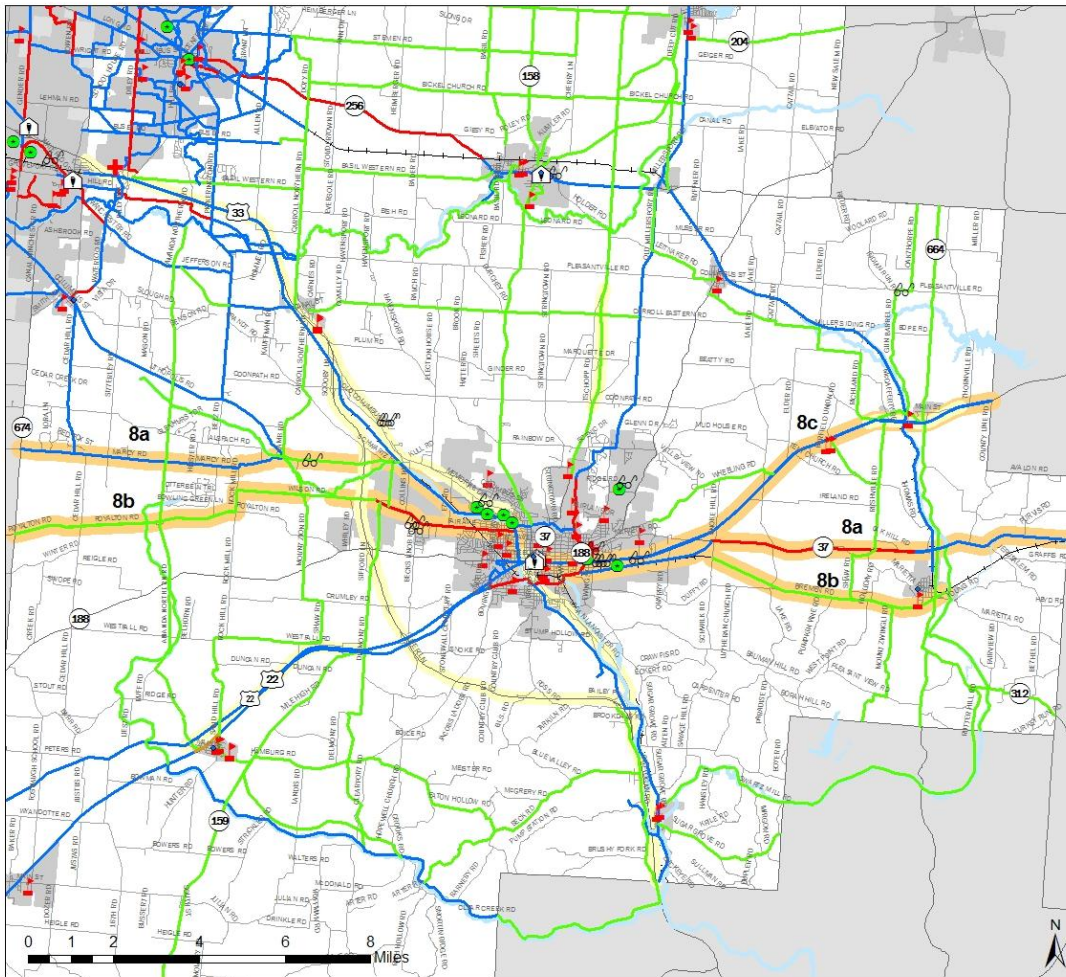
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FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN

PLAN CORRIDORS : CONCEPTUAL ALTERNATIVES



Map 19: Slate Run to Bremen Conceptual Alternatives



SLATE RUN TO BREMEN

Legend

- Libraries
- 🏛️ Museums
- 🎓 Schools
- 👥 Senior Group Quarters
- 🛒 Shopping Centers
- 🏥 Hospitals
- Controlled Access Roads

Bikeways

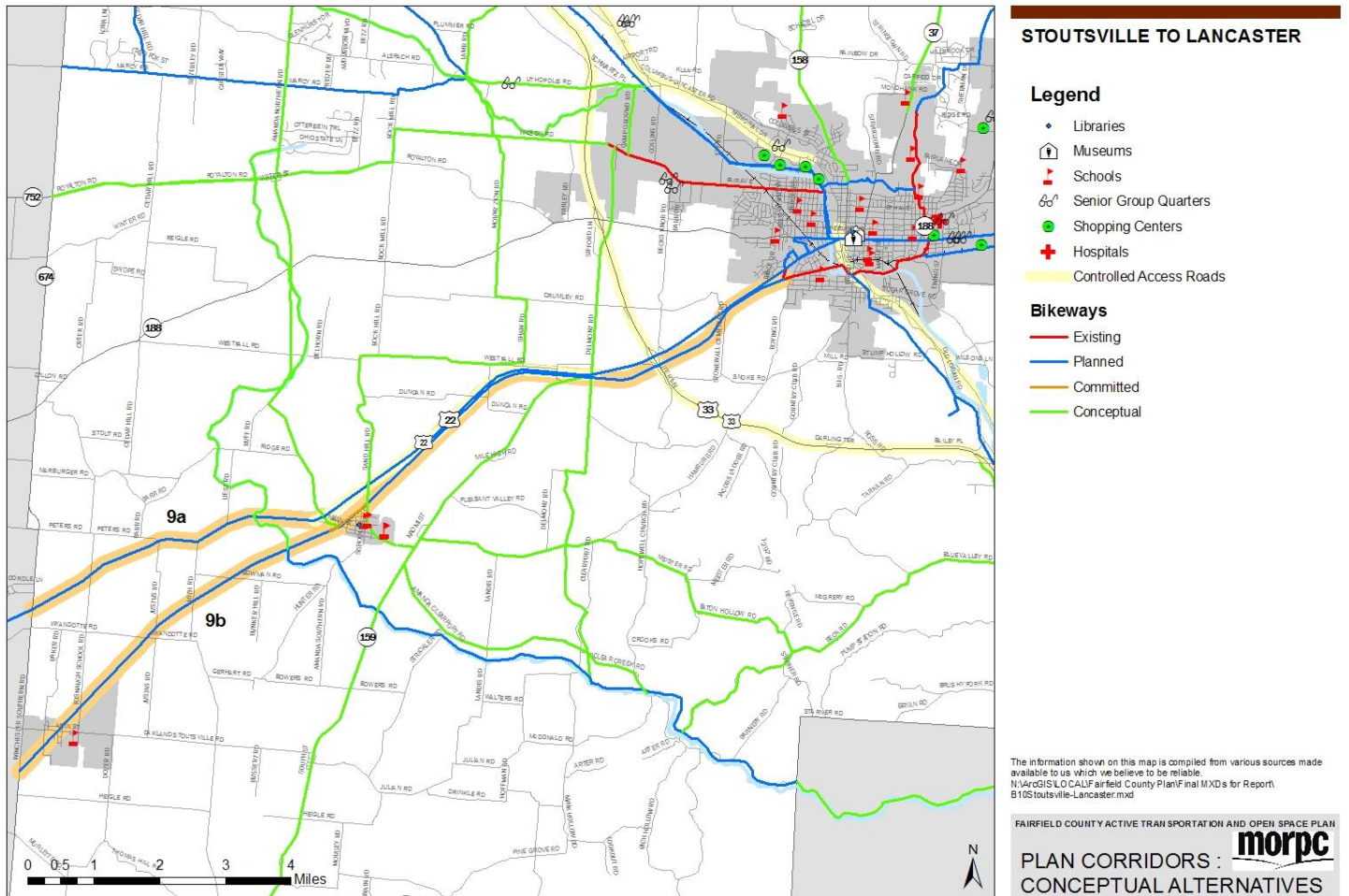
- Existing
- Planned
- Committed
- Conceptual

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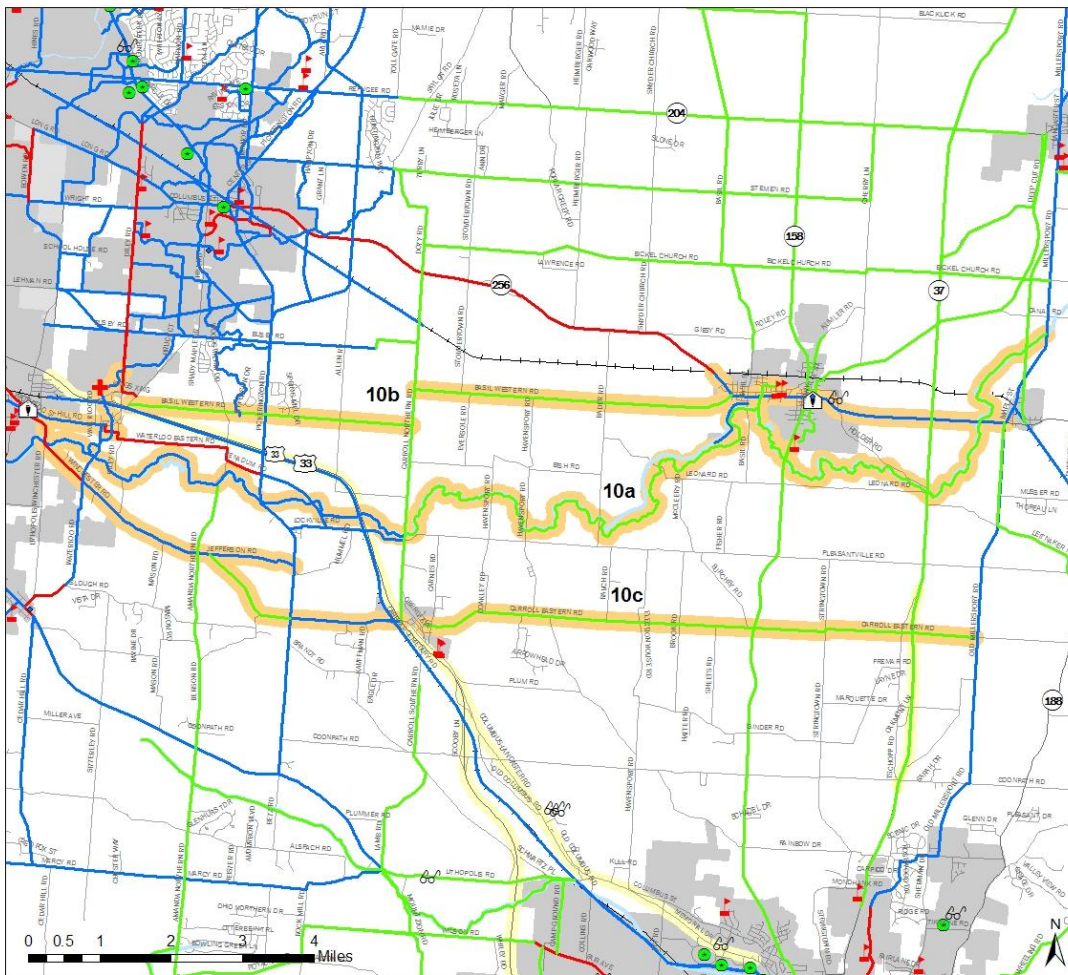
FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN

PLAN CORRIDORS : **morpc**
CONCEPTUAL ALTERNATIVES

Map 20: Stoutsville to Lancaster Conceptual Alternatives



Map 21: Walnut Creek Conceptual Alternatives



WALNUT CREEK

Legend

- ♦ Libraries
- 🏠 Museums
- 🏫 Schools
- 👴 Senior Group Quarters
- 🛒 Shopping Centers
- 🏥 Hospitals
- 🛣️ Controlled Access Roads

Bikeways

- Existing
- Planned
- Committed
- Conceptual

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FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN

PLAN CORRIDORS : **morpc**
CONCEPTUAL ALTERNATIVES

6 Proposed Active Transportation System

These recommendations emphasize bicycle and pedestrian connections that will:

- Provide safe and comfortable facilities
- Provide connectivity to major destinations
- Recognize travel needs of the Amish population
- Identify populations with special travel needs

It is worth noting that bicycle and pedestrian facilities can be constructed in rural areas in ways that preserve, and in some cases improve, access to farm fields where this is appropriate. Examples of successful field access across bikeways can be found in the Green County (Ohio) Trail System. For several of these trails, the approach aprons for farm crossings were engineered as part of the construction drawings for the trails. In some cases portions of the trail itself were built to accommodate farm equipment for short distances to provide better field access.

6.1 Pedestrian Recommendations

- The county should consider revising its subdivision regulations to address pedestrian facilities and safety concerns within the built environment and to discourage the development of residential streets that are conducive to speeding. Any revisions will require the combined efforts of the townships, especially the developing townships, working with FCRPC and the county engineer's office to reflect the values of the community and to address jurisdictional issues related to construction and management. During the planning process of this plan, both parties have expressed a willingness to reconsider the subdivision regulations in view of making them more pedestrian friendly.
- Planning tools must be developed to address the pedestrian facilities outside of subdivisions in a context appropriate manner.
- Off road opportunities must be investigated to integrate with open space and greenways corridors and trails.

6.2 Bicycle Recommendations

6.2.1 Standard Bicycle Facility Treatments

Bicycles are allowed on all highways unless specifically prohibited. Roadway design features that more safely accommodate bicycle traffic include bicycle-safe drainage grates and bridge expansion joints, improved railroad crossings, smooth pavements, adequate sight distances, and signal timing and detector systems that respond to bicycles.

Width is the most critical variable affecting the ability of a roadway to safely accommodate bicycle traffic. In order for bicycles and motor vehicles to share the use of a roadway without compromising the level of service and safety for either, the facility should provide sufficient paved width to accommodate both modes. This width can be achieved by providing bike lanes, wide outside lanes or paved shoulders.

The following sections describe bicycle design treatments recommended for Fairfield County. In many of the treatments, Average Daily Traffic (ADT) dictates what should be used as the preferred treatment. These data are collected by and available from Fairfield County and the Ohio Department of Transportation.

As bicycle facilities are being planned and developed, it is critical to consider maintenance needs and to identify or establish one or more maintenance funding sources. Funding for maintenance may be available from a variety of federal and state transportation programs including the Congestion Mitigation and Air Quality Improvement Program (CMAQ), Transportation Enhancement Program and Ohio Safety Program (see Appendix for descriptions of these and other programs). In addition, several local sources such as Streets and Sanitation Departments, Park Districts, Metro Parks, utility companies, developers and private contractors might also be resources for maintenance labor or

funding. Following construction, each bicycle facility should have a maintenance schedule, and, where facilities are used by both bicyclists and pedestrians, the needs of pedestrians must also be included in the maintenance plan.

6.2.1.1 Bike Lanes

Where average daily traffic exceeds 10,000 or average motor vehicle speeds exceed 30 mph, 5-foot bike lanes will serve inexperienced/children riders better than wide outside lanes or other design treatments. According to the Chicago Bike Lane Design Guide, bike lanes work best when cars are traveling between 25 and 35 miles per hour, the posted speed for most urbanized areas. Movement is the primary function and access is secondary.

Bicycle lanes delineate available road space for preferential use by bicyclists and motorists and encourage each to move predictably. Bicycle lane markings (a painted edge line and/or stenciled pavement) increase bicyclists' confidence that motorists will not stray into their path of travel, while passing motorists are less likely to swerve out of their lane to the left to avoid bicyclists on their right.

Image 1: Example of a marked bike lane



Bicycle lanes should always be one-way in the same direction as adjacent motor vehicle traffic. Two-way

bicycle lanes on one side of the roadway are discouraged because they promote bicycling against the flow of motor vehicle traffic. Wrong-way bicycling is a major cause of bicycle fatalities and violates the "Rules of the Road" stated in the Uniform Vehicle Code.

Special attention needs to be paid to bike lane width next to on-street parking and how the bike lane is treated at complex intersections.

6.2.1.2 Paved Shoulders

A paved shoulder is the portion of the roadway to the right of the edge stripe designed to serve bicyclists.

Shoulders are useful as places for bicyclists to ride. AASHTO and many states explicitly recognize that adding or improving shoulders is often the best way to accommodate bicyclists - especially in rural areas.

Bicyclists will use shoulders where they are paved and maintained to the same surface standard as regular travel lanes. Other surface irregularities, such as rumble strips, textured paving, and raised lane markers and reflectors, should be located so as to leave a portion of the shoulder free for bicyclists.

Shoulders less than 4 feet should not be signed for bicyclists since they fail to meet prevailing State and/or

Image 2: Example of a paved shoulder



AASHTO guidelines. As traffic speeds increase, traffic mix includes heavier vehicles and trucks, and traffic volumes rise, added width is desirable. For example, once vehicle speeds exceeds 40 mph and AADT is 2,000 or more, shoulder width should usually be increased to 6 feet.

6.2.1.3 Shared-Use Paths

A shared-use path is physically separated from the roadway and intended for multiple uses including walking, roller blading, strolling, etc.

Image 3: Examples of shared use paths



Where adequate right-of-way is available, separate shared-use paths can be used to good effect in providing long, continuous routes for commuting or recreational trips, access to destinations not otherwise available to bicyclists, and as cut-throughs between buildings and

other breaks in the street network. Access is the primary function and movement is secondary.

Separate shared-use paths are also known as multi-use trails. In many cases a trail may run along an independent right-of-way such as an abandoned railroad corridor, or along a waterway in the case of a greenway trail.

Shared-use paths should be thought of as extensions of the highway system that are intended for the exclusive use of non-motorized travelers. There are many similarities between design criteria for paths and those for highways. On the other hand, criteria for horizontal and vertical clearance requirements, grades, and pavement structure are dictated by operating characteristics of bicycles that are substantially different from those of motor vehicles. These provide service primarily for recreational cyclists, but can serve utility trips.

Shared-use paths should not have their continuity interrupted by frequent motor vehicle cross flows and intersections with highways. This increases potential conflicts and is likely to make the route less popular with bikers seeking to maintain momentum, particularly experienced riders.

6.2.1.4 Signed Shared Roadways

Signed shared roadways are those that have been identified by signing as preferred bike routes. There are several reasons for designating signed bike routes:

- The route provides connectivity to other bicycle facilities such as bike lanes and shared use paths.
- The road is a common route for bicyclists through a highly traveled corridor.
- In rural areas, the route is preferred for bicycling due to low motor vehicle traffic volume (less than 2,000 ADT) or paved shoulder availability.
- The route extends along local neighborhood streets and collectors that lead to an internal neighborhood

destination such as a park, school or commercial district.

Signing of shared roadways indicates to cyclists that there are particular advantages to using these routes compared to alternate routes. This means the responsible agencies have taken action to ensure these routes are suitable as shared routes and will be maintained. Signing may also indicate a short gap exists between special bicycle facilities, such as between two trails, and bicyclists require signing to lead them to the next facility.

Image 4: Examples of shared road signage



- The route connects discontinuous segments of shared-use paths, bike lanes and/or other bike routes.
- An effort has been made to adjust traffic control devices (e.g., stop signs, signals) to give greater priority to bicyclists on route, as opposed to alternative streets. This could include placement of bicycle-sensitive detectors where bicyclist are expected to stop.
- A smooth surface has been provided (e.g., adjust utility covers to grade, fill potholes, no loose gravel).
- Maintenance of the route will be sufficient to prevent accumulation of debris.
- Wider curb lanes are provided compared to parallel roads.
- Shoulder or curb lane widths generally meet or exceed width requirements.

Image 5: Example of motor vehicle and bicycle sharing the use of a "standard" width travel lane



It is recommended that bike route signs include specific destination information or potential alternate routes for bicyclists.

The following criteria should be considered prior to signing a rural route:

- The route provides through and direct travel in bicycle-demand corridors.

6.2.2 Recommendations by Corridor

Comments received about the specific route alternatives by corridor led to several adjustments. The recommendations below reflect those changes and additional clarification.

Corridor 1: Amanda to Perry County

Recommended alternatives:

a. Clear Creek

Existing Conditions: Clear Creek is a greenway corridor that travels from the abandoned railroad corridor south of Amanda to Hocking River. This alternative continues as the Hocking River greenway corridor from Clear Creek to Rutter Hill Road, then onto SR 312. The Clear Creek greenway corridor is proposed in the Fairfield Heritage Trail plan.

b. Hamburg Amanda – North

Existing Conditions: Hamburg, Meister, Crooks, Eaton Hollow, Revenge, Beck, Blue Valley, Old Logan, Sharp, and Sugar Grove roads are a combination of county and township roads. This alternative is located in hilly terrain.

Corridor 2: Hocking River and US 33

Recommended alternatives:

a. Hill Road, Waterloo Eastern Road, Benadum Road and Indiana Ohio Central Railroad

Existing Conditions: This alternative is proposed in the Fairfield Heritage Trail Plan and MORPC's 2006 Regional Bikeway Plan. This alternative includes two existing bike routes; Waterloo Eastern Road from Waterloo Road to Amanda Northern and Benadum Road between Amanda Northern Road and Pickerington Road. The Indiana Ohio Central Railroad portion of this alternative is called the Lateral Trail in the Fairfield Heritage Plan and travels along US 33.

b. Winchester Road

Existing Conditions: This alternative is a township and county road proposed in MORPC's 2006 Regional

Bikeway Plan. It includes an existing bike route between Lithopolis-Winchester Road and Waterloo Road. Winchester Road, between Jefferson and Pickerington roads, is part of a Columbus Outdoor Pursuits route.

c. Lithopolis Road

Existing Conditions: This alternative is proposed in MORPC's 2006 Regional Bikeway Plan. This alternative travels from Franklin County to Indiana Ohio Central Railroad. This alternative is located in hilly terrain but is the only recommended route providing direct service from Lithopolis to Lancaster.

d. Hocking River

Existing Conditions: This alternative is a greenway corridor that travels from west of Amanda Northern Road to Camp Ground Road in Lancaster.

e. Two alternatives for Lancaster to Hocking County

1. Hocking River from Lancaster to Hocking County is a greenway corridor. This alternative is proposed in the Fairfield Heritage Trail Plan.
2. Old Logan Road from Memorial Drive to Hocking County is a county road. It is also used by Columbus Outdoor Pursuits as a bike route.

Corridor 3: Millersport to Lancaster

Recommended alternatives:

a. SR 158

Existing Conditions: This alternative is a state route from Baltimore to Lancaster.

b. Millersport Road, Old Millersport Road

Existing Conditions: This alternative is a county route from Licking County to Lancaster. This route follows existing right-of-way through an Agricultural Security Area (ASA). An ASA is agricultural land that has been voluntarily restricted by the property owner to be used solely for agricultural purposes for a specific amount of time. Since no other development is permitted to occur in these areas while they are under the restrictions of an ASA, consideration must be paid to where facilities will be constructed.

c. Abandoned railroad corridor from Walnut Road in Licking County to Millersport.

Existing Conditions: This railroad corridor connects to an existing shared-use path north of Walnut Road in Licking County.

Corridor 4: Pickerington Ponds to Buckeye Lake

Recommended alternatives:

a. Refugee Road, SR 204

Existing Conditions: This alternative consisting of county and state roads travels between Pickerington Ponds and Buckeye Lake.

b. SR 256, Doty Road, Bickel Church Road, Millersport Road

Existing Conditions: This alternative includes township and state roads. There is an existing 3 mile bike lane on SR 256 between Norfolk Southern Railroad (in Pickerington) and Doty Road. This route would run along existing right-of-way through an Agricultural Security Area (ASA). An ASA is agricultural land that has been voluntarily restricted by the property owner to be used solely for agricultural purposes for a specific amount of time. Since no other development is permitted to occur in these areas while they are under

the restrictions of an ASA, consideration must be paid to where facilities will be constructed.

c. Leib's Island Road

Existing Conditions: This spur provides service to Leib's Island. There are physical limitations to expanding this road for wide shoulders or bike lanes.

Corridor 5: Pickerington to Tarlton

Recommended alternatives:

a. Amanda-Northern Road

Existing Conditions: This alternative which is a county road is approximately 13 miles and connects Pickerington to Tarlton.

b. Doty Road, Carroll-Northern Road, Carroll-Southern Road, Lamb Road, Lithopolis, Mt. Zion Road, Crumley Road, Shaw Road, Westfall Road, Sand Hill Road, Main Street, Hamburg and SR 159.

Existing Conditions: This alternative is a combination of township, county and state roads.

c. SR 159

Existing Conditions: This alternative, a state road, is approximately 14 miles long and travels between US 22 and Tarlton Adelphi Road.

d. Camp Ground Road, Mill Park Drive, Delmont Road, Muddy Prairie Run

Existing Conditions: This alternative includes a municipal road, a county road and a greenway. Mill Park Drive is used as a Columbus Outdoor Pursuits bike route. Muddy Prairie Run connects to the Hanaway Covered Bridge Park.

e. Clear Creek

Existing Conditions: This alternative is a greenway that travels from Amanda-Northern Road to US 22.

Corridor 6: Reynoldsburg to Rushville

Recommended alternatives:

- a. Blacklick Road, Basil Road, SR 256, Old Millersport Road, Leitnaker Road, Pleasantville Road, Richland Road, Elder Road, Coonpath Road.

Existing Conditions: This alternative includes township, county and state roads. Basil Road will provide service to Licking County.

b. SR 256

Existing Conditions: This alternative travels from I-70 to Baltimore. There is an existing bike lane on SR 256 between Norfolk Southern Railroad in Pickerington and the Baltimore municipal boundary. SR 256 from I-70 to the Norfolk Southern Railroad is within the municipal boundaries of Pickerington.

c. Norfolk Southern Railroad

Existing Conditions: This alternative is proposed in the Fairfield Heritage Trail plan. The railroad line is currently active.

If this rail line is abandoned in the future, efforts should be taken to preserve the line for a rail trail. Preservation will reduce encroachment and the reverting of the line back to the property owners.

Corridor 7: Rush Creek and SR 664

Recommended alternatives:

a. SR 664

Existing Conditions: This alternative serves the Amish community. It travels from Perry County through the villages of Rushville and Bremen to Hocking County. This 12 mile state route is hilly and curvy and has been identified in ODOT's Amish Buggy Safety Report.

The hilly and curvy terrain of this road will require paved shoulders of 6 feet or more. This width is recommended due to the width of the Amish buggies and the hilly terrain.

- b. Oakthorpe Road, Pleasantville Road, Gun Barrell Road, Rushville Road, W. Rushville Road, Marietta Road, Zion Road and Bremen Road.

Existing Conditions: This alternative includes township and county roads.

c. Rush Creek

Existing Conditions: This segment of the greenway travels from SR 37 to Hocking County. South of Bremen there is a Rushcreek Conservancy Levy between SR 37 and Sugar Grove. Nothing can be placed on the west side but the east side has a maintenance berm, 6-8 feet down from the top of the levy, that extends to Sugar Grove and could possibly be used for a bicycle facility. The Rushcreek Conservancy District has acquired a maintenance easement from the property owners for the berm.

Corridor 8: Slate Run to Bremen

Recommended alternatives:

- a. Marcy Road, Rock Mill Road, Lithopolis Road, SR 37

Existing Conditions: This alternative is located mainly on county and state roads. Lithopolis Road is hilly, and SR 37 is a proposed route on the Fairfield Heritage Trail

Plan. There are existing wide paved shoulders on SR 37 between Schwick Road and Oak Hill Road.

b. Raccoon Run, Lake Road, Bremen Road

Existing Conditions: This alternative includes county roads and a greenway.

c. US 22, Wheeling Road

Existing Conditions: US 22 runs from Lancaster to Perry County and is included on the Fairfield Heritage Trail plan. This route is limited access from Coonpath Road to Rushville Road. US 22 provide the best direct connectivity between Lancaster and the villages of West Rushville and Rushville.

Corridor 9: Stoutsville to Lancaster

a. US 22

Existing Conditions: This route, proposed on the Fairfield Heritage Trail Plan, travels from Pickaway County to Lancaster. It has limited access from south of Amanda Northern Road to Delmont Road.

b. Abandoned Railroad

Existing Conditions: This route, proposed on the Fairfield Heritage Trail plan, travels from Stoutsville to Lancaster. Over a mile of this rail trail is under development in the Village of Amanda.

Corridor 10: Walnut Creek

Recommended alternatives:

a. Walnut Creek

Existing Conditions: This greenway alternative travels from Franklin County to Millersport Road. The segment between Franklin County and Carroll Northern Road was proposed in MORPC's 2006 Regional Bikeway Plan.

b. Basil Western Road

Existing Conditions: This county road alternative travels from Canal Winchester to Baltimore. Basil Western has one of the highest non intersection accident locations. The Basil Western and Pickerington intersection is recommended for an improvement. An industrial development is proposed between Hill Road and Carroll-Northern Road. A shared-use path along Basil Western Road can help provide access from Canal Winchester to Baltimore.

c. Winchester Road, Carroll Eastern Road

Existing Conditions: This alternative services Lithopolis, Chestnut Ridge Metro Park, Carroll and Pine Hill Golf Course. Carroll-Eastern Road in Greenfield Township is one of the highest non-intersection accident locations.

6.2.3 Bikeway Signage

Bikeway signage and pavement markings indicate routes and provide navigation, safety, and security functions. Ideal systems are easily seen and provide sufficient information to both cyclists and drivers.

Markings are used to direct cyclists to major routes and paths, indicate route shifts, and alert driver to cyclists' expected presence. Signs are used for regulations, information and way finding. Regulatory signs inform roadway users of how they are supposed to behave in an area. Information signs and markings are intended to help users predict what to expect such as steep terrain, dangerous intersections, highway and river crossings, or deteriorating road conditions. Way-finding signage can help bicyclists find routes and places.

6.2.3.1 Way-finding Signage

Way-finding signage helps bicyclists use the bikeway network as an effective transportation system. These signs typically display distance, direction and destination. In Fairfield County, signage would be helpful for destinations such as Ohio University, Fairfield County Agricultural Center, Buckeye Lake, Blacklick Metro

Park, Pickerington Ponds, Slate Run Metro Park, Chestnut Ridge Metro Park, Clear Creek Metro Park, schools, Fairfield Heritage Trails, Lancaster City Trails, Rock Mill, Stonewall Cemetery, cities, villages, hamlets, and destinations of historical significance.

Image 6: Example of Greenway Trail Sign



The Columbus and Franklin County Metropolitan Park District, the City of Columbus Recreation and Parks and MORPC's Greenways Program developed a unified approach to identify and sign the trails along the river corridors. Developed by Kolar Design, Inc., this signage program, under the name of Central Ohio Greenways, provides a unique but similar look, through color and design, to the trail system. The design is available from MORPC to all communities seeking signage along greenways.

Image 7: Greenway Trail Color-coded Signage



A similar approach can be developed in Fairfield County. The Fairfield Heritage Trail, the City of Lancaster, Franklin County Metro Parks and Central Ohio Greenways can develop a trail system that provides a unique but similar look for trails built along the river and rail corridors.

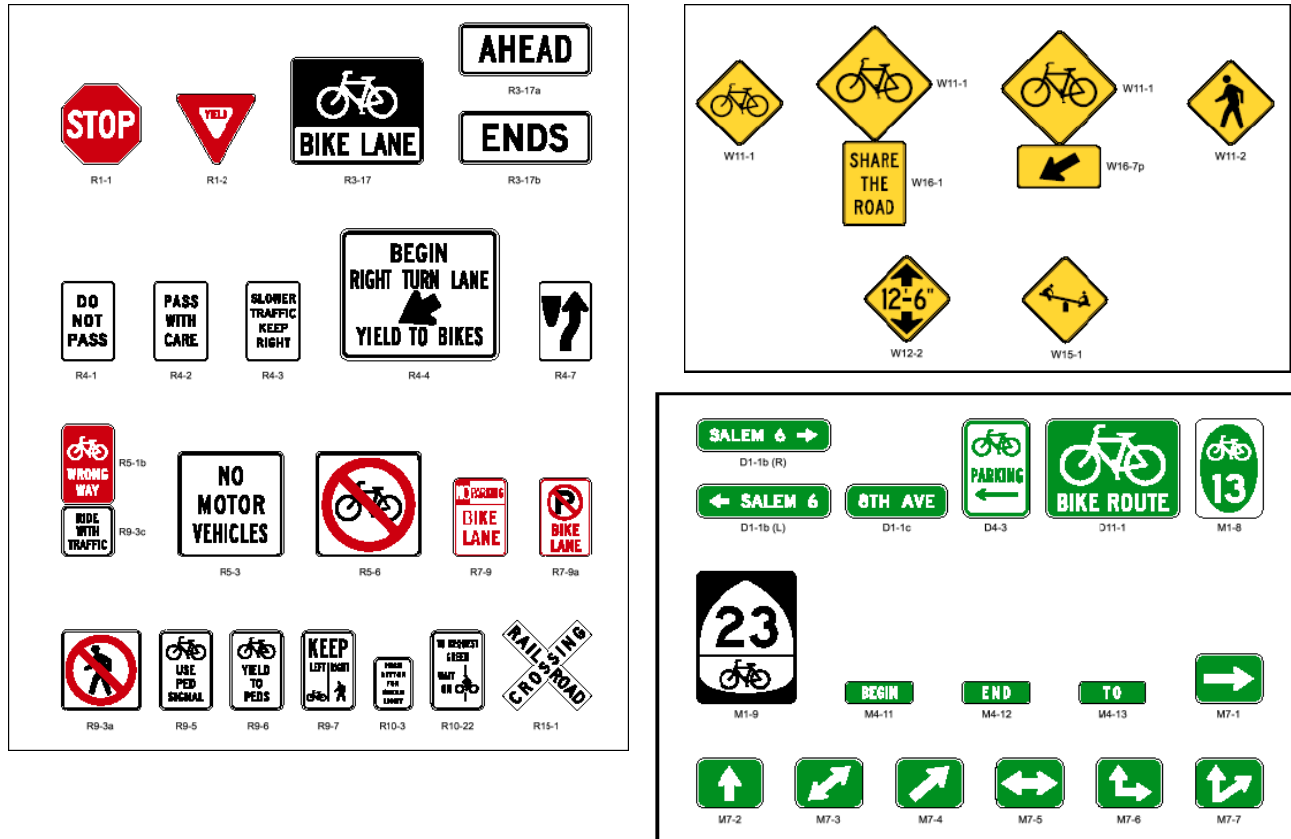
6.2.3.2 Standard Facility Signage

The Ohio Manual of Uniform Traffic Control Devices (OMUTCD) provides specific design details for the placement and size of standard bicycle facility signage. All bicycle facilities in Fairfield County should be signed per the OMUTCD.

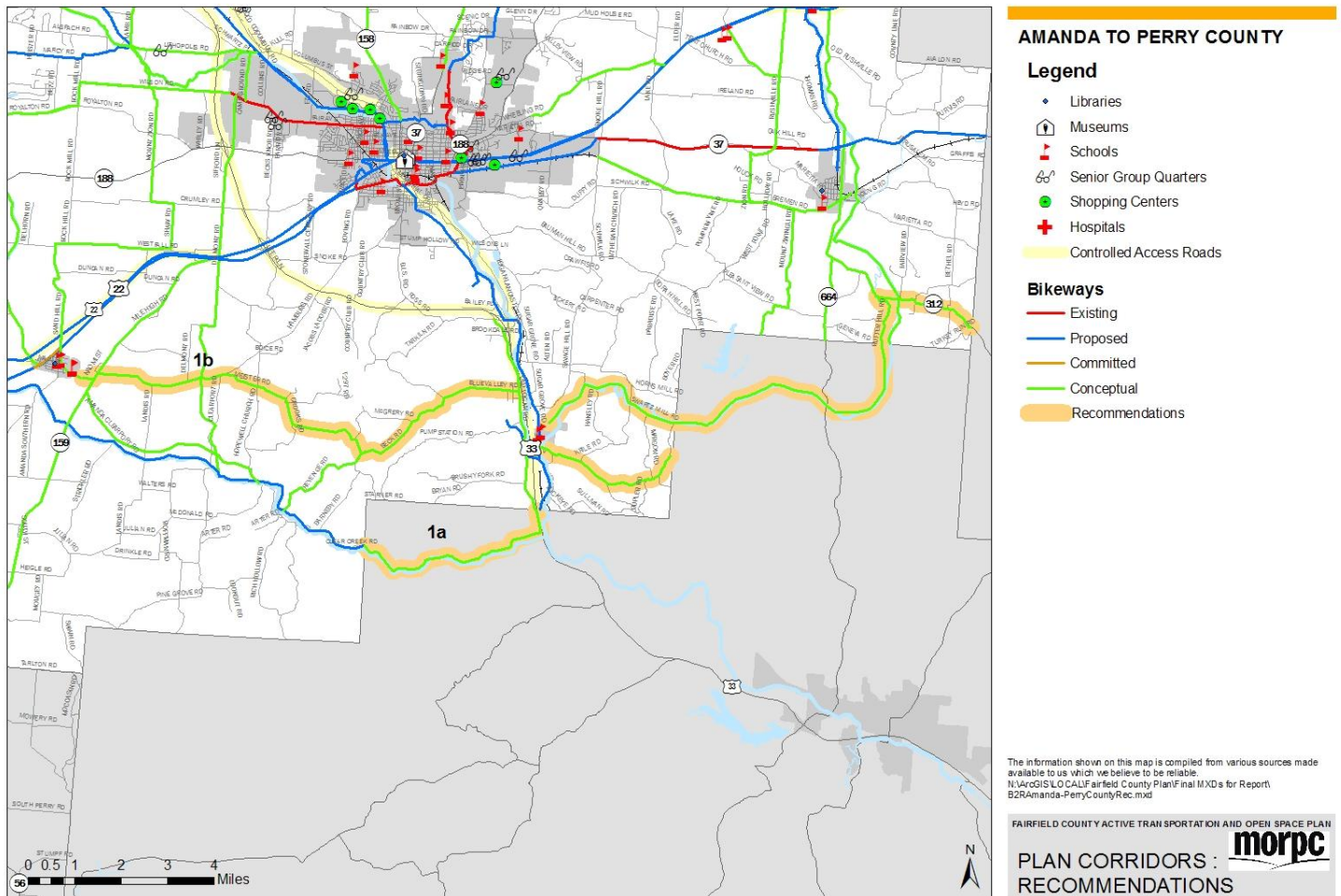
In general, the sizes of signs used on bicycle paths are smaller than those used on roadways. If the sign applies to drivers and bicyclists, then the larger size used for conventional roads should apply.

Image 8 provides examples of regulatory (black, white and red), warning (yellow) and way-finding (green) signage approved for use on bicycle facilities in Ohio.

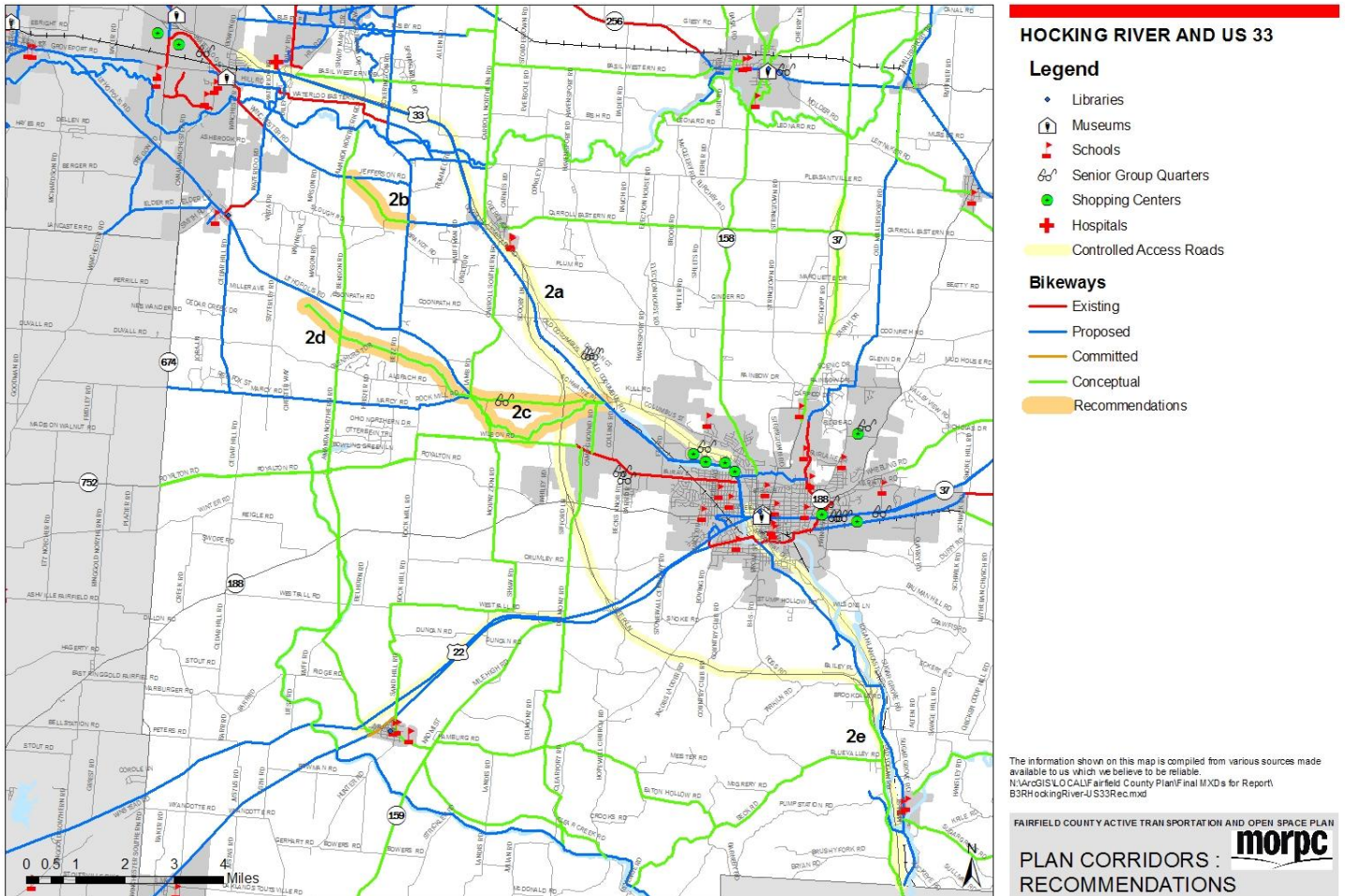
Image 8: Examples of OMUTCD Bike and Pedestrian Signage



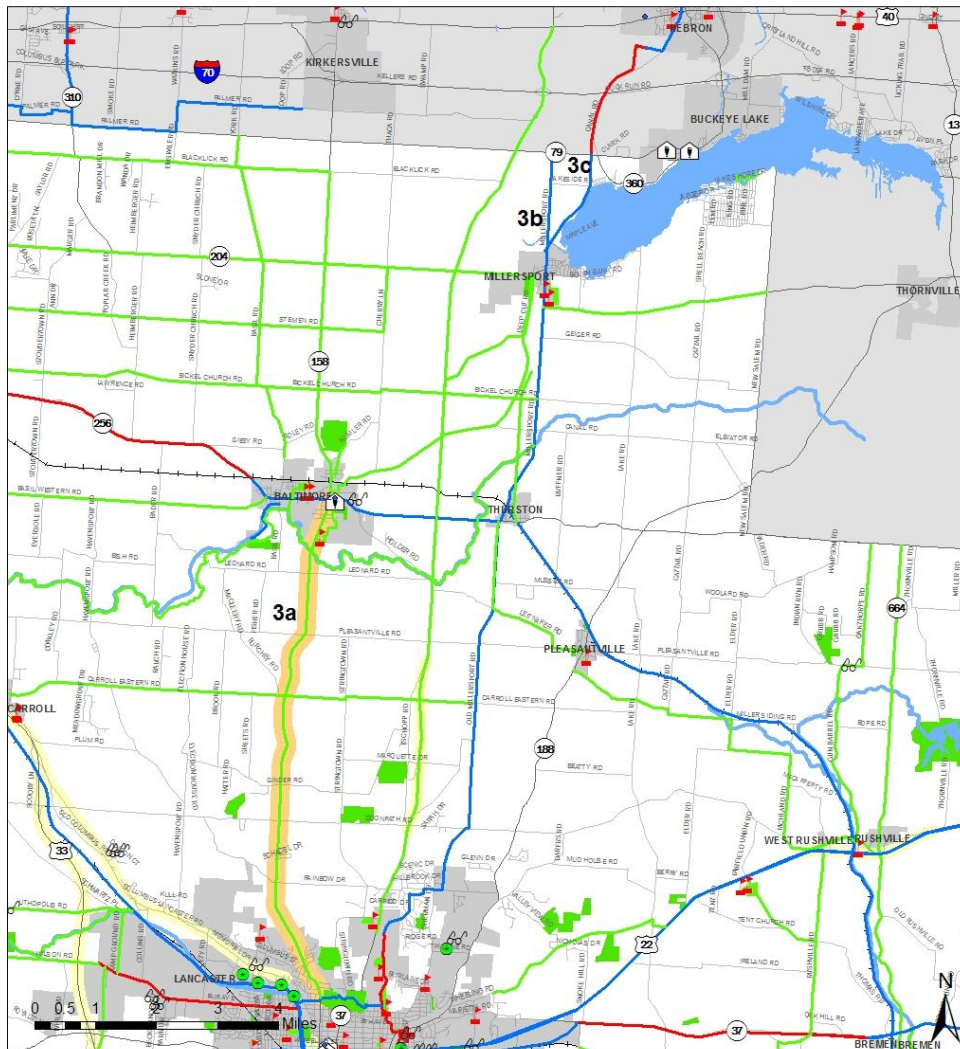
Map 22: Amanda to Perry County Recommended Alternatives



Map 23: Hocking River and US 33 Recommended Alternatives



Map 24: Millersport to Lancaster Recommended Alternatives



MILLERSPORT TO LANCASTER

Legend

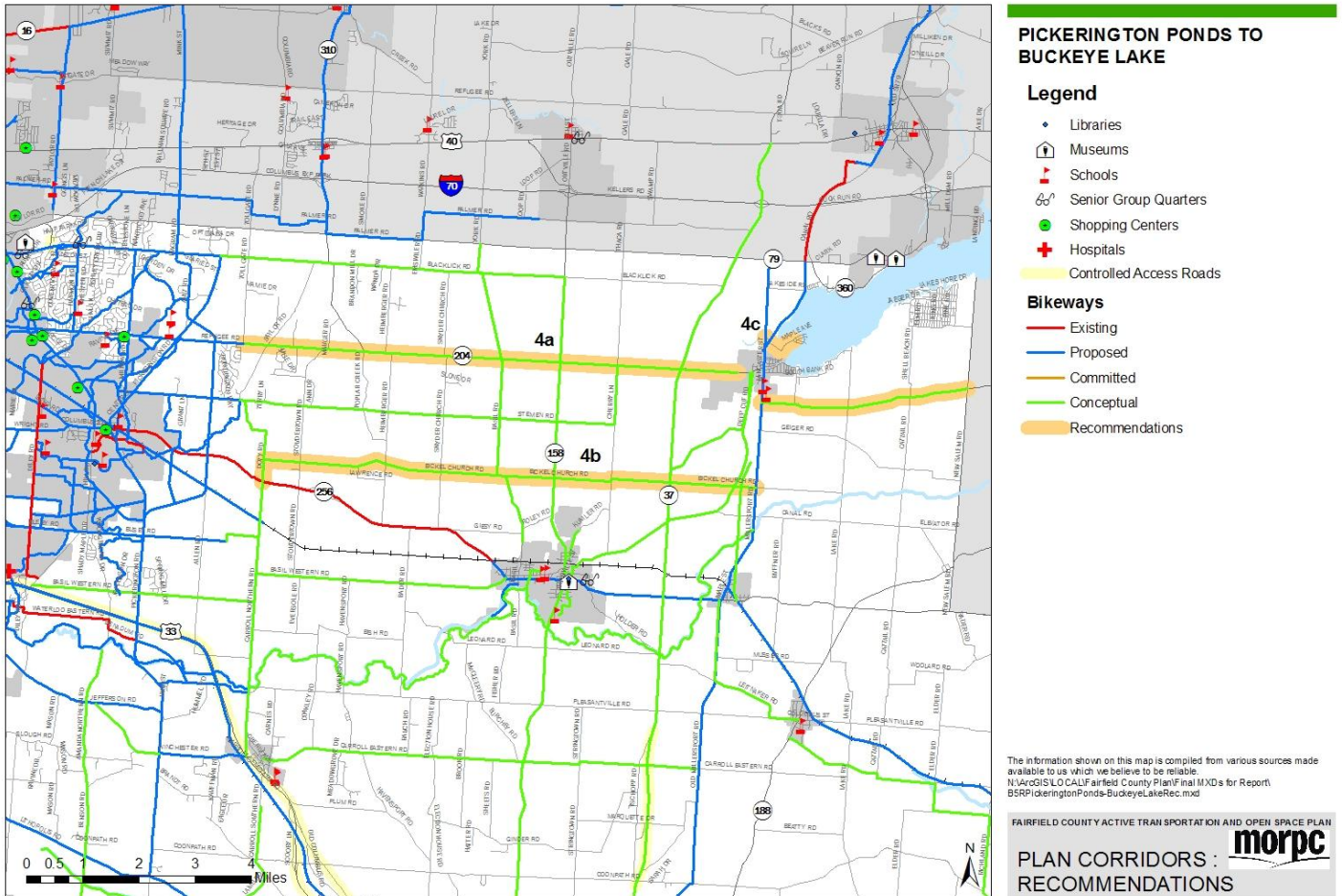
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| ♦ Libraries | Bikeways |
| 🏠 Museums | — Existing |
| 🎓 Schools | — Proposed |
| 👴 Senior Group Quarters | — Committed |
| 🛒 Shopping Centers | — Conceptual |
| 🏥 Hospitals | — Recommendations |
| 🛑 Controlled Access Roads | |

The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
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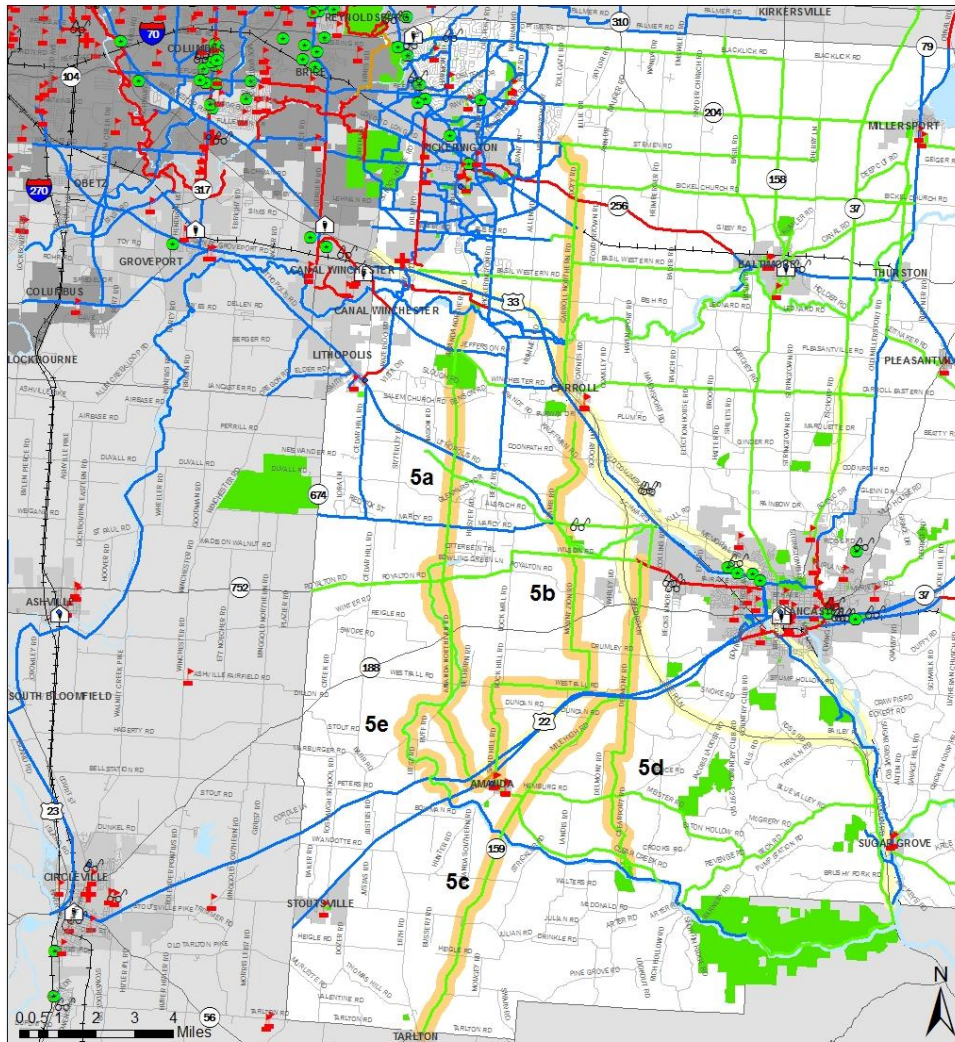
FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN
PLAN CORRIDORS : RECOMMENDATIONS



Map 25: Pickerington Ponds to Buckeye Lake Recommended Alternatives



Map 26: Pickerington to Tarlton Recommended Alternatives



PICKERINGTON TO TARLTON

Legend

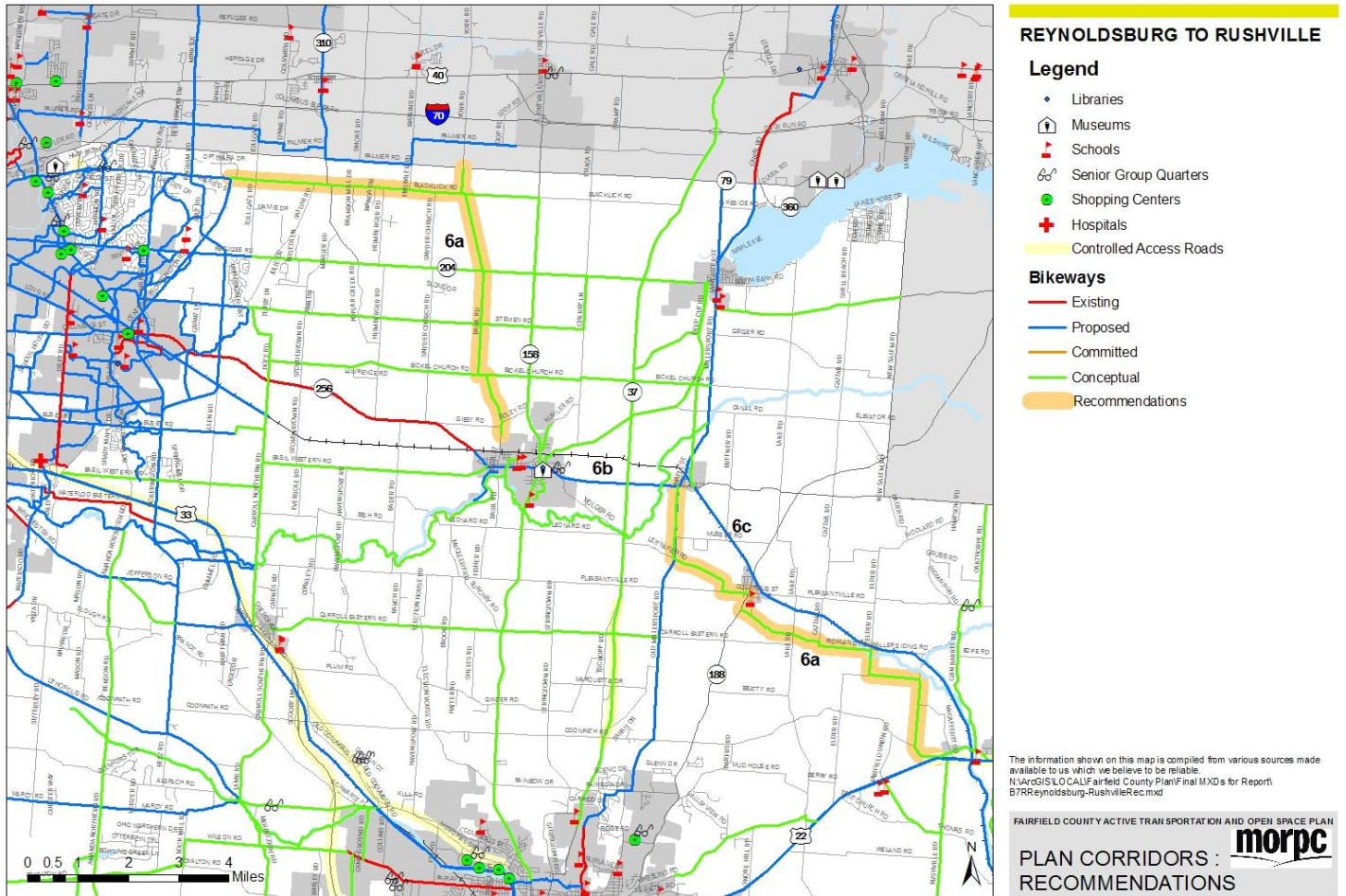
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| 🏥 Hospitals | — Recommendations |
| 🛣️ Controlled Access Roads | |

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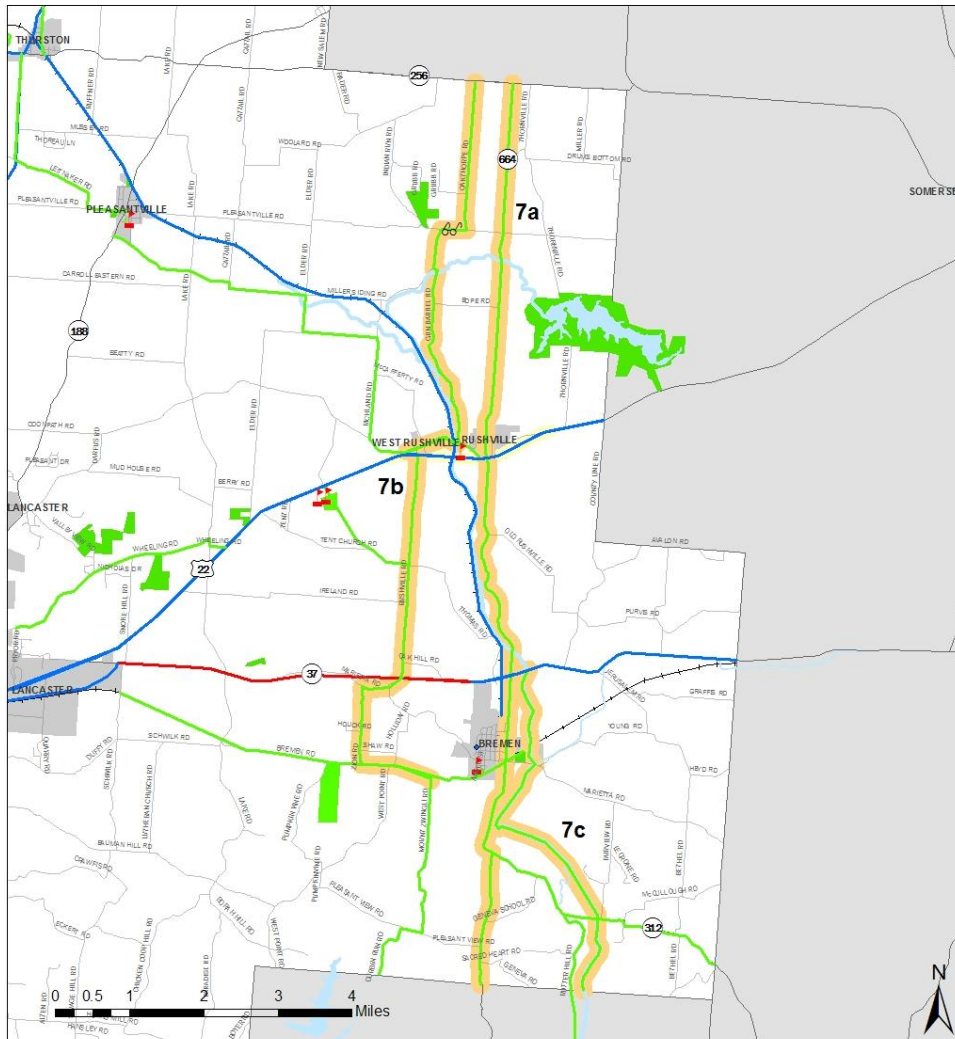
FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN
PLAN CORRIDORS : RECOMMENDATIONS



Map 27: Reynoldsburg to Rushville Recommended Alternatives



Map 28: Rush Creek to SR 664 Recommended Alternatives



RUSH CREEK TO SR 664

Legend

- | | |
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| ♦ Libraries | Bikeways |
| 🏛️ Museums | — Existing |
| 🎓 Schools | — Planned |
| 👴 Senior Group Quarters | — Committed |
| 🛒 Shopping Centers | — Conceptual |
| 🏥 Hospitals | — Recommendations |
| 🛣️ Controlled Access Roads | |

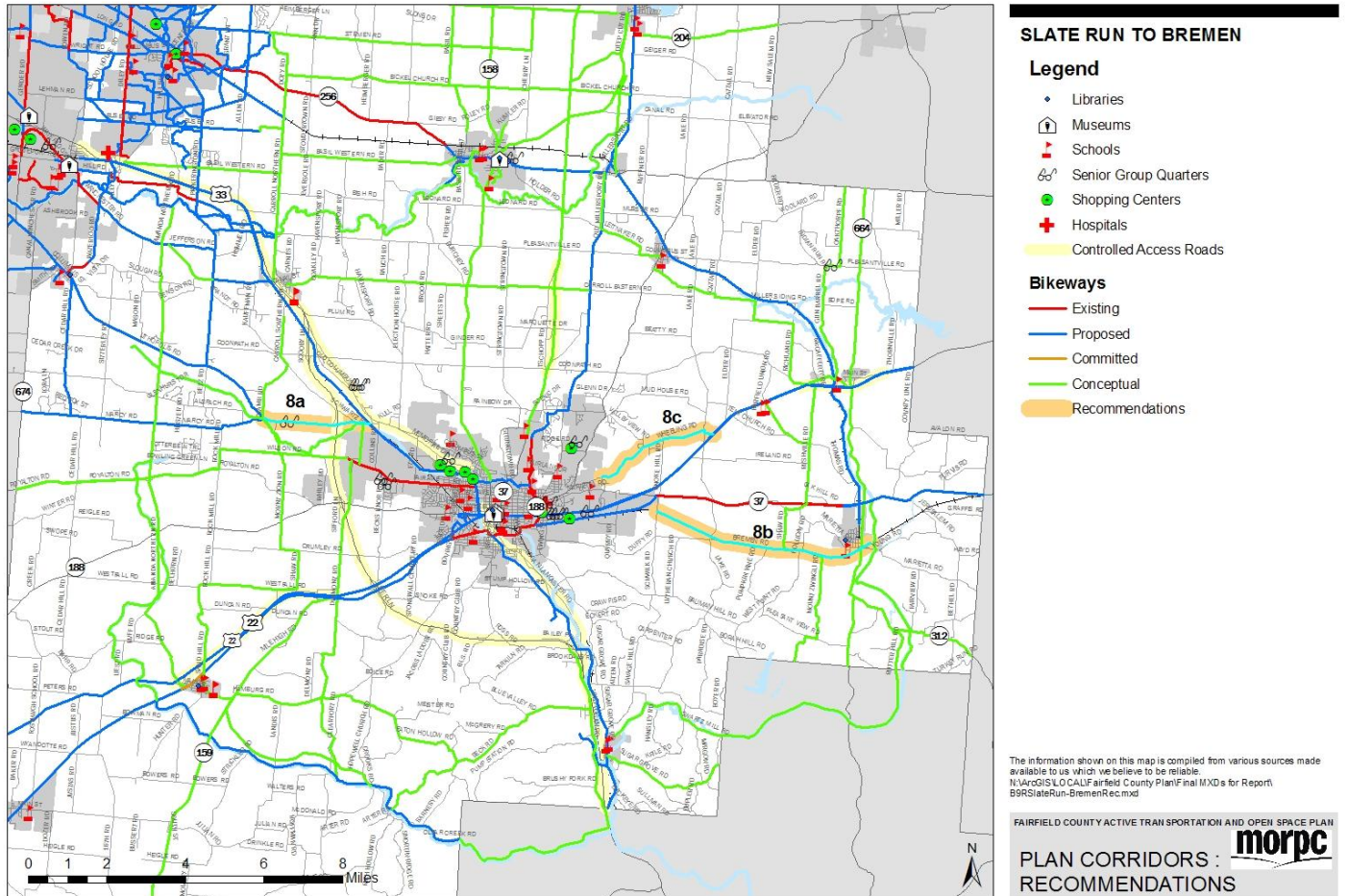
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FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN

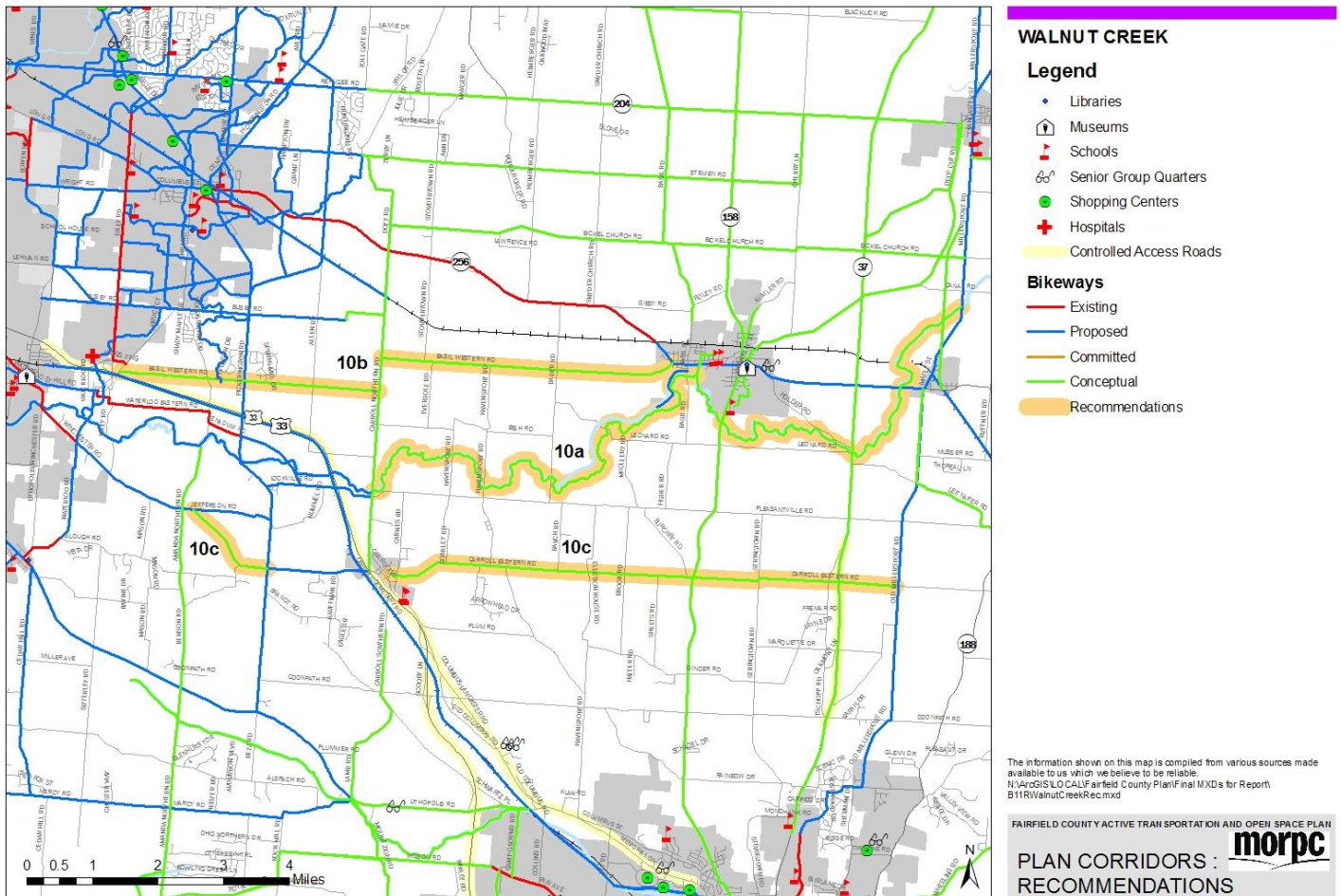
PLAN CORRIDORS : RECOMMENDATIONS



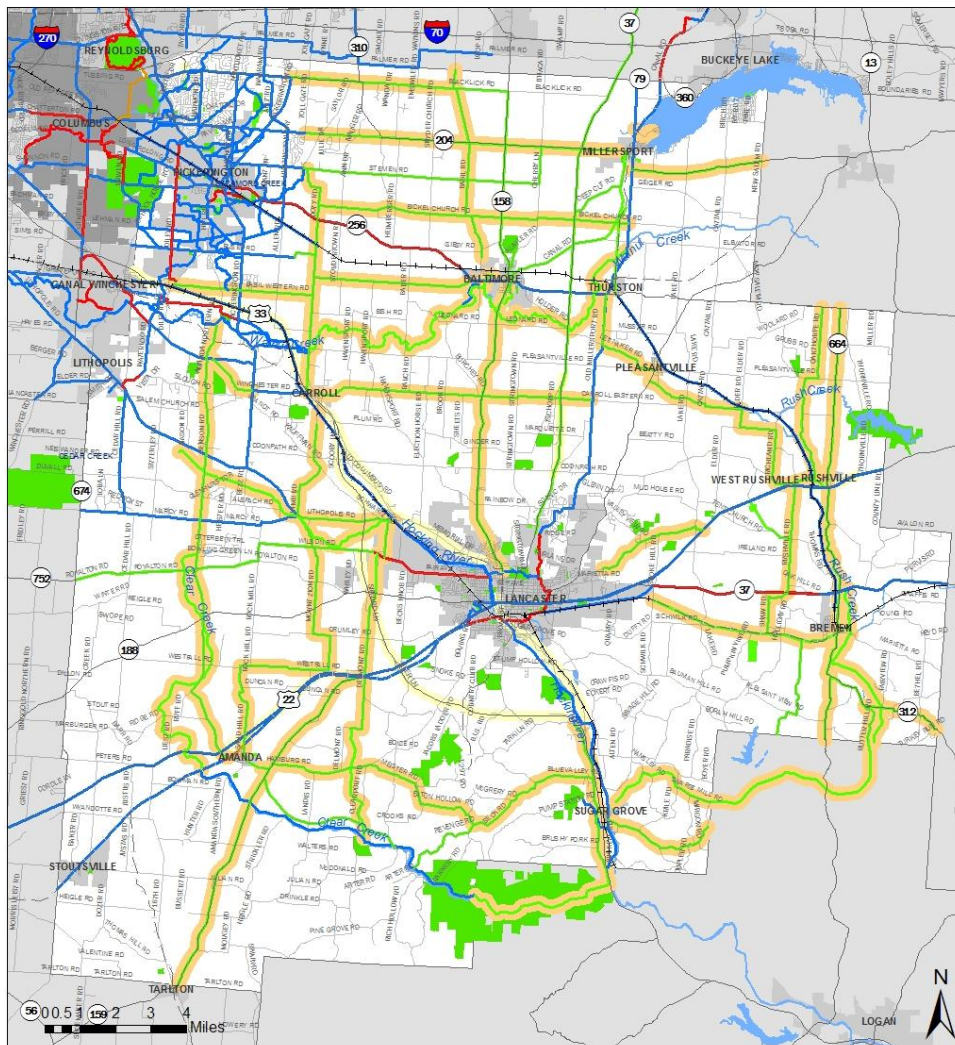
Map 29: Slate Run to Bremen Recommended Alternatives



Map 30: Walnut Creek Recommended Alternatives



Map 31: Recommended Bikeway Network



Legend

Controlled Access Roads

Rail

Active
Inactive

Bikeways

Existing
Proposed
Committed
Conceptual
Recommended

The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
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FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN
RECOMMENDED BIKEWAY NETWORK



7 Proposed Open Space and Greenways System

As noted in Chapter 5, the recommended alternatives for open space are:

- Alternative A: Existing Land Use (2008)
- Alternative B: Policy Recommendations

7.1 Alternative A – Existing Land Use

Alternative A is a recommendation for the provision of additional open space acreage to meet the needs of the current population.

Map 32, Map 33 and Map 34 (at the end of this chapter) show the most suitable areas for consideration for locating additional open spaces. They are organized by open space category.

Mini- and neighborhood open spaces are needed throughout most of the County. Analysis concluded that suitable areas for new open spaces in this category are around the cities of Lancaster and Pickerington, and along US 33 and its bypass, where development is occurring. Locations were identified north of Amanda and around Rushville because the cumulative need for mini- and neighborhood open space acreage in adjacent TAZ is greater than 1.5 acres, so, all other considerations included, such areas are suitable for open spaces.

The need for community open space acreage is comparable to the need for mini- and neighborhood open space acreage (approximately 148 acres compared to approximately 158 acres, respectively). However, the distribution of such need is not as broad since community open spaces are larger in size. Suitable areas for community open spaces are located predominantly to the northwest and south of the City of Lancaster. Other suitable areas were identified based on the existence of community open spaces in areas where expansion could potentially occur to serve the need for

additional community open spaces. Hickory Lakes and Pickerington Lakeview Junior High Fields Near are located in the urbanized area north of the City of Pickerington, and Clear Creek Metro Park abuts the southern boundary of Fairfield County in Hocking County.

Northwest Fairfield County is the only portion of the entire County that is not already served by metropolitan open spaces. The recommended general area for additional open spaces aims to ensure that these open spaces are located within 10 miles of the population that is not currently served. The area was narrowed down to include or be adjacent to existing metropolitan open spaces. All other considerations discussed in the methodology for development of alternatives were also made.

Map 32 and Map 33 also include a reference number associated with each area of highest priority on the maps and an approximate acreage value listed in Table 14: Approximate Acreage Needed for Areas of Highest Priority. An *area of highest priority* is a where the need for open space to serve the urban population overlaps where there is a need for open space to serve the non-urban population. The reference number was assigned randomly and does not in any way rank the areas of highest priority.

It is important to recognize that the data displayed in Table 14 is approximate. It would not be useful to determine the specific acreage required to serve the population because the users of any new open space would not notice a significant difference between a few acres. The objective of this exercise was to determine generally, but accurately, how much open space is needed in each area of highest priority.

Approximately 40 acres of mini- and neighborhood open spaces are needed in the highest priority areas. The greatest amount is needed in Area 6 along the northern edge of the City of Lancaster on both the western and

eastern sides of US 33. The least amount is needed in more non-urban areas to the southeast of Lancaster and around Bremen.

Area 10 to the southwest of the City of Lancaster has been identified as having the greatest approximate need for community open space acreage. Approximately 25 acres are needed across the highest priority areas for community open spaces.

Highest priority areas are not identified on Map 34 because metropolitan open spaces located anywhere in the general location identified would serve the population, but the 228 acres needed are referenced in the table since they should be developed within the general area indicated on the map.

7.2 Alternative B – Policy Recommendations

7.2.1 Site Selection

Identifying the need for new open space acreage is the first step in a process to provide new acreage throughout the county. Many steps are needed before implementation can begin, starting with site selection. Further prioritization of areas identified in this plan as general locations for new acreage will be required.

Future population growth and distribution of the population should be a major consideration when beginning implementation of the open space recommendations. If the location and size of a potential open space is negotiable (i.e. land is being sought out for development of an open space rather than a particular tract of land being available through public ownership), conduct a more localized needs analysis to determine where populations exist that are unable to walk and bike or drive to an open space or that do not have the minimum acreage available to them, based on service standards. The results of the analysis will determine the appropriate category, acreage and location of open space needed in that area.

When an area of focus has been determined, there are several site-specific variables to consider when choosing

sites for new open space acreage: surrounding open space, land use, property ownership, the natural environment, and demographic and cultural make-up of the surrounding community. Land use and property ownership are likely barriers to site feasibility for the development of open space due to zoning requirements, other development controls, surrounding land uses and land acquisition complications.

Development controls may include efforts such as agricultural preservation which has been identified as a priority by Fairfield County. Give high priority to sites located in zoning districts where parks and open space are a permitted use, where development controls do not discourage or prohibit the creation of new open space and to sites where open space would serve as a buffer between incompatible land uses. That being said, exceptions can be made based on the consideration of other variables that may carry heavier weight in a prioritization exercise.

Choosing the type of open space that is going to be developed should include consideration of existing open space in the surrounding area. One part of the open space information provided in the inventory in the *Open Spaces by Acreage, Category and Type* table in the Appendix identifies open spaces by type: active or passive. There are no standards on the amount of each type that is necessary to serve a population, but providing a balance of active and passive open spaces is recommended. If the potential open space site is in close proximity to more active than passive open spaces, give higher priority to developing more acreage as active open space.

Land acquisition complications include situations such as when property owners are uninterested in selling, the cost is too high, and/or there are liens or easements on the property which render it unsellable or unusable for the development of open space. It is important to recognize that the type of open space can play into land use and property ownership constraints. For example, a passive park with a walking path may be permitted in a zoning district, but an active playing field may not. Along the same lines, passive open space along a utility

ement may be permitted, while a playground may not be permitted.

The natural environment is another site-specific factor to consider. Are there endangered species, steep slopes, waterways or wetlands? Areas with certain natural characteristics may not be suitable for one type of open space, but may be for another. As an example, a site with steep slopes may be suitable for conservation open space related to an endangered species since its purpose is to protect the plant or animal, but the same site is likely not suitable for an active park since development of facilities on such topography would be difficult and users would not be able to traverse it easily.

Another consideration when determining what type of open space to develop is the demographic and cultural makeup of the surrounding community. Populations of certain demographics may have specific needs. For example, it may be useful to consider developing parks with playgrounds in areas with a high concentration of children and passive parks with benches and walking trails in areas with high concentrations of senior citizens. Certain cultures may also have specific interests and needs that can be addressed in open space development. The Amish population is a prime example.

7.2.2 Provision of Open Space

To meet the need for new acreage in each open space category, expansion of existing open spaces, development of several small open spaces, development of a few large open spaces, or utilization of a combination of expansion and development of smaller parks and larger parks may be pursued. It is recommended that existing open spaces are expanded whenever possible to increase habitat continuity. The acquisition and maintenance of new acreage may also be easier and more affordable when it is contiguous to existing open space, and access to the site is more likely to already exist.

It is also recommended that, when possible, open spaces are associated with public facilities, such as schools, to aid in the cost of acquisition and in maintenance.

7.2.3 Other Considerations

Open spaces developed after the creation of this plan must also be considered because they may reduce or eliminate the need for new open space acreage in certain areas throughout the county.

This is not intended to be an exhaustive discussion of considerations to be made when undergoing site selection for new open space acreage. It is necessary to conduct a site feasibility study for any areas identified for new open space acreage.

7.3 Recommendation Methodology

Development of Alternative A began by making maps showing the acreage needed in mini- and neighborhood parks and community parks by ranges of equal intervals to serve the urban and non-urban population. This was used to visualize the areas where the least and most acreage is needed, and to make the first identification of general locations for new open space acreage. This was accomplished by using data of the urban and non-urban populations not served by each category, as well as data of the urban and non-urban populations requiring additional acreage to meet the acres-per-person minimum requirement. The data is organized by TAZ, so it was possible to visualize which TAZ or portion of a TAZ required the least and most acreage. The map was also used to locate contiguous areas requiring more open space acreage and make note of general locations for additional open space acreage to be further analyzed later in the alternatives development process.

During the first stage of identifying general locations for new mini and neighborhood park acreage, the area of focus was narrowed when considering the need for new acreage to serve the population in the non-urbanized areas to any need greater than 1.5 acres. This discretion was exercised to narrow the possibilities since nearly all of the non-urbanized population is in need of additional mini and neighborhood park acreage.

Also, when identifying general locations for new open space acreage, the areas of focus were prioritized by first eliminating areas based on the *acreage needed* interval they were in. Unless an existing park was with the standard service area distance providing the opportunity to expand its acreage to meet the need of the population, priority was given to areas where the total needed acreage for community parks was greater than 25 acres, since the minimum size of a community park is 25 acres.

The same rule was applied to areas needing metropolitan park acreage – unless an existing metropolitan park was with the standard service area distance providing the opportunity to expand its acreage to meet the need of the population, priority was given to areas where the total needed acreage was greater than 100 acres, since the minimum size of a metropolitan park is 100 acres. Metropolitan parks can be smaller than 100 acres in Fairfield County, such as the golf courses and fairgrounds, but a sufficient amount of such special activity-based facilities already exist, so 100-acre or larger metropolitan parks are appropriate sized open spaces to provide.

The process continued by analyzing areas identified as general locations for additional open space acreage based on the following factors:

- Natural Environment: Areas with waterways were given higher priority over areas without watercourses. Typically, the greater the quantity of rivers, lakes and streams, the higher the area was prioritized. Areas with endangered species were given higher priority over areas without endangered species.
- Transportation network: Priority was given to areas where bikeways exist. Priority was also given to areas where bikeways have been proposed in plans other than this plan, and where bikeways have been conceptualized as a party of this plan.

The presence of major roadways was considered. Associated high speed limits, wide rights-of-way, and limited access, among other qualities, can make

it difficult for pedestrians and cyclists to move throughout the area to reach a destination such as a park. In the consideration of roadways regarding mini and neighborhood, and community open spaces, priority was given to areas with less major roadways. However, in the analysis of general locations for additional metropolitan open spaces, major roadways were considered an asset, enabling open space users to reach a potential metropolitan park.

- Destinations: General locations for open space acreage which included, or were adjacent to, destinations were given higher priority over areas where destinations do not exist. Destinations included, but are not limited to, schools, historic sites, commercial areas, senior citizen living facilities, and government buildings.
- Land use: With regard to land use, high priority was given to areas with concentrations of residential development, and areas where buffering between land uses would potentially be beneficial, such as between an industrial tract and residential land use. Greater consideration was also given to areas which are being prepared for development, such as through the provision of sewer infrastructure or new roadways.
- Land ownership: Areas with concentrations or large tracts of publicly owned land were given higher priority. Property owned by churches and school boards were not considered in the analysis of potential locations for metropolitan parks due to the required size of such open spaces.

Next, any areas outside of the areas identified as general locations for additional open space acreage were analyzed based on the aforementioned factors to determine if other areas are appropriate for consideration for the development of additional open space acreage.

Potential locations for new open space acreage were not identified in any incorporated areas. Potential locations

to serve incorporated areas were identified, but only if the boundary of an incorporated area was not farther away from unincorporated land than the maximum service area distance for a specific open space category.

Needs identified in past plans and stakeholders' identification of areas in need were considered as a general overarching question when conducting the analysis.

The maps for Alternative A show *general* locations for new acreage. These locations were prioritized by the greatest need for new open space based on service standards as explained in the needs analysis, the surrounding transportation network, needs identified in past plans, stakeholders' identification of areas in need, proximity to destinations, surrounding land use, and land ownership. Also, areas with the need for the most new acreage were given higher priority than areas that needed less acreage.

Recommendations for mini and neighborhood, and community open spaces are shown for areas to serve the urbanized population, areas to serve the non-urbanized population, and areas of highest priority. Areas of highest priority are those areas where the recommended general location for open space to serve the urbanized population coincides with the recommended general location to serve the non-urbanized population.

7.4 Greenways

In order to preserve and protect greenways all of the conceptual alternatives presented in Chapter 5 are recommended for implementation. The alternatives could all be used in the county and provide a range of options in terms of cost and time required for implementation.

7.4.1 Summary of Recommendations

Each of these recommendations has a detailed description in Chapter 5:

- Plans and Regulations
 - Comprehensive Plan
 - Zoning Overlay
 - Riparian Setback (also described below)
 - Conservation Development
 - Official Maps
 - Parkland Dedication
- Land Acquisition (purchase or donation)
 - Fee Simple
 - Easement
 - Option to Buy
- Private Land Protection through Education and Incentive Programs
 - Best Management Practices

These additional recommendations are described below:

- Watershed Action Groups
- Construction Practices

7.4.2 Riparian Setbacks

Regarding stream setbacks, a more specific recommendation is proposed for the use of a two-part Fixed Width setback. The Fixed Width would be 200 feet from stream centerlines for major waterways as recommended in the *Fairfield County Development Strategy and Land Use Plan*, in particular: Walnut Creek, Hocking River, Rush Creek, and Clear Creek. For all other tributaries, a 50 foot setback from stream centerlines is recommended. In addition, it is recommended that setbacks be applied to wetlands to protect their ecological, stormwater retention and water quality improvement functions. This plan does not include a recommendation for setbacks along seasonal or intermittent streams. See Map 35: Riparian Corridor Buffers for setbacks.

In addition, based on a site specific study, the setbacks could be refined using the Meander Belt Width Calculation or the HEC-RAS study method if a development applicant chooses to apply one of these approaches. Each is described in more detail in the Appendix.

Within setbacks, utilities and bike paths should be allowed as they can help to stabilize greenways. However, environmentally sensitive construction practices should always be followed.

7.4.3 Watershed Action Groups

To monitor the health and protection of Fairfield County greenways, each greenway should have a Water Action Groups and watershed action plans. In particular, the following watershed activities are recommended:

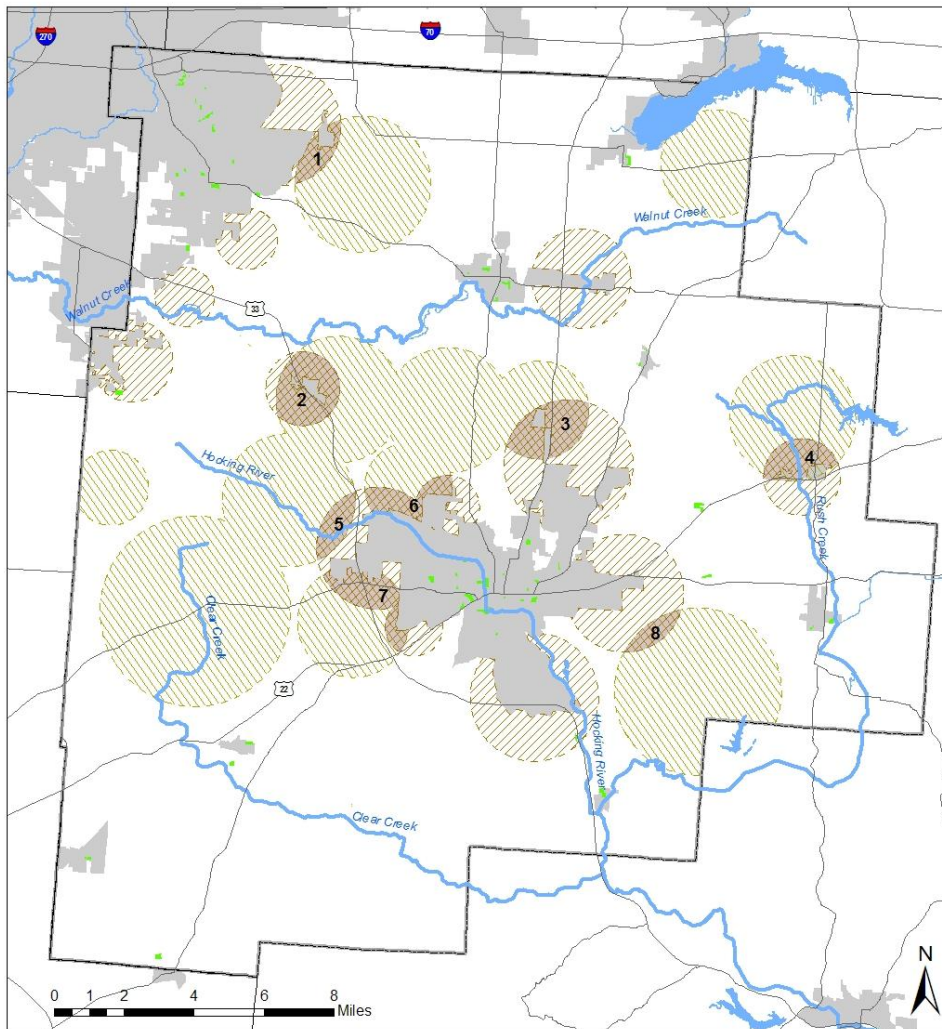
- Create a watershed action group and watershed action plan for Hocking River and also for Rush Creek.
- The Walnut Action Group needs to become more active, develop a new watershed action plan and create a subgroup for Sycamore Creek.
- Friends of Clear Creek needs to become more active within the watershed and develop a watershed action plan.

- A Watershed Coordinator should be hired for each greenway corridor: Walnut Creek, Hocking River, Rush Creek and Clear Creek.

7.4.4 Construction Practices in Greenways

When construction occurs along greenways developers are encouraged to use best practices for environmental sensitivity. In addition, it is recommended that Fairfield County look into alternative stormwater management systems such as bioretention as current road and other development standards are reviewed. As described in Section 5.2.2 bioretention is engineering that follows the basic function of natural systems. Bioretention can be on a large scale integrated system or on a small scale such as a "rain garden." Looking into the opportunities to integrate stormwater management into revised road system standards could create less hard surface paving and deep water detention basins while improving the quality of storm runoff before it enters the stream system.

Map 32: Recommended Areas for Mini- and Neighborhood Open Spaces



Legend

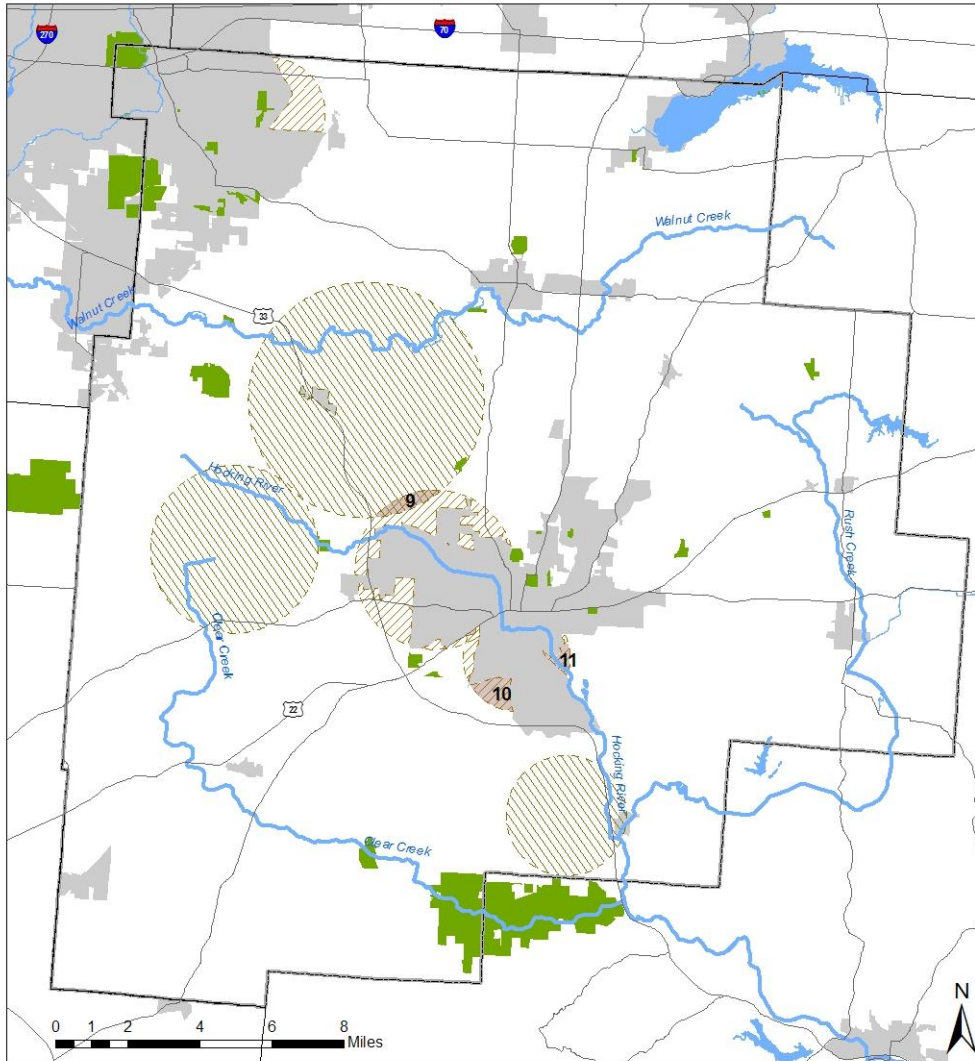
- Area of highest priority
- General location to serve the urban population
- General location to serve the non-urban population
- Mini- and neighborhood open space
- Urbanized area
- # Reference to table: Approximate Acreage Needed for Areas of Highest Priority

The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
N:\ArcGIS\LO CAL\Fairfield County Plan\Final MXDs for Report\Open Space\Recommended Areas for Mini and Neighborhood Open Spaces.mxd

FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN
RECOMMENDED AREAS FOR
MINI- AND NEIGHBORHOOD OPEN SPACES



Map 33: Recommended Areas for Community Open Spaces



Legend

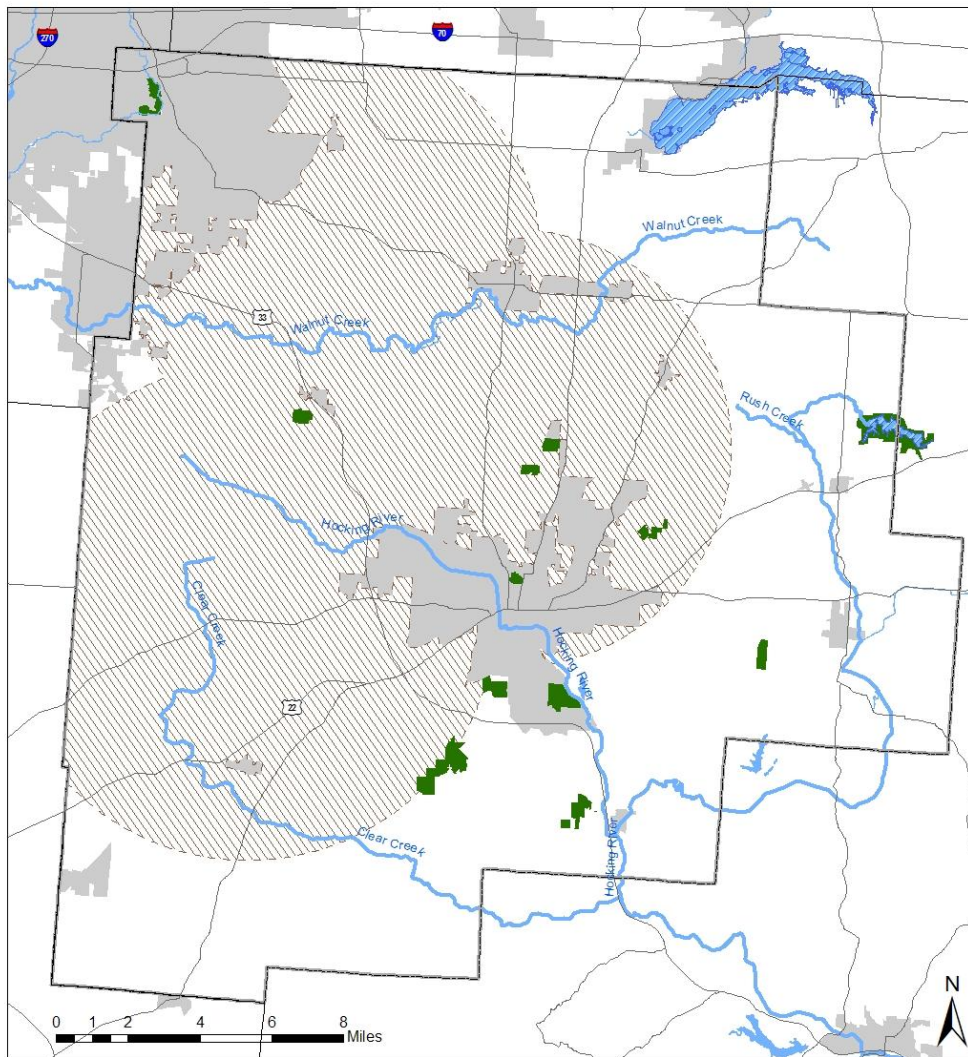
- Community open space
- Area of highest priority
- General location to serve the urban population
- General location to serve the non-urban population
- Urbanized area
- #** Reference to table: Approximate Acreage Needed for Areas of Highest Priority

The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
N:\ArcGIS\LO-CAL\Fairfield County Plan\Final MXDs for Report\Open Space\Recommended Areas for Community Open Spaces.mxd

FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN
RECOMMENDED AREAS FOR COMMUNITY OPEN SPACES



Map 34: Recommended Area for Metropolitan Open Spaces



Legend

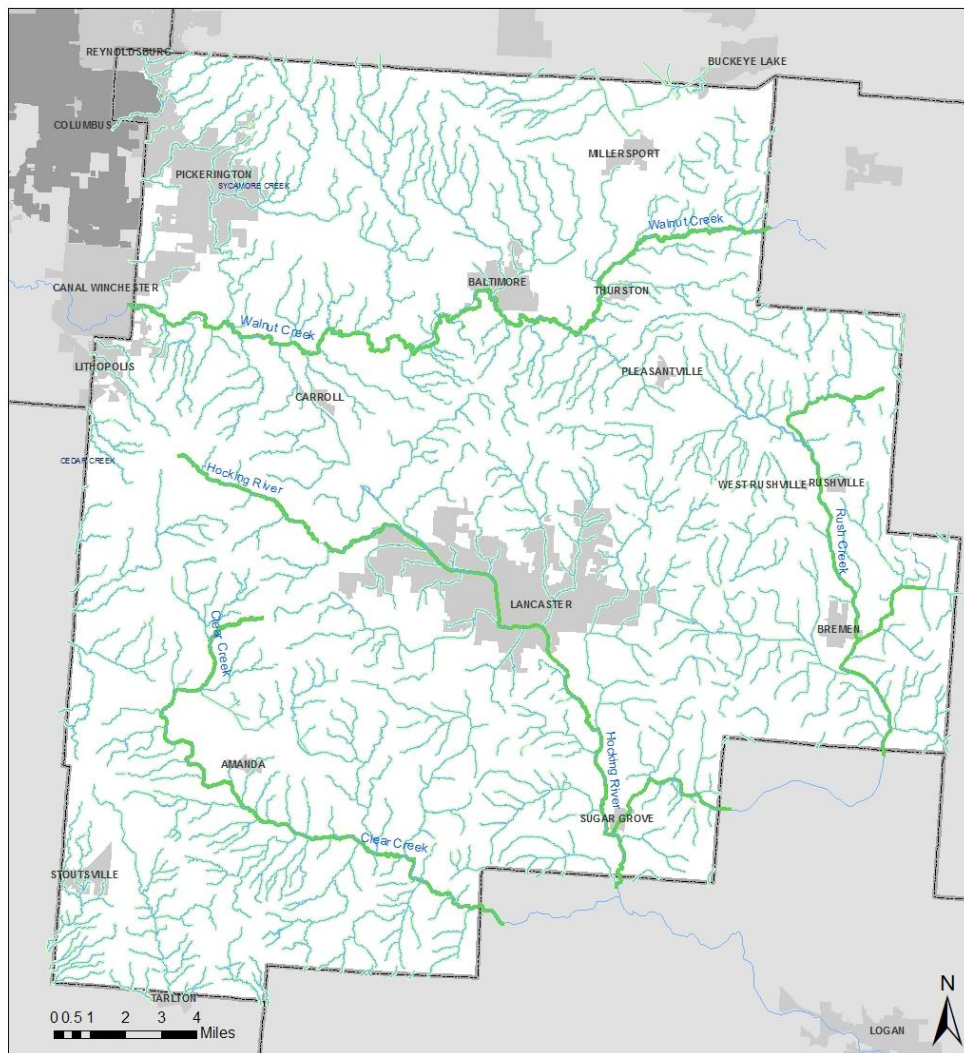
-  General location
-  Metropolitan open space
-  Metropolitan open space water feature
-  Urbanized area

The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
N:\ArcGIS\LO\CAUFairfield County Plan\Final MXDs for Report\Open Space\Recommended Area for Metropolitan Open Spaces.mxd

FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN
RECOMMENDED AREA FOR METROPOLITAN OPEN SPACES



Map 35: Riparian Corridor Buffers



Legend

- Streams
- 200 foot buffer
- 50 foot buffer

Buffer distances not to scale. Exaggerated for visualization.

The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
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FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN
RIPARIAN CORRIDOR BUFFERS

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GLOSSARY OF ACRONYMS AND INITIALISMS

AASHTO – American Association of State Highway
and Transportation Officials

ADT – average daily traffic

BMPs – best management practices

CAUV – current agricultural use value

DESC – drainage, erosion, soil, and sediment control

FCRPC – Fairfield County Regional Planning
Commission

GIS – geographic information system

OMUTCD – Ohio Manual of Uniform Traffic Control Devices

HEC-RAS – Hydrologic Engineering Center – River Analysis System

OSU – The Ohio State University

MORPC – Mid-Ohio Regional Planning Commission

POTWs – publicly owned treatment works

NS – Norfolk Southern Railroad

SR – state route

NPS – non-point solution

SWCD – soil and water conservation district

NRCS – Natural Resource Conservation Service

TAZ – traffic analysis zone

ODOT – Ohio Department of Transportation

TMDL – total maximum daily load

OEPA – Ohio Environmental Protection Agency

WAG – Walnut Action Group

WWH – warm water habitat

GLOSSARY OF TERMS

Bike Lane – A portion of the roadway designated by striping, signing, and/or pavement markings for preferential or exclusive use of bicycles.

Complete Streets – Streets that are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and bus riders of all ages and abilities are able to safely move along and across a complete street. (Taken from Complete the Streets, www.completestreets.org.)

Green Infrastructure – An interconnected network of land and water that sustains our air and water resources by maintaining and enhancing natural ecological processes.

Greenway – A linear open space in a riparian area (i.e., along a waterway).

Open Space – Open Space is a general term describing undeveloped land set aside for public or private use or enjoyment and/or conservation. In this plan, some types of land that fit this description are not included as open space because of their unique characteristics. Examples include agricultural land and cemeteries.

Riparian Area – Land along rivers and streams. When adequately sized and vegetated, a riparian area can limit streambank erosions, reduce flood size flows, filter and settle out pollutants, and protect aquatic and terrestrial habitat.

Riparian Setback – An area along a stream where development is restricted or prohibited. Riparian setbacks are a tool local governments can use to protect water quality, maintain riparian area functions and result in better development decisions and site design for new development.

Traffic Analysis Zone (TAZ) – A local-scale geography in which land use data is organized for use in a travel demand model to forecast traffic. The TAZ data MORPC uses for travel demand modeling extends only partway into Fairfield County, covering most of the

northwest quadrant of the county. MORPC staff divided the remainder of the county into local-scale geographies for this project in order to remain consistent. Such “TAZ” information is not intended to be used beyond completion of this plan.

APPENDIX

Riparian Setback Analysis Methods

The **Meander Belt Width Calculation** is a study conducted by ODNR and The Ohio State University. They researched streams throughout Ohio and determined that by using the Meander Belt Width Calculation one can predict natural stream channel migration and prevent future damages. The Meander Belt Width Calculation is:

$$W = 129 (DA)^{0.43}$$

where: DA = drainage area in square miles

W = total width of riparian setback in feet ¹⁹

This equation was developed and recommended by ODNR based on regional curve analysis for various watercourses measured in the eastern United States region.

HEC-RAS (the Hydrologic Engineering Center – River Analysis System) is a product of the U.S. Army Corps of Engineers’ Civil Works Hydrologic Engineering Research and Development Program. It performs hydraulics computations and includes Geometry (cross sections, bridges, and dams), Flows, and Hydraulic Coefficients.²⁰

Open Space Analysis and Methodology

The analysis of open space needs evolved during the development of this plan. Based on continued refinement of others’ standards and stakeholder input, the final approach was defined as described in the report. Below are the first two iterations of the analysis approach based on different service standards:

- First, the open spaces were categorized as neighborhood, community, district and metropolitan parks, using national standards and the Fairfield Development Strategy and Land Use Plan. The first strategy was to use ArcGIS to create buffers of ½ mile, 2 miles, 10 miles and 25 miles around open spaces fitting into each category, respectively, to represent the service areas of the open spaces, and to extrapolate data by Traffic Analysis Zone

¹⁹ www.epa.state.oh.us

²⁰ Information from U.S. Army Corps of Engineers

(TAZ – the most current and consistent geography for which data is available) showing how many additional acres of open space are needed by category. Service standards of 3 acres/1000 people, 7 acres/1000 people, 10 acres/1000 people, and 20 acres/1000 people were used for each category. Using eight different service standards proved not to be the most reliable method, and further investigation led to a revision to the methodology. See the Traffic Analysis Zone (TAZ) boundaries map in this appendix.

- The second attempt to determine how many acres of open space are needed and where was based on two service areas: a 2-mile walking distance from neighborhood and community parks and a 10-mile driving distance from district and metropolitan parks. The categorization of open spaces was also changed to the three final categories used to write this plan, based on further research into national and Fairfield County standards – mini- and neighborhood parks, community parks, and metropolitan parks.

Once the final service standards were determined, the following analysis approach was used:

1. Using ArcGIS computer mapping software, the locations and population served and not served by open space were identified. Traffic Analysis Zone (TAZ) data of the acreage of parcels in each residential density both within and outside of the service area boundaries was calculated, and then the population served and not served was calculated by multiplying the acreage of residential parcels in each TAZ by their associated density to determine the number of households. See below for multipliers in **Error! Reference source not found..** Then, the number of households was multiplied by average household size (2.61 persons for existing land use, and 2.43 persons for future land use), resulting in the population within and outside of each service area.

Table 7: Residential Land Use Densities

Land Use	Units Per Acre
Res High Urban	21
Res Low Urban	14
Res High Suburban	6.5
Res Mod Suburban	4
Res Suburban	2.25
Res Low	1
Res Rural	0.35
Res Rural Estate	0.12

2. Next, the additional acreage needed to serve Fairfield County was calculated. The process began by determining how much acreage is needed to serve the population *outside* of the service area boundaries – population not served – in each TAZ by multiplying the population not served by the service standard: 3 acres per 1000 people for mini- and neighborhood parks, as an example.

3. The additional acreage needed to serve the population within the service areas was also calculated. First, any areas where the population had access to the minimum acceptable acreage per person were eliminated. Then, the additional acreage needed to serve the population within the service areas was calculated. The resulting data is not organized by TAZ because of the complexities of the calculations required to generate it. Unlike the data for the areas outside the service area boundaries, this data is organized by generalized areas. What follows is the detailed methodology for this step of the analysis:

First, any areas where the population had access to the minimum acceptable acreage per person for different categories of parks (i.e., mini-neighborhood, community and metropolitan) were eliminated. Then, generalized areas were created by clustering the “underserved” areas. Finally, needed acreages for these generalized areas were calculated to achieve the minimum acceptable acreage per person. The following is the detailed GIS methodology by category of park.

Neighborhood Parks (including Mini-Parks)

Step 0: Make a 1-mile buffer and a 2-mile buffer for mini-neighbor park i , $i = 1, \dots, N$, where N is the total number of mini-neighbor parks considered;

Step 1: Set $i = 1$;

Step 2: Calculate the total urban population Pu_i of parcels within the 1-mile buffer of mini-neighbor park i and the total rural population Pr_i of parcels within the 2-mile buffer of mini-neighbor park i ;

Step 3: Calculate the average acreage per person for mini-neighbor park i as

$$APP_i = [\text{Acreage of mini-neighbor park } i] / [Pu_i + Pr_i];$$

Step 4: If APP_i is greater than or equal to 3 Acres per 1000 person (which means that population Pu_i and Pr_i have access to at least minimum acceptable acreage per person for mini-neighbor parks), all parcels associated with population Pu_i and Pr_i would be eliminated; Otherwise, go to Step 5;

Step 5: If $i < N$, $i = i + 1$ and return Step 2; Otherwise proceed to Step 6.

Step 6: Set $i = 1$;

Step 7: Calculate the total urban population Pu_i of **remaining** parcels within the 1-mile buffer of mini-neighbor park i and the total rural population Pr_i of **remaining** parcels within the 2-mile buffer of mini-neighbor park i ;

Step 8: Calculate the average acreage per person for mini-neighbor park i as

$$APP_i = [\text{Acreage of mini-neighbor park } i] / [Pu_i + Pr_i];$$

Step 9: If APP_i is greater than or equal to 3 Acres per 1000 person (which means that population Pu_i and Pr_i have access to at least minimum acceptable acreage per person for mini-neighbor parks), all parcels associated with population Pu_i and Pr_i would be eliminated; Otherwise, go to Step 10;

Step 10: If $i < N$, $i = i + 1$ and return Step 7; otherwise proceed to Step 11.

Step 11: Repeat Steps 6 to 10 until no more parcels could be eliminated. Therefore, the left parcels would be considered “underserved” areas and go to Step 12. If no parcel is left, that means that all population within the service areas had access to the minimum acceptable acreage per person and stop the procedure.

Step 12: Plot the “underserved” areas/parcels on a map, and create “generalized” areas by grouping the parcels based on their closeness;

Step 13: Label “generalized” areas from 1 to N_U , where N_U is the total number of the created “generalized” areas;

Step 14: Calculate the total of “underserved” urban and rural population, Pn_k , within “generalized” area k , $k = 1, \dots, N_U$.

Step 15: Determine the mini-neighbor parks which cover “generalized” area k , $k = 1, \dots, N_U$. Calculate the total acreages of these mini-neighbor parks A_k .

Step 16: Determine the needed acreages NA_k for “generalized” area k by solving the following equation:

$$[A_k + NA_k] / Pn_k = 3 \text{ acres} / 1000 \text{ persons. That is, } NA_k = 0.003 * Pn_k - A_k, k = 1, \dots, N_U.$$

Community Parks

Step 0: Make a 1-mile buffer and a 2-mile buffer for community park i , $i = 1, \dots, N$, where N is the total number of community parks considered;

Step 1: Set $i = 1$;

Step 2: Calculate the total urban population Pu_i of parcels within the 1-mile buffer of community park i and the total rural population Pr_i of parcels within the 2-mile buffer of community park i ;

Step 3: Calculate the average acreage per person for community park i as

$$APP_i = [\text{Acreage of community park } i] / [Pu_i + Pr_i];$$

Step 4: If APP_i is greater than or equal to 10 Acres per 1000 person (which means that population Pu_i and Pr_i have access to at least minimum acceptable acreage per person for community parks), all parcels associated with population Pu_i and Pr_i would be eliminated; Otherwise, go to Step 5;

Step 5: If $i < N$, $i = i + 1$ and return Step 2; Otherwise proceed to Step 6.

Step 6: Set $i = 1$;

Step 7: Calculate the total urban population Pu_i of **remaining** parcels within the 1-mile buffer of community park i and the total rural population Pr_i of **remaining** parcels within the 2-mile buffer of community park i ;

Step 8: Calculate the average acreage per person for community park i as

$$APP_i = [\text{Acreage of community park } i] / [Pu_i + Pr_i];$$

Step 9: If APP_i is greater than or equal to 10 Acres per 1000 person (which means that population Pu_i and Pr_i have access to at least minimum acceptable acreage per person for community parks), all parcels associated with population Pu_i and Pr_i would be eliminated; Otherwise, go to Step 10;

Step 10: If $i < N$, $i = i + 1$ and return Step 7; otherwise proceed to Step 11.

Step 11: Repeat Steps 6 to 10 until no more parcels could be eliminated. Therefore, the left parcels would be considered “underserved” areas and go to Step 12. If no parcel is left, that means that all population within the service areas had access to the minimum acceptable acreage per person and stop the procedure.

Step 12: Plot the “underserved” areas/parcels on a map, and create “generalized” areas by grouping the parcels based on their closeness;

Step 13: Label “generalized” areas from 1 to N_U , where N_U is the total number of the created “generalized” areas;

Step 14: Calculate the total of “underserved” urban and rural population, Pn_k , within “generalized” area k , $k = 1, \dots, N_U$.

Step 15: Determine the community parks which cover “generalized” area k , $k = 1, \dots, N_U$. Calculate the total acreages of these community parks A_k .

Step 16: Determine the needed acreages NA_k for “generalized” area k by solving the following equation:

$$[A_k + NA_k] / Pn_k = 10 \text{ acres} / 1000 \text{ persons. That is, } NA_k = 0.01 * Pn_k - A_k, k = 1, \dots, N_U.$$

Metropolitan Parks

Step 0: Make a 10-mile buffer for metropolitan park i , $i = 1, \dots, N$, where N is the total number of metropolitan parks considered;

Step 1: Set $i = 1$;

Step 2: Calculate the total population P_i of parcels within the 10-mile buffer of metropolitan park i ;

Step 3: Calculate the average acreage per person for metropolitan park i as

$$APP_i = [\text{Acreage of metropolitan park } i] / [P_i];$$

Step 4: If APP_i is greater than or equal to 10 Acres per 1000 person (which means that population P_i have access to at least minimum acceptable acreage per person for metropolitan parks), all parcels associated with population P_i would be eliminated; Otherwise, go to Step 5;

Step 5: If $i < N$, $i = i + 1$ and return Step 2; Otherwise proceed to Step 6.

Step 6: Set $i = 1$;

Step 7: Calculate the total population P_i of **remaining** parcels within the 10-mile buffer of metropolitan park i ;

Step 8: Calculate the average acreage per person for metropolitan park i as

$$APP_i = [\text{Acreage of metropolitan park } i] / [P_i];$$

Step 9: If APP_i is greater than or equal to 10 Acres per 1000 person (which means that population P_i have access to at least minimum acceptable acreage per person for metropolitan parks), all parcels associated with population P_i would be eliminated; Otherwise, go to Step 10;

Step 10: If $i < N$, $i = i + 1$ and return Step 7; otherwise proceed to Step 11.

Step 11: Repeat Steps 6 to 10 until no more parcels could be eliminated. Therefore, the left parcels would be considered “underserved” areas and go to Step 12. If no parcel is left, that means that all population within the service areas had access to the minimum acceptable acreage per person and stop the procedure.

Step 12: Plot the “underserved” areas/parcels on a map, and create “generalized” areas by grouping the parcels based on their closeness;

Step 13: Label “generalized” areas from 1 to N_U , where N_U is the total number of the created “generalized” areas;

Step 14: Calculate the total of “underserved” population, Pn_k , within “generalized” area k , $k = 1, \dots, N_U$.

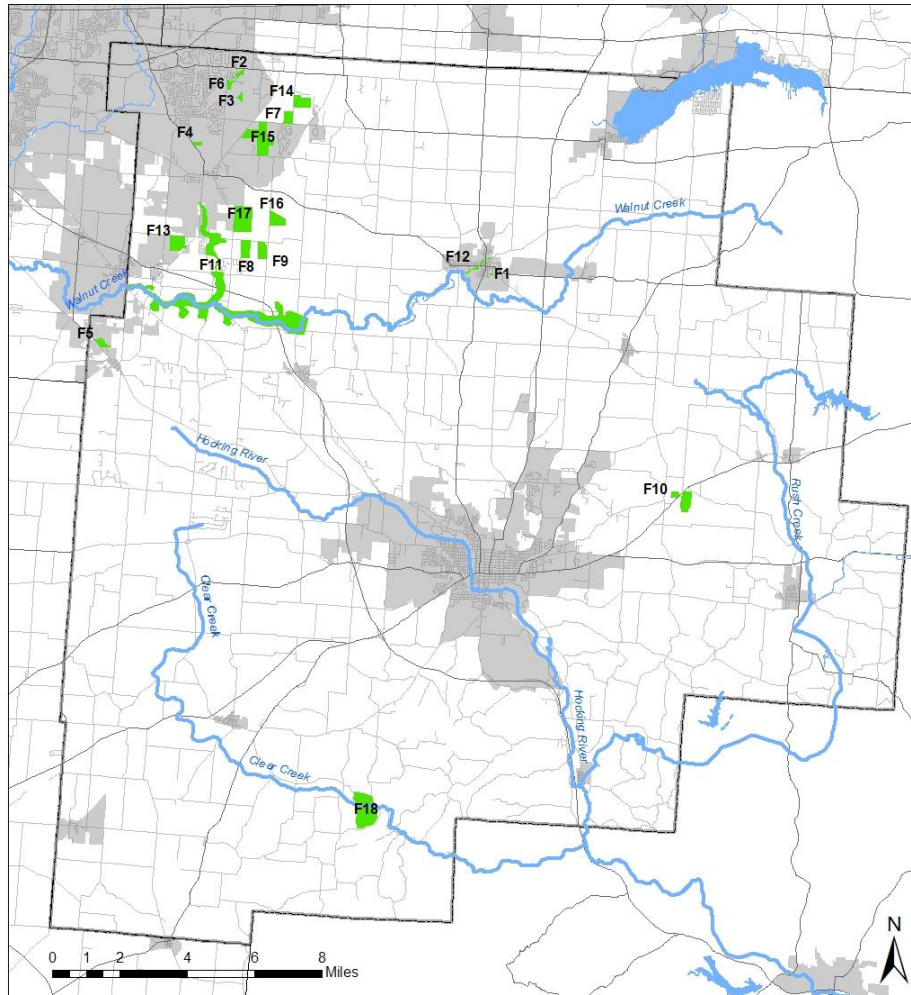
Step 15: Determine the metropolitan parks which cover “generalized” area k , $k = 1, \dots, N_U$. Calculate the total acreages of these metropolitan parks A_k .

Step 16: Determine the needed acreages NA_k for “generalized” area k by solving the following equation:

$[A_k + NA_k] / Pn_k = 10 \text{ acres} / 1000 \text{ persons}$. That is, $NA_k = 0.01 * Pn_k - A_k$, $k = 1, \dots, N_U$.

Open Space Data Maps and Tables

Map 36: Open Spaces Proposed or Under Construction



Legend

- Mini- and neighborhood open space
- Community open space
- Metropolitan open space
- Urbanized area
- # Reference to table: Open Spaces: Proposed and Under Construction

The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
N:\ArcGIS\LOCAL\Fairfield County Plan\Final MXDs for Report\Open Space\Open Spaces_Proposed or Under Construction.mxd

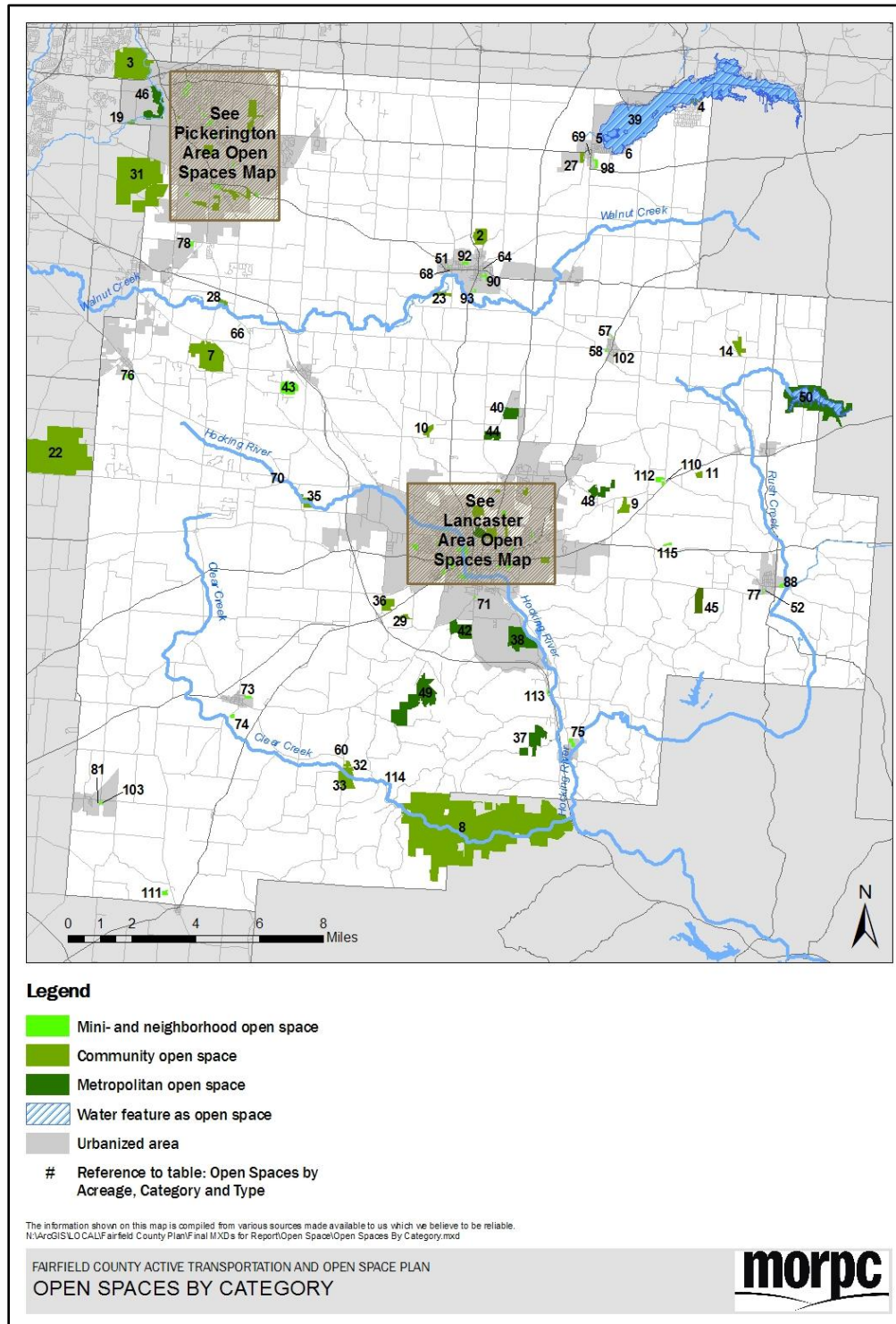
FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN
OPEN SPACES THAT ARE PROPOSED OR UNDER CONSTRUCTION



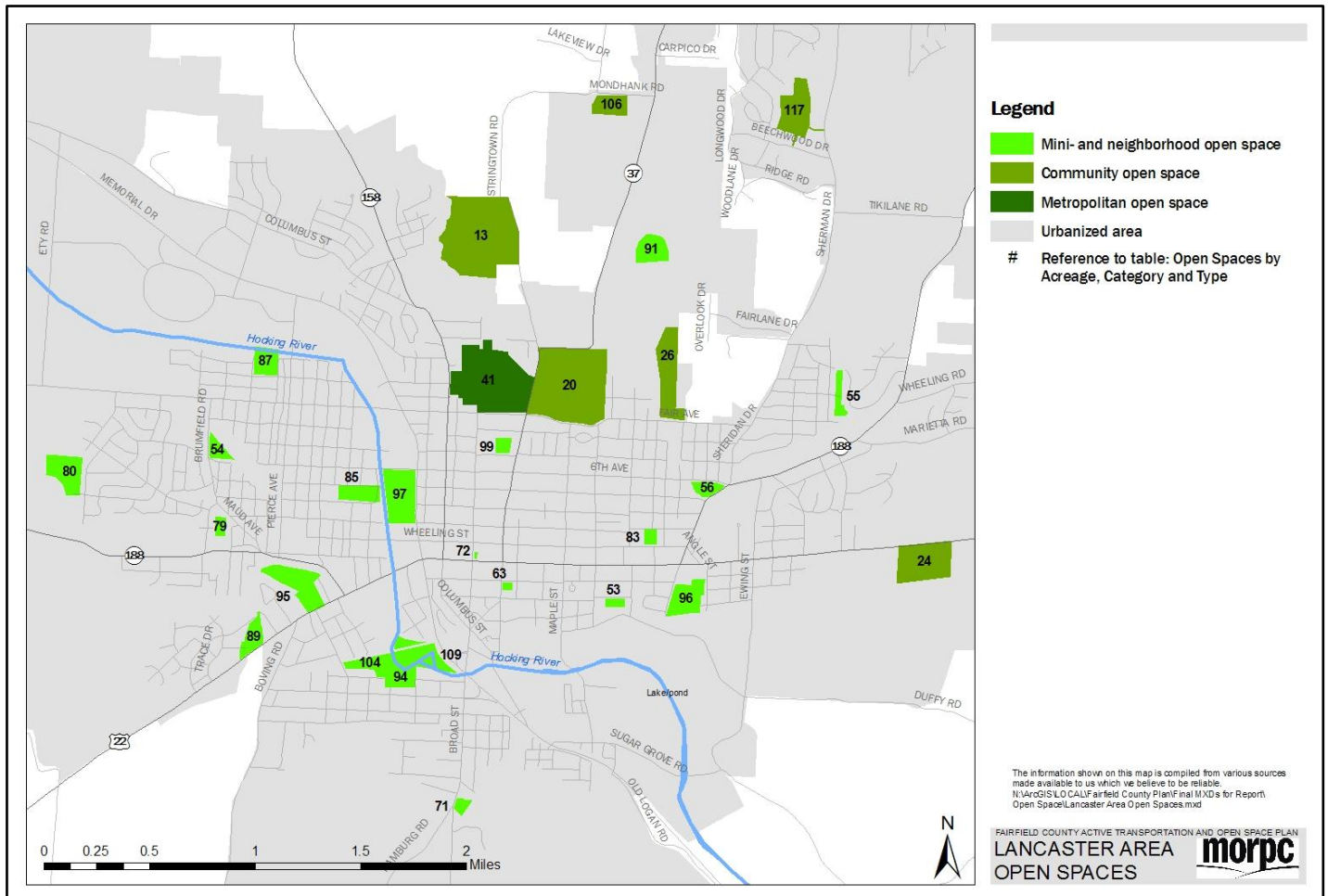
Table 8: Open Spaces Proposed and Under Construction

Map ID	Name	Status	Acreage	Category
F1	Johnson Park Addition	proposed	2.13	mini-park
F2	Future Park A	proposed	21.11	neighborhood
F3	Hickory Lakes Addition	proposed	17.71	neighborhood
F4	Pickerington Youth Sports Complex Addition	proposed	18.10	neighborhood
F5	Dominion Park	proposed	48.39	community
F6	Future Park B	proposed	32.74	community
F7	Future Park D	proposed	64.48	community
F8	Future Park H	proposed	94.72	community
F9	Future Park I	proposed	91.05	community
F10	Mambourg Lodge/Hansel Preserve	under construction	148.30	community
F11	Future Greenway A	proposed	1,542.00	community
F12	Future Greenway B	proposed	38.79	community
F13	Bicentennial Park	proposed	124.96	metropolitan
F14	Future Park C	proposed	100.22	metropolitan
F15	Future Park E	proposed	271.97	metropolitan
F16	Future Park F	proposed	107.79	metropolitan
F17	Future Park G	proposed	252.95	metropolitan
F18	Two Glaciers Park	under construction	304.00	metropolitan

Map 37: Open Spaces by Category



Map 38: Lancaster Area Open Spaces



Map 39: Pickerington Area Open Spaces

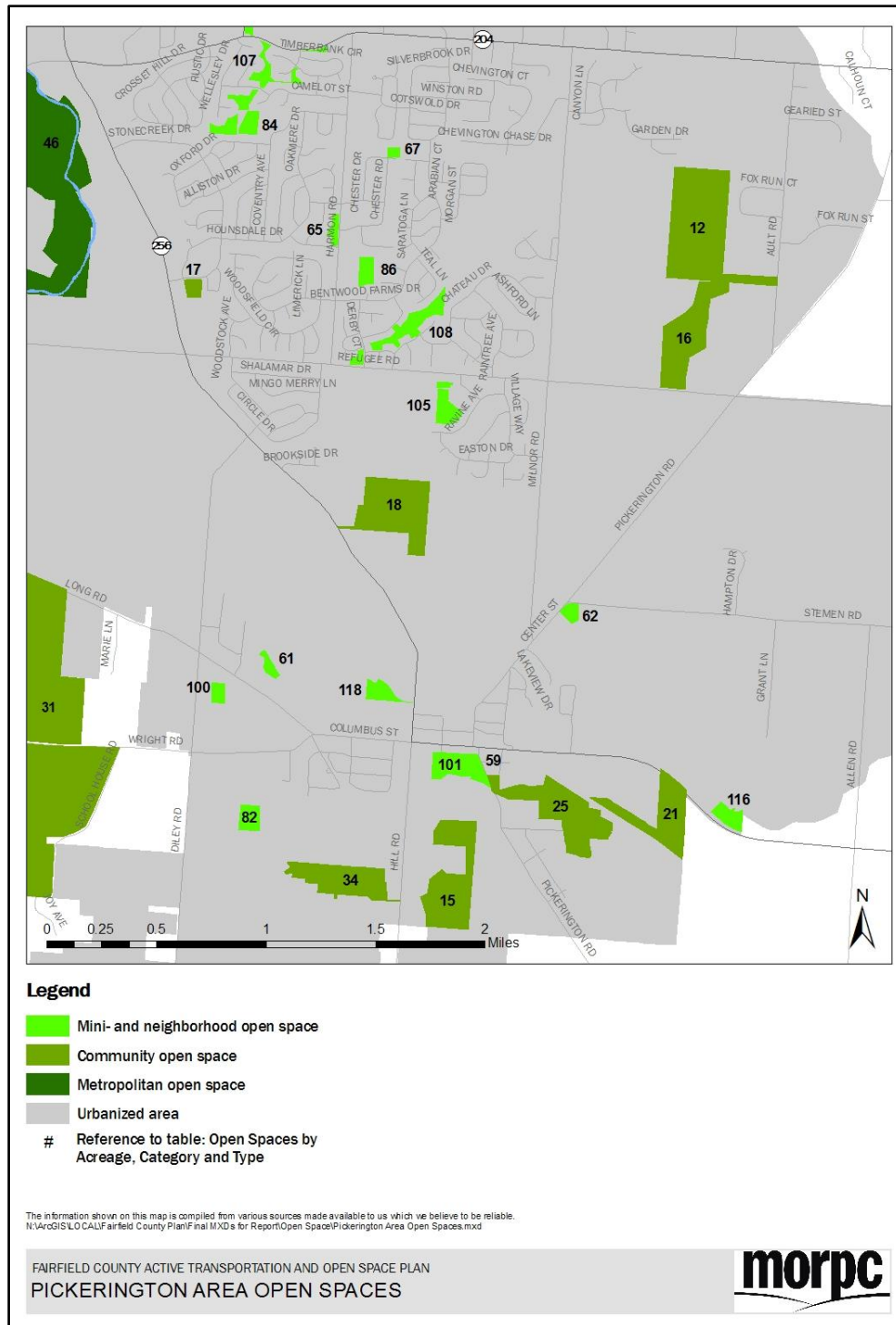


Table 9: Open Space by Acreage, Category and Type

Map ID	Name	Acreage	Category	Primary Type	Secondary Type
51	Basil Community Park	1.15	mini-	active	
52	Bremen Park	0.85	mini-	active	
53	Elmwood Park	2.18	mini-	active	
54	Glassco Park	4.76	mini-	active	
55	Huffer-Durbin Park	4.93	mini-	active	
56	Lanreco Park	4.95	mini-	active	
57	Ottie Park	3.04	mini-	active	
58	Pleasantville Park	4.96	mini-	active	
59	Victory Park	4.80	mini-	active	
60	Clearport Road Park	1.03	mini-	passive	
61	Colony Park	3.12	mini-	passive	
62	Dog Park	3.70	mini-	passive	
63	Firehouse Park	1.10	mini-	passive	
64	Griley Home Green Space	0.38	mini-	passive	
65	Harmon Road Park	3.40	mini-	passive	
66	Lockville Park	1.74	mini-	passive	
67	Nelson Park	1.72	mini-	passive	
68	Old Basil Firehouse Green Space	0.06	mini-	passive	
69	Park 1 (official name unknown)	0.20	mini-	passive	
70	Rockmill Park	0.77	mini-	passive	
71	Utica Park	2.67	mini-	passive	
72	Zane Square	0.34	mini-	passive	
73	Amanda Clearcreek Jr/Sr High School Fields	15.23	neighborhood	active	
74	Amanda Southern Road Park	12.06	neighborhood	active	
75	Berne Union Elementary School Fields	19.36	neighborhood	active	
76	Bloom Carroll Local School District Fields	19.67	neighborhood	active	
77	Bremen Elementary School Fields	3.37	neighborhood	active	
78	Busey Road Park	10.00	neighborhood	active	
79	Cedar Heights Elementary School Fields	2.94	neighborhood	active	
80	Cedarlen Park	15.39	neighborhood	active	
81	Clearcreek Elementary School Fields	3.50	neighborhood	active	
82	Diley Middle School Fields	7.07	neighborhood	active	
83	East Elementary School Fields	2.77	neighborhood	active	
84	Fairfield Elementary School Fields	4.98	neighborhood	active	

Map ID	Name	Acreage	Category	Primary Type	Secondary Type
85	General Sherman Junior High School Fields	9.15	neighborhood	active	
86	Harmon Middle School Fields	5.61	neighborhood	active	
87	Hocking Park	9.15	neighborhood	active	
88	Howell Park	10.05	neighborhood	active	
89	Hunter Park	8.13	neighborhood	active	
90	Johnson Park	15.01	neighborhood	active	
91	Lancaster & Stanbery Campus High School Fields	11.17	neighborhood	active	
92	Liberty Union Middle School Fields	13.52	neighborhood	active	
93	Liberty Union Thurston Elementary School	8.20	neighborhood	active	
94	Maher Park	11.72	neighborhood	active	
95	Marten's Park	19.24	neighborhood	active	
96	Mary Burnham Park	14.56	neighborhood	active	
97	Miller Park	22.61	neighborhood	active	
98	Millersport Jr/Sr High School Fields	23.29	neighborhood	active	
99	North Elementary School Fields	3.12	neighborhood	active	
100	Pickerington Middle School Fields	3.64	neighborhood	active	
101	Pickerington Ridgeview Junior High School Fields	12.62	neighborhood	active	
102	Pleasantville Elementary School	1.19	neighborhood	active	
103	Stoutsville Park	6.01	neighborhood	active	
104	Tallmadge Elementary School Fields	7.58	neighborhood	active	
105	Violet Elementary School Fields	8.27	neighborhood	active	
106	William Fisher Catholic High School Fields	9.80	neighborhood	active	
107	Green Space 1 (official name unknown)	17.64	neighborhood	passive	greenway
108	Green Space 2 (official name unknown)	17.79	neighborhood	passive	greenway
109	Cenci Lake Park	16.18	neighborhood	passive	
110	Cincinnati Zanesville Road Park	7.41	neighborhood	passive	
111	Cross Mound Park	16.63	neighborhood	passive	
112	Elder Road Park	19.23	neighborhood	passive	
113	Flight of the Hawk Park	6.24	neighborhood	passive	
114	Johnston Covered Bridge Park	5.46	neighborhood	passive	
115	Park 5 (official name unknown)	12.37	neighborhood	passive	
116	Shawnee Crossing Park	7.03	neighborhood	passive	
117	Wacker Park	20.97	neighborhood	passive	

Map ID	Name	Acreage	Category	Primary Type	Secondary Type
118	Willow Pond Park	6.95	neighborhood	passive	
2	Alt Park	124.80	community	active	
3	Blacklick Woods Metro Park	636.00	community	active	
4	Buckeye Lake Lakeshore Drive Park	24.29	community	active	
5	Buckeye Lake Leibs Island Road Park	24.97	community	active	
6	Buckeye Lake South Bank Road Park	6.17	community	active	
7	Chestnut Ridge	482.74	community	active	
8	Clear Creek Metro Park	5038.20	community	active	
9	Colfax Public Fishing Lake	72.31	community	active	
10	Coonpath Road Park	46.34	community	active	
11	Fairfield Union Junior High School Fields	25.99	community	active	
12	Hickory Lakes	90.04	community	active	
13	Keller-Kirn Park	75.98	community	active	
14	Oakthorpe Public Fishing Lake	78.57	community	active	
15	Pickerington High School Central Fields	50.04	community	active	
16	Pickerington Lakeview Junior High School Fields	44.36	community	active	
17	Pickerington Swim Club	4.08	community	active	
18	Pickerington Youth Sports Complex	53.77	community	active	
19	Retreat at Turnberry	19.81	community	active	
20	Rising Park	75.13	community	active	
21	Simsbury Park	35.12	community	active	
22	Slate Run Park and Historical Farm	1736.94	community	active	
23	Smeck Historical Farm	48.42	community	active	
24	Soccer Complex	28.29	community	active	
25	Sycamore Creek Park	51.01	community	active	
26	Thomas Ewing Junior High School Fields	23.99	community	active	
27	Veterans Park	27.06	community	active	
28	Zeller Soccer Park	29.78	community	active	
29	Hunter's Run	25.66	community	passive	conservation
31	Pickerington Ponds Metro Park	1578.93	community	passive	conservation
32	Hanaway Covered Bridge	72.00	community	passive	
33	Hanaway Covered Bridge Park	132.38	community	passive	
34	Preston Trails Park	35.18	community	passive	
35	Rockmill Lake Park	84.47	community	passive	
36	Shellenberger Park	87.43	community	passive	
37	Wahkeena Nature Preserve	222.38	metropolitan	active	conservation

Map ID	Name	Acreage	Category	Primary Type	Secondary Type
38	Alley Park	297.54	metropolitan	active	
39	Buckeye Lake	3349.00	metropolitan	active	
40	Estate Golf Course	101.95	metropolitan	active	
41	Fairfield County Fairgrounds	61.72	metropolitan	active	
42	Lancaster Country Club	184.16	metropolitan	active	
43	Pine Hill Golf Course	124.76	metropolitan	active	
44	Pleasant Valley Golf Course	84.95	metropolitan	active	
45	Pumpkinvine Golf Course	123.27	metropolitan	active	
46	Turnberry Golf Course	207.84	metropolitan	active	
48	Valley View Golf Course	125.84	metropolitan	active	
49	Charles R. Goslin Nature Sanctuary	559.31	metropolitan	passive	conservation
50	Rushcreek Conservation District	1300.00	metropolitan	passive	conservation

Table 10: Endangered Species of Fairfield County

Latin Name	Common Name	Category	Description	General Location
<i>Pleurobema clava</i>	Clubshell	invertebrate animal	freshwater mussel	Berne Township central
<i>Pleurobema sintoxia</i>	Round Pigtoe	invertebrate animal	freshwater mussel	Berne Township central
<i>Rhododendron maximum</i>	Great Laurel	vascular plant		Berne Township central and west central
<i>Phacelia bipinnatifida</i>	Fernleaf Phacelia	vascular plant		Berne Township northwest, Lancaster south
<i>Ardea herodias</i>	Great blue heron colony	animal assemblage	bird community	Charles R. Goslin Nature Preserve
<i>Maxalis unifolia</i>	Green Adder's-mouth	vascular plant		Charles R. Goslin Nature Preserve
<i>Ramalina petrina</i>	Appalachian Trail Lichen	fungus		Charles R. Goslin Nature Preserve
	Mixed mesophytic forest	terrestrial community	forest	Charles R. Goslin Nature Preserve
	Appalachian oak forest	terrestrial community	forest	Charles R. Goslin Nature Preserve
	Floodplain Forest	terrestrial community	forest	Charles R. Goslin Nature Preserve
<i>Arabis hirsuta</i> var. <i>adpressipilis</i>	Hairy Rockcress	vascular plant		Clear Creek Metro Park
<i>Chimaphila umbellata</i>	Common Wintergreen	vascular plant		Clear Creek Metro Park
<i>Cordulegaster erronea</i>	Tiger Spiketail	invertebrate animal	dragonfly	Clear Creek Metro Park
<i>Dendroica magnolia</i>	Magnolia Warbler	vertebrate animal	bird	Clear Creek Metro Park
<i>Dendroica virens</i>	Black-throated Green Warbler	vertebrate animal	bird	Clear Creek Metro Park
<i>Panicum laxiflorum</i>	Lax-flower Witchgrass	vascular plant		Clear Creek Metro Park
<i>Ramalina petrina</i>	Appalachian Trail Lichen	fungus		Clear Creek Metro Park
<i>Rhododendron maximum</i>	Great Laurel	vascular plant		Clear Creek Metro Park
<i>Scirpus purshianus</i>	Weakstalk Bulrush	vascular plant		Clear Creek Metro Park
<i>Vireo solitarius</i>	Blue-headed Vireo	vertebrate animal	bird	Clear Creek Metro Park
<i>Wilsonia Canadensis</i>	Canada Warbler	vertebrate animal	bird	Clear Creek Metro Park

Latin Name	Common Name	Category	Description	General Location
<i>Panicum laxiflorum</i>	Rabbitsfoot	invertebrate animal	freshwater mussel	Flight of the Hawk Park
<i>Cystopteris tennesseensis</i>	Tennessee Bladderfern	vascular plant		Johnston Covered Bridge Park
<i>Notropis amblops</i>	Bigeye Chub	vertebrate animal	fish	Liberty Township southwest
<i>Anas crecca</i>	Green-winged Teal	vertebrate animal	duck	Pickerington Ponds
<i>Ardea herodias</i>	Great blue heron colony	animal assemblage	bird community	Pickerington Ponds
<i>Cistothorus platensis</i>	Sedge Wren	vertebrate animal	animal	Pickerington Ponds
<i>Ichthyomyzon fossor</i>	Northern Brook Lamprey	vertebrate animal	fish	Retreat at Turnberry
<i>Aster oblongifolius</i>	Aromatic Aster	vascular plant		Wahkeena Nature Preserve
<i>Canoparmelia texana</i>	Buzzardroost Rock Lichen	fungus		Wahkeena Nature Preserve
<i>Cordulegaster erronea</i>	Tiger Spiketail	invertebrate animal	dragonfly	Wahkeena Nature Preserve
<i>Juglans cinerea</i>	Butternut	vascular plant		Wahkeena Nature Preserve
<i>Maxalis unifolia</i>	Green Adder-s-mouth	vascular plant		Wahkeena Nature Preserve
<i>Rhododendron maximum</i>	Great Laurel	vascular plant		Wahkeena Nature Preserve

Table 11: Existing Open Spaces and Connections to Bikeways

Map ID	Name	Existing Connection	Proposed Connection
80	Cedarlen Park	x	
53	Elmwood Park	x	
54	Glassco Park	x	
91	Lancaster & Stanbery Campus High School Fields	x	
56	Lenreco Park	x	
94	Maher Park	x	
115	Park 5 (official name unknown)	x	
104	Tallmadge Elementary School Fields	x	
3	Blacklick Woods & Golf Course	x	x
78	Bussey Road Park	x	x
109	Cenci Lake Park	x	x
87	Hocking Park	x	x
29	Hunter's Run	x	x
96	Mary Burnham Park	x	x
15	Pickerington High School Central Fields	x	x
100	Pickerington Middle School Fields	x	x
31	Pickerington Ponds	x	x
101	Pickerington Ridgeview Junior High School Fields	x	x
116	Shawnee Crossing Park	x	x
21	Simsbury Park	x	x
25	Sycamore Creek	x	x
26	Thomas Ewing Junior High School Fields	x	x
59	Victory Park	x	x
28	Zeller Soccer Park	x	x
38	Alley Park		x
74	Amanda Southern Road Park		x
51	Basil Community Park		x
75	Berne Union Elementary School Fields		x
76	Bloom Carroll Local School District Fields		x
39	Buckeye Lake		x
5	Buckeye Lake Leibs Island Road Park		x
7	Chestnut Ridge		x
110	Cincinnati Zanesville Road Park		x
8	Clear Creek		x
9	Colfax Public Fishing Lake		x

Map ID	Name	Existing Connection	Proposed Connection
61	Colony Park		x
82	Diley Middle School Fields		x
62	Dog Park		x
83	East Elementary School Fields		x
112	Elder Road Park		x
41	Fairfield County Fairgrounds		x
84	Fairfield Elementary School Fields		x
11	Fairfield Union Junior High School Fields		x
63	Firehouse Park		x
85	General Sherman Junior High School Fields		x
107	Green Space 1 (official name unknown)		x
108	Green Space 2 (official name unknown)		x
64	Griley Road Green Space		x
32	Hanaway Covered Bridge		x
33	Hanaway Covered Bridge Park		x
86	Harmon Middle School Fields		x
65	Harmon Road Park		x
12	Hickory Lakes		x
89	Hunter Park		x
90	Johnson Park		x
114	Johnston Covered Bridge Park		x
66	Lockville Park		x
95	Marten's Park		x
97	Miller Park		x
98	Millersport Jr/Sr High School Fields		x
68	Old Basil Firehouse Green Space		x
57	Ottie Park		x
69	Park 1 (official name unknown)		x
16	Pickerington Lakeview Junior High School Fields		x
17	Pickerington Swim Club		x
18	Pickerington Youth Sports Complex		x
43	Pine Hill Golf Course		x
34	Preston Trails Park		x
19	Retreat at Turnberry		x
20	Rising Park		x
70	Rockmill Park		x

Map ID	Name	Existing Connection	Proposed Connection
36	Shellenberger Park		x
22	Slate Run Park and Historical Farm		x
23	Smeck Historical Farm		x
24	Soccer Complex		x
46	Turnberry Golf Course		x
105	Violet Elementary School Fields		x
37	Wahkeena Nature Preserve		x
118	Willow Pond Park		x
72	Zane Square		x
2	Alt Park		
73	Amanda Clearcreek Jr/Sr High School Fields		
77	Bremen Elementary School Fields		
52	Bremen Park		
4	Buckeye Lake Lakeshore Drive Park		
6	Buckeye Lake South Bank Road Park		
79	Cedar Heights Elementary School Fields		
49	Charles R. Goslin Nature Sanctuary		
81	Clearcreek Elementary School Fields		
60	Clearport Road Park		
10	Coonpath Road Park		
111	Cross Mound Park		
40	Estate Golf Course		
113	Flight of the Hawk Park		
88	Howell Park		
55	Huffer-Durbin Park		
13	Keller-Kirn Park		
42	Lancaster Country Club		
92	Liberty Union Middle School Fields		
93	Liberty Union Thurston Elementary School		
67	Nelson Park		
99	North Elementary School Fields		
14	Oakthorpe Public Fishing Lake		
44	Pleasant Valley Golf Course		
102	Pleasantville Elementary School		
58	Pleasantville Park		
45	Pumpkinvine Golf Course		

Map ID	Name	Existing Connection	Proposed Connection
35	Rockmill Lake Park		
50	Rushcreek Conservation District		
103	Stoutsville Park		
71	Utica Park		
48	Valley View Golf Course		
27	Veterans Park		
117	Wacker Park		
106	William Fisher Catholic High School Fields		

Table 12: Open Space Service Standards

Category	Service Requirements (acres/1000 people)			
	2002 Fairfield Plan	DeChiara	NPRS*	Final
mini	n/a	n/a	0.5	3
neighborhood	3	2.5	2	3
community	7	5	8	10
metropolitan	10	20	10	10

*National Parks and Recreation Association

Table 13: Open Space Acreage Needed by TAZ

TAZ	Mini and Neighborhood Open Space Needed To Serve:		Community Open Space Needed To Serve:		Metropolitan Open Space Needed
	Urban Population	Non Urban Population	Urban Population	Non Urban Population	
1	0.00	5.51	0.00	0.00	0.00
2	1.98	1.48	1.98	1.55	0.00
3	0.00	0.02	0.49	0.19	0.00
4	0.32	0.03	1.20	1.30	0.00
5	0.86	2.01	0.86	0.94	0.00
6	1.54	6.02	1.54	2.54	4.56
7	0.00	1.22	0.00	0.81	4.56
8	0.00	2.12	0.00	1.12	0.00
9	0.00	3.26	0.00	2.51	0.00
10	0.00	0.15	0.00	0.03	4.56
11	3.59	0.73	2.13	0.00	0.00
12	0.00	0.11	0.00	0.00	0.00
13	0.03	0.10	0.04	0.00	0.00
14	0.00	0.00	0.36	0.00	0.00
15	0.00	0.04	0.00	0.00	0.00
16	0.00	0.36	0.00	0.36	4.56
17	0.00	0.00	0.00	0.01	0.00
18	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.02	4.56
20	0.00	0.00	0.00	0.00	4.56
21	0.00	0.36	0.00	0.04	4.56
22	0.00	0.67	0.01	0.42	4.56
23	0.03	1.64	3.37	0.43	4.56
24	0.00	0.11	0.00	0.08	0.00
25	0.00	0.03	0.00	0.00	0.00
26	0.00	0.00	0.01	0.00	0.00
27	0.00	0.03	0.00	0.04	0.00
28	0.00	0.00	0.00	0.00	0.00
29	0.00	0.28	0.00	0.31	0.00
30	0.00	0.03	0.00	0.02	4.56
31	0.00	0.00	0.00	0.00	4.56
32	0.00	0.00	0.00	0.00	4.56
33	0.04	0.00	0.04	0.00	4.56

TAZ	Mini and Neighborhood Open Space Needed To Serve:		Community Open Space Needed To Serve:		Metropolitan Open Space Needed
	Urban Population	Non Urban Population	Urban Population	Non Urban Population	
34	0.00	0.15	0.00	0.00	4.56
35	0.00	0.13	0.00	0.00	4.56
36	0.00	0.42	0.09	0.00	4.56
37	0.01	0.18	0.01	0.14	4.56
38	2.08	0.00	2.67	0.01	4.56
39	0.00	0.33	0.00	0.33	0.00
40	0.00	0.75	0.00	0.75	0.00
41	0.00	1.00	0.00	0.83	0.00
42	0.00	1.27	0.00	1.27	0.00
43	0.00	1.19	0.00	1.25	0.00
44	0.59	1.87	0.59	1.95	0.00
45	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	4.56
47	0.00	0.05	0.00	0.00	4.56
48	2.11	0.00	0.01	0.00	4.56
49	0.00	0.00	0.00	0.00	4.56
50	0.00	0.00	0.00	0.00	4.56
51	0.00	0.00	0.00	0.00	4.56
52	0.00	0.00	0.01	0.00	4.56
53	1.50	0.00	1.50	0.02	4.56
54	0.05	0.11	0.05	0.14	4.56
55	0.19	1.47	0.19	0.84	0.00
56	0.01	0.67	0.01	0.00	0.00
57	3.39	0.06	2.95	0.02	4.56
58	0.08	0.00	0.14	0.00	4.56
59	0.00	0.00	0.00	0.00	4.56
60	0.00	0.00	0.00	0.00	4.56
61	0.00	0.00	0.00	0.00	4.56
62	0.00	0.00	1.21	0.00	4.56
63	0.00	0.00	0.02	0.00	0.00
64	0.25	1.68	0.01	0.00	4.56
65	1.37	0.23	0.00	0.00	4.56
66	0.00	0.00	0.00	0.00	4.56

TAZ	Mini and Neighborhood Open Space Needed To Serve:		Community Open Space Needed To Serve:		Metropolitan Open Space Needed
	Urban Population	Non Urban Population	Urban Population	Non Urban Population	
67	0.00	0.00	3.19	0.00	4.56
68	0.00	0.00	0.81	0.00	4.56
69	4.75	0.00	0.00	0.00	4.56
70	0.00	0.00	0.00	0.00	4.56
71	0.00	0.00	0.00	0.00	4.56
72	0.97	0.00	0.00	0.00	4.56
73	1.55	0.00	5.42	0.00	4.56
74	0.00	0.00	0.00	0.00	4.56
75	0.00	0.00	0.00	0.00	4.56
76	1.03	0.00	0.00	0.00	4.56
77	14.13	0.00	0.00	0.00	4.56
78	0.00	0.00	0.00	0.00	4.56
79	0.00	0.00	0.00	0.00	4.56
80	11.84	0.00	0.00	0.00	4.56
81	0.00	0.00	0.00	0.00	0.00
82	3.91	1.27	3.91	0.14	0.00
83	7.29	2.22	7.36	0.00	0.00
84	0.17	0.64	0.00	0.00	0.00
85	0.07	0.00	0.63	0.00	0.00
86	0.00	0.00	0.00	0.00	0.00
87	0.00	0.00	5.44	0.00	0.00
88	0.38	0.00	13.32	0.00	0.00
89	0.00	1.47	0.10	0.98	0.00
90	0.04	0.00	7.53	0.00	0.00
91	0.00	0.00	8.71	0.00	0.00
92	0.00	0.00	8.77	0.00	0.00
93	0.00	0.00	4.02	0.00	0.00
94	0.39	0.00	2.94	0.00	0.00
95	0.00	2.12	0.03	0.60	0.00
96	0.00	1.83	0.00	1.44	0.00
97	0.00	1.66	0.00	1.95	0.00
98	0.00	0.99	0.00	0.64	0.00
99	0.00	0.04	0.99	0.29	0.00
100	0.00	0.51	0.22	0.26	0.00

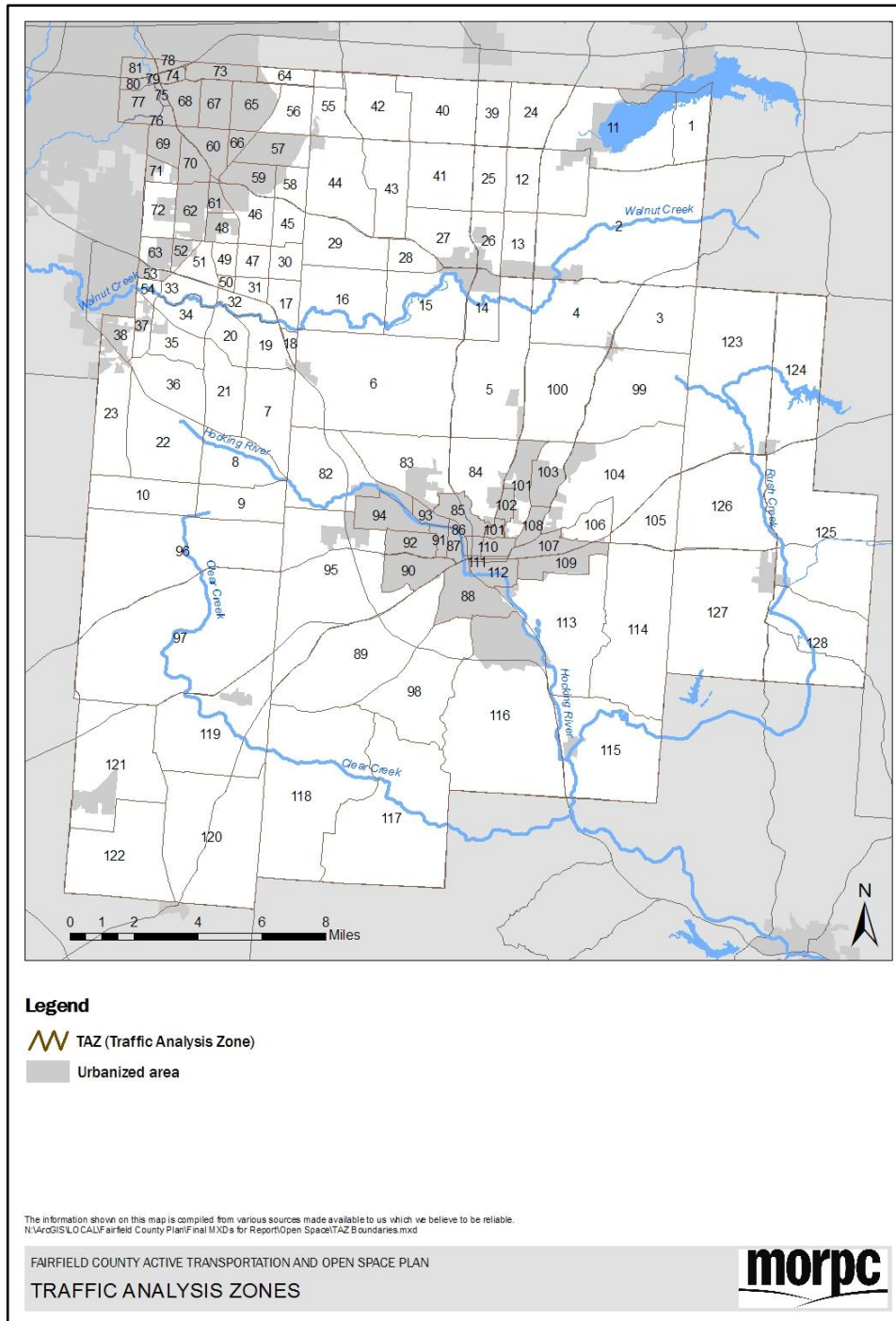
TAZ	Mini and Neighborhood Open Space Needed To Serve:		Community Open Space Needed To Serve:		Metropolitan Open Space Needed
	Urban Population	Non Urban Population	Urban Population	Non Urban Population	
101	2.48	0.00	0.23	0.00	0.00
102	0.00	0.00	0.00	0.00	0.00
103	6.66	0.72	0.12	0.00	0.00
104	1.39	0.90	1.50	0.04	0.00
105	0.00	0.00	0.00	0.00	0.00
106	0.03	0.49	0.00	0.00	0.00
107	0.66	0.00	0.05	0.00	0.00
108	0.00	0.00	0.02	0.00	0.00
109	0.09	0.00	0.00	0.00	0.00
110	0.00	0.00	0.00	0.00	0.00
111	0.00	0.00	0.00	0.00	0.00
112	0.00	0.00	1.17	0.00	0.00
113	0.00	0.59	0.39	1.53	0.00
114	0.00	1.87	0.00	2.19	0.00
115	0.00	0.55	1.34	1.34	0.00
116	0.44	1.42	0.91	2.74	0.00
117	0.00	0.49	0.00	0.02	0.00
118	0.00	0.63	0.00	0.46	0.00
119	0.00	0.48	2.43	1.35	0.00
120	0.00	1.45	0.01	3.14	0.00
121	0.00	0.85	2.06	1.49	0.00
122	0.00	0.20	0.00	2.04	0.00
123	0.90	2.42	0.90	0.06	0.00
124	0.46	0.71	0.46	0.16	0.00
125	0.01	0.86	0.12	1.43	0.00
126	0.00	0.49	0.00	0.40	0.00
127	0.00	1.86	3.96	2.70	0.00
128	0.00	0.47	0.01	0.76	0.00
Totals	79.67	68.07	110.55	48.39	228.00
	147.74		158.94		228.00
	534.68				

Table 14: Approximate Acreage Needed for Areas of Highest Priority

Reference Number	Acres Needed to Serve the:			Open Space Category
	Urban Population	Non-urban Population	Total Population in General Location	
1	2	2	5	mini- and neighborhood
2	2	1	3	mini- and neighborhood
3	2	5	7	mini- and neighborhood
4	1	1	2	mini- and neighborhood
5	1	3	5	mini- and neighborhood
6	13	1	14	mini- and neighborhood
7	1	2	3	mini- and neighborhood
8	0	2	2	mini- and neighborhood
9	6	1	7	community
10	10	1	11	community
11	6	1	7	community
			228	metropolitan

Traffic Analysis Zone Boundaries

Map 40: Traffic Analysis Zone Boundaries



Potential Funding Sources for Bikeways

Federal Highway Administration

National Highway System

The National Highway System (NHS) is composed of 163,000 miles of urban and rural roads serving major population centers, major travel destinations, international border crossings, and intermodal transportation facilities. The Interstate System is part of the National Highway System.

Eligibility – Bicycle and pedestrian facilities within NHS corridors are eligible activities for NHS funds, including projects within interstate rights-of-way.

Matching funds – 80 percent federal, 20 percent state.

Shared-use paths along interstate corridors are eligible for the use of NHS funds, as are bike lane, shoulder and sidewalk improvements on major arterial roads that are part of the NHS, and bicycle and/or pedestrian bridges and tunnels that cross NHS facilities. Examples of paths alongside interstate facilities include I-90 in Seattle, WA; I-70 in Glenwood Canyon, CO; and I-66 in Arlington, VA.

Bicyclists and pedestrians can be expected to use NHS facilities, especially in urban and suburban areas, and thus should be accommodated in the design and operation of these facilities. Opportunities to improve conditions for the non-motorized modes should be taken whenever resurfacing, reconstruction, or expansion projects on NHS routes are undertaken.

Surface Transportation Program

The Surface Transportation Program (STP) provides states with flexible funds which may be used for a wide variety of projects on any federal-aid highway, including the NHS, bridges on any public road, and transit facilities.

Eligibility – Bicycle and pedestrian improvements are eligible activities under the STP. This covers a wide variety of projects such as on-road facilities, off-road trails, sidewalks, crosswalks, bicycle and pedestrian signals, parking, and other ancillary facilities. Federal law also specifically clarifies that the modification of sidewalks to comply with the requirements of the Americans with Disabilities Act is an eligible activity.

As an exception to the general rule described above, STP-funded bicycle and pedestrian facilities may be located on local and collector roads that are not part of the Federal-aid Highway System. In addition, bicycle-related non-construction projects, such as maps, coordinator positions, and encouragement programs, are eligible for STP funds.

NOTE: There are two set-aside programs within the STP, each funded with 10 percent of STP's total funding. The Transportation Enhancement Program and the Safety Setaside are both dealt with in later sections.

Matching funds – 80 percent federal, 20 percent state.

STP funds are eligible to be spent on a wide variety of improvements for bicycling and walking including, but not limited to, on- and off-road facilities, bicycle parking, planning studies, state and local bicycle and pedestrian coordinator positions, spot improvement programs, sidewalks, crosswalks, and traffic-calming projects. As the category of funding with probably the broadest eligibility, the STP should be considered by states and MPOs as a primary source of funds for both independent and incidental bicycle and pedestrian projects, as well as non-construction projects.

Transportation Enhancements

Ten percent of a state's STP apportionment must be set aside to fund activities that enhance the transportation system in ways that traditionally have not been included in the design and construction of the transportation system. Each metropolitan area in Ohio has the opportunity to select the transportation enhancement projects in its region.

Eligibility – The list of 12 eligible activities includes three that relate specifically to bicycle and pedestrian transportation:

- provision of facilities for bicyclists and pedestrians
- provision of safety and educational activities for pedestrians and bicyclists
- preservation of abandoned railroad corridors (including the conversion and use thereof for pedestrian or bicycle trails)

This program is not intended to replace or duplicate existing funding opportunities for bicycle and pedestrian safety training and other educational activities currently available from the National Highway Traffic Safety Administration. Activities such as bicycle safety training for children, pedestrian safety publicity campaigns, and enforcement activities related to bicycle and pedestrian safety are still more appropriately funded under the Section 402 State and Community Traffic Safety Program.

However, project sponsors under the Transportation Enhancement Program are encouraged to integrate safety messages and educational opportunities for bicyclists and pedestrians into enhancement projects through the development of maps, brochures, and other interpretive devices. States may also consider funding stand-alone projects that, through safety messages and educational opportunities enhance the traveling experience of bicyclists and pedestrians. Examples might include route marking, maps and interpretive materials.

As with all bicycle and pedestrian activities under the STP, projects using enhancement funds need not be located on the Federal-aid Highway System and may be non-construction activities. However, enhancement projects should “relate to surface transportation” and have typically been limited by states to construction projects, planning activities, and related publications rather than salaries and administrative costs.

The “relationship to surface transportation” means that a proposed transportation enhancement activity must have a direct relationship to the intermodal transportation system. This does not mean that an enhancement project has to be part of a larger current or planned highway project.

Matching funds – States have the flexibility to allow federal funds to be used for all or any part of a project under the Transportation Enhancement Program provided that the state program as a whole achieves an 80 percent federal/20 percent state funding balance (subject to the sliding scale for states with significant federal land holdings).

States may also, with FHWA approval, allow in-kind contributions such as volunteer labor, land donations and in-kind services to count toward state matching funds, provided that a cash value can be attributed to the donated time, resource, or product.

Despite the popularity of the Transportation Enhancement Program for bicycle and pedestrian projects, states and MPOs are encouraged to consider other, perhaps more appropriate, sources of funding for these activities. The enhancement program is clearly intended to support activities that are not, or have not been, part of the routine design of streets and highways. Many bicycle and pedestrian facilities funded under this program *should* be part of the routine design of streets and highways and would therefore be more appropriately funded as part of STP, NHS or other projects. Enhancement program funds should be reserved for projects that retrofit poorly designed facilities and for projects that go above and beyond traditional highway designs and projects.

Safety Setaside

Ten percent of each state's STP apportionment is set aside for infrastructure safety activities. Funding is channeled into two programs: the Hazard Elimination Program (HEP) and the Railway-Highway Crossing Program.

Eligibility – Under the HEP, states must “conduct and systematically maintain an engineering survey of all public roads to identify hazardous locations...which may constitute a danger to motorists, bicyclists, and pedestrians,” and implement a prioritized program of improvements to those hazardous locations. Funds may be used for improvements on any public highway, public transportation facility, and any public bicycle or pedestrian pathway or trail. Traffic-calming projects are also specifically mentioned as eligible activities.

Under the Railway-Highway Crossing program, states must now consider bicycle safety in carrying out projects.

Matching funds – The federal share for HEP projects is 90 percent.

The federal share for Railway-Highway Crossing Program projects is 90 percent, except that the federal share may be 100 percent for signing, pavement markings, active warning devices, and crossing closures.

Congestion Mitigation and Air Quality Improvement Program

The Congestion Mitigation and Air Quality Improvement (CM/AQ) Program was created to assist areas designated as nonattainment or maintenance under the Clean Air Act Amendments of 1990 to achieve and maintain healthful levels of air quality by funding transportation projects and programs.

Eligibility – Projects funded under the CM/AQ program must be located in areas that were designated as a non-attainment area - Section 107(d) of the Clean Air Act and classified pursuant to Sections 181(a), 186(a), or 188(a) or (b) of the Clean Air Act.

Projects must be likely to contribute to the attainment of national ambient air quality standards (or the maintenance of such standards where this status has been reached) based on an emissions analysis. Eligible activities include:

- a) Transportation Control Measures published pursuant to Section 108(f) of the Clean Air Act, which includes “limiting portions of the road surface or sections of a metropolitan area to the use of non-motorized vehicles,” “employer participation in programs to encourage bicycling,” and “programs for secure bicycle storage facilities and other facilities, including bicycle lanes, for the convenience and protection of bicyclists in both public and private places.”
- b) projects in an approved State Implementation Plan and which will have air quality benefits.
- c) a determination by the Secretary of Transportation, in consultation with the EPA Administrator, that the project or program is likely to contribute to the attainment of a national ambient air quality standard, whether through reductions in vehicle miles traveled, fuel consumption, or through other factors.
- d) a determination that a traffic monitoring, management, and control facility or program is likely to contribute to the attainment of a national ambient air quality standard.
- e) FHWA’s 1996 Guidance on the CM/AQ program, which identifies:
 - construction of bicycle and pedestrian facilities
 - non-construction projects related to safe bicycle use, and
 - establishment and funding of state bicycle/pedestrian coordinator positions for promoting and facilitating the increased use of non-motorized modes of transportation. This includes public education, promotional, and safety programs for using such facilities.
- f) The 1996 guidance also identifies a variety of “Newly Eligible Activities” for the CM/AQ program including outreach activities (with no limit on the number of years for which support may be given), fare and fee subsidy programs and innovative financing mechanisms. Each of these may have direct application to potential bicycle- and pedestrian-related activities.

Federal law allows states to allocate CM/AQ funds to private and non-profit entities, under public-private partnership agreements with public agencies, for land, facilities, vehicles, and other expenses.

Matching funds – The federal share for most eligible activities and projects is 80 percent; or 90 percent if used on certain activities on the Interstate System; or up to 100 percent for certain identified activities such as traffic control signalization and carpooling projects.

The CM/AQ program has funded numerous bicycle and pedestrian improvements including bikeway networks in cities such as Philadelphia, Houston, and New York City, pedestrian and bicycle spot improvement programs, bicycle parking, bicycle racks on buses, police bicycle patrols, sidewalks, trails, and promotional

programs such as bike-to-work events. CM/AQ funds have also been used to fund bicycle and pedestrian coordinator positions at the state and local level.

Recreational Trails Program

The Recreational Trails Program provides funds to states to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. Each state administers its own program – usually through a state resource or park agency – and develops its own application and project selection process. Each state has a Recreational Trail Advisory Committee to assist with the program.

Eligibility – Recreational Trails Program (RTP) funds may be used for:

- maintenance and restoration of existing trails
- development and rehabilitation of trailside and trailhead facilities and trail linkages
- purchase and lease of trail construction and maintenance equipment
- construction of new trails (with restrictions for new trails on federal lands)
- acquisition of easements or property for trails
- state administrative costs related to the program (up to 7 percent of a state's funds)
- operation of educational programs to promote safety and environmental protection related to trails (up to 5 percent of a state's funds)

States must use 30 percent of their funds for motorized trail uses, 30 percent for non-motorized trail uses and 40 percent for diverse trail uses. The RTP is intended to fund recreational trails and may not be used to improve roads for general passenger vehicle use or to provide shoulders or sidewalks along roads.

Matching funds – In general, the maximum federal share for each project is 80 percent; however:

- A federal agency project sponsor may provide additional federal funds provided the total federal share does not exceed 95 percent.
- The non-federal match may include funds from other appropriate federal programs.
- Individual projects may exceed the 80 percent federal match provided the program overall in the state achieves an 80/20 ratio.
- In-kind contributions (funds, services, materials, or new right-of-way from any project sponsor) may be credited towards the project match.
- Although project payment normally takes place on a reimbursement basis, working capital advances may be permitted on a case-by-case basis.

Project sponsors – States may make grants to private organizations or to any government entity.

National Scenic Byways Program

The National Scenic Byways Program recognizes roads having outstanding scenic, historic, cultural, natural, recreational and archaeological qualities by designating them as National Scenic Byways or All-American Roads.

Eligibility – Funds may be spent on a variety of activities including “construction along a scenic byway of a facility for pedestrians and bicyclists, rest area, turnout, highway shoulder improvement, passing lane, overlook, or interpretive facility.” Projects must be either associated with a National Scenic Byway, All-American Road or a State Scenic Byway.

Matching funds – The maximum federal share is 80 percent.

Bicyclists and pedestrians are likely to be drawn to and use roads designated as Scenic Byways because the very qualities (natural, scenic, cultural, historic, recreational and archaeological) that support their designation are appealing to non-motorized travelers. Improvements for bicyclists and pedestrians might include the provision of paved shoulders, striped bike lanes, bicycle and pedestrian information signing, parallel shared-use paths, crosswalks and sidewalks, rest stops, and bicycle parking – provided that such facilities do not destroy the qualities inherent in the Scenic Byway and are consistent with the Corridor Management Plan required for such routes.

Minimum Guarantee

TEA-21 guarantees that each state receives at least a 90.5 percent return on its contributions to the Highway Account of the Highway Trust Fund in each of the major funding categories including IM, NHS, Bridge, STP, CM/AQ, and Recreational Trails. Therefore, each state receives a Minimum Guarantee apportionment in addition to funds for these other programs. As an example, the amounts for FY 1999 vary from approximately \$483,000 for the District of Columbia to more than \$260 million for Texas.

Eligibility – Approximately half of the funds received by a state are administered as STP funds, except that the funds are not subject to the 10 percent set-asides for Safety and Enhancement programs. The remaining funds are divided among the IM, NHS, Bridge, CM/AQ, and STP programs based on the share each state received for each program.

Matching funds – Matching requirements are the same as for the programs into which the funds are placed.

Bicycle and pedestrian projects have the same eligibility for these funds as they do for the programs into which the funds are placed.

National Highway Traffic Safety Highway Administration

State and Community Highway Safety Grant Program (Section 402)

The State and Community Highway Safety Grant Program supports state highway safety programs designed to reduce traffic crashes and resulting deaths, injuries, and property damage.

Eligibility – States are eligible for these funds (known as “Section 402 funds”) by submitting a Performance Plan, with goals and performance measures, and a Highway Safety Plan describing actions to achieve the Performance Plan. Grant funds are provided to states, the Indian Nations and territories each year according to a statutory formula based on population and road mileage.

Funds may be used for a wide variety of highway safety activities and programs including those that improve pedestrian and bicycle safety. States are to consider highly effective programs (previously known as National Priority Program Areas), including bicycle and pedestrian safety, when developing their programs, but are not limited to this list of activities.

Matching funds – The maximum federal share is 80 percent.

States have flexibility in determining the kinds of activities on which they may spend these funds. However, states are encouraged to consider bicycle and pedestrian safety initiatives, as these are areas of national concern where effective countermeasures have been identified.

States have funded a wide variety of enforcement and educational activities with Section 402 funds including safety brochures; “Share the Road” materials; bicycle training courses for children, adults, and police departments; training courses for traffic engineers; helmet promotions; and safety-related events.

Federal Transit Administration

Urbanized Area Formula Grants (transit)

The Urbanized Area Formula Grants program provides transit capital and operating assistance to urbanized areas with populations of more than 50,000.

Eligibility – Capital projects are defined as including “pedestrian and bicycle access to a mass transportation facility.”

Matching funds – Federal share is typically 80 percent. However, bicycle projects may be funded at up to a 90 percent federal share.

Urban areas with population between 50,000 and 200,000 may use their allocation of Urbanized Area Formula Grants for capital or operating costs. Urban areas with more than 200,000 may not spend these funds on operating costs but can cover the costs of preventive maintenance as well as other capital costs. These funds may be spent to provide stand-alone bicycle and pedestrian improvements such as bicycle parking and pedestrian access to transit stations, and on larger projects that include bicycle and pedestrian elements, such as the purchase of new buses with bicycle racks.

At least one percent of Urbanized Area Formula funds appropriated to areas with population more than 200,000 must be used for transit enhancement activities, as described below.

Transit Enhancements

One percent of the Urbanized Area Formula Grants apportioned to urban areas with population of at least 200,000 are set aside for a new category of transit enhancements. This program is distinct from the Transportation Enhancement Program.

Eligibility – The list of nine eligible activities under the Transit Enhancement Program includes:

- pedestrian access and walkways
- bicycle access, including bicycle storage facilities and installing equipment for transporting bicycles on mass transportation vehicles

Matching funds – Federal share for bicycle-related transit enhancements is 95 percent. Federal share for all other transit enhancements is 80 percent.

MPOs, in collaboration with transit operators, have the responsibility to determine how the funds in this new category will be allocated to transit projects, and to ensure that one percent of the urbanized area's apportionment (as opposed to one percent of each transit agency's funds) is expended on projects and project elements that qualify as enhancements. The one percent figure is not a maximum or cap on the amount of funding that can be spent on enhancement activities, except for those activities (in particular operating costs for historic facilities) that are only eligible as enhancement activities.

Recipients of transit enhancement funding must submit a report to the relevant FTA regional office listing the projects or elements of projects carried out during the previous fiscal year, together with the amount expended.

Formula Program for Other than Urbanized Areas

The Formula Program for Other than Urbanized Areas provides transit capital and operating assistance to urbanized areas with populations of less than 50,000.

Eligibility – Capital projects are defined as including “pedestrian and bicycle access to a mass transportation facility.”

Matching funds – Federal share is typically 80 percent. However, bicycle projects may be funded at up to a 90 percent federal share.

The FTA encourages states to use these funds to expand the coverage of transit service into rural and small urban areas currently unserved, and to improve levels of service in those areas with minimal service. These funds may be spent to provide stand-alone bicycle and pedestrian improvements such as bicycle racks on buses and pedestrian access to transit stations, and on larger projects that include bicycle and pedestrian elements, such as the purchase of new buses with bicycle racks.

Capital Program Grants and Loans

The renamed Capital Investment Grants and Loans Program (formerly Discretionary Grants) provides transit capital assistance for new fixed-guideway systems and extensions to existing fixed guideway systems (New Starts), fixed guideway modernization, and bus and bus-related facilities.

Eligibility – Capital projects are defined as including “pedestrian and bicycle access to a mass transportation facility.”

Matching funds – Federal share is typically 80 percent. However, bicycle projects may be funded at up to a 90 percent federal share.

Transit agencies are encouraged to include facilities and access for bicycles and pedestrians in the design of new transit systems. The purchase of new buses can specify the attachment of bicycle racks, new rolling stock can be ordered to accommodate bicycles on board, and passenger facilities can be designed to include safe pedestrian access, secure bicycle parking, and convenient access.

Miscellaneous Other Sources

Transportation and Community and System Preservation (TCSP) Pilot Program

The TCSP is a competitive grant program designed to support exemplary or innovative projects that show how transportation projects and plans, community development, and preservation activities can be integrated to create communities with a higher quality of life. The annual grant program is administered by the FHWA, in partnership with the FTA and Environmental Protection Agency, and may be used to fund state, MPO, or local government agencies. Bicycling, walking, and traffic-calming projects are eligible activities and may well feature as an integral part of many proposed projects that address larger land use and transportation issues.

Safe Routes to School

The SRTS Program is funded at \$612 million and provides Federal-aid highway funds to state departments of transportation over five Federal fiscal years (FY 2005 - FY 2009), in accordance with a formula specified in the legislation. FHWA will apportion SRTS funding annually to each State, in conjunction with regular Federal-aid highway apportionments. In Ohio, the SRTS program is managed by the Ohio Department of Transportation which can provide funding applications and guidelines.

Clean Ohio Program

The Clean Ohio **Trails Fund** works to improve outdoor recreational opportunities for Ohioans by funding trails for outdoor pursuits of all kinds. Special emphasis was given to projects that:

- Are consistent with the statewide trail plan;
- Complete regional trail systems and links to the statewide trail plan;
- Link population centers with outdoor recreation area and facilities;
- Involve the purchase of rail lines linked to the statewide trail plan;
- Preserve natural corridors;

-
- Provide links in urban areas to support commuter access and provide economic benefit.

Local governments, park and joint recreation districts, conservancy districts, soil and water conservation districts, and non-profit organizations are eligible to receive grants for conservation projects from the Clean Ohio Fund. Applicants must provide a 25 percent local match, which can include contributions of land, labor, or materials.

Capital Improvement Program

These are the predominant sources of local funds. Local communities can set aside line items in the capital improvement budget for the construction of bicycle facilities.

Developer Dedications

- Developer dedications require the developer to construct bicycling facilities as a condition for enabling a project to proceed.
- The Specific Plan process is a comprehensive land and infrastructure plan for areas usually 500 – 1500 acres in size. As part of the Specific Plan process, a Development Agreement (DA) is negotiated with the landowners. For most recent specific plans, the DA has included fees payable upon the issuance of each residential building permit for new trail construction. The fees are used either to: reimburse land developers for their costs of building the trails, or to fund the City's construction of the trails. This system works fairly well when fees are estimated correctly up front. Where they have not been estimated correctly, the result is either DA amendments or a shortfall that the City or developer has to make up.

Relevant Federal and State Transportation Law

Federal Transportation Law – SAFETEA-LU

In August 2005, the Safe Accountable, Flexible, Efficient Transportation Equity Act, a Legacy for Users (SAFETEA-LU) was signed. Under SAFETEA-LU, federal funding for bicycle and pedestrian facilities and programs has exceeded \$400 million per year. New funding streams established by the legislation include the Safe Routes to Schools programs, the Model Communities program, and renewed support for the Transportation Enhancement Program. This legislation will expire in 2009 and will likely be replaced with a newly revised law as SAFETEA-LU itself was a revision of prior transportation laws.

The SAFETEA-LU legislation has several provisions that improve conditions for bicycling and walking while increasing safety. These include policies to increase non-motorized transportation to at least 15 percent of all trips, and to reduce the number of non-motorized users killed or injured in traffic crashes by at least 10 percent. Legislation emphasizes that state and local agencies collaborate to provide a choice of transportation modes.

The United States Department of Transportation states that “there must be exceptional circumstances for denying bicycle and pedestrian access either by prohibition or by designing highways that are incompatible with safe, convenient walking and bicycling. Where circumstances are exceptional and bicycle use and walking are either prohibited or made incompatible, States, Metropolitan Planning Organizations, and local governments must still ensure that bicycle and pedestrian access along the corridor served by the facility is not made more difficult or impossible.”

A summary of SAFETEA-LU's provisions for bicyclists and pedestrians is provided below.

The long range metropolitan and Statewide transportation plans, and the Metropolitan and Statewide Transportation Improvement Programs shall “provide for the development and integrated management and operation of transportation facilities including accessible pedestrian walkways and bicycle transportation facilities) that will function as an intermodal transportation system..(23 U.S.C. 134(c)(2) and 135 (a)(2)).

The process in developing the long range Statewide and metropolitan transportation plans and transportation improvement plans is to consider”...all modes of transportation...” (23 U.S.C.134(c)(3) and 135(a)(3))

The long-range metropolitan and Statewide transportation plans are to “provide for the development and implementation of the intermodal transportation system” (23U.S.C. 134(i)(2) and 135(f)(1))

SAFETEA-LU added “representatives of users of pedestrian walkways and bicycle transportation facilities” to the list of “interest parties” with whom metropolitan areas and States must include in the development of the long range metropolitan and Statewide transportation plan (23.U.S.C 134 (i)(5) and 135 (f)(3)(A))

Bicyclists and pedestrian shall be given due consideration in the comprehensive transportation plans developed by each metropolitan planning organization and State...” (23 U.S.C. 217 (g)(1))

Bicycle transportation facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction and transportation facilities, except where bicycle and pedestrian use are not permitted.” (23 U.S.C. 217 (g)(2))

Transportation plans and projects shall provide due consideration for safety and contiguous routes for bicyclists and pedestrians.” (23 U.S.C. 217(g)(2))

In any case where a highway bridge deck is being replaced or rehabilitated with Federal financial participation, and bicyclists are permitted on facilities at or near each end of such bridge, and the safe accommodation of bicyclists can be provide at reasonable cost as part of such replacement or rehabilitation, then such bridge shall be so replaced or rehabilitated as to provide such safe accommodations.” (23 U.S.C. 217(e))

The Secretary shall not approve any project or take any regulatory action under this title that will result in the severance of an existing major route or have significant adverse impact on the safety for non-motorized transportation traffic and light motorcycles, unless such project or regulatory action provides for a reasonable alternate route or such a route exists.” (23 U.S.C. 109(m))

Ohio Law

HB 389, a “Bill for Better Bicycling in Ohio” was signed into law in 2006. The Ohio Bicycle Federation provides the following summary of the law:

The Better Bicycling in Ohio bill, known as House Bill 398, makes Ohio laws regarding cycling conform more closely aligned with the Uniform Vehicle Code (UVC). The new laws will:

- Substitute “far enough to the right to allow passing by faster vehicles if such passing is safe and reasonable” for “as close as practicable to the right-hand curb” in the “slow-moving vehicle” section of the Ohio Revised Code.
- No longer require front and rear wheel reflectors if a red light is used in the rear.
- Permit generator-powered lights.
- Permit either flashing or steady rear light.
- No longer require a bell or horn.
- The Ohio Bicycle Federation also provides a summary of Ohio legislation related to bicycling:

4501.01 Definitions

As used in this chapter and Chapters 4503, 4505, 4509, 4511, 4513, 4515, and 4517 of the Revised Code, and in the penal laws, except as otherwise provided:

(A) “Vehicle” means every device, including a motorized bicycle, in, upon, or by which any person or property may be transported or drawn upon a highway, except that “vehicle” does not include any motorized wheel, any electric personal assistive mobility device, any device that is moved by power collected from overhead electric trolley wires or that is used exclusively upon stationary rails or trans, or any device, other than a bicycle, that is moved by human power.

4511.07 Local traffic regulations

(A) Sections 4511.01 to 4511.78, 4511.99, and 4513.01 to 4513.37 of the Revised Code do not prevent local authorities from carrying out the following activities with respect to streets and highways under their jurisdiction and within the reasonable exercise of the police power:...

(8) Regulating the operation of bicycles: provided that no such regulation shall be fundamentally inconsistent with the uniform rules of the road prescribed by this chapter and that no such regulation shall prohibit the use of bicycles on any public street or highway except as provided in section 4511.051 of the Revised Code;

(9) Requiring the registration and licensing of bicycles, including the requirement of a registration fee for residents of the local authority;

(B) No ordinance or regulation enacted under division (A)(4)(5), (6)(7)(8) OR (10) of this section shall be effective until signs giving notice of the local traffic regulations are posted upon or at the entrance to the highway or part of the highway affected, as may be most appropriate;

Outreach and Engagement Activities

Communication Plan

Involving the public early and often is critical to helping communities understand transportation projects so it can, in turn, provide meaningful input to help shape projects. As outlined in the Communications Plan, the Fairfield County Regional Planning Commission made an early commitment to include stakeholders and respond to them and the public

throughout the process. The Communications Plan for the Fairfield County Active Transportation and Open Space Plan was drafted and initiated in May 2008.

The goal of the Communication Plan was to produce a plan of activities that was:

- Comprehensive
- High-performance oriented
- Inclusive of the wide variety of public sectors/stakeholders
- Communicating factual information about the Fairfield County Plan providing consistent layers of communication and various opportunities to participate

Objectives that illustrated these qualities include:

1. Ongoing coordination, collaboration and communication with the Fairfield County Regional Planning Commission staff.
2. Generating participation, interest and support possible from all and within budget.
3. Forming the Technical Advisory Group (TAG) consisting of members from the Fairfield County Regional Planning Commission, Fairfield County Economic Development, Fairfield County Historical Parks, Fairfield County Engineer, Parks and Recreation, Fairfield County Health Department, Fairfield County Soil & Water Conservation District, Violet Township, Safe Routes to School, Rails to Trails, Franklin County Metro Parks and Fairfield County Utilities.
4. Forming the Stakeholders Advisory Group (SAG) consisting of members from the City of Lancaster, Fairfield County Chamber of Commerce, Fairfield County Township Trustee Association, Fairfield County Farm Bureau, ODOT, Bloom Township, Consider Biking, Heritage Trail Association, Mayors of all cities and villages in Fairfield County and residents.
5. Identifying key opinion leaders for one-on-one communication that will minimize public's/stakeholders' discord and promote awareness.
6. Conducting preliminary outreach in the study area to assess the level of knowledge, interest and areas of concern to area residents regarding the study.
7. Producing a factual awareness about the study area and its components among public sectors/stakeholders.
8. Providing a variety of mechanisms for continuous input and feedback; e.g., the Internet and public meetings.
9. Preparing presentations, conducting meetings and distributing material to advise the general public of the plan.
9. Designing supportive printed materials for education and promotion of the Fairfield County Plan recommendations.
10. Identifying unanticipated opportunities.

In order to meet the goals and objectives, an open, proactive public involvement process was designed to solicit input from the community at large, stakeholder groups and others who may be affected by and benefit from the plan. The plan included:

Technical Advisory Group

A Technical Advisory Group (TAG) consisted of representatives from the following:

- | | |
|---|---|
| ► Fairfield County Regional Planning Commission | ► Fairfield County Soil & Water Conservation District |
| ► Fairfield County Economic Development | ► Fairfield County Utilities |
| ► Fairfield County Historical Parks | ► Lancaster Parks and Recreation |
| ► Fairfield County Engineer | ► Violet Township |
| ► Fairfield County GIS | ► Pickerington Safe Routes to School |
| ► Fairfield County Health Department | |

-
- | | |
|-------------------------------------|-----------------------------------|
| ► Pickerington Parks and Recreation | ► City of Pickerington |
| ► Rails-to-Trails Conservancy | ► Lancaster Public Transit System |
| ► Franklin County Metro Parks | ► Fairfield County Commissioners |

The TAG's role was to provide guidance to the project team on community priorities and issues of concern, as well as the shape the plan's direction as it progressed. The TAG was also to serve as a liaison with their own communities, communicating study progress and seeking input from their officials and agency leadership as needed. Five meetings were held with the TAG. The TAG met after each milestone was accomplished. Milestones included, but were not limited to the completion of the policies, goals and objectives, preliminary draft conceptual alternatives and study recommendations.

TAG Meeting Topics

May 28, 2008	Purpose of the Plan, Expected Outcome, Communications Plan & Schedule, Data Collection
June 18, 2008	Vision & Opportunities, Facility Definitions, and Existing Themes
September 30, 2008	Reviewed and discussed the goals, objectives and policies that have been developed from previous meetings, Next Steps
October 14, 2008	Policies, Goals, and Objectives, Existing Features, Purpose of Connections
November 6, 2008	Policies, Goals, and Objectives, Existing features, Purpose of Connections

Stakeholder Advisory Group

A community-based Stakeholders Advisory Group (SAG) consisted of representatives from the following:

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| ► Residents | ► West Rushville |
| ► Developers | ► Rushville |
| ► Lancaster/Fairfield County Chamber of Commerce | ► Bremen |
| ► Baltimore Chamber of Commerce | ► Amanda |
| ► Bremen Chamber of Commerce | ► Sugar Grove |
| ► Pickerington Area Chamber of Commerce | ► Canal Winchester |
| ► Lancaster | ► Stoutsville |
| ► Baltimore | ► Safe Routes to School |
| ► Millersport | ► ODOT District 5 |
| ► Buckeye Lake | ► Consider Biking |
| ► Thurston | ► Fairfield Heritage Trail Association |
| ► Lithopolis | ► Fairfield County Farm Bureau |
| ► Carroll | ► Ohio Farm Bureau |
| ► Pleasantville | ► Fairfield County Township Trustee Association |
| | ► Bloom Township |

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- | | |
|-----------------------|---|
| ► Violet Township | ► Rushcreek Township |
| ► Greenfield Township | ► Clearcreek Township |
| ► Liberty Township | ► Madison Township |
| ► Walnut Township | ► Pickerington Police Department |
| ► Pleasant Township | ► Community Services Bureau |
| ► Richland Township | ► Buckeye State Marina Council of Millersport |
| ► Amanda Township | ► Baltimore Community Improvement Corp. |
| ► Hocking Township | ► Lancaster Police Department |
| ► Berne Township | |

The SAG's role was to advise the study team on local concerns, opportunities and community priorities and issues. Two meetings were held with the SAG to review completed milestones. Milestones included, but were not limited to the completion of the policies, goals and objectives, preliminary draft conceptual alternatives and study recommendations.

SAG Meeting Topics

June 26, 2008	Plan Purpose, Expected Outcome, Communications Plan & Schedule, Data Collection
November 11, 2008	Policies, Goals, and Objectives, Conceptual Transportation Corridors, Open Space/Greenways

Three joint meetings were held with the TAG and the SAG:

February 11, 2009	Needs Analysis, Alternatives Analysis
March 3, 2009	Alternatives for Bikeways and Open Space, Review Alternatives & Draft Recommendations
May 13, 2009	Presentation of the Draft Final Fairfield County Active Transportation and Open Space Plan

Additional Outreach Activities

A public open house was held April 23, 2009 on the proposed recommendations. Data, maps, graphics and other printed material were displayed and distributed.

One-on-one meetings were held with the Fairfield County Regional Planning Commission members and the Pickerington Chamber of Commerce to explain the purpose and need for the plan, identify needs in the planning area and to seek assistance on proposed outcomes and recommendations. Tours were conducted with 7 of the 13 of the area with the following townships: Berne, Hocking, Liberty, Rushcreek, Violet, Walnut, and Bloom.

Printed materials displayed Fairfield County's and the Fairfield County Regional Planning Commission's logo and name. Information on the plan, meetings, and web address were developed by the project team and distributed at meetings and to businesses, libraries, recreation centers and other public places in the planning area.

A dedicated project website was created for the plan. The site provided, among other information, maps, graphics, updates, meeting notices, contact information, meeting summaries and e-mail link. The website was linked from the Fairfield County Regional Planning Commission and MORPC's website.

Press releases and news articles announcing public meetings were drafted and forwarded to Fairfield County Regional Planning Commission for final review and distribution to the media.