

# CHAPTER 1. INTRODUCTION

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Before teaching the world how to fly, Wilbur and Orville Wright played a pivotal role in establishing the bicycle as an American icon. The brothers became well known for their riding and repair skills after purchasing their first bikes in the early 1890s, and opened their first bicycle rental and repair shop in West Dayton in 1892. By 1895, the Wright Brothers established their own line of high-quality hand-crafted bicycles, with the top-of-the line “Van Cleve” selling for about \$65.

In designing the first airplane, the Wright Brothers were well-aware of the linkages between bicycling and flying, including the need for balance and control, the need for strong yet light-weight structures, the chain-and-sprocket propulsion system, and the need for aerodynamic design to address wind resistance. Many airplane designs and experimental components were created in the brothers’ bike shop in Dayton. Today, the Wright Brothers’ incredible achievements are honored throughout America, including the National Air and Space Museum in Washington, D.C., and locally at the National Museum of the United States Air Force, the Huffman Prairie Flying Field Interpretive Center, and the Wright Brothers Aviation Center.<sup>1</sup>



**Figure 2. The original Wright Cycle Company building still stands today in West Dayton.**

The Comprehensive Local-Regional Bikeways Plan presents a tremendous opportunity to fulfill the Wright Brothers’ vision for bicycling. The Plan will provide a new legacy as the Miami Valley region moves forward toward a sustainable future. This Plan provides a broad vision and specific strategies and actions for improving bicycling in the Miami Valley region, and is intended to be used as a guide for developing a local and regional system of on- and off-street bikeways, bicycle support facilities, and programmatic elements for improving bicyclist safety and comfort.

Covering Greene, Miami, Montgomery, and Northern Warren counties, the Comprehensive Local-Regional Bikeways Plan provides an overview of existing bikeways, sets forth goals and policies for the future development of bicycle facilities in the region, makes recommendations for improvement and construction of future bicycle facilities, and summarizes funding sources to implement the Plan. This Plan was developed using many resources, including input from Miami Valley residents, the Bikeways Plan Steering Committee, staff from various agencies, field research, and information outlined in city, county, and regional plans and documents.

## 1.1. SETTING

Located in Southwest Ohio (approximately 50 miles north of Cincinnati and 70 miles west of Columbus), the Miami Valley region includes Greene, Miami, Montgomery, and the far northern portion of Warren counties. The region is situated along several major river corridors, including the Great Miami, Stillwater, and Little Miami rivers generally traveling north-south, and the Mad River (traveling east-west). Most land uses, including early industries, developed along river corridors when the region originally settled in the late 1700s,

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<sup>1</sup> National Aeronautics and Space Museum website: [http://www.nasa.gov/Wrightbrothers/index\\_full.cfm](http://www.nasa.gov/Wrightbrothers/index_full.cfm).

and have gradually expanded outward over the past two centuries. The region's major city, Dayton, boasted a strong economy largely based on industry and manufacturing in the late 1800s, and was home to over two-dozen bicycle shops (including the Wright Cycle Company, see Figure 2). Over the past 50 years, development has largely followed the region's major transportation corridors including Interstates 70, 75, 675, and U.S. 35.

Today, 81 jurisdictions (counties, townships, cities and villages) comprise the Miami Valley region, home to approximately 822,000 people within 1,300 square miles. The region is home to many employers including Wright-Patterson Air Force Base, the largest single-site employer in the state of Ohio. Nearly 70 percent of Miami Valley residents reside in Montgomery County, with most living in Dayton (about 166,000 residents). Over the next 30 years, the region's overall population is expected to decline slightly, although employment is expected to grow during the same timeframe.



**Figure 3. MoMBA Mountain Bike Park**

The Miami Valley region includes many assets enjoyed by residents and visitors alike, including Cox Arboretum, the University of Dayton, MoMBA Mountain Bike Park (see Figure 3), Dayton Aviation Heritage National Historic Park, and numerous other attractions.

## **1.2. HISTORY OF BICYCLE PLANNING IN THE MIAMI VALLEY**

The Miami Valley benefits from an extensive trail system that has developed over the past several decades. Trail development efforts can be traced back to the Great Miami River flood of 1913. Shortly after this devastating event, the Miami Conservancy District (MCD) was formed with the primary task of protecting the region from future flood events. Owning land within the immediate river floodplain, the MCD constructed several flood control projects (including levees) between 1918 and 1922, and has built trails on and/or near these levees since the 1970s. The first of these trails included an eight-mile loop in downtown Dayton. The MCD has also permitted communities along the Great Miami River to construct trails on MCD lands, contributing to an extensive trail network. The Dayton Chapter of the American Society of Civil Engineers recently selected the MCD's flood control system and the regional trail network as among the region's top 12 civil engineering achievements.

The Miami Valley trail network is also a result of other efforts, including the conversion of abandoned railroads to recreation corridors (e.g., the Little Miami Scenic Trail and portions of the Creekside Recreation Trail). The Miami Valley Regional Planning Commission's (MVRPC) Long-Range Transportation Plan includes a long list of bikeway projects intended to further flesh out the system. In addition, numerous bicycle advisory committees are helping local communities develop connections to the regional bikeway network.

## 1.3. PURPOSE OF THE COMPREHENSIVE LOCAL-REGIONAL BIKEWAYS PLAN

The Comprehensive Local-Regional Bikeways Plan provides a broad vision, policy, goals and objectives for improving bicycling in the Miami Valley region over the next 20 years. This Plan builds on the tremendous previous work toward developing a safe and attractive bikeway system. Having a unified Plan for all jurisdictions in MVRPC's planning area is important for the following reasons:

- **Maximize Funding Sources for Implementation:** With the identification and prioritization of specific facility and programmatic improvements found in the Comprehensive Local-Regional Bikeways Plan, MVRPC and other local jurisdictions can apply for appropriate funding to support bicycling in the region.
- **Improve Safety and Encourage Cycling:** This plan provides tools to enhance safety for bicyclists in the Miami Valley through design guidelines, education, encouragement, and enforcement recommendations. This Plan provides recommendations for route improvements intended to make cycling safer for bicyclists of all ability levels. Examples of encouragement programs are also provided to motivate Miami Valley residents to ride for work, school, exercise and recreation.
- **Expand the Network and Support Facilities:** The Miami Valley already has several very popular bikeways such the Great Miami River Recreation Trail, Creekside Recreation Trail, and Little Miami Scenic Trail. While many of these existing facilities provide excellent routes for recreational bicyclists along scenic routes, developing a more comprehensive on-street network is necessary to provide full bicycle connectivity for regional communities. Implementing a complete bikeway network linking a variety of destinations – employment, shopping, school, and recreation – is critical to attracting greater numbers of bicyclists. In addition to expanding and connecting key routes, providing support facilities such as clear directional signage and secure bicycle parking will enhance the functionality of the network and encourage more people to bicycle.
- **Enhance the Quality of Life in the Miami Valley:** The development of bicycle facilities provides for people-friendly streets, trails, and activity centers available to everyone, and supports sustainable community development. Bicycling can reduce traffic congestion, vehicle exhaust emissions, noise, and energy consumption. It is a healthy and active form of travel. Good bicycling opportunities can mean good economic sense for businesses in the Miami Valley. Safe and efficient cycling opportunities will help attract tourists to the region, and attract employees to the many sports and recreation-oriented businesses.

## 1.4. PLAN DEVELOPMENT

The Comprehensive Local-Regional Bikeways Plan was developed through a series of research, field reconnaissance, and public process activities from early 2007 to early 2008. Activities included the following:

- Review of existing documents and policies related to bicycling in the Miami Valley region
- Discussions with local agency representatives to understand their needs, goals, and desires for an updated bicycle network
- An on-line survey of Miami Valley residents and other



**Figure 4. The planning process included ten public open houses**

bicycling enthusiasts yielding over 600 responses

- Extensive field work to identify existing bicycle facilities, and assess positive system attributes and deficiencies
- Evaluation of bicyclist needs, such as safety problems, demographic and geographic population, and employment demands
- Field assessment of potential improvement projects
- Regular meetings with the Bikeways Plan Steering Committee, comprised of representatives from local jurisdictions and advocacy groups
- Ten public open houses (held in May, July, and October 2007; and in March 2008, see Figure 4)
- Additional comments submitted by visitors to the Bikeways Plan website

## 1.5. CONTENTS OF THE PLAN

The Comprehensive Local-Regional Bikeways Plan is organized as follows:

- **Chapter 1, Introduction**, provides an overview of this Plan, and its purpose.
- **Chapter 2, Vision, Goals and Objectives** reviews relevant local, state and Federal planning documents and establishes a new Vision, Policy, Goals and Objectives to guide bicycle planning in the Miami Valley.
- **Chapter 3, Existing Conditions**, provides a description of existing bicycle conditions in the Miami Valley. The chapter includes maps depicting existing bikeways, and descriptions of existing bicycle programs.
- **Chapter 4, Needs Analysis**, documents the need for bicycle transportation in the Miami Valley region, including an overview of existing user groups, demand analysis, crash analysis, on-street bicycle suitability analysis, benefits analysis and a summary of public input.
- **Chapter 5, Recommended Bikeway Network**, depicts the recommended system of on- and off-street bikeways, and details several “Top-Priority” bicycle facility projects. The chapter also includes a project list and project prioritization discussion.
- **Chapter 6, Education, Encouragement and Enforcement Programs**, recommends programs that MVRPC and/or local jurisdictions should implement to promote bicycling, to increase bicyclist safety, and to increase the awareness of bicycling as a viable transportation mode.
- **Chapter 7, Safe Routes to Schools Toolkit**, provides an overview of tools and strategies for improving safety and accessibility for bicyclists and pedestrians around school zones. The toolkit was developed to assist the 30 school districts within the MVRPC planning area expressing interest in improving walking and bicycling conditions in and around school areas.
- **Chapter 8, Cost Opinions, Funding and Implementation**, provides a prioritized list of recommended bikeways with basic Cost Opinions, a list of potential funding sources, and recommended measures of effectiveness. This chapter provides an implementation plan for the bikeway network over the next 20 years.
- **Chapter 9, Design Guidelines**, provides design guidelines to be referenced when implementing bikeway projects in the Miami Valley. Design guidelines are gathered from local, state and national

best practices. The chapter is intended to serve as a guide for regional and local planners, engineers and designers when designing and constructing bicycle facilities in the Miami Valley region.

- The Project Team also developed a separate document containing Project Description Sheets showing preliminary maps and potential infrastructure improvements for the 61 Miami Valley region schools expressing interest in advancing Safe Routes to Schools projects. The maps and data will allow the schools to advance improvement plans meeting requirements of the Ohio Department of Transportation's guidance on Safe Routes to Schools.

