
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 (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

¹⁹ www.epa.state.oh.us

²⁰ Information from U.S. Army Corps of Engineers

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 , $k = 1, \dots, N_U$.

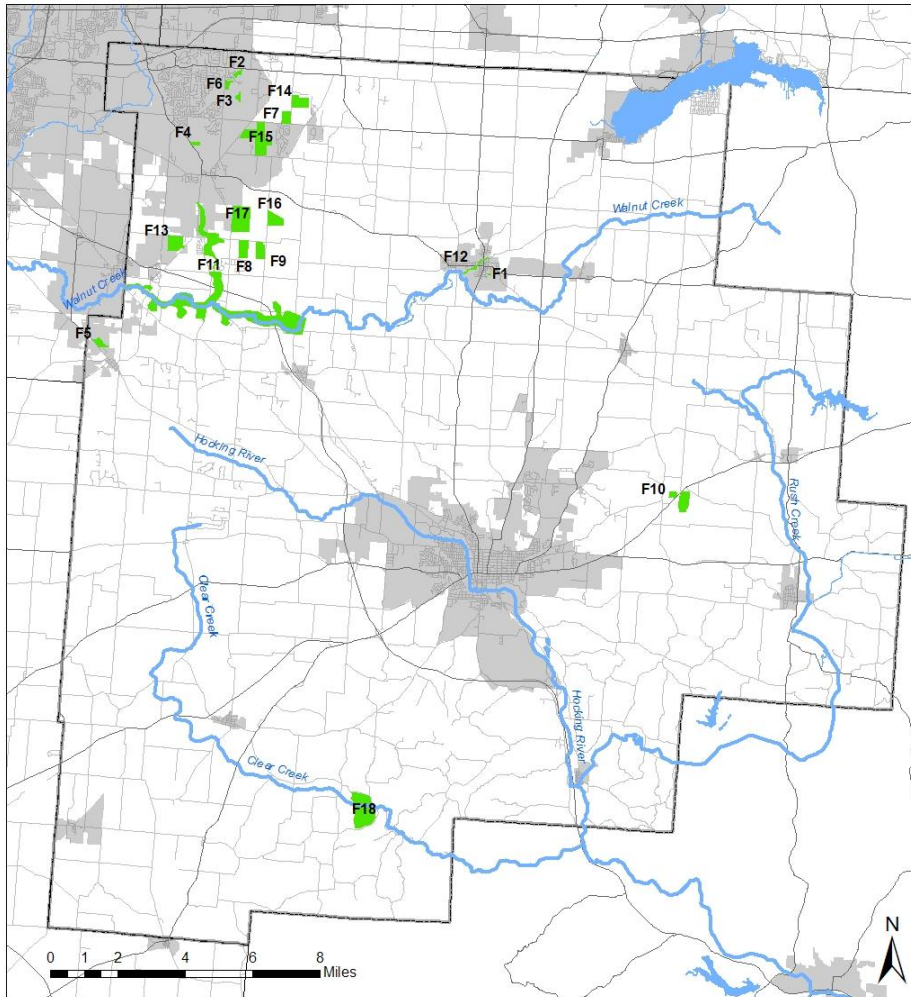
Step 15: Determine the metropolitan parks which cover “generalized” area k , $k = 1, \dots, N_U$. Calculate the total acreages of these metropolitan parks A_k .

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

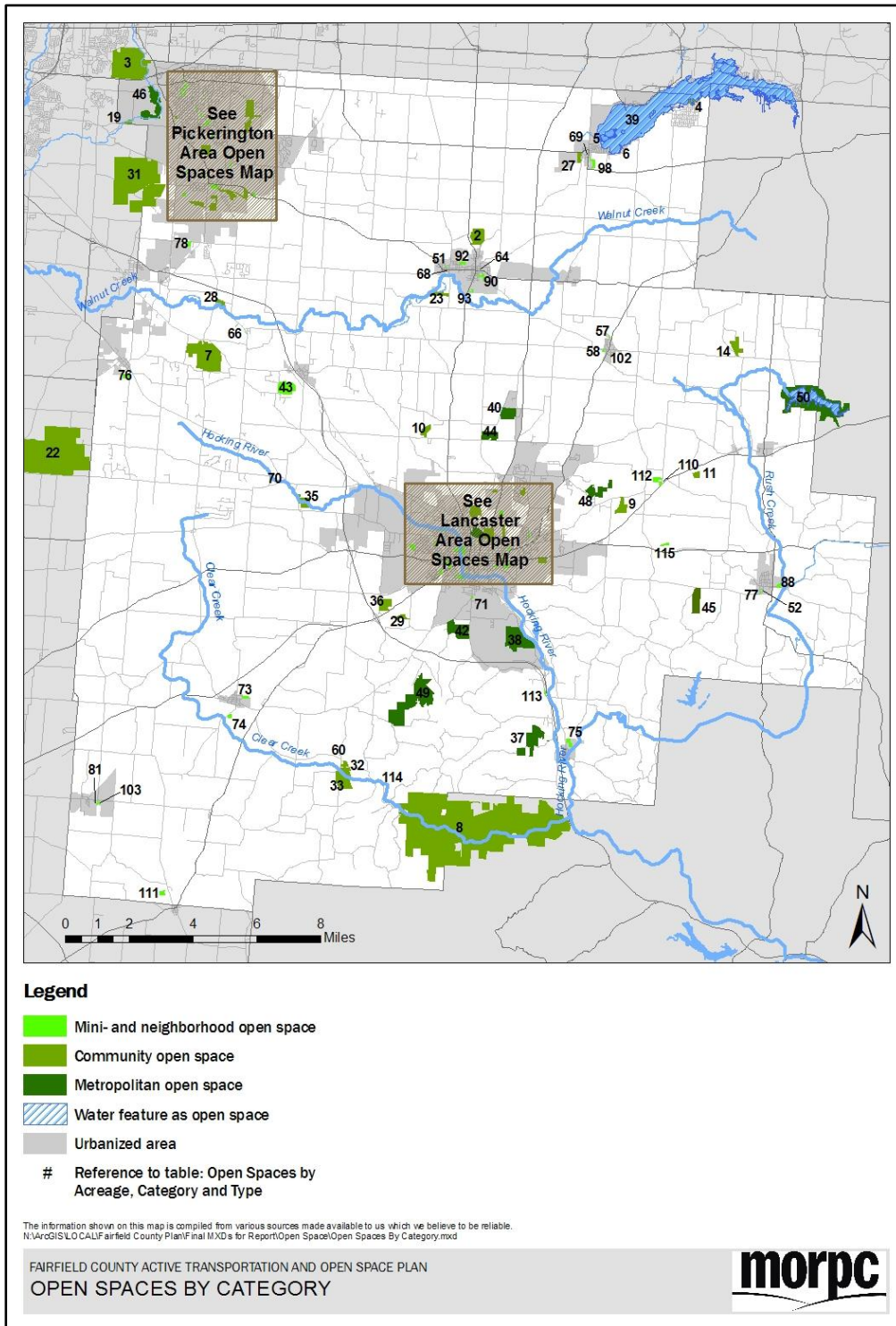
FAIRFIELD COUNTY ACTIVE TRANSPORTATION AND OPEN SPACE PLAN
OPEN SPACES THAT ARE PROPOSED OR UNDER CONSTRUCTION



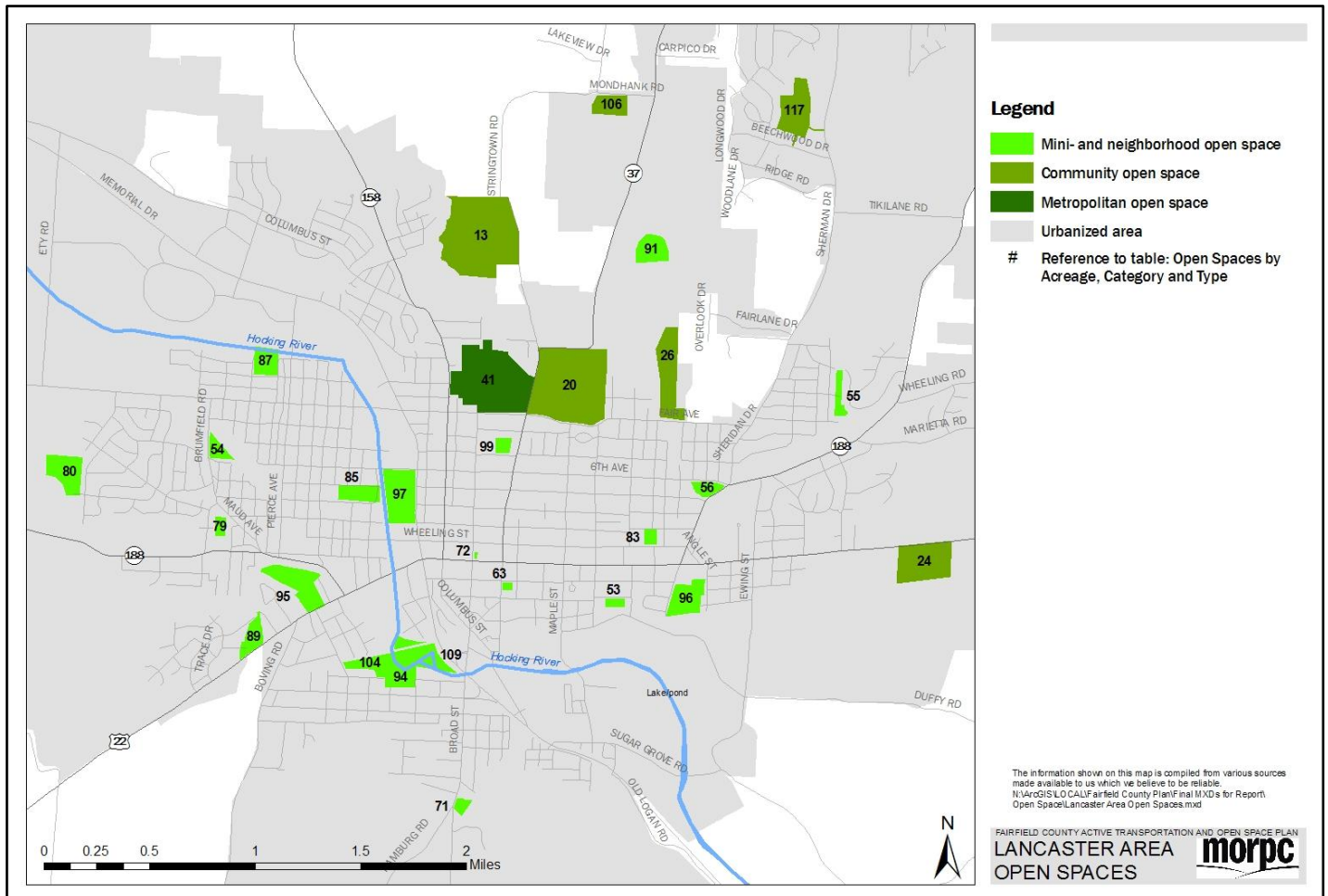
Table 8: Open Spaces Proposed and Under Construction

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

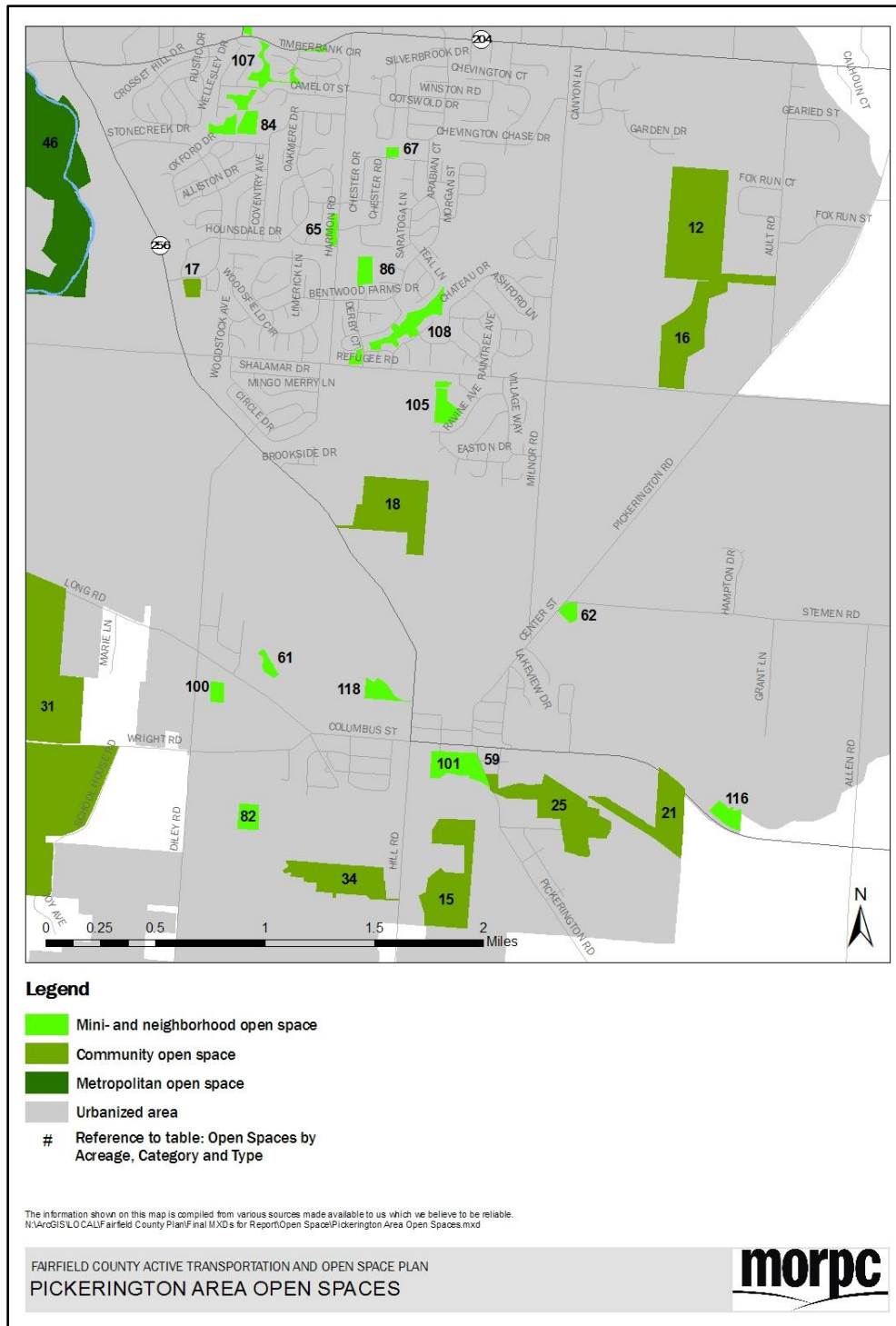


Table 9: Open Space by Acreage, Category and Type

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-Durdin 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

► Fairfield County Active Transportation & Open Space Plan

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	Busey 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-Durdin 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

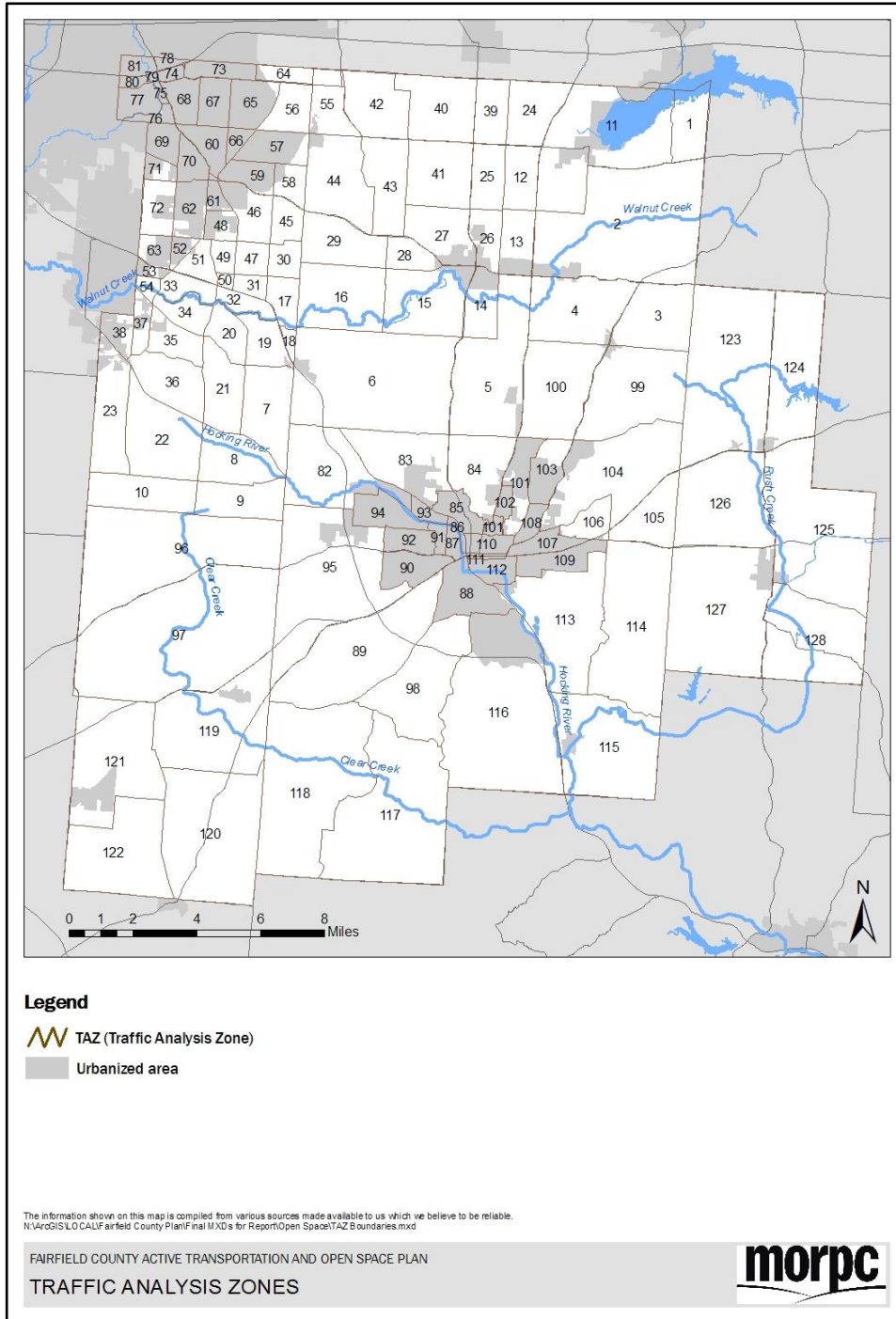
TAZ	Mini and Neighborhood Open Space Needed To Serve:		Community Open Space Needed To Serve:		Metropolitan Open Space Needed
	Urban Population	Non Urban Population	Urban Population	Non Urban Population	
101	2.48	0.00	0.23	0.00	0.00
102	0.00	0.00	0.00	0.00	0.00
103	6.66	0.72	0.12	0.00	0.00
104	1.39	0.90	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;

► Fairfield County Active Transportation & Open Space Plan

-
- 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:

► Fairfield County Active Transportation & Open Space Plan

- 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. 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 | |

▶ Fairfield County Active Transportation & Open Space Plan

-
- | | |
|-------------------------------------|-----------------------------------|
| ▶ 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:

- | | |
|--|---|
| ▶ 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 |

-
- | | |
|-----------------------|---|
| ► 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.

► Fairfield County Active Transportation & Open Space Plan

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.