

This chapter contains updated planning recommendations that improve the bike-friendliness of the Region. Topics include:

- **Vision, Goals, and Objectives for cycling in the Region**
- **Top Projects recommended**
- **Changes proposed to the Long range Transportation Plan**
- **Policies and Programs recommended in the areas of Encouragement, Education, Enforcement, Evaluation, Equity, and Engineering**

Continuing Down the Path

The analysis and statistics reviewed in the previous section leads to the conclusion that while the regional trails offer an extensive low-stress riding environment, getting to the trails often requires riding on or crossing very high-stress streets and roads. This limits the percentage of the population using the trails. In the survey and public input workshops, the number one desired destination for cyclists was the trail system, followed closely by parks. If the Region is to maximize the value of the trail system to its fullest extent, the number of low-stress connections to the trails must be increased, and existing low-stress connections must be identified and publicized to potential cyclists. Shifting more trips to active transportation trips can impact the health and well-being of our Region, and would generate additional economic benefits as well.

To increase the number of low-stress connections, adaptations are needed on existing roadways in the Miami Valley. Because many practical destinations (jobs, shopping, schools, banking, etc.) are along or across high-stress roads, much of the public will not consider biking to those destinations, even when they are a short distance away. The survey performed for this Update — and other surveys nationwide — indicate that a greater degree of separation from motor traffic will induce the public to consider using a bicycle facility. Protected bike lanes were repeatedly identified as desirable facilities for biking by survey respondents and attendees at public input workshops. This Update recommends projects that will fill gaps in the bikeways network with low-stress facilities and supports local communities using this LTS methodology to improve their infrastructure.

Engineering is not the only “E” that will be needed. Programming in areas such as Encouragement and Education are essential to making cycling a robust form of transportation in the Region. Enforcement and Evaluation are recognized by the local public as valuable services needed to protect and promote cyclist needs. An Equity approach to both projects and programs will balance the needs of diverse users with the available resources. The programming recommendations at the end of this section will help the Region meet our goals.

Vision, Goals, Objectives and Outcomes

Plan Vision

The overall vision of the Bike Plan Update 2015, modified from the Comprehensive Local-Regional Bikeways Plan, is as follows:

The Miami Valley Regional Planning Commission’s Comprehensive Local-Regional Bikeways Plan is intended to enhance Region-wide bikeway networks including

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regional and local bike paths, on street lanes and routes, and their connections through the MVRPC planning area. In conjunction with education, encouragement, enforcement and equity efforts, these improvements to the bikeways network will lead to more people biking more often to more places in the Miami Valley.

In order to significantly increase bicycle usage in the Region, we must consider the needs and interests of the less experienced, less confident cyclists. This 2015 Update is intended both to meet the needs of the experienced cyclist and to get more novice cyclists to make use of the bike paths and streets. The Knoxville Regional Bicycle Plan (Knoxville RTPO, 2009) put it well:

All Bicyclists are Different. Bicyclists have a variety of skills and needs. They ride for many different reasons, including commuting, running errands, recreation, and exercise.

Expect Bicycles on Every Street. Bicyclists want to go to the same places motorists want to go; therefore, bicyclists will ride on every road to some extent.

It's more than just getting there. Enforcement, encouragement and education are integral parts of a bicycle friendly community, along with facilities.

In short, let us build a Region where more people make the choice to ride bicycles more often. Well-designed multimodal projects will help to make the Region safer and more convenient for all road users. This plan encourages jurisdictions and advocates alike to push for and to take on ambitious projects which identify and eliminate gaps and barriers to cycling.

Vision Map

The vision map for the Region is based on the 2008 CLRBP and on the Long range Transportation Plan bikeways network. This map included connections to be made — In-Corridor, Off-Street, and Rural Corridor — with the goal of connecting communities throughout the Region. Per the 2008 Plan:

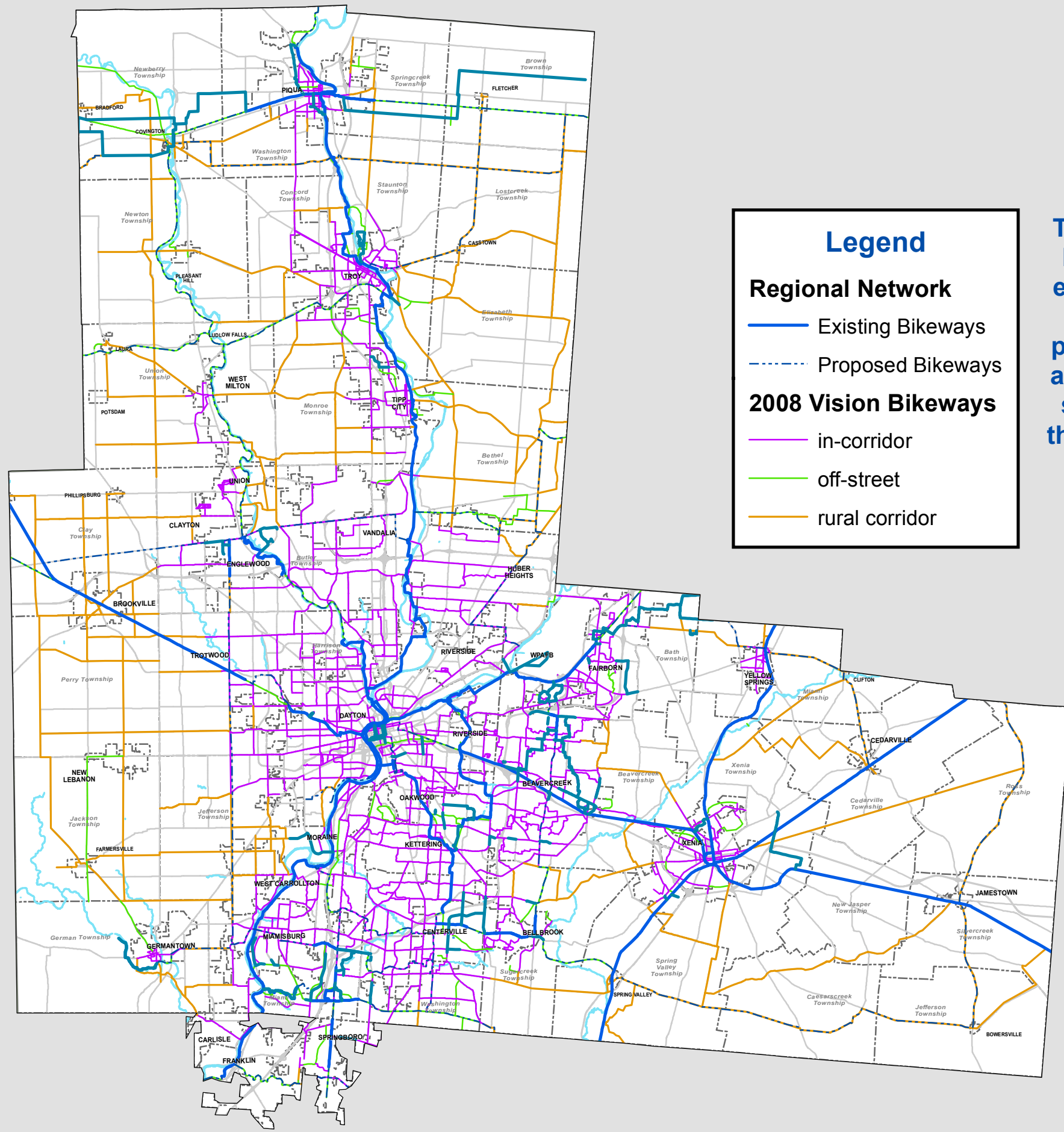
The recommended bikeway network builds upon the existing system and planned improvements. The proposed network has been developed to fill system gaps, continue the expansion of the regional trail network, formalize existing routes used by bicyclists, and improve access between residential, employment, civic, and commercial destinations and the current bikeway network.

The existing and recommended network can be broken into two broad categories: in-corridor bikeways and off-street bikeways. Similar to today, shared-use paths would be the Region's future off-street bikeway system. Off-street bikeways imply full separation from vehicle traffic, appropriate design to accommodate multiple users (e.g., bicyclists, pedestrians, in-line skaters, etc.), and appropriate treatments where shared-use paths intersect roadways. The in-corridor designation indicates a desired bicycle transportation route without a predetermined facility design. Depending on their location and context, the Miami Valley's in-corridor bikeway network could include any of the facility types discussed in the introduction.

Though shown on specific routes, in some locations and contexts in-corridor bikeways may be established along parallel routes.

2008 Vision Map

Comprehensive Local-Regional Bikeways Plan



This map displays Trails and Bikeways that make up our existing network, and shows the 30 year Vision of the plan; to use our roadways as a bike-friendly transportation system getting residents to the trails and parks from their own neighborhoods.

Proposed Goals and Objectives

The following goals and objectives will guide the implementation process for the 2015 Update and provide measurable benchmarks that are part of MVRPC's management processes. The following goals were amended slightly from the 2008 CLRBP based on evolving best practices as well as input from the public and from partner agencies.

The CLRBP recommended benchmarks for each goal set out in 2008. MVRPC has taken many of these measurements but until now there was no consistent reporting process to bring the information together. The 2015 Congestion Management Process Technical Report produced by MVRPC established system performance, safety and accessibility criteria that will be measured each year, including miles of regional bikeways, the population the network serves, and the employment the network serves. These measures will be evaluated each year and may be publicized via the MiamiValleyTrails.org and MVRPC websites.

Additional benchmark measures will come from the lists below and can be used to compare our Region with other areas in the country.

Goal 1: Implement the Miami Valley Comprehensive Local-Regional Bikeways Plan.

Objective 1-1: Complete the proposed Top-Priority projects identified in the Bikeways Plan by 2025.

Benchmarks: Miles of projects completed; number of locations improved; number of bike parking spaces installed; percentage of projects completed; periodic updates of the Bikeways Map.

Objective 1-2: Complete the proposed High-Priority projects by 2045.

Benchmarks: Miles of projects completed; number of locations improved.

Goal 2: Increase the number of people bicycling for transportation and recreation.

Objective 2-1: Increase the low-stress connections between neighborhoods, between neighborhoods and the trail system and other desired destinations.

Benchmarks: Number of trail access points; number of locations and intersections improved. Provide Adult Cycling Skills education through contract with Bike Miami Valley.

Objective 2-2: Increase the number of bikeway system users year over year as measured through annual count data.

Benchmarks: Conduct periodic counts of pedestrian and bicycle travel at key locations on the on- and off-street bikeway system using MVRPC's shared bicycle counters; use U.S. Census data and National Household Travel Survey data for mode share data; continue Trail User Surveys.

Goal 3: Improve bicyclist safety.

Objective 3-1: Reduce the number of bicyclist injuries and fatalities year over year and in comparison with the miles of bicycle facilities built and maintain a crash rate consistent with the Region's population.

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Benchmark: Triennial crash data reports. Approach hospitals for data and reports on trail incidents.

Objective 3-2: Bicyclists, pedestrians, and motorists will share the road safely.

Benchmark: Emphasize education, encouragement and enforcement that parallel the development of physical infrastructure. Specific benchmarks include tracking delivery of the Adult Cycling Education Program which MVRPC has contracted with Bike Miami Valley to develop and produce, Public Service Announcements and advertising, participation in cycling events (e.g., National Bike Month, races and club rides) and programs (e.g., number of League of American Bicyclists Certified Instructors, Bicycle Friendly Communities designation, police on bikes). Work with Bike Miami Valley to track police ticketing.

Goal 4: Increase access to low-stress cycling facilities and low-stress roads for citizens throughout the Region, with special consideration to underserved communities.

Objective 4-1: A 5% increase in the percentage of citizens who have access to the regional trail network using only Level of Traffic Stress 1 or 2 connections by 2025.

Objective 4-2: An increase in neighborhood linkages to the trails network, particularly from neighborhoods that have high chronic disease rates.

Benchmarks: Prioritize funding to support additional low-stress improvements from neighborhoods to the trails network; use U.S. Census data and public health/chronic disease data to determine the percentage and equitable distribution of population affected. Partner with organizations to improve cycling infrastructure, especially in low-income areas.

Proposed Outcomes

As the broad goals are met, they will have specific outcomes for the individuals who choose to cycle more and who are able to do so safely. While it is difficult to measure the impact of cycling on complicated issues like climate change, the Region's economy, and the general health of the population, individuals who choose to cycle make a difference in all those areas at an individual level. By making cycling safer and more accessible to the Region's population, we will enable more of the Region's residents to make the choice to cycle. The following are outcomes that can result from that choice.

Green Outcome: Offer and encourage a more environmentally-friendly option to the Region's commuters.

The current bike-related performance benchmark for environmental quality is an annual calculation of the pollution reduction benefits achieved by bicycle travel in the Miami Valley. Currently, our bicycle mode share is too small to have a significant impact on carbon and other pollutant emissions when measured at a macro level. However, individuals who choose to commute by bicycle do reduce their own carbon footprint and have a small, but real, impact on congestion and overall air quality. For each gallon of gasoline not burned on a daily commute, an individual cyclist saves an estimated 25 lbs. of CO₂. Put another way, each day a "drive alone" commuter chooses to cycle in a typical five-day work week reduces his/her car commute miles and the related emissions by 20% (Stanford 2015).

Health Outcome: Improve the health and physical fitness of Miami Valley residents.

Each trip by bicycle, for either transportation or recreation, results in increased physical activity and related improvements in cardiovascular fitness. Anecdotal data from Miami Conservancy District intercept surveys also indicates an improvement in mental health and overall happiness. By improving access to safe cycling, more residents can choose active transportation and improve their individual health. Bike riding is a great way to get low-impact, aerobic exercise. For example, a 150-pound bike rider will burn around 430 calories for every 10 miles he/she rides. (Carbon Challenge, 2010)

Economic Outcome: Capitalize on the benefits of bicycling in the local economy.

Bicycling can be a tool for economic development, tourism, and job-creation efforts. Identified business benefits include improvement in employee health and quality of life. Other benchmarks include increases in bicycle-related tourism (events, lodging, meals, etc.), and related job creation and retail activity. A study by Portland State University showed that bicycle commuters shop more frequently and thereby can spend more money at local retailers than automobile commuters (Clifton 2012). Our Region is home to the nation's largest paved trail network, a local asset and a tourist attraction, which results in an estimated \$10-13 million in economic impact each year (MVRPC 2013). The trails have the potential to have an even greater economic impact, and the Region should aggressively promote the trails as a unique recreational and transportation asset.

Active Youth Outcome: Involve Miami Valley schools in Safe Routes to Schools Programs.

The growing national Safe Routes to Schools (SR2S) movement provides multiple benefits for health, safety, mobility, and the environment. Evidence also indicates improved attentiveness and better learning outcomes for students who walk or bike to school. Specific benchmarks include the percentage of schools with active SR2S programs and the mode share of children bicycling to school.

Support Facilities Outcome: Encourage and assist local communities in the Miami Valley Region to provide appropriate bicycle support facilities.

MVRPC will assist local agencies in developing bicycle parking and other support facilities ordinances. The Pedestrian and Bicycle Information Center and the Association of Pedestrian and Bicycle Professionals provide sample bicycle parking ordinances addressing both short and long-term parking facilities. The number of bicycle parking spaces installed annually can be tracked as a benchmark, and communities can consider installing other support facilities like repair stations, restrooms and way-finding. A “see/click/fix” tool was developed by MVRPC as part of the MiamiValleyTrails.org website, but could be better advertised and used to manage problems on the larger bikeways network. By integrating cycling infrastructure into communities, cycling becomes a more viable transportation alternative.

Quality of Service and Infrastructure Outcome: Ensure that the Miami Valley Region's bikeways are well maintained and operated efficiently.

As the bikeway system is expanded over time, it requires an ongoing operations and management program. Operations include safety patrols, security, activity programming, promotional efforts, education and outreach, routine litter patrol, annual safety reporting, and facilities condition management. A thorough management process could include an

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annual reporting program, assignment of staff responsibilities, interagency coordination, and the development of public-private partnerships. The benchmark can be an annual report developed by MVRPC and partner agencies summarizing operations and maintenance needs as well as measures taken to address these needs. Conducting the Local Bikeway Project Survey each year would help generate this report.

Bike Share Outcome: Make bike sharing a meaningful addition to the transportation options available.

The creation of the Link Bike Share program in downtown Dayton provides an opportunity to make cycling a mainstream transportation mode and helps solve the “last mile” challenge that many transit riders face. While Link will initially serve a small part of the Region, it is an important symbol for the Region being seen as bike friendly. The successful launch and operation of Link was a milestone for alternative transportation in the Miami Valley.

Future Project Recommendations

Building out a 30 year plan will be an ongoing process involving multiple jurisdictions and many individual projects. The 2008 CLRBP identified 17 top-priority projects and 100 high-priority projects. Through extensive public input and specific input from partner organizations, a new list of 22 top-priority projects has been developed. This list includes many of the unfinished high priorities of the earlier plan. Regional bike projects identified through the update process will be integrated into the MVRPC Long range Transportation Plan (LRTP), which is also currently being updated. The LRTP projects include updated cost estimates and potential sponsors.

Most of these are engineering projects, that is, they call for the construction or maintenance of cycling infrastructure. However, there is also emphasis on the other Es of bicycle planning: Education, Encouragement, Enforcement, Equity and Evaluation. These non-infrastructure efforts will be keys to growing cycling participation in the Region. Outreach efforts should target populations with current low levels of cycling participation. Middle-class, middle-aged white males continue to be over-represented in cycling nationally and in the Region. Attracting more female riders and more riders of color should be a focus of outreach and education efforts.

The Bike Plan Update 2015 encourages all forms of cycling, including fitness, recreational and transportation-focused cycling. However, a great deal of this update’s policy proposals emphasize how the Region can increase the use of bicycles as a form of everyday transportation to work, shopping and other practical destinations.

Top Infrastructure (High-Scoring) Projects

Coming to grips with 600 project suggestions is a project in itself. Following the Public Input Workshops and online survey, MVRPC staff merged duplicate suggestions and kept track of how many times specific projects were mentioned, as a measure of popularity and importance to the public. Many projects suggested were already included in our 2008 Vision Plan and were so noted. New suggestions that went beyond the 2008 plan were sorted into scoreable engineering projects and non-scoreable suggestions.

Staff relied heavily on our Regional Bikeways Committee to provide direction on how projects should be scored. The committee was presented with data and preferences from the online public survey and the results of our open house input workshops. Based on this input, the Regional Bikeways Committee suggested changes to the scoring criteria used in the original 2008 CLRBP. Staff used the revised scoring criteria, which placed greater emphasis on trail and park connections, low-stress connections and intersection treatments, and

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whether a project was a priority in a local bikeway plan or thoroughfare plan. The full list of suggested projects by county and by Region and the project Scoring Criteria are included in Appendix B at the end of this report.

The top projects are presented in the following table.

Top Projects Table (see map on page 63)

County	Map Label	Project	Facility Type
Greene	A	Complete shared-use paths on Grange Hall Rd./ National Rd. between Kauffman Ave. and Indian Ripple Rd.	On street/ off-street
Greene	B	Construct the Three Counties Trail between Wright Brothers (Huffman Prairie) Bikeway and Haddix Rd.	Off-street
Greene	C	Complete shared-use paths on Shakertown Rd. between County Line Rd. and U.S. 35/Factory Rd. (widen shoulders and complete pedestrian path on south side as interim measure)	On street/ off-street
Greene	D	Construct shared-use path between South Street and Xenia Dr add bike lanes on Xenia Dr. between path and Yellow Springs-Fairfield Rd Widen/add shoulders on Black Lane, Armstrong Rd., W Enon Rd., N Enon Rd., and Yellow Springs-Fairfield Rd. to the Little Miami Scenic Trail.	On street/ off-street
Greene	E	Take Little Miami Trail off of the Detroit Street sidewalk, creating a buffered bike lane with auto parking along 4 of the 6 blocks	On street
Greene	F	Construct a bicycle and pedestrian bridge over South Detroit Street from the Xenia Station property to the east side of US 68 to serve the Ohio-to- Erie Trail and the Jamestown Connector.	Off-street
Miami	G	Construct shared-use path connecting Treasure Island and Duke Park in Troy	Off-street
Miami	H	Widen shoulders along SR 55 and SR 589, providing an on-street bikeway linking Troy, Casstown, and Fletcher	On street
Miami	I	Construct shared-use path roughly paralleling SR 55 and along former Penn Central Railroad corridor between Ludlow Falls and Troy.	Off-street
Miami	J	Replace Great Miami River Trail bridge over Great Miami River in Piqua near the power plant with ADA accessible bicycle and/or pedestrian facility.	Off-street
Miami	K	Complete Ohio to Indiana Trail between Darke and Champaign counties through Piqua.	On street/ off-street

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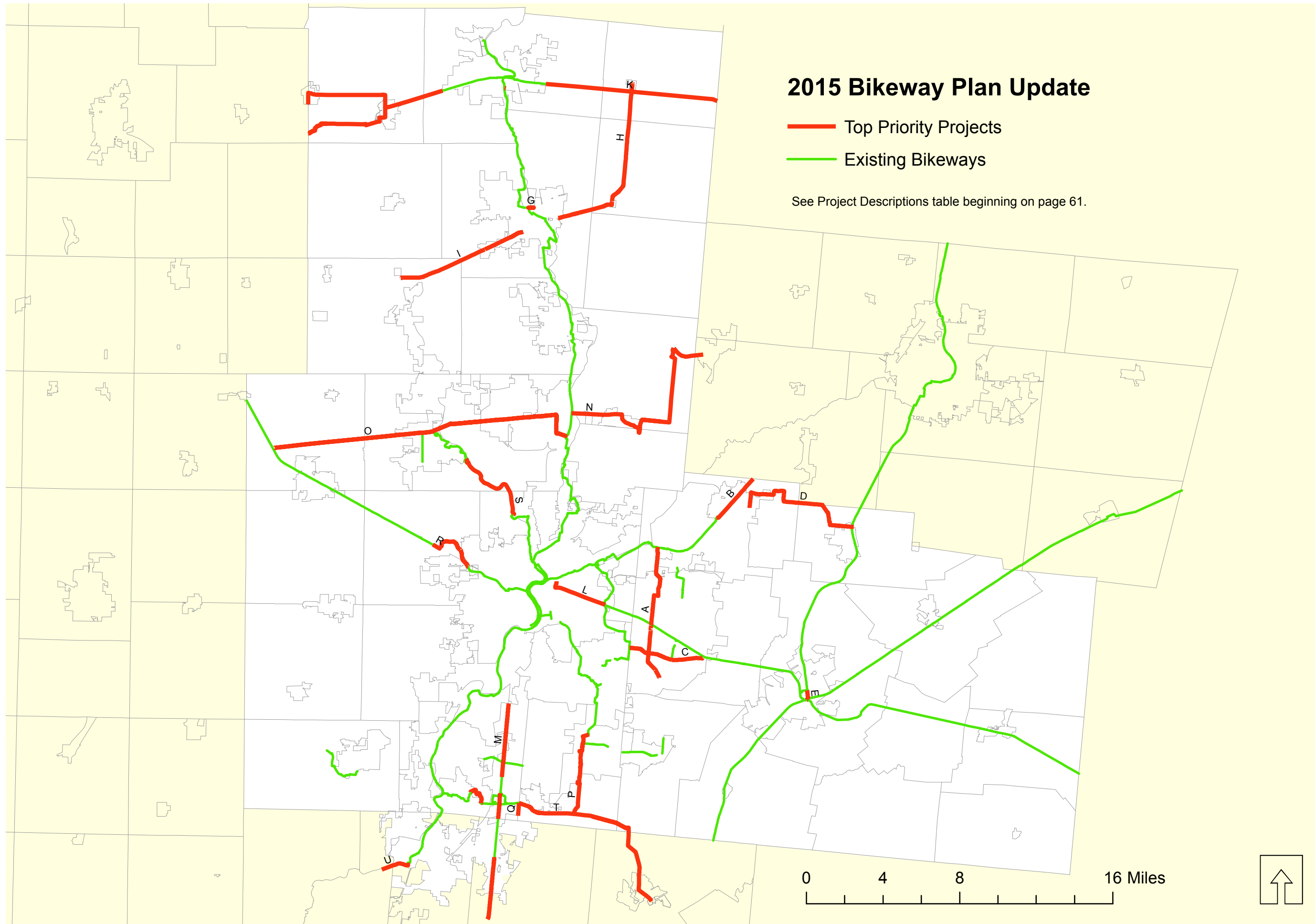
County	Map Label	Project	Facility Type
Montgomery	L	Construct Creekside Trail extension roughly paralleling U.S. 35 between the Iron Horse Trail and 4th St. in the Huffman Historic Area implement shared roadway improvements on Terry St. between future Creekside Recreation Trail and Monument Ave.	On street/ off-street
Montgomery	M	Construct bicycle/pedestrian facilities along SR 741 between Austin Pike and Alex Bell Rd.	On street/ off-street
Montgomery	N	Connect Great Miami River Trail and Carriage Hill MetroPark via shared-use path through Carriage Trails development (Huber Heights) connect Carriage Hill MetroPark and New Carlisle via widened shoulders on SR 202, Singer Rd., Palmer Rd., Dayton-Brandt Rd., and shared-use path on former railroad corridor between Dayton-Brandt Rd. and New Carlisle	On street/ off-street
Montgomery	O	Construct the Old National Road Trail paralleling US 40 from the intersection with the Wolf Creek Trail to Union Road in Englewood connect through Englewood MetroPark connect shared-use path paralleling US 40 from Fredrick Pike to the Taylorsville Dam and Great Miami River Trail through the Dayton International Airport Property and City of Vandalia.	On street/ off-street
Montgomery	P	Continue Iron Horse Trail to the south beyond I-675 to Centerville High School and then to the Great-Little Trail.	Off-street
Montgomery	Q	Construct Bikeway from eastern terminus of Kitty Hawk Drive in Springboro north to southern terminus of Washington Church Road. Project includes a safe crossing of Austin Pike to connect with Great- Little Trail.	Off-street
Montgomery	R	Complete the gap in the Wolf Creek Trail along Wolf Creek Pike, passing under SR 49, then following Prosperity, Modern and Olive to a new shared use path connecting to the existing Trail.	On street/ off-street
Montgomery	S	Complete the gap in the Stillwater River Trail.	On street/ off-street
Montgomery & Warren	T	Construct The Great-Little Trail: connect between the Great Miami River Recreation Trail and the Little Miami Scenic Trail along the Medlar Trail; new shared-use path along Miamisburg- Springboro Rd./Austin Pike/ Social Row Rd. widen shoulders on Ferry Rd./Lytle Rd. between Wilmington-Dayton Rd. and North St. in Corwin develop signed on-street bikeway along North St./Corwin Rd. to Little Miami Scenic Trail.	On street/ off-street
Warren	U	Construct Great Miami River Recreation Trail between Baxter Drive and Miami River Preserve Park	On street/ off-street

2015 Bikeway Plan Update

— Top Priority Projects

— Existing Bikeways

See Project Descriptions table beginning on page 61.



County	Map Label	Project	Facility Type
Regional		Construct intersection improvements creating low-stress trail to roadway transitions and crossings at top scoring locations (Factory Rd at SR 35, Dayton Xenia Road, North Fairfield Road, Detroit Street at Miami Street)	On street
Regional		Construct buffered or protected bike lanes along high-stress urbanized roadways, creating trail connections (e.g. Lincoln Park Boulevard, Wright Brothers Parkway, N Main Street north of Shoup Mill, Washington Street between Ponitz High School and Chaminade Julienne, Swailes Road between Tipp City and Troy)	On street
Regional		Implement bicycle/pedestrian improvements at Top 5 crash locations	On street

MVRPC accepts proposals for any local projects that an eligible jurisdiction or agency submits. All applications go through a transparent, competitive selection process. The projects selected as top priorities in this plan are not at any advantage or disadvantage for MVRPC-controlled funding. This plan should serve as a springboard for community action, identifying potential projects that would fill important gaps in the network. Together, the LRTP and Top Priority local projects form a blueprint to accommodate, plan for, and promote bicycling.

Long Range Network Projects

The Long Range Transportation Plan (LRTP) is a long range (20+ year) strategy and capital improvement program developed to guide the effective investment of public funds in multimodal transportation facilities. The plan is updated every four years, and may be amended as a result of changes in projected Federal, State, and local funding, major improvement studies, Congestion Management Process plans, interchange justification studies, and environmental impact studies. The Plan provides the context from which the Region's Transportation Improvement Program (TIP), a short-range capital improvement program for implementing highway, transit, and bikeway projects, is drawn.

The regional trails and bikeways in the LRTP form the highways of transportation bicycling. All other bikeways, whether trails, road routes, lanes, shoulders, or other paths, are considered "local" rather than "regional" in the LRTP, and function the same way the local surface streets function to carry automobile traffic to local destinations off the interstates.

As a result of the public input and information provided by the Regional Bikeways Committee, staff is recommending several changes and updates to the LRTP Regional Bikeways. Since the original CLRP recommended new corridors in 2008, some of the routes have been partially or wholly built, some have changed names, or have changed configuration.

In addition, an important new regional corridor was suggested during this update process. This new corridor follows the historic Route 40 that would connect the Wolf Creek Trail, the currently disconnected Stillwater Trail at Englewood MetroPark, and the Great Miami River Trail at Taylorsville MetroPark. This proposed Old National Road Trail (Z) would meet the regional goals of connecting trails and parks, and would form a new loop in the system of mostly linear trails. Combined with the existing LRTP corridor between Taylorsville-Carriage Hill-Huber Heights and to New Carlisle (Carriage Hills Connector, U), this could build

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a powerful connection across several communities in northern Montgomery County and southern Miami County.

The LRTP will be updated in 2016, and will have its own public review process to review these and other proposals. The recommended changes to the LRTP based on the Bike Plan Update process are incorporated into the Long Range Top Projects Table. as a result of their initial public input, another new regional connection has been added, the Possum Creek Jefferson Township Connector (AA) and an alternative route is shown for the Iron Horse Trail (J).

The cost factors used to estimate 2015 value of the projects in this table can be found in Appendix F. The map that follows shows the Regional bikeways network, separate from local projects.

Long Range Transportation Plan Suggested Changes

Corridor Label	Corridor Name	Section Label	Section Name	Owner/Maint	Type of Facility	Width (feet)	Length (miles)	Cost
East-West	Ohio-to-Indiana Trail	A1	From the existing Cardinal Trail bike route, traveling north on High St. to abandoned Conrail ROW, then east along Conrail ROW	Miami County	Off-Street	10	3.50	\$778,179.00
East-West	Ohio-to-Indiana Trail	A2	Construct shared use path between Piqua and Miami/Champaign county line via Garbry's Big Woods Reserve/Sanctuary	Miami County	Off-Street	10	9.00	\$1,878,626.00
East-West	Fairborn-Yellow Springs-Cedarville Connector Trail	B1	Construct shared use path between South St. and Xenia Dr.; add bike lanes on Xenia Dr. between shared use path and Yellow Springs-Fairfield Rd.	Fairborn	Off-Street	10	1.60	\$471,892.00
East-West	Fairborn-Yellow Springs-Cedarville Connector Trail	B3	Widen/add shoulders on Black Lane, Armstrong Road, W Enon Road, N Enon Road and Yellow Springs-Fairfield Road to the Little Miami Scenic Trail.	Greene County, Fairborn, Yellow Springs	On-Street	6	8.20	\$3,295,240.00
East-West	Fairborn-Yellow Springs-Cedarville Connector Trail	B4	Widen shoulders on SR 343 and SR 72 between Yellow Springs and Cedarville	Greene County	On-Street	6	7.70	\$2,633,212.00
East-West	Germantown-Spring Valley-Bowersville Connector Trail	C1	Construct shared use path along Twin Creek between Main St. and SR 4/SR 725 intersection	Germantown	Off-Street	10	1.00	\$286,691.00
East-West	Germantown-Spring Valley-Bowersville Connector Trail	C10	From Sackett-Wright Park in Bellbrook to the Little Miami Scenic Trail	Greene County	Off-Street	10	4.60	\$1,100,000.00
East-West	Germantown-Spring Valley-Bowersville Connector Trail	C11	Widen shoulders between Spring Valley and Bowersville via Spring Valley-Pointersville Rd. and Hussey Rd.	Greene County	On-Street	6	16.30	\$5,512,398.00

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Corridor Label	Corridor Name	Section Label	Section Name	Owner/Maint	Type of Facility	Width (feet)	Length (miles)	Cost
East-West	Germantown-Spring Valley-Bowersville Connector Trail	C2	Widen shoulders on Lower Miamisburg Rd./Riverview Ave./Maue Rd. between SR 4 and Alexandersville Rd.	Montgomery County, Miamisburg	On-Street	Varies	6.80	\$2,837,899.00
East-West	Germantown-Spring Valley-Bowersville Connector Trail	C4	Retrofit Spring Valley Pike to include bike lanes between Yankee St. and McEwen Rd.	Washington Township	On-Street	6	0.40	\$123,532.00
East-West	Germantown-Spring Valley-Bowersville Connector Trail	C5	Traveling east from McEwen Rd., along residential streets, to Alexandersville-Bellbrook Pike	Washington Township, Centerville	On-Street	NA	5.00	\$1,432,103.00
East-West	Germantown-Spring Valley-Bowersville Connector Trail	C7	From existing SR 725 bikeway, traveling east from Marwyck Dr. to Wilmington Pike	Centerville	Off-Street	12	0.70	\$253,113.00
East-West	Germantown-Spring Valley-Bowersville Connector Trail	C8	Traveling east along SR 725, from Wilmington Pike to 0.02 miles east	Bellbrook	Off-Street	12	0.00	\$25,000.00
East-West	Germantown-Spring Valley-Bowersville Connector Trail	C9	Traveling east along SR 725, from Bellevue Dr. to Rosecrest Dr.	Bellbrook	Off-Street	12	0.50	\$123,127.00
East-West	Iron Horse Trail	D1	Sign/stripe bike facility along Valleywood Drive from Dorothy Lane to Wilmington Pike (.89 mi) and then construct a .25 mile bikeway along Wilmington Pike to the Wilmington/Stroop Intersection.	Kettering	On/Off-Street	Varies	1.20	\$80,000.00
East-West	Iron Horse Trail	D2	Construct a new bikeway from Galewood St. along Little Beaver Creek and Woodman Blvd to Vale Dr.	Kettering	Off-Street	12	0.40	\$99,475.20
East-West	Mad River Trail	E4	Northeast from existing Mad River Corridor Bikeway along former railroad to Enon	Greene County Park District	Off-Street	10	2.80	\$599,592.00
East-West	Great Miami-Little Miami Connector Trail	F1	Construct shared use path along SR 123 between downtown Franklin and Clear Creek; construct shared use path along Clear Creek between SR 123 and Lower Springboro Rd.	Warren County	Off-Street	12	3.60	\$971,212.00
East-West	Great Miami-Little Miami Connector Trail	F2	Widen shoulders on Lower Springboro Rd. between proposed Clear Creek Trail and US 42	Warren County	On-Street	6	8.70	\$2,984,977.00

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Corridor Label	Corridor Name	Section Label	Section Name	Owner/Maint	Type of Facility	Width (feet)	Length (miles)	Cost
East-West	Wolf Creek Trail	G2a	Wolf Creek Pike from Little Richmond Road to SR 49 Connector-Road resurfacing, storm drainage via swale predominantly. Construct multi-use path on east side of roadway. Pedestrian bridge is required for pathway as well as modifications needed at the railroad crossing. Pavement markings will be brought up to standard and bike lane markings included.	City of Trotwood	Off-Street	10	1.60	\$6,383,000.00
East-West	Wolf Creek Trail	G2b	Installation of 6,550' of bike path to connect Wolf Creek Trail near the intersection of Wolf Creek Pike and NW Connector (SR 49) and the intersection of Olive Road and Modern Way in the City of Trotwood. Also included is paving of the existing unpaved bikeway from Olive Road, west to Vickwood Lane.	City of Trotwood	Off-Street	10	1.30	\$191,000.00
East-West	Wolf Creek Trail	G3	Construct Shared use path between existing Wolf Creek Trail (near Dodson) and Montgomery/Preble County line	Five Rivers Metro Parks	Off-Street	12	2.20	\$532,040.00
North-South	Bellbrook-Fairborn Connector Trail	I1	Signed shared roadway from SR 725 along W. Walnut St. to existing bikeway at Bellbrook Park	City of Bellbrook	On-Street	Varies	0.30	\$135,402.00
North-South	Bellbrook-Fairborn Connector Trail	I2	From the existing bikeway, traveling north along Upper Bellbrook/Feedwire/S. Alpha-Bellbrook/Stutsman/N. Fairfield Rds., to Newton Dr.	Greene County	Off-Street	10	5.50	\$1,230,503.00
North-South	Bellbrook-Fairborn Connector Trail	I4	WSU to Kauffman Ave. Bikeway traveling north from Colonel Glenn Hwy. to Kauffman Ave.	Wright State University	Off-Street	10	1.00	\$231,788.00
North-South	Bellbrook-Fairborn Connector Trail	I5	Construct sidepath from Newton to Seajay Dr. and Old Mill Lane to Kemp Rd.	Beavercreek	Off-Street	8	2.50	\$1,000,000.00
North-South	Iron Horse Trail	J3a	Construct a bicycle/pedestrian crossing at I-675, 0.33 mi east of Loop Rd and extend the trail to Alex Bell Rd	Centerville	On/Off-Street	Varies	0.50	\$5,000,000.00
North-South	Iron Horse Trail	J3b	Construct a bicycle facility along Whipp and Hewitt to the existing Sidepath on Bigger Rd, crossing I-675 to Clio Rd.	Centerville/Kettering	On/Off-Street	Varies	1.50	\$250,000.00
North-South	Iron Horse Trail	J4	Extend Iron Horse Trail from Boyce Road to Social Row Road using Clareridge Lane, Spring Valley and Atchison Roads	Centerville	On-Street	Varies	2.40	\$675,493.00

Future

Corridor Label	Corridor Name	Section Label	Section Name	Owner/Maint	Type of Facility	Width (feet)	Length (miles)	Cost
North-South	Great Miami River Trail	K7	Traveling north from Johnston Farm to the County Line	Miami County Park District	Off-Street	10	2.10	\$456,557.00
North-South	Great Miami River Trail	K9	Construct Great Miami River Trail between Baxter Drive and Miami River Preserve Park	Franklin, Middletown, Miami Conservancy District	Off-Street	12	2.00	\$1,386,572.00
North-South	Great Miami River Trail	K12	Replace Bridge in Piqua with ADA Compliant Structure	Miami County Park District	Off-Street	10	0.50	\$3,124,885.00
North-South	Stillwater River Trail	L1	From existing bikeway at Sinclair Park, traveling north to Grossnickle Park	Five Rivers Metro Parks/ Various	Off-Street	10	4.70	\$2,990,725.00
North-South	Stillwater River Trail	L3	From the existing Englewood Reserve Bikeway, traveling north along the Stillwater River corridor, to SR 55	Miami County Park District	Off-Street	10	10.40	\$3,413,921.00
North-South	Stillwater River Trail	L5	Construct shared use path roughly paralleling SR 48 between Covington and Ludlow Falls	Miami County Park District	Off-Street	10	10.00	\$2,051,460.00
North-South	Wolf Creek Connector Trail	M1	Widen shoulders along Union Rd. from the Wolf Creek Bikeway to the existing path at I-70	Englewood, Trotwood	On-Street	6	4.10	\$1,688,055.00
North-South	Wolf Creek Connector Trail	M2	Widen shoulders along US 40 from Union Boulevard to the Englewood Reserve (also serves the Old National Road Trail).	Englewood	On-Street	6	0.60	\$249,370.00
North-South	Wolf Creek Connector Trail	M3	Widen shoulders on Union Rd. between Existing Wolf Creek Trail in Trotwood and SR 725	Montgomery County	On-Street	6	11.60	\$3,975,305.00
East-West	Great-Little Trail	N1	Construct shared use path along Miamisburg-Springboro Rd./Austin Pike/Social Row Rd. between Medlar Rd. and Wilmington-Dayton Rd.; widen shoulders on Ferry Rd./Lytle Rd. between Wilmington-Dayton Rd. and North St. in Corwin; develop signed on-street bikeway	Montgomery County, Centerville Washington Park District	On/Off-Street	Varies	10.70	\$2,491,329.00
North-South	Bowersville-Jamestown-Clifton Connector Trail	O1	Widen shoulders on SR 72 between Bowersville and Jamestown	Greene County	On-Street	6	5.40	\$1,842,903.00
North-South	Bowersville-Jamestown-Clifton Connector Trail	O2	Widen shoulders on Charleston Rd. and Selma-Jamestown Rd. between Jamestown and Greene/Clark County line	Greene County	On-Street	6	10.40	\$3,506,843.00
North-South	Troy-Fletcher Connector Trail	P1	Widen shoulders along SR 55 and SR 589, providing an on-street bikeway linking Troy, Casstown, and Fletcher	Troy, Miami County	On-Street	6	10.60	\$3,596,324.00

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Corridor Label	Corridor Name	Section Label	Section Name	Owner/Maint	Type of Facility	Width (feet)	Length (miles)	Cost
East-West	Cardinal Trail	Q1	Widen roadway shoulders along the Cardinal Trail route (Covington-Gettysburg Rd.) between Covington and the Miami/Darke County line	Miami County	On-Street	6	4.70	\$1,564,309.00
East-West	Cardinal Trail	Q2	Widen roadway shoulders along the Cardinal Trail route between Covington and the Miami/Champaign County line (Spring St., CR 30, Farrington Rd., Peterson Rd., Alcony-Canover Rd., Loy Rd.)	Miami County	On-Street	6	20.10	\$6,722,240.00
East-West	Laura-Troy Connector Trail	R1	Construct shared use path along former railroad corridor between Laura and Ludlow Falls	Miami County	Off-Street	10	6.60	\$1,388,219.00
East-West	Laura-Troy Connector Trail	R2	Construct shared use path roughly paralleling SR 55 and along former Penn Central Railroad between Ludlow Falls and Troy	Miami County	Off-Street	12	7.60	\$1,920,678.00
North-South	SR 741 Bikeway	T1a	Construct bike facility along SR 741 from the Cox Arboretum entrance to the north terminus of the facility constructed under PID #90289	Montgomery County	On/Off-Street	Varies	0.50	\$183,000.00
North-South	SR 741 Bikeway	T1b	Construct bike facility along SR 741 between Mall Park Drive and Ferndown Drive.	Montgomery County	On/Off-Street	Varies	1.70	\$623,000.00
North-South	SR 741 Bikeway	T1c	Construct a bike facility along SR 741 from entrance to Waldruhe Park to Austin Pike.	Montgomery County	On/Off-Street	Varies	0.60	\$220,000.00
North-South	SR 741 Bikeway	T2a	Construct bike lanes on SR 741 between Austin Pike and the current terminus of the bike lanes approx. 1,000 feet south of W. Tech Drive.	Springboro, Warren County	On-Street	6.0	0.20	\$56,000.00
East-West	Carriage Hills Connector Trail	U1	Connect Great Miami River Trail and Carriage Hills MetroPark via shared use path through Carriage Trails development	Various	Off-Street	12	4.20	\$1,063,000.00
North-South	Carriage Hills Connector Trail	U2	Connect Carriage Hills MetroPark and New Carlisle via widened shoulders on SR 202, Singer Rd., Palmer Rd., SR 571, Dayton-Brandt Rd., and shared use path on former railroad corridor between Dayton-Brandt Rd. and New Carlisle	Miami County, Montgomery County	On/Off-Street	Varies	8.00	\$2,431,000.00
North-South	Carriage Hills Connector Trail	U3	Connect Huffman MetroPark and Carriage Hill MetroPark via Union School House, Baker, Kitridge, and Bellefontaine Roads	Montgomery County, Five Rivers MetroParks	On-Street	Varies	8.30	\$2,302,289.00

























Future

Corridor Label	Corridor Name	Section Label	Section Name	Owner/Maint	Type of Facility	Width (feet)	Length (miles)	Cost
East-West	Great Miami River-Centerville Connector Trail	V1	Construct trail following local streets and shared use paths connecting Moraine, West Carrollton, Washington Township, Centerville, and Bellbrook via Cox Arboretum, Yankee Park, Grant Park and Pleasant Hill Park	Various	On/Off-Street	Varies	8.20	\$1,881,895.00
East-West	Great Miami River-Creekside Connector Trail	X1	Construct trail extension roughly paralleling US 35 to 4th St. along RR ROW then west to Keowee St and North to Monument Avenue	Dayton, Five Rivers MetroParks	Off-Street	12	3.10	\$770,679.00
NA	Troy Bikeway Hub	Y1	Construct Troy Bike Hub structure	Troy	NA	NA	0.00	\$200,000.00
NA	Piqua Bikeway Hub	Y2	Redevelop a historical building into a Bike Hub at the intersection of the GMR trail and the Piqua-Covington Fletcher Trail	Piqua	NA	NA	0.00	\$500,000.00
East-West	Old National Road Trail	Z1a	Construct a bikeway paralleling US 40 from the intersection with The Wolf Creek Trail to Northmont Schools property.	Montgomery County, Five Rivers MetroParks	On/Off-Street	Varies	5.90	\$1,467,259.20
East-West	Old National Road Trail	Z1b	Construct a bikeway paralleling US 40 from Northmont Schools Property to Hoke Road in Clayton.	Clayton	On/Off-Street	10	1.00	\$635,000.00
East-West	Old National Road Trail	Z1c	Construct a bikeway paralleling US 40 from Centennial Park in Englewood to Englewood MetroPark.	Englewood	On/Off-Street	Varies	0.80	
East-West	Old National Road Trail	Z2	Construct a bikeway through Englewood MetroPark using marked park roads, new shared use path, and a new covered bridge.	Five Rivers MetroParks/Englewood	Off-Street	12	2.30	\$3,150,000.00
East-West	Old National Road Trail	Z3	Construct bikeway paralleling US 40 from Frederick Pike to the Taylorsville Dam (Great Miami Trail) through Dayton Airport property and City of Vandalia.	Vandalia, Dayton	On/Off-Street	Varies	6.30	\$1,894,334.40
East-West	Possum Creek Jefferson Township Connector	AA1	Construct trail on/along West River Road to Sun Watch Village and Guthrie Road to Possum Creek MetroPark	Dayton	On/Off-Street	Varies	3.60	\$895,277.00
East-West	Possum Creek Jefferson Township Connector	AA2	Construct trail from Possum Creek MetroPark to Arthur Fisher Park and along Dayton-Liberty Road to Union Road	Jefferson Twp., Montgomery County	On/Off-Street	Varies	3.80	\$570,000.00

Long Range Transportation Plan

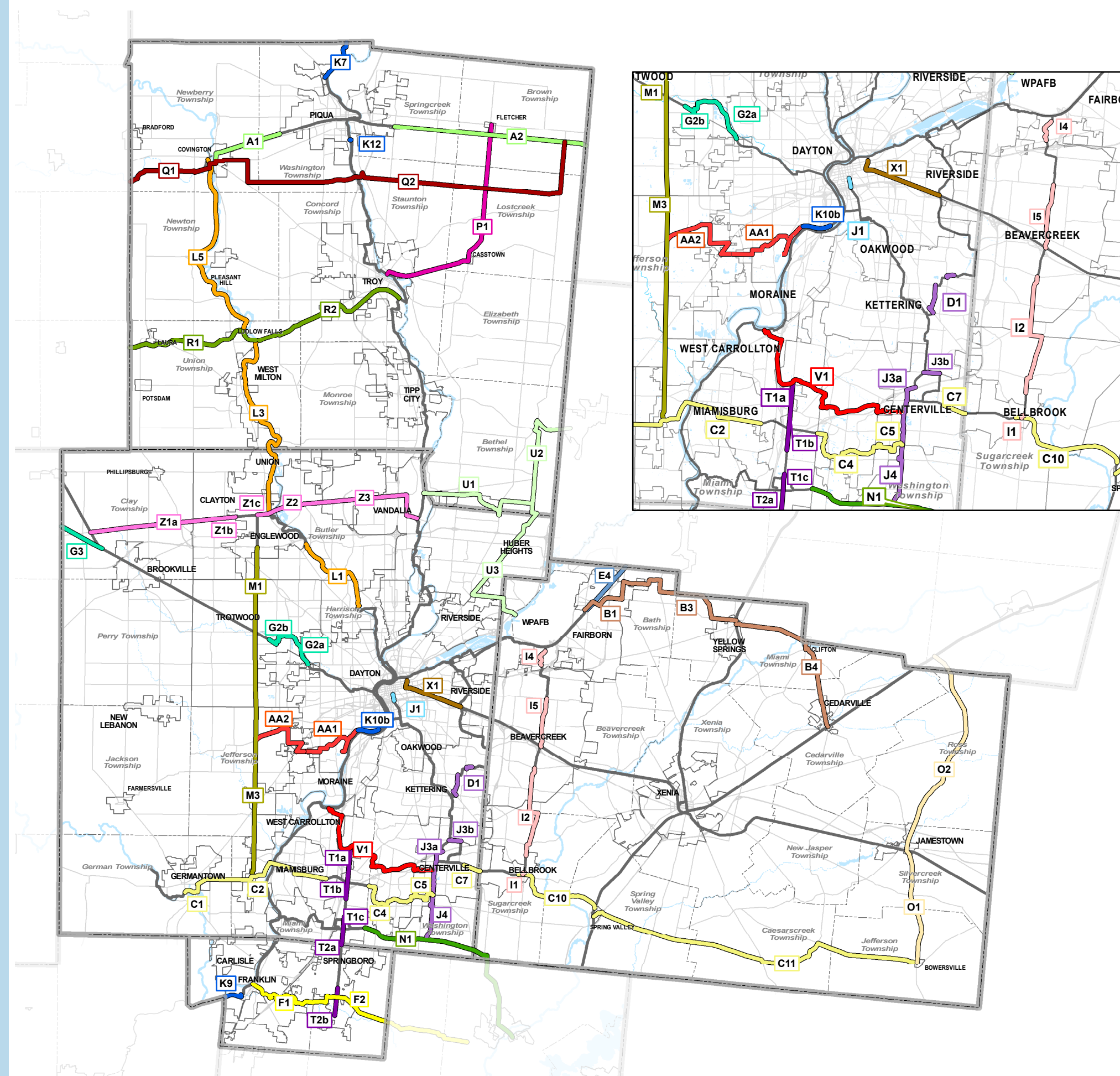
Proposed Regional Bikeways

Proposed Bikeways

-  Bellbrook-Fairborn Connector (I)
-  Bowersville-Jamestown-Selma Connector (O)
-  Cardinal Trail (Q)
-  Carriage Hills Connector (U)
-  Dayton-Kettering Connector (J - Updated)
-  Fairborn-Yellow Springs-Cedarville Connector (B)
-  Germantown-Bowersville Connector (C)
-  Great Miami River Trail (K - Updated)
-  Great Miami River-Centerville Connector (V)
-  Great Miami River-Creeside Connector (X)
-  Great Miami-Little Miami Connector (F)
-  Great-Little Trail (N - Updated)
-  Iron Horse Trail (J)
-  Laura-Troy Connector (R)
-  Ohio to Indiana Trail (A)
-  Old National Road Trail (Z - New)
-  Possum Creek Jefferson Township Connector (AA)
-  SR 741 Corridor (T)
-  Stillwater River Trail (L)
-  Troy-Fletcher Connector (P)
-  Wolf Creek Connector (M)
-  Wolf Creek Trail (G)
-  Wright Brothers-Huffman Prairie Trail (E)
-  Existing Bikeways



0 2.5 5 10 Miles



Connections Outside the Region

Although MVRPC cannot make policy for neighboring regions, it is important we work to connect with those neighbors that are also building bike infrastructure. Projects like the Ohio-to-Indiana Trail will not be possible without the cooperation and coordination of Darke County and Champaign County officials. The Triangle Trail in Fayette County and the Camp Chase Trail in Madison County may connect to the Region in the next few years. Similarly to the south, the Great Miami River Trail needs the support of OKI and Butler County officials to fill existing gaps. Growing the Nation's Largest Paved Trail Network will continue to be an effort that extends beyond the MVRPC planning boundaries.

How to find Funded Projects: Transportation Improvement Program

The Region's Long range Transportation Plan is implemented through the Transportation Improvement Program (TIP) process. Specifically outlined in the TIP are the Region's highway, bikeway/pedestrian, and transit improvements that are federally and/or state financed. Projects that rise through the competitive selection process for each funding source are collected in the TIP list. MVRPC typically selects projects several years in advance of their readiness for construction and tracks approved projects in the online Telus tracking system.

The TIP is a four-year plan of projects in the Region. It is completely updated every two years and is regularly amended by the MVRPC Board of Directors. Therefore, it would be of little value to present the current TIP as of the summer of 2015. The TIP database can be viewed from the MVRPC web site under the Transportation tab, or at <http://maps.mvrpc.org/telus/WebTelus/Login:LoginPublic>. For information on funding opportunities and the current 2016-2019 TIP map of bike and pedestrian projects, please refer to Appendix C.

Infrastructure Policy and Programs

Design recommendations for cycling infrastructure are evolving very rapidly. In the 2008 plan, there were no recommendations for "green lanes" or protected bike lanes. However, many U.S. cities are now adding those types of facilities. Instead of making specific design recommendations, this update includes an index of the most current design guideline resources in Appendix D. An updated, online version is maintained at the Pedestrian and Bicycle Information Center:

http://www.pedbikeinfo.org/planning/facilities_designresourceindex.cfm

MVRPC staff will monitor evolving design standards and best practices and will make those resources available to member jurisdictions through our website, library and through hosting webinars. When new publications or resources are made available, MVRPC staff will notify local engineers via email notices.

Policy Recommendations

Policy: MVRPC maintains a regional focus. Our goals for infrastructure are prioritized in the following order:

1. Network Long Range Transportation Plan (LRTP) corridors and segments
2. Encouraging local jurisdictions to adopt Complete Streets policies
3. Low Traffic Stress projects
4. Stand-alone projects

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It is recognized that a stand-alone local project may be of highest local priority and we encourage funding flexibility to take advantage of opportunities (utility work, redevelopment or maintenance, etc.) and other unique circumstances.

Policy: Going above and beyond. MVRPC's long term policy perspective includes taking biking and walking issues seriously as a transportation option, as a funding priority, and as design treatments that can improve communities and solve issues without adding additional regulations. To be effective, roadway and bikeway designs must exceed AASHTO minimum requirements. For example, rather than getting a bike lane up to an intersection and dropping the lane markings, designs should guide riders through the intersection. Colored lane treatments and bike signals were specific requests made in the public survey process.

If the community is investing in a destination, the neighborhoods around the destination, outside of the developer's purview, need to be the special focus of planning and engineering. Initial planning should include providing low-stress connections to the destination. Many communities around the nation have adopted their own design guidelines that go above and beyond the AASHTO requirements and made the extra-special treatments a routine endeavor. FHWA encourages application for the use of experimental treatments, when needed, along with official review and study. The innovation and demonstrated improvements can be well worth the effort.

Policy: Encourage jurisdictions to include bike and pedestrian facilities in comprehensive plans, engineering transportation plans, and thoroughfare plans. As part of a comprehensive planning approach, bikeways and connectivity can be built into new projects and redevelopment in a routine way. Developers appreciate knowing the communities' design expectations up front and can plan to build amenities into their product accordingly. Local business owners and residents also appreciate knowing what is planned for their street or neighborhood and the community can use their private investments to meet local goals. Plans should be updated every five years or more frequently so demonstrated benefits of newer designs can be incorporated.

Program Recommendations

Cities should implement an effective method for **allowing community suggestions or requests, particularly regarding public bike racks, pothole repair, street sweeping, traffic lights that detect bicycles, and other local facilities improvements.** After a test period, staffing and maintenance budgets can be justified or modified as suits the local needs. A high level of maintenance helps advertise the bikeways as a valuable resource, and improves the perception of safety, deterring vandalism and litter.

Provisions for **keeping the bikeways open and clear during construction projects** should be written into project designs and regulations.

Jurisdictions and partner agencies should **use walking and biking audits** to explore problem areas or new development. MVRPC staff is experienced in leading these exercises in both informal and formal settings and welcomes the invitation to assist jurisdictions throughout the Region. FHWA recommends Road Safety Audits as a problem solving tool, and ODOT's Safe Routes program requires them as School Travel Plan tool. Staff can also provide resources to local officials who would organize their own audits.

Local jurisdictions need to provide, or **encourage their businesses, schools, recreation centers, and libraries to provide travel-related infrastructure.** Bike parking is a basic requirement; secure and covered parking goes above and beyond. Repair stations, showers, appropriate lighting, and other end-of-trip amenities can also go above and beyond.

Signage can be seen as both an Engineering and Education strategy. Sign suggestions from the survey included more “Share the Road” and “Bikes May Use Full Lane” signs in the absence of other bike facilities. **Signing popular routes and wayfinding between destinations** are useful for both local residents and tourists. MVRPC maintains the standards for the Regional Trails Signage in our library, and makes these documents available to partner agencies and jurisdictions. We also recommend that our local partners make use of the updated NACTO and MUTCD signage guides when creating or modifying new routes, lanes, and bicycle boulevards through their communities.

Partnering with the business community is essential as the Region builds and renovates, to ensure that hotels, restaurants, retail, and recreation services are focused on bicycle travel and provide infrastructure to physically connect with trails and bikeways.

Non-Infrastructure Policy and Programs

Building a bicycle-friendly Region is more than just building trails and on-street bike facilities. Policy recommendations are made to meet the goals and bring the Bikeway Plan Update vision to life in the Miami Valley Region. Program recommendations carry the policies and goals forward and engage the community at a practical level. These programs and policies become part of the content of MVRPC’s annual work plan and give shape to our involvement with our partner agencies. This section addresses those essential elements of making bicycling a viable option for transportation and recreation in our Region.

The suggested project list included many non-infrastructure projects, listed in Appendix B under the Regional tab. Without these complementary programs and activities, our bikeway network will remain underutilized. There are many existing efforts to promote bicycling in the Region, and MVRPC staff supports and promotes these efforts. MVRPC maintains a number of programs in house, while partnering with regional agencies on many more.

Policy Recommendations

Policy: Support federal spending on active transportation projects and programs for several reasons:

- Affordable — The cost savings of building active transportation facilities over typical new roadways is great, and the facilities save the community money in the long run in reduced fuel and health care costs
- Children need safe places — the ability to get to school and after school activities under their own power should be a safe and attractive option for kids
- Preventative Health Care — providing active transportation facilities in a community allows residents to increase their routine exercise and helps prevent chronic diseases of inactivity
- Demonstrated to improve communities — many cities have expanded active transportation networks and experienced increased economic activity and neighborhood vitality
- Voters favor a federal role in funding walking and biking facilities and they do not want to decrease the amount of money being spent. (Rails-to-Trails 2015)

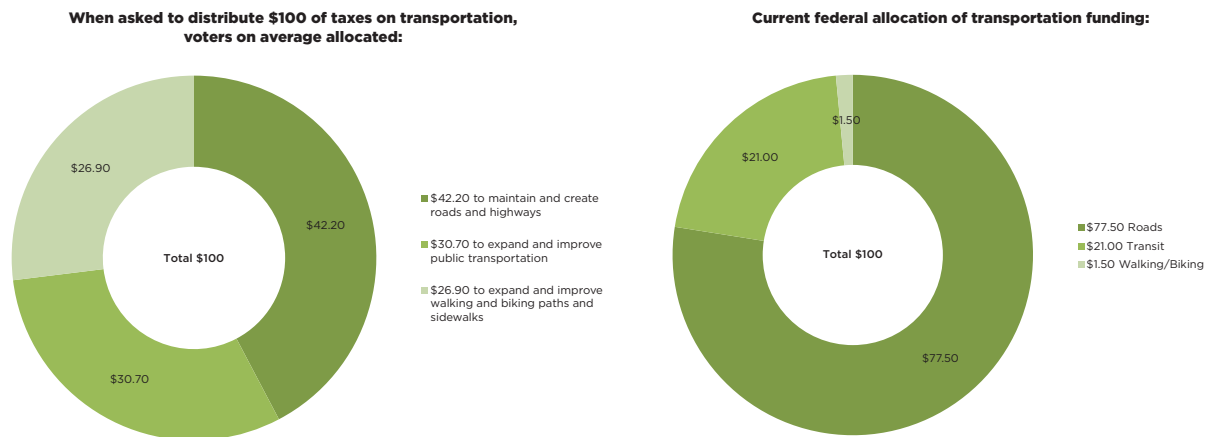
Policy: Nurture political will to improve the active transportation landscape. MVRPC sees value in the safety and livability our communities can gain with additional active transportation programs and projects. Following the Department of Transportation’s lead, we have encouraged our local partners to participate in the Mayors Challenge to improve pedestrian and cyclist safety. <http://www.dot.gov/mayors-challenge>

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Several other visionary programs to motivate political action within our Region can be harnessed. For example, Gil Penalosa's "8-80 Cities" vision (creating safe public spaces for all ages) and the "Toward Zero Deaths" movement are both accessible and relatable public policy tools. <http://www.880cities.org/> and <http://safety.fhwa.dot.gov/tzd/>

Policy: Rebalance funding of nonmotorized transportation at a more equitable rate to other travel modes. Research from Rails to Trails <http://www.railstotrails.org/policy/poll/> indicates that the public believes that more than a quarter of federal transportation dollars should be spent on bicycling and pedestrian projects, when the reality is only 1.5% of federal funds are actually spent that way.

MVRPC has a history of committing a higher level of funding to bikeways and active transportation projects than many comparable MPOs, and our Regional Complete Streets Policy ensures that the needs of all users are considered when applicants request MVRPC-controlled funding. MVRPC also encourages the adoption of local Complete Streets policies and will assist jurisdictions in that process. Increasing active transportation projects in the Regional TIP and working with state and federal funders to increase the funds devoted to these projects would further demonstrate the agency's commitment to increased health, safety, and growth in the bikeway network.



Policy: Promote the Nation's Largest Paved Trail Network — Our Network!

The Miami Valley has invested heavily in our off-street paved trails and has created the largest network of its kind in the United States. However, that fact is not widely known. Within our Region, people are regularly impressed when they see a regional map for the first time. Even our neighbors in Cincinnati and Columbus may only be aware of the Little Miami Scenic Trail and some vague connections out of Xenia. This Update recommends that MVRPC:

- Target marketing efforts inside the Region toward creating more positive associations with bicycles
- Partner with appropriate agencies to target marketing efforts outside the Region toward cycling tourism
- Encourage all individual trail-managing agencies and jurisdictions to emphasize that they are part of a much larger network
- Support efforts of those agencies to develop common marketing messages and collateral materials

Policy: Cooperation with and support of Bike Miami Valley

As a result of recommendations made in the 2008 plan, Bike Miami Valley (BMV) was relaunched as a regional advocacy group in 2010. MVRPC has a formal role on the Board of Bike Miami Valley, an informational role on the Regional Advisory Committee, and provides the organization with office space.

Bike Miami Valley will be an important partner in carrying out Education, Encouragement, and Equity activities. BMV can also work with law enforcement agencies to ensure appropriate Enforcement activities make the road safer for both motorists and cyclists. The success of the BMV chapter program will be vital to ensuring that its efforts are felt on a regional basis. As of this writing there are two chapters: Springfield and Piqua.

Bike Miami Valley launched the Link bike share program in May 2015, and the program has the potential to change the downtown Dayton bicycling landscape. The bikes have proven very popular with over 5,000 rides in the program's first month by over 1,200 unique riders. Development and maintenance of safe and inviting bike infrastructure in the bike share service area will be vital to the program's utility and success.

Policy: Continue to partner with the League of American Bicyclists to increase the number of Bike Friendly Communities in the Miami Valley

While the recognition garnered from a Bike Friendly Community award can be a great source of community pride and goodwill, the League's Bike Friendly Community program can also advance cycling culture in jurisdictions across the Miami Valley. Participation in the program will guide progress by acting as a road map for what communities should do next to build cycling culture. The BFC program has set standards for what constitutes a supportive, safe and thriving bicycling culture and environment for each level of award (Bronze, Silver, Gold, and Platinum). Participation can inspire action, involvement and coordination among people who want to improve conditions for bicyclists, and can raise expectations as to a community's potential for cycling. The program can support sustained improvement as jurisdictions respond to feedback and apply for successively higher levels of recognition.

MVRPC encourages local jurisdictions to apply for Bike Friendly Community (BFC) status with the League of American Bicyclists, to join Dayton and Troy as award recipients in our Region. Dayton and Troy should endeavor to progress to silver status in the future. MVRPC intends to work jointly with jurisdictions, trail-managing agencies and regional partners to apply for and receive a Bike Friendly Region award from the League in the next 5 years.

Program Recommendations

Education

MVRPC supports education efforts for both cyclists and drivers on sharing the road safely. This effort includes public service announcements, signage, and cyclist education classes. Critical topics include correct on-street lane position, safe passing distance, proper signaling, and navigating intersections safely. In conjunction with the launch of the Link Bike Share program, Using MVRPC funding, Bike Miami Valley will develop and offer an Adult Street Cycling program beginning in the summer of 2015.

In spring of 2015, MVRPC released two new public service announcements that address these and other issues. One is focused on cyclist behavior and the other is about motorist behavior. Both emphasize sharing the road. Bike Miami Valley, in cooperation with Cox Media Group, also began running the Travel With Care safety awareness campaign for drivers and cyclists aimed at increasing respect and empathy for cyclists and good road etiquette for both drivers and cyclists. In future years, additional PSAs should be developed on specific biking and driving safety issues.

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Facilitate professional education in non-motorized transportation planning principles.

MVRPC will continue to be a resource to our community partners, sharing reference documents and trainings as they are available. Staff regularly promotes APBP, PBIC, and APA webinars, which offer best practices from around the country and host trainings at the MVRPC offices.

To promote youth cycling education, MVRPC will **continue to host Safe Routes forums** and work with the Ohio Safe Routes Network to create opportunities for students to walk and bike to school. MVRPC supports local school efforts to provide education and encouragement events that create safe and healthy travel habits for students.

The Region should **build on the bicycle education immersion models** started at schools like the Early College Academy and the STEM school and try to replicate those models. Each of these schools offers from one week to three weeks of on-bicycle curriculum for their students. Several parks departments and advocacy organizations also offer bike rodeos for younger children. AAA Dayton maintains a Bike Rodeo kit that can be lent out to organizations and schools.



Support driver's education programs that integrate bicycling rules of the road. The preparation manual for the Ohio Driver's License Exam now includes a section on "Sharing the Road with Bicyclists." Both cyclists and drivers need more instruction on how to interact safely while sharing the road. Specific topics for drivers include: safe passing distance (3 feet), cyclists' right to take the entire lane as necessary, and care in making turns at intersections. The importance of maintaining safe speeds and carefully checking lanes should also be addressed.



Increase the number of League of American Bicyclists instructors and courses. League certified instructors can offer courses to the public about safe riding behaviors. Proper lane positioning, signaling, and riding with traffic are high priority messages of these courses. MVRPC will also continue to distribute the "Drive Your Bike" safety brochure at public events and through Bike Miami Valley, bicycle shops, the Life Enrichment Center, and other outlets.

Safe interaction of all trail users, including cyclists of all skill levels and all other modes (walkers, skaters, joggers, pet walkers, etc.) is essential. Education for new trail users is a regional need, as is better signage at intersections of trails and roadways to alert drivers of the presence of cyclists. Crowded trails are not appropriate for hardcore cycling training at high speeds, or other high-speed riding. Outreach to cycling clubs and racing teams needs to be ongoing to discourage high-speed riding on crowded sections of the trail. Likewise, slower trail users need to be reminded to stay to the right and to be aware of their surroundings. Riders wishing to travel in high-speed groups should be directed to rural roads or to quiet sections of the trail network.

Encouragement

Encouragement efforts include rides organized by trail-managing agencies and the continuation of long-standing efforts like Bike Month, Bike to Work Day and other bike-

themed events. The addition of bike infrastructure, including bike racks, water fountains, and benches in urban and rural downtowns is encouraged. Assisting employers to integrate cycling into wellness programs is another key strategy. Continued improvement of amenities, including signage, benches, lighting, tool stations, restrooms, and water stops near trail system should be added as feasible. More bike racks near businesses will encourage riders to frequent those businesses.

MVRPC will continue to support and encourage local bike month and Bike to Work Day events.

MVRPC **encourages cyclovias or cycling streets**, where a road is occasionally closed to car traffic and opened to active transportation and other community uses; the first in the Region was held in Piqua in 2015 in conjunction with the 2015 Miami Valley Cycling Summit. Organized rides for people who haven't ridden for a while and want to "get back into it" as well as family friendly or all-ages rides are recommended. Parks organizations should be encouraged to continue events like "Bike for the Health of It" (Five Rivers MetroParks) and Night Rides on the Trails (Greene County Parks & Trails).

MVRPC can **facilitate discussions of electric bikes (e-bikes) with goal of creating regional policy**. Currently the regional trail system prohibits all motorized vehicles. As part of ongoing planning, trail-managing agencies need to develop consistent policies concerning e-bikes. The primary issue is with speed and if this user group can mix safely with all other trail and road users. E-bikes can significantly extend the practical range for cycling and offer an option for increasing cycling mode share. Popularity of e-bikes is growing rapidly in Europe, Asia,

Bike Friendly Businesses Reach Out to Trail Users

City of Miamisburg is developing its new Bike Friendly Business program as an outreach effort between downtown businesses and users of the Great Miami River Trail. Each Bike-Friendly Business is committed to providing four services to visiting cyclists:

- Providing free water
- Providing bike parking
- Allowing visitors to use restrooms without pressure to purchase from the business
- Provide bicycling information in the form of maps (which the City provides) or answering questions and giving directions

Twenty businesses joined right away, following a breakfast meeting kickoff of the program. Miami Conservancy District sponsored the breakfast. Miamisburg intends to add kiosks with river, trail, and business directions information and wayfinding.

Visitors can easily spot Bike Friendly Businesses in Miamisburg: they each have a colorful sticker in front window. Already many businesses have signed up:

- The Bike Way Bike Shop
- Urban Loft Boutique
- Classic Stitch
- TJ Chumps
- Star City Brewing LLC
- Miamisburg Branch, Dayton Metro Library
- 2 Cups Coffee and Bakery
- English Manor Bed and Breakfast
- MZ Pickles Sandwich Shop
- A Taste of Wine
- Luna Blue's
- Great Miami Outfitters



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and some parts of the United States. It is likely that they will become increasingly common in our Region. However, any e-bike policy would need to address if/how they are different from mopeds, whizzers, and other gasoline powered two-wheeled vehicles.

Bike Friendly Business programs can be found in different forms in the Region, and MVRPC encourages businesses, main-street organizations, and community efforts to build on these model efforts. Miamisburg, Xenia, and Piqua have adopted simple visitor-focused programs that help local businesses interact positively with riders as customers. Each of the cities encourages their business to provide bike parking, free water, and free trails maps to visitors, as well as letting cyclists use the business restrooms without a purchase requirement. The businesses have a logo sticker that they put in their window.

The Trail Towns program <http://www.trailtowns.org>, which started along the Great Allegheny Passage, is another example of a bike-visitor focused business program. Dayton, Piqua, and Xenia are certified Trail Towns for the Buckeye Trail and North Country Scenic Trail <http://www.buckeyetrail.org/trailtowns.php>.

Another type of Bike Friendly Business program is for businesses that focus on their cycling employees, offering amenities like showers and lockers, as well as secure bike storage. Business health care benefits can be tied to participation in active transportation programs and organized rides. MVRPC's "Drive Your Bike" brochure offers information on how employers can highlight the benefits of cycling for their employees. The Region also boasts six Bike Friendly Businesses certified through the League of American Bicyclists, out of 24 total in the State of Ohio. Universities may also apply for Bike Friendly status. <http://bikeleague.org/bfa>

Continue to support and promote the Miami Valley Cycling Summit. The MVCS has been held every other year since 2009 and has the explicit goal of spurring community support and activism. Originally put together by the combined staff of Five Rivers MetroParks, City of Dayton, MVRPC, MCD, Greene County Parks & Trails, and Miami County Parks, as well as volunteers from local cycling groups, the event has fostered the growth of Bike Miami Valley and is now one of their flagship events. The Summit has been held in Dayton (2009 and 2011), in Springfield (2013), and in Piqua (2015). It is slated to be held in Greene County at Wright State University in 2017. Past Summits have attracted over 300 people to the single day, free event, and provided a forum for idea exchange. Summit speakers from across the country have shared their insights on building a cycling culture



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and cycling's impact on economic development. These speakers are also introduced to the nation's largest paved trail network, and leave with a new appreciation of our Region.

Continue to update the Miami Valley Bikeways Guide Map. Published every three years since 2005, the Bikeways Guide Map has become the gold standard for bike mapping in Ohio, with other MPOs copying the map's style and the 2014 Edition winning the Ohio GIS Conference First Place Award for Reference Maps and Best in Show award. To continue providing the best map possible, staff will incorporate more resources into the map development process, including creating new committee roles and an open issues tracking and feedback loop process. MVRPC will continue to include trail connections outside the borders of our MPO Region with an emphasis on those counties and areas that do not have their own MPO oversight or resources.

Encourage community mapping by local jurisdictions. Many local communities have found that mapping bicycle infrastructure and routes is both great public relations and a strong planning tool. Local communities are able to provide a level of detail that the regional map cannot replace.

Expand staff, pursue foundation funding for, and partner with agencies to better **support the MiamiValleyTrails.org website.** MVRPC and agency partners would continue working to make the website central to the bike culture of the Region including improved resources for tourism, local encouragement events and sponsor and community updates.

Encourage trail maintenance organizations to **provide more signage about the trails and about the area around the trails that will direct people to historical sites, eating establishments and town centers.** City and county roadway partners should also provide more on-road signage directing people to trail access points.

Support the Drive Less, Live More campaign, which encourages the public to walk, bike, carpool, and take transit as an alternative to driving alone.

Enforcement and Regulations

Enforcement efforts including speed limit enforcement, discouraging sidewalk bike riding in communities where it is illegal, and increasing predictability for cyclists and drivers are high priorities. Efforts to enforce traffic laws for motorists and cyclists need to increase as bicycles become more common on streets and roads. Improving safety will require an attitude shift on the part of all road users. Cyclists will benefit from increased safety in numbers.

A first step is stricter enforcement of existing speed limits, but this plan also recommends review of speed limits in areas with considerable bicycle traffic. **Lowering vehicle speeds** can make the roadways safer and less stressful for all users, but especially for cyclists. In some cases, jurisdictions should be encouraged to lower speed limits or add traffic calming features to the roadway.

Local jurisdictions may consider **dedicating ticketing fees or voluntary bicycle registration fees for maintenance funding.** They may also address bike theft with local bike registrations, like programs currently offered in Dayton and Beavercreek.

Continue to integrate bike and pedestrian planning programs and crash data analysis at the agency level. Staff can assist local jurisdictions with safety evaluations, walking and bicycling audits, and other techniques that address problem areas. By periodically identifying the Region's top crash locations, MVRPC can address issues through our planning process. We will also evaluate Toward Zero Death strategies for regional use.

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Amend local jurisdictions' regulations to use traffic calming measures to improve Level of Traffic Stress. Encourage land use and development codes that accommodate and encourage nonmotorized travel. Create pedestrian-oriented commercial centers and neighborhoods. Using the safety in numbers theory, creating additional visibility for bicyclists and common interaction between car and bike drivers can quickly change attitudes and improve awareness.

Limiting right turn on red at some intersections, especially near bike infrastructure or where bike traffic is heavy. Particularly where cyclists are likely to be riding the opposite direction from car traffic or coming from the rear, it is important that motorists aren't attempting to "shoot the gap" and looking only one way before turning.

Local laws may also need to be reviewed. An "Idaho Stop" law for Ohio was suggested during the public input workshop. This allows cyclists to treat a red light or stop sign as a yield sign, and to proceed after making sure the intersection is clear, without coming to a full stop. Safe passing distance as advocated in Ohio House Bill 154 would require motorists to give cyclists at least three feet of space when passing. There is now a companion bill in the Ohio Senate — Senate Bill 192 — that would do the same thing.

Keep cyclists off of sidewalks and riding with traffic in a safe and predictable fashion. Using warnings and information for cyclists to limit wrong-way and sidewalk riding will be part of our education messages. MVRPC does not recommend sidepaths as they confuse the standards of pedestrian sidewalk use with the function of a paved trail, without providing the traffic control that a trail is required to use. We direct our local engineers to use Suggested Sidepath Guidelines, attached in the appendix, when considering sidepath designs.

Equity

As mentioned previously, the issue of Equity overlaps with all of the other Es. Making sure that Engineering projects occur in lower-income and minority communities, that bicycle education is available to children of color, that trails are equally well-maintained in all parts of the Region, and making special outreach to groups which are traditionally underrepresented in cycling are all important Equity efforts.

An Equity issue that is directly related to the trail system infrastructure has evolved over the years. To a large extent, the trail network has grown the most where right-of-way was already in public hands or was fairly easy to obtain. Because many of the trails follow the flood control plain along the rivers and others follow abandoned railroad lines, trails were built extensively in the communities where these opportunities existed. This development pattern has primarily been along the Miami River and the Mad River. Miles of abandoned railroad right-of-way in Greene County have also been turned into trails. Development to the west of Dayton has not been as extensive, and there are several communities in northwest Montgomery County with no direct or easy connection to the regional trail system. Since many residents of west Dayton, Trotwood and Jefferson Township are people of color, this has resulted in a de facto equity issue. Current efforts to complete the Wolf Creek Trail connection between Dayton and Trotwood will help alleviate this, but other communities with significant minority populations are still isolated from the trail network. This factor will be considered in the scoring of infrastructure projects, with additional points given to projects which connect high-need communities.



Work with local advocates on outreach projects. We have an opportunity to treat advocacy organizations as technical assistance providers. By utilizing the networks of Bike Miami

Valley, the Major Taylor Cycling Club of Dayton, Safe Routes advocates in the schools, and the Safe Kids Coalition, we can reach audiences beyond the traditional cycling community.

Translate resources into multiple languages. Maps, websites, and other communication items can better assist non-english speaking audiences as they discover the amenities of the region.

Organized rides are easily tailored to specific interest groups, such as families, women, people of color, and immigrant groups. Supporting these targeted community events can be seen as both equity and encouragement activities.

Partner to provide basic bike lights to youth and low income communities. Many low-income riders ride out of necessity. These riders may ride at dawn and dusk to get to and from jobs. MVRPC is working with two organizations that provide bicycles equipped with front and rear lights to low-income riders. The shops Bicycles for All in Kettering and the Life Enrichment Center in Dayton provide bikes to people of limited resources. Bicycles for All repairs and sells used adult bikes at very reasonable prices and the Life Enrichment Center has a bicycle giveaway program for low-income individuals. MVRPC, through federal grant funding, provides lights to these organizations to be installed on adult bicycles. Both organizations also give children's bikes to low-income kids. MVRPC has also paired with Dayton Schools, Project Congo, GDRTA, the Link shop, and the Safe Kids Coalition to distribute bike lights.

Share bike light resources and other safety information with community police departments. Staff participates in the Miami Valley Crime Prevention Association, which provides a forum to connect with a large number of the local police departments. There, we regularly share information about events and resources. Other regions often work with the police to provide warning tickets and distribute bike lights as part of awareness campaigns.

Work with the public health community to analyze and improve health outcomes in disadvantaged areas of the Region. MVRPC partnered with Public Health Dayton and Montgomery County in 2015-16 on a community health project to focus attention on pockets of high chronic disease rates. MVRPC brings several active transportation tools to the project. Staff has also researched best practices around the country that maximize health funding and private monies in active transportation investments. Closest to home, Interact for Health in Cincinnati has given grant money to fund promotional projects and trails programming, including a salaried Trails Coordinator position. The following table (Advocacy Advance 2014) has information on health-oriented funding programs that target active transportation projects.

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Snapshot of FY 2014 CDC Funding Programs

PROGRAM	GOAL	AWARDEE TYPE	TOTAL FUNDING
State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity and Associated Risk Factors and Promote School Health	Existing CDC program that funded all 50 states and the District of Columbia to help prevent chronic disease, including in school settings.	State public health departments	51 awards \$33 million for up to 5 years
State and Local Public Health Actions to Prevent Obesity, Diabetes, Heart Disease, and Stroke	Expands on the State Public Health Actions awards to include community strategies and focuses on adults.	State and large city health departments	21 awards (17 state; 4 large city) \$69.5 million over 4 years
Partnerships to Improve Community Health (PICH)	Creates or strengthens healthy environments that make it easier for people to make healthy choices and take charge of their health at the community level. Emphasis on community partnerships.	Government agencies, non-government organizations	39 awards \$49.3 million over 3 years
Racial and Ethnic Approaches to Community Health (REACH)	Focuses on capacity building and implementation of policy and environmental improvements in racial and ethnic communities experiencing health disparities.	Government agencies, non-government organizations	49 awards (17 basic; 32 comprehensive) \$34.9 million over 3 years
National Implementation and Dissemination for Chronic Disease Prevention	Supports national organizations to reach deeper into smaller communities to strengthen ability to improve health environments.	National non-profit organizations	5 awards \$9.4 million over 3 years
A Comprehensive Approach to Good Health and Wellness in Indian Country	Implements a coordinated and more comprehensive portfolio of chronic disease prevention and health promotion	Tribal governments and organizations	22 awards \$11.3 million over 5 years
Programs to Reduce Obesity in High-Obesity Areas	Implements obesity interventions in counties with more than 40% prevalence of adult obesity.	Land grant universities cooperative extensions	6 awards \$4.2 million over 3 years

Marry active transportation and local sustainability efforts, i.e. Dayton Regional Green, Open Space planning. As with the health partnerships, active transportation is a tool for sustainability programs and projects.

Evaluation

Counting vehicle traffic is a mainstay of transportation planning. Until recently, vehicles primarily meant cars and trucks. Bicycles were often not treated or counted as vehicle traffic. This has meant that measuring bicycle mode share was difficult and has relied heavily on self-reporting in sources such as the American Community Survey, and local trail surveys. Because of the way questions in these surveys are worded, it is likely that bicycle use for transportation has been underreported. Many people who use a bicycle occasionally for commuting to work or running errands, but not as their primary journey-to-work mode therefore do not report themselves as bike commuters. Local walking/biking audits, local

counts, and intercept surveys are useful tools for gaging the broader impact of utility cycling in the region.

Maintain database of partner agency trail counters and develop on-street bike count system. Since the original plan was adopted, most of our parks partners and some cities have invested in automatic trail counters. MVRPC collects this data informally and has been aggregating it as a test process. In FY2016, MVRPC launched a concerted effort to count bicycles, both on separated trails and on selected streets and roads. New technology will make those counts much more accurate. While it is not possible to distinguish between recreational cyclists and commuters with a counter, time of day can be used as an indicator. For example, early morning riders, Monday through Friday, are more likely to be commuters. With more accurate cycling counts, it will be easier to plan for appropriate bicycle infrastructure. New counting technology may also improve data collection.

Conduct trail surveys every four years using partner agency and volunteer resources. As demonstrated by the 2009 and 2013 intercept surveys, a counter cannot replace the level of data pertaining to behavior and economic impact resulting from cycling.

Incorporate other LRTP information and recommendations. Work with ODOT, neighboring MPOs, and other state partners to address larger network issues as they arise.

Maintain an inventory of ‘local’ bikeways to complement the Regional trails network. MVRPC staff has spent considerable time updating and maintaining the geographic information systems database of bikeways for use in mapping and to share as a resource with State and local partners. This inventory shall be maintained and formalized for greater consistency and access within the organization.

Develop a benchmarking program and publication schedule for bikeways data to be shared with the community. MiamiValleyTrails.org is a possible platform for sharing the benchmarked data. Monitor national best practices, incorporate and adapt what is appropriate for our Region.

Conclusion

The years between the completion of the 2008 Comprehensive Local-Regional Bikeways Plan and this 2015 Update of that Plan have seen significant progress in terms of bike culture in the Miami Valley. New infrastructure, including new trails, bike lanes, bike and pedestrian bridges and the Link Bike Share program have been added to the regional bikeways network. Bike Miami Valley has been re-launched as a strong advocacy organization for cycling. The MiamiValleyTrails.org website has transitioned into being a publicly-managed information source for locals and visitors alike. Many of these projects were identified as priorities in the 2008 plan.

Nationally, protected bike facilities and the Level of Traffic Stress concept have emerged as tools to broaden the appeal of cycling beyond the stereotype of a Lycra-clad weekend warrior and to increase the number of people who will consider biking for transportation. The 2008 Plan did not even mention Protected Bike Lanes and the Level of Traffic Stress methodology has only been widely discussed since 2012. However, both of these approaches to increasing cycling are spreading rapidly around the country. This Update will help spread those concepts to the Miami Valley and broaden the Region's focus from the extensive Miami Valley Trail system to making streets and intersections more inviting. While MVRPC and regional partners will continue to be proud of, and to promote, the Nation's Largest Paved Trail Network, the Miami Valley cannot hope to significantly increase the mode share of biking without taking a hard look at the streets and intersections and, where possible, making them more comfortable for a broader range of people riding bikes.

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Cycling is a great form of recreation, a tool for fitness and an affordable, healthy transportation choice. But in order to be a practical, widely-used transportation option, more origins and destinations must be connected in a way that makes for a pleasant and safe riding experience. Local communities can do this by identifying and promoting existing low-stress roadways and by making improvements like bike boulevards, buffered and protected lanes, calming intersections, and widening shoulders on streets and roads throughout the Region. Community programming, activities, and education are also needed to increase exposure to safe cycling experiences.

MVRPC will continue to build better bike experiences for the Region with the tools available to an MPO. Our Complete Streets policy will ensure multi-modal transportation projects are being built throughout the Region. Our data, maps, counts, and research will guide staff and inform policy decisions, and are available as a resource to our members, partner agencies, and the public. Through MVRPC's formal and informal partnerships more education, encouragement, enforcement, and equity programming will be created to meet the Region's local needs. Our hope is to see more bike riders from more backgrounds going more places, safely. Let's use this Update as a tool to get there.