Trail and Greenway Plan
Terre Haute - Vigo County
Metropolitan Planning Area

Adopted: January 2011

Prepared for:
Metropolitan Planning Organization
West Central Indiana Economic Development District
1718 Wabash Ave., Terre Haute, IN 47807
(812) 236-1561 (812) 236-1564 - Fax
http://www.westcentralin.com/transport

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Adopting Resolution

METROPOLITAN PLANNING ORGANIZATION
WEST CENTRAL INDIANA ECONOMIC DEVELOPMENT DISTRICT
TRANSPORTATION POLICY COMMITTEE

Resolution Number 012511-1

A resolution adopting the Terre Haute – Vigo County Metropolitan Planning Area Trail and Greenway Plan, hereinafter referred to as the Trails Plan.

WHEREAS, West Central Indiana Economic Development District, Inc. (WCIEEDD) is the Metropolitan Planning Organization designated by the Governor of Indiana, for the Terre Haute – Vigo County Metropolitan Planning Area (MPA) pursuant to 23 CFR 450.310 ("Designations"); and

WHEREAS, The MPO Transportation Policy Committee, which is comprised of elected and appointed officials from within the MPA and the INDOT Crawfordsville District Deputy Commissioner, serves as the policy and decision-making body responsible for carrying out the federally prescribed multimodal metropolitan transportation planning process in the MPA; and

WHEREAS, The MPO Transportation Policy Committee directed development of a formal plan for further development, expansion, and integration of a multijurisdictional trails and greenways system that serves the entire MPA; and

WHEREAS, The Trails Plan was developed according to the federally prescribed continuing, cooperative, and comprehensive (3-C) multimodal transportation planning process specified by 23 CFR 450.300 ("Purpose") and 450.316 ("Interested parties, participation and consultation"); and

WHEREAS, the Trails Plan is a subset of the Terre Haute – Vigo County Long-Range Transportation Plan 2030 Update (LRTP) and it is consistent with the multimodal vision of the LRTP; then

BE IT RESOLVED, the MPO Transportation Policy Committee hereby adopts the aforementioned Trails Plan as the strategy for further development, expansion, and integration of the trails and greenways component of the multimodal transportation network in the Terre Haute – Vigo County Metropolitan Planning Area over the next 25 years.

The above and foregoing resolution was hereby adopted this 25th day of January 2011 during a regular public meeting of the MPO’s Transportation Policy Committee, held in Terre Haute, IN.

Attest:

Duke A. Bennett
Mayor, City of Terre Haute
Transportation Policy Committee Chair

Ronald M. Hinsenkamp
Chief Transportation Planner, WCIEEDD
Transportation Policy Committee Recorder
Executive Summary

Background

The Terre Haute – Vigo County Trails and Greenways Plan, hereinafter referred to as the Trails Plan, establishes the framework for further development, expansion and integration of a multijurisdictional trails and greenways system for the Terre Haute – Vigo County Metropolitan Planning Area (MPA). By building upon the existing network of facilities previously developed by the City of Terre Haute, below, this plan identifies short, mid and long-term priorities and policies that will assist local government officials and the Metropolitan Planning Organization (MPO), through its Transportation Policy Committee, in making incremental improvements and major infrastructure investment decisions about this integral component of the multimodal transportation network over the next 25 years.

Terre Haute and Vigo County serve as the regional epicenter for economic activity, education, entertainment and healthcare for West Central Indiana and East Central Illinois. The Terre Haute – Vigo County MPA encompasses 403.30 square miles and it includes the City of Terre Haute, Town of Seelyville, Town of West Terre Haute and the urbanized and rural portions of Vigo County. In 2009, total MPA population was 105,967.

This Trails Plan was developed using a comprehensive planning process that relied on significant input and feedback from local elected officials, local government agencies, stakeholder groups and the public at key decision points in the planning process. As a subset of the Terre Haute – Vigo County Long-Range Transportation Plan 2030 Update (LRTP), the plan is consistent with the multimodal vision of the LRTP, which emphasizes connectivity, improvement of safety and security, reduction of traffic congestion, protection of the environment and improvement of multimodal accessibility. The Trails Plan also supports national sustainable community goals by strategically connecting the modal pieces—bikeways, pedestrian facilities, transit, and roadways—into a truly intermodal, interconnected system.
National Road Heritage Trail (NRHT)

Since the opening of the NRHT, the City of Terre Haute and its partner organizations, including the MPO, have been linking bike lanes, shared roadways, and multi-use paths to this route that provides connections to the Central Business District, parks, schools, colleges, neighborhoods and employment centers in Terre Haute. Corridors in use today include widened and existing sidewalks along 4th, 5th, and 7th Streets, bike lanes and sidewalks on Ohio Street, a paved, multi-use path along Hulman Street, and the recently completed Poplar Street Trail that connects Deming and Dobbs Parks. A project recently let for construction, the Brown Boulevard Trail, will provide a new north-south connection along a newly constructed section of Brown Boulevard. This new trail will intersect the NRHT and connect Maple Avenue to Ohio Boulevard. By the end of 2010, the network should have approximately 18 miles of completed trails and greenways open for use by residents, students, and visitors to the area.

Riverscape Plan and Wabashiki State Fish and Wildlife Area

For more than a century local government officials and community leaders in Terre Haute and Vigo County have talked about improving the quality of life in our community and providing new opportunities for growth and development by better utilizing one of our most underdeveloped natural resources, the Wabash River. Now, thanks in large part to the vision and leadership of Wabash River Development & Beautification, Inc. (WRDBI), a local non-profit corporation formed in 2006 to spearhead this initiative, efforts are underway to transform the riverfront in Terre Haute. A large portion of the area targeted for development is within the viewshed of the Historic National Road.

Development of the Wabashiki State Fish & Wildlife Area (WSFWA), by the Indiana Department of Natural Resources (IDNR), is an outgrowth of a component of the local river development initiative. Through the collaborative efforts of WRDBI, IDNR, the Vigo County Parks Department, local government officials, private supporters and stakeholders, Indiana Governor Mitch Daniels announced during 2010 that the preserve will eventually be expanded to approximately 7,000 acres and that IDNR will take over development, management and operation of the new fish and wildlife area.

Planning Process, Products & Results

The process used to develop this plan focused on a foundation of strong public involvement; data collection and analysis; creation of a comprehensive, conceptual system-level plan; and adoption of the plan by the MPO’s Transportation Policy Committee. This process is displayed on the following page.
An 18-member Project Management Committee, made up of MPO staff members and local government officials who represented the principal jurisdictions in the MPA, oversaw the planning process and development of this plan. Over 40 individuals representing government agencies, employers, higher education, bicycle and running clubs, health advocacy groups, non-profits, and neighborhood groups and organizations were invited to serve on the Trails Advisory Committee that helped develop the inputs for this plan.

The MPO and their consultants developed and administered a 30-question online survey to seek and collect public input about existing facility use, the need for system expansion, programming priorities, educational and related program needs, and barriers to system utilization and expansion. Thanks to the promotional efforts of several stakeholder groups (ISU, Wabash Valley Roadrunners, etc.) and local media outlets, especially the Terre Haute Tribune Star, over 400 individuals chose to participate in this survey. Results from this survey provided direction on project priorities and safety needs. The following were prevalent responses:

- 95% of respondents agree that trail options should improve
- 92% feel an expanded trails system can be used for transportation purposes
- 91% feel those who bike, run and walk have the same rights as auto users
- The Wabash River and Wabashiki wetland trail crossing is Priority #1
- The need to expand the system to colleges, activity centers, and towns throughout Vigo County.

Using a consensus based approach; the Project Management Committee and Trails Advisory Committee developed and validated the following broad goals for future development and expansion of the trails and greenways network.

**Goal #1**: Expand the geographic reach and increase accessibility to the trails and greenways system in the MPA. This goal promotes the extension of infrastructure and programming to most major jurisdictions in the MPA.

**Goal #2**: Focus on trails and greenways that serve a transportation need. This goal provides a focus on trails as a alternative to the personal automobile, linking activity centers, and connecting with public transit.
**Goal #3**: Trails and greenways should be accessible to all non-motorized modes including walking, jogging, running, and bicycling.

**Goal #4**: The Terre Haute Transit Utility should be considered as a complement to walking and bicycling for longer trips or in inclement weather and should be promoted as such (all transit vehicles are equipped with bike racks to accommodate bicycles).

**Goal #5**: Integrate trail and greenways planning with other applicable planning activities, including: Safe Routes to Schools plans, Regional Transportation Plans, and Comprehensive Plans.

**Goal #6**: Increase community awareness of trail and greenway facilities and activities (bicycling, running, and walking) through education and programming in the community. This goal promotes education and programs for motorists and trail and greenway users to safely share the road and use the trail system.

On June 30, 2010, at 6:30 PM, the MPO and its consultants hosted an open house to provide local government officials, stakeholders and the public an opportunity to review compiled data and proposed plans for phased development of the network through 2035. To help publicize this meeting, the Tribune Star ran a feature article *(Trail, Greenway Plan Up for Review in Vigo)* on the front page of the paper on June 26, 2010. In addition, the MPO published a formal notice about the meeting in the Legal Section of the newspaper on June 30th. Several partners in this planning process also sent out blast email reminders about the meeting to their employees and members.

Comments and input received during the meeting were evaluated and valid suggestions and recommendations were incorporated into the final, draft plan. This plan was presented to the Transportation Policy Committee for adoption.

**Project Prioritization**

The combination of established goals and objectives, stakeholder input, and public input led to the following major priority areas of focus in selecting and programming projects identified in this plan.

I. **Regional Connections** – Access to towns, colleges, and other population centers and destinations

II. **Infill** – Short extensions and improved connections

III. **Redundancy** – Additional route options to and from multiple destinations

A Four Quadrant Prioritization Matrix (shown here ▶) was then developed to evaluate the trade-offs between the priority for a facility and the impact the facility would have on the overall trails and greenways system. **Priority** refers to the importance or need for a particular project as determined by public and/or stakeholder input. **Impact** refers to the relative cost to implement the project and relative benefit from the investment on the overall system compared with other proposed projects. Some of the projects identified in each of Priority/Impact Quadrants are described on the next page.
High Priority/High Impact Projects – These projects are highly visible and relatively expensive, and address the top priorities of the planning area. They also require high coordination among local, regional, and state agencies. Projects in this category include:

- The Wabash River Crossing using the existing US 40 bridge over the Wabash River
- The Wabashiki Boardwalk through the wetland along US 40 in West Terre Haute
- The Riverscape Plan

High Priority/Low Impact Projects – Projects in this category provide significant jurisdictional and institutional connections within the MPA. They connect colleges and towns into the system plan.

- The Saint Mary of the Woods Connector Trail: A trail that is parallel to an existing freight railroad right of way and on existing streets
- The Southeast Connector: Connecting the shared, local roadways used to reach the Town of Riley
- The Seelyville Extension: An extension of the NRHT to Seelyville
- Wabash East Bank Greenway: A trail system that would be incorporated into the Wabashiki Fish and Wildlife Area along the Wabash River.

Lower Priority/Low Impact Projects – These projects connect outlying areas to the trails and greenways system. Though of lower priority, these projects are important and are relatively easy to implement.

- SR 63 SW Connector: A key north-south shared roadway to provide access to southwest Vigo County
- Duke Easement: An east-west greenway on an electric and natural gas easement south of I-70
- Signed/striped On-street Paths: approximately 100 miles of signed, low volume, shared roadway to expand trails to outlying areas.

Lower Priority/High Impact Projects – These projects have a high benefit to the trails system for a relatively low cost.

- Wabash Avenue Bicycle Lanes: Bike lanes or a bike boulevard in downtown Terre Haute
- Washington Street Bicycle Boulevard: A bike friendly corridor in a residential area in Terre Haute.

The map on Page 8 depicts the full list of trail projects, location, and phase of implementation. The project table follows the map and shows the full construction cost, construction horizon, and lead project sponsor. More detailed information on the projects and cost is found in the full document.

Project Funding

A combination of federal, state, local and private funding mechanisms will be leveraged to implement the $34.67 million of trails and greenway projects identified in this plan. The largest single source of funding (70 – 90%) will likely have to come through federal formula apportionments and competitive grant programs administered by the Federal Highway Administration (FHWA), Federal Transit Administration, Indiana Department of Transportation (INDOT), Indiana Department of Natural Resources (IDNR) and/or the MPO. State, local and private funds can then be used to help satisfy federal match requirements (10 – 30%) and to operate and maintain the network. Among the federal funding categories, funding could come from Transportation Enhancement (TE), Congestion Mitigation/Air Quality (CMAQ), or Surface Transportation Program (STP) urban (MPO) or rural (INDOT) categories.
- Safe Routes to Schools program
- Demonstration (Demo or "Earmarks") funding
- National Scenic Byways program funds
- The Transportation, Community, and System Preservation Program
- The Recreational Trails Program
- Other Federal or State agencies.
<table>
<thead>
<tr>
<th>Planning Horizon</th>
<th>Trail Number</th>
<th>Trail Name</th>
<th>Trail Type</th>
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<td>3</td>
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<td>Shared Roadway</td>
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<td>43</td>
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<td>2035</td>
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<td>Maple - Fruitridge to Hawthorne Park near Hunt Rd</td>
<td>Bike Lane</td>
<td>Vigo County</td>
<td>$50,188</td>
</tr>
<tr>
<td>2035</td>
<td>36</td>
<td>Fort Harrison: Park Drive to Fort Harrison</td>
<td>Off Street Trail Greenway</td>
<td>Terre Haute</td>
<td>$302,505</td>
</tr>
<tr>
<td>2035</td>
<td>37</td>
<td>Smith Rd/Alexander from Ft. Harrison to Haythorne</td>
<td>Shared Roadway</td>
<td>Terre Haute</td>
<td>$26,493</td>
</tr>
<tr>
<td>2035</td>
<td>38</td>
<td>Harlan Drive</td>
<td>Shared Roadway</td>
<td>Vigo County</td>
<td>$225,171</td>
</tr>
<tr>
<td>2035</td>
<td>48</td>
<td>Margaret Ave; SR 63 to US 41</td>
<td>Shared Roadway</td>
<td>Terre Haute</td>
<td>$20,807</td>
</tr>
<tr>
<td>2035</td>
<td>P1</td>
<td>East Bank Trail - South Section</td>
<td>Off Street Trail Greenway</td>
<td>Terre Haute</td>
<td>$2,295,074</td>
</tr>
<tr>
<td>2035</td>
<td>P2</td>
<td>US 40 Grade - Pedestrian Bridge (Structure cost not included)</td>
<td>Off Street Trail Greenway</td>
<td>Terre Haute</td>
<td>$549,768</td>
</tr>
<tr>
<td></td>
<td>P3</td>
<td>East Bank Trail - North Section</td>
<td>Off Street Trail Greenway</td>
<td>Terre Haute</td>
<td>$2,400,217</td>
</tr>
</tbody>
</table>

**Sub-Total Terre Haute**: $8,988,150

**Sub-Total Vigo County**: $24,993,859

**Sub-Total Seelyville**: $681,324

**Total**: $34,663,333

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Project funded and under development.
Policy and Program Recommendations

Policy and program recommendations were also made to improve the overall operating environment for bicycling, walking, and running.

- Pursue Complete Streets Policy Guidelines
- Use bike-friendly storm sewer grates that may trap bicycle tires
- Use public transit as a complementary service to bicycling and walking
- Investigate removal of right turn on red in high use areas
- Prioritize pavement maintenance on trails
- Use pedestrian-scale signage on trails
- Promote and educate to increase awareness and safe use of trails.

In addition to policy and program recommendations, the plan also includes a section on safety, security needs and maintenance.

Plan Implementation

As stated earlier, this plan is a subset of the Terre Haute – Vigo County Long Range Transportation Plan 2030. Therefore, after formal adoption by the MPO’s Transportation Policy Committee this plan will serve as the principal guide for further improvement and development of the MPA’s alternative transportation network.

After adoption of this plan, the MPO and its local planning partners are tasked with the responsibility of identifying potential funding sources and then securing funds to move identified projects forward within the specified timeframes. As funding is secured, the MPO and local project sponsors will have to follow applicable rules, regulations and procedures to program projects and advance them through the project development cycle to construction. The typical time period for full development of a trail and/or greenway project that involves the use of federal transportation funds is 2 to 3 years, although most recreational trails projects can usually be completed in 12 to 18 months. Guidance about advancement of locally sponsored federal-aid transportation projects can be found in the INDOT LPA Process Guidance Document (http://www.in.gov/indot/div/projects/LPASection/pubs/LPAProcessGuidance.pdf). Guidance concerning development of recreational trails projects can be found in the IDNR Recreational Trails Program Manual (http://www.in.gov/dnr/outdoor/files/or-RTP_Manual.pdf).
Introduction

Overview

At the direction of its Transportation Policy Committee, the Metropolitan Planning Organization (MPO) programmed development of a multijurisdictional trails and greenways plan for the Terre Haute – Vigo County Metropolitan Planning Area in the organization’s SFY 2009 – 2010 Unified Planning Work Program (UPWP). The MPO then selected Burgess & Niple to assist the agency with development of this plan following consultant selection procedures established by the Indiana Department of Transportation.

Plan Purpose

The Terre Haute – Vigo County Trails and Greenways Plan, hereinafter referred to as the Trails Plan, establishes the framework for further development, expansion and integration of a multijurisdictional trails and greenways system for the Terre Haute – Vigo County Metropolitan Planning Area (MPA). By building upon the existing network of facilities previously developed by the City of Terre Haute (Figure 1), this plan identifies short, mid and long-term priorities and policies that will assist local government officials and the Metropolitan Planning Organization (MPO), through its Transportation Policy Committee, in making incremental improvements and major infrastructure investment decisions about this integral component of the multimodal transportation network over the next 25 years.

Figure 1: Existing Trails & Greenways Network
Context

This *Trails Plan* was developed using a comprehensive planning process that relied on significant input and feedback from local elected officials, local government agencies, stakeholder groups and the public at key decision points in the planning process. As a subset of the *Terre Haute – Vigo County Long-Range Transportation Plan 2030 Update (LRTP)*, the plan is consistent with the multimodal vision of the *LRTP*, which emphasizes connectivity, improvement of safety and security, reduction of traffic congestion, protection of the environment and improvement of multimodal accessibility. The *Trails Plan* also supports national sustainable community goals by strategically connecting the modal pieces—bikeways, pedestrian facilities, transit, and roadways—into a truly intermodal, interconnected system.

Background

The Community

Terre Haute and Vigo County serve as the regional epicenter for economic activity, education, entertainment and healthcare for West Central Indiana and East Central Illinois. The Terre Haute – Vigo County MPA encompasses 403.30 square miles and it includes the City of Terre Haute, Town of Seelyville, Town of West Terre Haute and the urbanized and rural portions of Vigo County. In 2009, total MPA population was 105,967 (Figure 2).

Colleges and universities including Indiana State University, Rose-Hulman Institute of Technology, Ivy Tech Community College, Harrison College, and Saint Mary of the Woods College help fulfill local, regional, national and international post-secondary education needs. In addition to the colleges, the business sector is driven by the region’s top employers, which include Union Hospital, Terre Haute Regional Hospital, Vigo County School Corporation, Sony, Eli Lilly, Clabber Girl/Hulman and Company, and operating units of many international corporations. The *Trails Plan* helps set the stage for expansion and creation of multimodal opportunities for users throughout the MPA to connect to the regionally important destinations mentioned above; and the existing trails, greenways and bikeways network provides an excellent hub for development of the multimodal character of the entire MPA.

Associated Plans/Visions

National Road Heritage Trail & Greenways System

Local interest in trails and greenways has been high since the mid-1990s when the City of Terre Haute began to plan, design and construct the first phase of the National Road Heritage Trail (NRHT), which will eventually stretch 150 miles across Indiana from Terre Haute on the west to Richmond on the east. The NRHT closely follows the same route as the nation’s first federally-funded highway, US Highway 40, which is a National Scenic Byway and an All American Road known as the *Historic National Road*. Wherever possible, the route of the NRHT follows the former Pennsylvania and Vandalia rail corridors that were abandoned many years ago. The trail’s name, *National Road Heritage Trail*, was actually conceived here in Terre Haute.

The local NRHT corridor connects Indiana State University (ISU) and downtown Terre Haute with eastern Terre Haute and Vigo County. This paved, multi-use path currently spans approximately seven miles, terminating at 4th Street in downtown Terre Haute on the western end and Jones Trailhead at Chamberlain Road, on the eastern end. This former abandoned rail
corridor route currently serves as the “backbone” of the existing trails and greenways system in the MPA and it will continue to anchor the network well into the future.

Since the opening of the NRHT, the City of Terre Haute and its partner organizations, including the MPO, have been linking bike lanes, shared roadways, and multi-use paths to the routes that provide connections to the Central Business District, parks, schools, colleges, neighborhoods and employment centers in Terre Haute. Corridors in use today include widened and existing sidewalks along 4th, 5th, and 7th Streets, bike lanes and sidewalks on Ohio Street, a paved, multi-use path along Hulman Street, and the recently completed Poplar Street Trail that connects Deming and Dobbs Parks. A project recently let for construction, the Brown Boulevard Trail, will provide a new north-south connection along a newly constructed section of Brown Boulevard. This new trail will intersect the NRHT and connect Maple Avenue to Ohio Boulevard. By the end of 2010, the network should have approximately 18 miles of completed trails and greenways open for use by residents, students, and visitors to the area.

Riverscape

For more than a century local government officials and community leaders in Terre Haute and Vigo County have talked about improving the quality of life in our community and providing new opportunities for growth and development by better utilizing one of our most underdeveloped natural resources, the Wabash River. Now, thanks in large part to the vision and leadership of Wabash River Development & Beautification, Inc. (WRDBI), a local non-profit corporation formed in 2006 to spearhead this initiative, efforts are underway to transform the riverfront in Terre Haute.

The goal of this long-range project is to redefine the community by creating a sustainable and active focal point where family-friendly recreation, passive natural areas and opportunities for education and interpretation about the Wabash River and the environment serve as the catalyst for compatible commercial and residential development. From the transportation standpoint, this project includes development of new recreational trails, multimodal connections and greenways that are consistent with the intent of the LRTP. A large portion of the area targeted for development is within the viewshed of the Historic National Road.

Wabashiki State Fish & Wildlife Area

Development of the Wabashiki State Fish & Wildlife Area (WSFWA), by the Indiana Department of Natural Resources (IDNR), is an outgrowth of a component of the local river development initiative. Initial plans called for development of a 2,000+ acre wetland preserve in the floodplain south of U.S. 40 on the west side of the river, between the unincorporated community of Dresser and West Terre Haute, that would be managed and operated by the Vigo County Park Department. However, through the collaborative efforts of WRDBI, IDNR, the Vigo County Park Department, local government officials, private supporters and stakeholders, Indiana Governor Mitch Daniels announced this summer that the preserve will eventually be expanded to approximately 7,000 acres and that IDNR will take over development, management and operation of the new fish and wildlife area. At the same time, Governor Daniels also unveiled state plans to eventually acquire 43,000 acres in the flood plain of the Wabash River and Sugar
Creek that will benefit wildlife, public recreation and the environment. The area, which follows 94 river miles along the Wabash River, stretches across four counties from Shades State Park to Fairbanks Landing Fish & Wildlife Area, south of Terre Haute.

Because WSFWA is the habitat for many species of birds, animals, fish and plant life it has become a burgeoning attraction for hunters, bird watchers, conservationists and outdoor recreation enthusiasts since its official opening on August 15, 2010. As IDNR and its local partners continue to develop this facility, it is clear new trails, bicycle paths and multimodal connections will have to be added.

### Planning Process

The process used to develop this plan focused on a foundation of strong public involvement; data collection and analysis; creation of a comprehensive, conceptual system-level plan; and adoption of the plan by the MPO’s Transportation Policy Committee. This process is broadly depicted in the following graphic (Figure 3) and summarized in the narrative that follows.

#### Figure 3: Planning Process Overview

![Planning Process Overview](image)

#### Public Involvement

**Committees**

An 18-member Project Management Committee, made up of MPO staff members and local government officials who represented the principal jurisdictions in the MPA, oversaw the planning process and development of this plan. These committee members were selected to serve on this committee because of their professional knowledge and expertise, and because their agencies will ultimately have to decide if they are willing to sponsor the projects identified in this plan and take on the added responsibility and cost of maintaining these expanded or new facilities. The committee met three times during the planning process (see summary Table 1). A list of committee members is included in Appendix A.
Table 1: Project Management Committee Summary

<table>
<thead>
<tr>
<th>Date</th>
<th>Meeting Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30 P.m., February 11, 2010</td>
<td>This meeting included a review of trail and greenway plan goals, a discussion of current projects and priorities for new routes, and an overview of public and stakeholder involvement in the planning process.</td>
</tr>
<tr>
<td>2:00 P.m., May 18, 2010</td>
<td>This meeting with the Transportation Policy Committee included a project update and a discussion and review of plan goals, the prioritization process, and preliminary project costing.</td>
</tr>
<tr>
<td>2:30 P.m., June 10, 2010</td>
<td>Planning process update, review of survey results, study prioritization process, initial cost and financial summary.</td>
</tr>
</tbody>
</table>

Over 40 individuals representing government agencies, employers, higher education, bicycle and running clubs, health advocacy groups, non-profits, and neighborhood groups and organizations were invited to serve on the Trails Advisory Committee. Through a series of three committee meetings (see summary in Table 2) and a public meeting on June 30th, this group provided insightful input and critically important feedback about further expansion and development of a multijurisdictional trails and greenways system. The list of individuals afforded the opportunity to serve on this committee is included in Appendix A.

Table 2: Trails Advisory Committee Summary

<table>
<thead>
<tr>
<th>Date</th>
<th>Meeting Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 P.m., November 18, 2010</td>
<td>An overview of the study scope and major milestones was provided. There was also an overview of trail and greenways terminology and types in use around the world.</td>
</tr>
<tr>
<td>7:00 P.m., March 18, 2010</td>
<td>Study goals were discussed along with the first table top exercise where participants identified needed connections through expanding the existing trail and greenway network.</td>
</tr>
<tr>
<td>7:00 P.m., June 24, 2010</td>
<td>Survey results, trail types, facility prioritization, phasing and costing, final table-top review of proposed trail and greenway system</td>
</tr>
</tbody>
</table>

Online Trails Survey

The MPO and their consultants developed and administered a 30-question online survey to seek and collect public input about existing facility use, the need for system expansion, programming priorities, educational and related program needs, and barriers to system utilization and expansion. Thanks to the promotional efforts of several stakeholder groups (ISU, Wabash Valley Roadrunners, etc.) and local media outlets, especially the Terre Haute Tribune Star, over 400 individuals chose to participate in this survey. The following summary provides an overview of the key results of this survey.

- **Respondent Distribution** – The U.S. Postal Service Zip Code Map (Figure 4) identifies the number of respondents by Zip Code who provided input into the planning process. The central Terre Haute and near east area, Zip Code 47803, is well represented with 181 responses (43 percent of the total). The south (zip code 47802) is well represented as well with 75 responses (18 percent). Some 55 percent of the responses came from participants that would have a short walk, run, or ride to reach the NRHT. It was useful to find out that although most participants are near the NRHT, the consensus was that more facilities are needed.
• **Age** – Most of the survey respondents (44%) were between 40 and 59 years of age. An additional 43 percent of responses came from ages 18 – 39 while 13 percent of the responses came from the older than 59 years group. As shown in Figure 5, an impressive cross-section of MPA residents participated in the survey.

**Figure 5: Age Group Distribution**

- 95 percent of participants either “Agreed” or “Very Much Agreed” that Terre Haute and Vigo County should improve conditions for biking and walking
- 43 percent of the participants thought the current 18 mile biking and walking system could be used as a viable transportation option
- 92 percent felt biking and walking would be a viable transportation option if improvements are made
- 91 percent felt bicyclists have the same rights and responsibilities as car drivers
- 80 percent felt safety education aimed at auto, bicyclists, and pedestrians would improve the biking and walking environment (Figure 6).
Figure 6: Safety Program

Which of the following bicycle safety courses would you or someone in your family be interested in? Please rank them with "1" being the course you would be most interested in to "5" for the course you would be least interested in. If you or your family would not be interested in any of the above, please skip this question and tell us your feelings in the box provided below.

- Bicycle Rodeo (a biking safety course for elementary school children)
- Road One (a biking safety course for adult riders interested in comm...)
- Bike Touring Course (a course to prepare you for multi-day camping tri...)
- Winter Riding Tips for Commuters (a class to help you ride comfortably...)

1 2 3 4 5
- **Walk / Run Frequency (Figure 7)**
  - 65 percent of respondents walk or run at least once per week while nearly 35 percent walk or run daily.
  - 19 percent walk or run several times per month.

**Figure 7: Walk Frequency**

![Graph showing walk frequency](image)
Barriers to Walking/Running More Frequently (select all that apply) (Figure 8)

- Facilities accounted for most of the reasons for not running/walking more frequently:
  - Lack of sidewalks/paths was the leading reason for not walking or running more frequently (55% of responses)
  - Sidewalks/paths in poor condition (38%)
  - Wide roads too difficult to cross (23%).
  - Others were lack of lighting, crossing signals too short
- Driver/motorist behavior accounted for the next largest group
  - Too many cars/driving too fast (40%)
  - Motorists don’t stop for pedestrians (25%)
- The remaining group of responses involved safety concerns and travel with small children

Figure 8: Barriers to Walking or Running

Why walk/run? (Check all that apply)

- Most (94%) indicated recreation and exercise as their reason for walking and running. About 30% of the responses were targeted to walking to destinations (work or school) and using transit.
• **What type of walking facility is used most?**
  - Sidewalks (35%)
  - Paved off street paths (28%)
  - Paved shoulders (15%)
  - Unpaved shoulders/trails (17%).

• **How often do you ride a bicycle?**
  - 56% ride at least monthly with many (36%) indicating they ride several times per week
  - Nearly 44% indicated they don’t ride at all.

• **What prevents you from biking more frequently? (Check all that apply)**
  - Driver/motorist behavior accounted for the largest group
  - Too many cars/driving too fast (52%)
  - Motorists don’t share the road (47%)
  - Lack of facilities accounted for 47% of the responses of bicycling more frequently
  - The remaining group of responses involved safety concerns and travel with small children
  - Lack of secure parking spaces at destinations was the next largest group at 23% of the responses.

• **Why do you bike? (Check all that apply)**
  - 91.3% of the respondents indicated recreation/exercise was the leading reason for bicycling
  - Bicycling for transportation to and from work, school, shopping and errands accounted for 47% of total responses.

• **Rank preference for bicycle facilities**
  - Off street paths were most desirable by 67% of those surveyed
  - Bicycle boulevards, sections of roadway where bicycles and pedestrians are emphasized, were desirable by 40% of respondents
  - On-street striped bike lanes or unstriped lanes were somewhat desirable at 30 and 32 percent, respectively.
  - Un-striped bike lanes were not desirable by 53% of those surveyed.

• **Please choose your top six preferences for improving biking conditions. (Figure 9)**
  - Priority 1 – More paved off-street paths; More bike lanes is a close 2nd
  - Priority 2 – More bike routes
  - Priority 3 – Increased traffic enforcement
  - Priority 4 – Widen outside curb lane on major street, followed closely by increase maintenance, and bike boulevards
  - Priority 5 – Education and promotion programs, followed closely by bike boulevards, education, and traffic calming
  - Priority 6 – More/improved signage and bicycle parking.
Figure 9: Preferences to Improving Current Conditions

- Please rank the following improvements from 1 to 5 (more important to least important).
  - #1 - Connection across the Wabash River and wetlands to West Terre Haute
  - #2 - Connection to the Covered Bridge trail in north east Vigo County to Parke County
  - #3 – Connection to Wabash Valley Sports Center
  - #4 – Connection to Ivy Tech and the Industrial Park
  - #5 – Connection between St. Mary of the Woods College and West Terre Haute

- Other priorities
  - Seelyville to Terre Haute
  - Extend NRHT beyond Jones Trail Head
  - More North-South trails such as Thompson’s Ditch or 13th Street
  - Connect Deming and Dobbs parks to NRHT
  - Use abandoned rails
  - Link the colleges
  - River crossing from Fairbanks Park (1)
  - More trails in south

Seventy percent of the survey respondents indicate that they use the trail at least once each week. Of those using the trail at least once per week, nearly 1/3 uses the trail three to four times each week. Clearly, the NRHT is a valued resource in Vigo County. The need for the future is to extend the trail and greenway resources to reach more people throughout Vigo County.
Public Meeting

On June 30, 2010, at 6:30 PM, the MPO and its consultants hosted an open house at the local Girl Scout Council Office to provide local government officials, stakeholders and the public an opportunity to review compiled data and proposed plans for phased development of the network through 2035. To help publicize this meeting, the Tribune Star ran a feature article (Trail, Greenway Plan Up for Review in Vigo) on the front page of the paper on June 26th. In addition, the MPO published a formal notice about the meeting in the Legal Section of the newspaper on June 30th. Several partners in this planning process also sent out blast email reminders about the meeting to their employees and members.

During the 30 minutes preceding the formal presentation by the consultant’s project manager, the 50+ individuals who attended the meeting visited various stations and talked with the consultants about the various aspects of the planning process, data collected and proposed recommendations. At the conclusion of the formal presentation participants were reminded to complete and turn-in the comment sheet they received when they arrived at the meeting. Comments and input received during the meeting were then evaluated and valid suggestions and recommendations were incorporated into the final draft plan that was presented to the Transportation Policy Committee for adoption.

Research and Data Collection

During the early stages of the planning process the consultants conducted a comprehensive review of various plans and documents related to the city’s existing trails network, land-use and development of the transportation network. Information gathered during this review helped the consultants and committee members understand what has already been accomplished and what’s currently programmed for future development. As part of this review process the consultants also compiled information about the various types of trails and greenways facilities that typically makeup a system. They then used this information to help educate committee members and other individuals involved in the planning process. Compiled information about the various facility types is included as Appendix B.

Consultant data gathering activities also included navigation of the existing trails and greenways network to inventory current facilities, evaluation of engineering and environmental feasibility of planned and proposed new alignments, and assessment of the physical environment to match potential facility types with appropriate environmental features. After validation, collected information and data was used to update and develop various Geographic Information System (GIS) layers, spreadsheets and other data files that proved to be invaluable during the development of new routes and design ideas that capitalize on natural features. Final versions of all of these GIS layers, data files and information were provided to the MPO in electronic format at the conclusion of this project.
Trail & Greenways System Development and Expansion

Goals and Objectives

This plan is built upon the following goals and objectives that were developed and validated by the Project Management Committee and the Trails Advisory Committee, using a consensus based approach, during the early stages of the planning process.

1. Expand the geographic reach and increase accessibility to the trails and greenways system in the MPA:
   a. Include the jurisdictions of West Terre Haute, Seelyville, Riley, Terre Haute, and Vigo County.
   b. Include the educational institutions of Indiana State University, Rose-Hulman Institute of Technology, Ivy Tech Community College, St. Mary of the Woods and Harrison College.
   c. Include employment locations, schools, Terre Haute City Hall, Vigo County Annex & Vigo County Court House, and larger office and industrial locations.
   d. Include parks and recreational areas.

2. Focus on trails and greenways that serve a transportation need.
   a. Travel between parks and recreational facilities.
   b. Travel from home to work.
   c. Travel to other activities (shopping, education, etc.).
   d. Expand transportation options for individuals with limited resources and limited access to a personal vehicle.
   e. Remove physical barriers (rail, river, roadways) to improve accessibility.

3. Trails and greenways should be accessible to all non-motorized modes including walking, jogging, running, and bicycling.

4. The Terre Haute Transit Utility should be considered as a complement to walking and bicycling for longer trips or in inclement weather and should be promoted as such (all transit vehicles are equipped with bike racks to accommodate bicycles).

5. Integrate trail and greenways planning with other applicable planning activities, including:
   a. Safe Routes to Schools Plans
   b. Regional Transportation Plans
   c. Comprehensive Plans.

6. Increase community awareness of trail and greenway facilities and activities (bicycling, running, and walking).
   a. Provide educational programs for trail users that include location information and how to use trails and greenways facilities.
   b. Provide educational programs for motorists, including awareness training and training on how to share the road with non-motorized users.
   c. Provide signage for the trail and greenways system that includes directions to destinations and other routes, as well as mile markers, so that users can see how close they are to destinations and how far they have traveled.

Project Prioritization

The combination of established goals and objectives, stakeholder input, and public input led to the following major priority areas of focus in selecting and programming projects identified in this plan.
IV. Regional Connections – Access to towns, colleges, and other population centers and destinations

V. Infill – Short extensions and improved connections

VI. Redundancy – Additional route options to and from multiple destinations

A Four Quadrant Matrix (Figure 10) was then developed to evaluate the trade-offs between the priority for a facility and the impact the facility would have on the overall trails and greenways system. **Priority** refers to the importance or need for a particular project as determined by public and/or stakeholder input. **Impact** is the relative cost to implement the project and relative benefit from the investment on the overall system compared with other proposed projects.

**Figure 10: Four Quadrant Prioritization Matrix**

Some examples of the projects identified in each of Priority/Impact Quadrants are shown below:

**High Priority/High Impact Projects** – These projects are highly visible and relatively expensive, and address the top priorities of the planning area. They also require high coordination among local, regional, and state agencies. Projects in this category include:

- The Wabash River Crossing using the existing US 40 bridge over the Wabash River
- The Wabashiki Boardwalk through the wetland along US 40 in West Terre Haute
- The Riverscape plan, a proposal to develop a community along the Wabash River and provide trails and greenways opportunities

**High Priority/Low Impact Projects** – Projects in this category provide significant jurisdictional and institutional connections within the MPA. They connect colleges and towns into the system plan. They include:

- The Saint Mary of the Woods Connector Trail – A trail that is parallel to an existing freight railroad right of way and on existing streets
- The Southeast Connector – Connecting the shared, local roadways used to reach the Town of Riley
- The Seelyville Extension – An extension of the NRHT to Seelyville
- Wabash East Bank Greenway – A trail system link to the Wabashiki Fish and Wildlife Area the Wabash River.
Lower Priority/Low Impact Projects – These projects connect outlying areas to the trails and greenways system. Though of lower priority, these projects are still important and are relatively easy to implement by local project sponsors (i.e. city, county, Duke Energy).

- SR 63 Southwest Connector – A key north-south shared roadway to provide access to southwest Vigo County
- Duke Easement – An east-west greenway on an electric and natural gas easement, south of I-70
- Signed/Striped On-Street Paths – Approximately 100 miles of signed, low volume, shared roadway used to expand bicycle and pedestrian infrastructure to outlying areas of the MPA

Lower Priority/High Impact Projects – These projects have a high benefit to the trails system for a relatively low cost.

- Wabash Avenue Bicycle Lanes – Bike lanes or a bike boulevard along the downtown section of Wabash Avenue
- Washington Street Bicycle Boulevard – A bike friendly corridor in a residential area in southern Terre Haute along Washington Street

Project Funding

A combination of federal, state, local and private funding mechanisms will have to be leveraged to implement the $34.4 million of trails and greenway projects identified in this plan. The largest single source of funding (70 – 90%) will likely have to come through federal formula apportionments and competitive grant programs administered by the Federal Highway Administration (FHWA), Federal Transit Administration, Indiana Department of Transportation (INDOT), Indiana Department of Natural Resources (IDNR) and/or the MPO. State, local and private funds can then be used to help satisfy federal match requirements (10 – 30%) for less costly projects, and to operate and maintain the network.

A brief summary of federal-aid programs that are commonly used to fund local trails, pedestrian and bicycle projects follows (Table 3). A complete list of all U.S. Department of Transportation programs that may be used to finance aspects of the trails, pedestrian and bicycle programs is available at http://www.fhwa.dot.gov/hep/bkepedtble.htm.

Table 3: Principal Federal-Aid Funding Programs for Trails, Pedestrian & Bicycle Projects

<table>
<thead>
<tr>
<th>Funding Program</th>
<th>Program Description</th>
<th>Eligible Pedestrian and Bicycle Activities</th>
<th>Primary Selection &amp; Funding Decision Maker</th>
<th>Typical Funding Ratio</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metropolitan Planning (PL)</td>
<td>Provides MPOs funds to carry out the federally prescribed transportation planning program.</td>
<td>Bicycle and pedestrian planning as part of the metropolitan planning process.</td>
<td>MPO</td>
<td>80% Federal&lt;br&gt;20% Non-Federal</td>
<td>Development of this trails and greenway plan was funded through this program.</td>
</tr>
<tr>
<td>Funding Program</td>
<td>Program Description</td>
<td>Eligible Pedestrian and Bicycle Activities</td>
<td>Primary Selection &amp; Funding Decision Maker</td>
<td>Typical Funding Ratio</td>
<td>Remarks</td>
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<td>--------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------</td>
<td>-----------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>MPO Group II Surface Transportation Program (STP-II)</td>
<td>Construction, reconstruction, rehabilitation, resurfacing, restoration, and operational improvements for highways and bridges including construction or reconstruction necessary to accommodate other transportation modes.</td>
<td>Construction of pedestrian walkways and bicycle transportation facilities; non-construction projects for safe bicycle use; modification of public sidewalks to comply with the Americans with Disabilities Act. Projects do not have to be within the right-of-way of a Federal-aid highway.</td>
<td>MPO</td>
<td>80% Federal 20% Non-Federal</td>
<td>The MPO has not traditionally used this program to fund trails, pedestrian and bicycle projects because it is the principal source of federal-aid funding for local road, street and bridge projects inside the MPO's Urbanized Area.</td>
</tr>
<tr>
<td>Urban Group III Surface Transportation Program (STP-III)</td>
<td>This competitive program provides communities with funds for 12 exclusive activities such as pedestrian facilities, rehabilitation and restoration of historic transportation related structures, and environmental mitigation to address water pollution due to highway runoff.</td>
<td>3 of the 12 eligible activities are pedestrian and bicycle facilities, safety and education for pedestrians and bicyclists, and rail-trails.</td>
<td>INDOT</td>
<td>80% Federal 20% Non-Federal</td>
<td>INDOT has not traditionally used this program to fund trails, pedestrian and bicycle projects because it is the principal source of federal-aid funding for local road and street projects outside of an MPO's Urbanized Area.</td>
</tr>
<tr>
<td>Rural Group IV Surface Transportation Program (STP-IV)</td>
<td>This competitive program provides communities with funds for 12 exclusive activities such as pedestrian facilities, rehabilitation and restoration of historic transportation related structures, and environmental mitigation to address water pollution due to highway runoff.</td>
<td>Construction of pedestrian walkways and bicycle transportation facilities; non-construction projects for safe bicycle use; modification of public sidewalks to comply with the Americans with Disabilities Act. Projects do not have to be within the right-of-way of a Federal-aid highway.</td>
<td>INDOT</td>
<td>80% Federal 20% Non-Federal</td>
<td>INDOT has not traditionally used this program to fund trails, pedestrian and bicycle projects because it is the principal source of federal-aid funding for local road and street projects outside of an MPO's Urbanized Area.</td>
</tr>
<tr>
<td>Transportation Enhancement Program (TE)</td>
<td>This competitive program provides communities with funds for 12 exclusive activities such as pedestrian facilities, rehabilitation and restoration of historic transportation related structures, and environmental mitigation to address water pollution due to highway runoff.</td>
<td>Construction of pedestrian walkways and bicycle transportation facilities; non-construction projects for safe bicycle use; modification of public sidewalks to comply with the Americans with Disabilities Act. Projects do not have to be within the right-of-way of a Federal-aid highway.</td>
<td>INDOT - Projects outside the MPO's Urbanized Areas</td>
<td>80% Federal 20% Non-Federal</td>
<td>In 2009, the maximum amount of funding that an INDOT District could award for a project outside of an MPO’s Urbanized Area was $3 million. However, this maximum amount is usually split and used to fund several projects. For the past 2 years the MPO has received a direct $260K sub-allocation to fund TE projects inside the Urbanized Area.</td>
</tr>
<tr>
<td>Funding Program</td>
<td>Program Description</td>
<td>Eligible Pedestrian and Bicycle Activities</td>
<td>Primary Selection &amp; Funding Decision Maker</td>
<td>Typical Funding Ratio</td>
<td>Remarks</td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------</td>
<td>----------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Highway Safety Improvement Program (HSIP)</td>
<td>This competitive program provides funding to correct or alleviate safety problems or potentially hazardous situations on the state and local system.</td>
<td>Improvements for pedestrian or bicyclist safety. Construction and yellow-green signs at pedestrian-bicycle crossings and in school zones. Identification of and correction of hazardous locations, sections, and elements (including roadside obstacles, railway-highway crossing needs, and unmarked or poorly marked roads) that constitute a danger to bicyclists and pedestrians. Highway safety improvement projects on publicly owned bicycle or pedestrian pathways or trails.</td>
<td>INDOT - Projects outside the MPO's Urbanized Areas MPO - Projects within the MPO's Urbanized Areas</td>
<td>90% Federal 10% Non-Federal</td>
<td>The MPO typically receives a direct sub-allocation of $170,862 each year for this program.</td>
</tr>
<tr>
<td>Congestion Mitigation Air Quality Program (CMAQ)</td>
<td>This competitive program provides funding for transportation projects in air quality non-attainment or maintenance areas. CMAQ projects are designed to contribute toward meeting the national ambient air quality standards.</td>
<td>Construction of pedestrian walkways and bicycle transportation facilities; non-construction projects for safe bicycle use. Projects do not have to be within the right-of-way of a Federal-aid highway, but must demonstrate an air quality benefit.</td>
<td>MPO - Projects within MPAs INDOT - Projects outside MPAs</td>
<td>80% Federal 20% Non-Federal</td>
<td>The MPO typically receives a direct sub-allocation of $693,709 each year for this program.</td>
</tr>
<tr>
<td>Recreational Trails Program (RTP)</td>
<td>This competitive program provides financial assistance for the acquisition and/or development of motorized and non-motorized recreational trails projects.</td>
<td>Non-motorized or mixed use (motorized and non-motorized) trails. Eligible categories are trail maintenance and rehabilitation, trailside or trailhead facilities, construction and maintenance equipment, trail construction, trail assessments, and trail safety and environmental protection education.</td>
<td>IDNR</td>
<td>80% Federal 20% Non-Federal</td>
<td>Even though this program is administered by IDNR, recreational trails projects must be programmed in the TIP and included in the STIP. RTP projects also require INDOT approval of an environmental document that meets federal requirements. Eligible applicants can currently request RTP Grant awards ranging from a minimum of $10,000 up to a maximum of $150,000.</td>
</tr>
<tr>
<td>Funding Program</td>
<td>Program Description</td>
<td>Eligible Pedestrian and Bicycle Activities</td>
<td>Primary Selection &amp; Funding Decision Maker</td>
<td>Typical Funding Ratio</td>
<td>Remarks</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------</td>
<td>--------------------------------------------</td>
<td>------------------------------------------</td>
<td>----------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Safe Routes to School (SRTS)</td>
<td>This competitive program provides funding for infrastructure and educational programs for bicycle and pedestrian safety at elementary and middle schools.</td>
<td>Consultant the INDOT SRTS web site (<a href="http://www.in.gov/indot/3129.htm#link3">http://www.in.gov/indot/3129.htm#link3</a>) for a list of eligible infrastructure and non-infrastructure project.</td>
<td>INDOT</td>
<td>100% Federal</td>
<td>Eligible applicants can currently request SRTS infrastructure grant awards ranging from a minimum of $5,000 up to a maximum of $250,000. The minimum award for a non-infrastructure project is currently $5,000 and the maximum is $75,000.</td>
</tr>
<tr>
<td>Transportation &amp; Community &amp; System Preservation (TCSP)</td>
<td>Provides funding for a comprehensive program including planning grants, implementation grants, and research to investigate and address the relationships among transportation and community and system preservation plans and practices and examine private sector based initiatives.</td>
<td>Pedestrian and bicycle projects meet several TCSP goals, are generally eligible for the TCSP program and are included in many TCSP projects.</td>
<td>FHWA</td>
<td>80% Federal 20% Non-Federal</td>
<td>Since 2000, 28 eligible applicants in Indiana received grants under this program with an average grant award of $729,848. (Source: <a href="http://www.fhwa.dot.gov/tcsp/grantaward.cfm">http://www.fhwa.dot.gov/tcsp/grantaward.cfm</a>) Generally, to be eligible for NSB funding, candidate projects must be located in the view shed The National Road (US Hwy 40).</td>
</tr>
<tr>
<td>National Scenic Byway Program (NSB)</td>
<td>This competitive program provides funding to preserve, protect, enhance and recognize nationally designated transportation corridors of unique character. The National Road (U.S. Hwy 40) is the single designated NSB corridor in the MPA.</td>
<td>Construction along a scenic byway of a facility for pedestrians and bicyclists and improvements to a scenic byway that will enhance access to an area for the purpose of recreation. 23 USC 162(c)(4-5). Construction includes the development of the environmental documents, design, engineering, purchase of right-of-way, land, or property, as well as supervising, inspecting, and actual construction. [Note: Construction of the recreation facility is not eligible.]</td>
<td>US DOT</td>
<td>80% Federal 20% Non-Federal</td>
<td>Since 1999, 29 eligible NSB projects have funded in Indiana under this program with an average grant award of $120,355. (Source: <a href="http://www.bywaysonline.org/grants/funded/">http://www.bywaysonline.org/grants/funded/</a>) Generally, to be eligible for NSB funding, candidate projects must be located in the view shed The National Road (US Hwy 40).</td>
</tr>
</tbody>
</table>
All transportation enhancement, safety, trails, pedestrian and bicycle projects that involve the use of federal funds provided by the U.S. Department of Transportation, or any of its agencies (FHWA, Federal Transit Administration (FTA), etc.), must be programmed in the local Transportation Improvement Program (TIP) by the MPO and then included in the State Transportation Improvement Program (STIP) by INDOT. Therefore, it is critically important that project sponsors work closely with the MPO during the preparation of funding applications and during the various phases of the project development cycle (preliminary engineering, right-of-way and construction) to insure federal funds are properly programmed and federal-aid project rules are followed.

Recommendations for System Development and Expansion

The processes described thus far in this plan were used to develop a list of candidate projects to improve and expand the trails and greenways system in the MPA. Construction cost estimates were then developed using construction estimate resources in common use in Indiana and across the transportation construction industry. In addition to construction costs for each project, costs were estimated for preliminary engineering and environmental documentation, construction engineering, and construction inspection. The average cost for preliminary engineering and environmental document services for trails projects is 6 percent of the construction costs. The cost for construction engineering and inspection is usually 14 percent of the construction cost. These costs assume that land for trail right-of-way is available. Projects were then grouped into short-, mid- and long-term categories targeted for completion by 2015, 2025 and 2035, respectively.

Short-Term Improvements

The short-term projects described in Table 4 and illustrated on the map in Figure 11 are targeted for completion by 2015. These projects expand the current trail network to the west and south and provide several logical infill and extension projects (Maple #10, Wabash Avenue #11 and Fruitridge #20).

In addition, this project list includes the US 40 Bridge Side Trail (#3) and the Dewy Point Trail (#4). These facilities were identified during the planning process a top priorities because they will provide a critical network link by connecting the City of Terre Haute, Wabashiki FWLA and the Town of West Terre Haute.
The 13th Street Bike Lanes (#13) will provide an important north-south connection from Margaret Avenue to the NRHT and the extension of the NRHT to Seelyville (#41) will provide a direct link to the system for this small community. Both of these projects will also provide opportunities for increased utilization of the NRHT and its Twigg and Jones Trails Heads.

Also included in this list of improvements is the downtown Wabash Avenue Bike Boulevard (#11), shown as a computer rendering in Figure 12. This project is in the core of Terre Haute’s Central Business District and it will help demonstrate that shared use roads and streets are viable options that should be considered during redevelopment efforts. In addition, the project is a highly visible way to show walking and cycling are important community activities in the MPA.
Figure 13: Map of Short-Term Improvements

SHORT TERM MAP (5 YRS)
TERRE HAUTE- VIGO CO MPA
Mid-Term Improvements

Mid-term improvements are those projects targeted for completion by 2025. These projects, which are listed in Table 5 and illustrated on the map in Figure 14, add both considerable geographic coverage to the network and detail to the system in the City of Terre Haute. Some of the major transportation related projects on this list include a connection to St. Mary-of-the-Woods College (#2), connection to Ivy Tech via a combination of new links (#40, #39 and #46), Thompson Ditch (#47), and the Duke Power Easement (#39).

Table 5: Mid-Term Projects (Targeted for Completion by 2025)

<table>
<thead>
<tr>
<th>Trail Number</th>
<th>Trail Name</th>
<th>Trail Type</th>
<th>Lead Project Sponsor</th>
<th>Total Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>St. Mother Theodore Guerin’s Trail to Terre Haute</td>
<td>Off Street Trail</td>
<td>Vigo County</td>
<td>$1,581,013</td>
</tr>
<tr>
<td>5</td>
<td>Wabashiki Trail</td>
<td>Off Street Trail</td>
<td>Vigo County</td>
<td>$2,503,418</td>
</tr>
<tr>
<td>9</td>
<td>Covered Bridge Gateway Trail</td>
<td>Shared Roadway</td>
<td>Vigo County</td>
<td>$115,436</td>
</tr>
<tr>
<td>12</td>
<td>TNRHT to Wabash Connector</td>
<td>Off Street Trail</td>
<td>Terre Haute</td>
<td>$313,394</td>
</tr>
<tr>
<td>14</td>
<td>Washington Ave. Trail Connector</td>
<td>Bike Boulevard</td>
<td>Terre Haute</td>
<td>$5,215</td>
</tr>
<tr>
<td>15</td>
<td>Washington Ave Bike Blvd</td>
<td>Bike Boulevard</td>
<td>Terre Haute</td>
<td>$69,215</td>
</tr>
<tr>
<td>19</td>
<td>TNRHT to Wabash Connector (Rail)</td>
<td>Rail to Trail</td>
<td>Vigo County</td>
<td>$3,398,637</td>
</tr>
<tr>
<td>23</td>
<td>St. Mary’s Road</td>
<td>Shared Roadway</td>
<td>Vigo County</td>
<td>$11,628</td>
</tr>
<tr>
<td>28</td>
<td>Rea Park Connector to Rail</td>
<td>Shared Roadway</td>
<td>Vigo County</td>
<td>$24,853</td>
</tr>
<tr>
<td>39</td>
<td>Duke Easement</td>
<td>Off Street Trail</td>
<td>Vigo County</td>
<td>$2,358,326</td>
</tr>
<tr>
<td>40</td>
<td>SR 63</td>
<td>Shared Roadway</td>
<td>Vigo County</td>
<td>$85,834</td>
</tr>
<tr>
<td>42</td>
<td>Hulman from Fruitridge to IN 46</td>
<td>Shared Roadway</td>
<td>Terre Haute</td>
<td>$39,499</td>
</tr>
<tr>
<td>43</td>
<td>Margaret Dr to SR 46 via Fruitridge and Riley Rd</td>
<td>Shared Roadway</td>
<td>Vigo County</td>
<td>$19,441</td>
</tr>
<tr>
<td>44</td>
<td>Margaret Drive: 7th to 13th</td>
<td>Sidewalk/Side Path</td>
<td>Terre Haute</td>
<td>$45,907</td>
</tr>
<tr>
<td>45</td>
<td>13th and Wabash Ave Connector</td>
<td>Bike Lane</td>
<td>Terre Haute</td>
<td>$34,120</td>
</tr>
<tr>
<td>46</td>
<td>Ivy Tech to Duke Easement</td>
<td>Shared Roadway</td>
<td>Vigo County</td>
<td>$62,269</td>
</tr>
<tr>
<td>47</td>
<td>Thompson Ditch</td>
<td>Off Street Trail</td>
<td>Vigo County</td>
<td>$582,373</td>
</tr>
<tr>
<td>49</td>
<td>SR 46 Off Street Trail</td>
<td>Off Street Trail</td>
<td>Vigo County</td>
<td>$582,373</td>
</tr>
<tr>
<td>50</td>
<td>SR 46 Side Path</td>
<td>Sidewalk/Side Path</td>
<td>Terre Haute</td>
<td>$57,536</td>
</tr>
</tbody>
</table>

| Sub-Total Terre Haute | $564,886 |
| Sub-Total Vigo County | $11,505,601 |
| Total                | $12,070,486 |
Figure 14: Map of Mid-Term Improvements

MID TERM MAP (15 YRS)
TERRE HAUTE- VIGO CO MPA

Trail Status
- Existing Trail
- Programmed for MPO
- Under Construction

Flavored Trails
- Off Street Trail Greenway
- Bike Boulevard
- Bike Lane
- Shared Roadway
- Rail Conversion to Trail
- Sidewalk/Path
- Proposed Riverfront Park
- Riley Canal Lock
- Trail Connections
- Higher Education
- Schools

Urbanized Area
- Vigo County
- Parks

TRAIL NAMES
1. St. Mary's Trail
2. Riley Canal Lock
3. Springwood Nat Trail
4. Covered Bridge Gateway Trail
5. Maple Street Trail
6. Washington Ave Bike Blvd
7. TMRCT to Washington Connector
8. 13th St from Margaret to TMRCT
9. 17th St from Washington to 13th St
10. Ohio to Washington via 13th St
11. Ohio to Washington via Rosedale Ave
12. Covered Bridge Gateway Trail-Rail
13. Freighthouse Pl, Locust St to Margaret Ave
14. St. Mary's Rail
15. Rose Park Connector to Rail
16. Backlight - Riley Canal Lock
17. Maple Ave
18. Dules Connector
19. SR 63
20. TMRCT Section 2 Extension
21. Huffman from Freighthouse to SR 46
22. Margaret Dr to SR 46 via Riley & Meyer
23. Margaret Dr, 7th to 12th
24. 13th and Indiana Ave Connector
25. Ivy Tech to Dules Connector
26. Thompson Driveway
27. SR 60 Off Street Trail
28. SR 46 Side Path

Short Term (Within 5 Years)
Mid Term (Within 10 Years)
Long Term (Within 20 Years)
As depicted in Figure 15, the Duke Easement is an existing power easement operated by Duke Energy that covers electric transmission lines and natural gas pipelines. Duke Energy guidelines for implementing trails in their easement prescribe maximum height for vegetation, proximity of the trail to transmission towers, and requirements for paved surfaces parallel to their easement, all of which are feasible design elements.

Other mid-term projects connect Rose-Hulman Institute’s north and south campuses with Harrison College (#50) and a bicycle boulevard on Washington Avenue. This boulevard, which is depicted as a simulation in Figure 16, is bicycle friendly corridor with signage and striping in place to provide cyclists information about travel distance and destinations.
Long-Term Improvements

The long-term projects listed in Table 6 and illustrated on the map in Figure 17 are targeted for completion by 2035. Projects in this time frame are key intersecting segments of the network and they will help achieve the goal of making the Terre Haute - Vigo County MPA a truly multimodal community. Trails extending the system to the far north, with the Northeast Vigo County Loop (#21, #22, #24, #25 and #30) and to the far south with the Vigo County Industrial Park (#1), will help expand the network to the outer reaches of the MPA. The Wabash River north and south extensions of the East Bank Trail (#P1 and #P3), and the US 40 Pedestrian Bridge (#P2) across the river will provide for further expansion of the network along the Wabash River and support further development of the Wabashiki FWLA. These particular projects might be able to be completed in partnership with the State of Indiana as components of the Wabash River conservation efforts mentioned earlier. Long term projects also include signed routes in the West Terre Haute and St. Mary-of-the-Woods College area west of the Wabash River and the westward extension of a shared roadway on US 40 from West Terre Haute to the edge of the MPA.

Table 6: Long-Term Projects (Targeted for Completion by 2035)

<table>
<thead>
<tr>
<th>Trail Number</th>
<th>Trail Name</th>
<th>Trail Type</th>
<th>Lead Project Sponsor</th>
<th>Total Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vigo County Industrial Park</td>
<td>Off Street Trail Greenway</td>
<td>Vigo County</td>
<td>$7,093,411</td>
</tr>
<tr>
<td>8</td>
<td>National Road Gateway Trail</td>
<td>Shared Roadway</td>
<td>Vigo County</td>
<td>$107,720</td>
</tr>
<tr>
<td>21</td>
<td>Barnhardt Rd</td>
<td>Shared Roadway</td>
<td>Vigo County</td>
<td>$31,312</td>
</tr>
<tr>
<td>22</td>
<td>Howe Place/Bennett Lane</td>
<td>Shared Roadway</td>
<td>Vigo County</td>
<td>$60,186</td>
</tr>
<tr>
<td>24</td>
<td>Maple Avenue Extended</td>
<td>Shared Roadway</td>
<td>Terre Haute</td>
<td>$42,875</td>
</tr>
<tr>
<td>25</td>
<td>Thorpe Rd/Cusic Pl/Gannon Rd</td>
<td>Shared Roadway</td>
<td>Vigo County</td>
<td>$50,839</td>
</tr>
<tr>
<td>27</td>
<td>Poplar Street</td>
<td>Bike Lane</td>
<td>Terre Haute</td>
<td>$62,801</td>
</tr>
<tr>
<td>30</td>
<td>Northeast Vigo County Loop</td>
<td>Shared Roadway</td>
<td>Vigo County</td>
<td>$404,099</td>
</tr>
<tr>
<td>32</td>
<td>Haythorne Ave</td>
<td>Shared Roadway</td>
<td>Terre Haute</td>
<td>$118,613</td>
</tr>
<tr>
<td>33</td>
<td>TNRHT to Ohio Blvd Connector</td>
<td>Sidewalk/Side Path</td>
<td>Vigo County</td>
<td>$31,434</td>
</tr>
<tr>
<td>34</td>
<td>Fruitridge from Ft. Harrison to TNRHT</td>
<td>Bike Lane</td>
<td>Terre Haute</td>
<td>$614,077</td>
</tr>
<tr>
<td>35</td>
<td>Maple - Fruitridge to Hawthorne Park near Hunt Rd</td>
<td>Bike Lane</td>
<td>Vigo County</td>
<td>$50,188</td>
</tr>
<tr>
<td>36</td>
<td>Fort Harrison: Park Drive to Fort Harrison</td>
<td>Off Street Trail Greenway</td>
<td>Terre Haute</td>
<td>$302,505</td>
</tr>
<tr>
<td>37</td>
<td>Smith Rd/Alexander from Ft. Harrison to Haythorne</td>
<td>Shared Roadway</td>
<td>Terre Haute</td>
<td>$26,593</td>
</tr>
<tr>
<td>38</td>
<td>Harlan Drive</td>
<td>Shared Roadway</td>
<td>Vigo County</td>
<td>$225,171</td>
</tr>
<tr>
<td>48</td>
<td>Margaret Ave: SR 63 to US 41</td>
<td>Shared Roadway</td>
<td>Terre Haute</td>
<td>$20,807</td>
</tr>
<tr>
<td>P1</td>
<td>East Bank Trail - South Section</td>
<td>Off Street Trail Greenway</td>
<td>Terre Haute</td>
<td>$2,295,074</td>
</tr>
<tr>
<td>P2</td>
<td>US 40 Grade - Pedestrian Bridge (Structure cost not included)</td>
<td>Off Street Trail Greenway</td>
<td>Terre Haute</td>
<td>$549,768</td>
</tr>
<tr>
<td>P3</td>
<td>East Bank Trail - North Section</td>
<td>Off Street Trail Greenway</td>
<td>Terre Haute</td>
<td>$2,400,217</td>
</tr>
</tbody>
</table>

Sub-Total Terre Haute: $6,433,331
Sub-Total Vigo County: $8,054,359

$14,487,690
Figure 17: Map of Long-Term Improvements
Policy and Program Recommendations

Several local policies may become essential, or at the very least, advantageous to pursue, as this plan is implemented and the trails and greenways system in the MPA expands. These policies will assist the MPO and its partners in their quest to become more pedestrian and bicycle-friendly and more multimodal in nature. The policies detailed in this section have been implemented successfully in other communities and are geared to increase awareness and facilitate usage of the trails and greenways system.

1. **Complete Streets** – Cities and regions across Indiana and throughout the nation have adopted *Complete Streets* policies. *Complete Streets* are roadways designed to enable safe access for all legal users including cyclists, pedestrians, individuals using mobility aids, transit riders, and motorists. Generally, *Complete Streets* policies require project sponsors to consider the needs of all transportation system users during the development of all transportation-related construction or reconstruction projects and to include appropriate user accommodations into these projects. The policy could be adopted by individual jurisdictions and/or by the MPO's Transportation Policy Committee for all projects involving the use of federal funds.

2. **Bike-friendly grates** – Storm water sewer grates that can trap bicycle tires are used on roadways throughout the MPA. At a minimum, grates that are in use on shared roadways in this plan should be replaced with grates that are safe for bicycle tires.

3. **Public Transit as a supporting mode for cyclists, walkers, and runners** – The Terre Haute Transit Utility (THTU) currently provides service on eight day routes and three night routes that crisscross the City of Terre Haute. Each bus operated by the utility is equipped with easy-to-use bicycle racks that allow cyclists to take advantage of bus transportation for long or one-way bicycle commutes, surprise bad weather or other emergencies. The walk, ride and run community is an additional market that THTU may want to focus on to increase ridership.

4. **No vehicular turns on red in areas of high pedestrian and bicycle traffic** – This policy would be implemented near parks, schools, and along routes with sidewalk, trail or greenway facilities.

5. **Prioritization of pavement maintenance on signed routes** – Pavement in good running/rolling condition attracts higher usage.

6. **Pedestrian-scale signage on trails, to address distance and way finding needs** – Recommend pedestrian-scaled mile or distance markers be placed every 1/4 mile along trails. Mile markers provide the needed feedback to runners and bicyclists so that they know how far they have traveled. Distance information may come in the form of posts with signs, medallions, bollards, or engraved stones. Mile or distance markers are particularly useful on off-street trails, like the National Road Heritage Trail, to help users gauge how far they have traveled or the distance to their destination.

7. **Promotions and Education** – Walk-Bike Days, outdoor artwork and safety programs are other ways to increase usage of the trail and greenways system, improve personal health, and increase awareness of the trail and greenways network. Early education of school age children about the benefits of outdoor activities and existing local system resources will also increase awareness.

Safety, Security and Maintenance

Operating, maintaining and managing a trails and greenways system in the MPA requires a coordinated effort between local jurisdictions who take on the responsibility of operating and maintaining
the system when they sponsor a project, and system users. The following subsections outline general strategies and practices that will help ensure the system is safe, secure and in optimal condition.

Safety and Security

Studies have shown high use is the most effective method of enhancing network safety and security. Accompanied with the implementation of thoughtful policies and strategies that anticipate and actively address safety and security issues, the trails and greenways system will be a viable transportation option that inspires the confidence of trail users and adjacent property owners alike, subsequently drawing even more users to the network and perpetuating a synergistic cycle that further enhances safety and security for all. A host of general issues are addressed in the strategies below.

Design Standards

As a minimum, network design standards should meet all mandatory and advisory standards established the American Association of State Highway and Transportation Officials (AASHTO), INDOT, IDNR and the MPO. In addition, every effort should be made to meet Americans with Disabilities Act (ADA) standards where feasible and appropriate.

Trespassing and Crime Prevention

Surveillance Systems

For areas where safety or criminal activity is perceived to be a concern, installing PVC conduit in the ground during major construction to accommodate surveillance cameras or distress phones might be a consideration. It is more cost effective than a post-construction decision to do it if the need is recognized later. Should safety and crime prove not to be issues, then funding the installation of cameras or phones will not be needed.

Trail Patrols and Enforcement

Generally, greenway safety is expected to be self-enforced to some extent by the general public. For the first three months after the opening of major new sections, management agencies should patrol the trail on a daily basis. After the first three months, management agencies should patrol on an intermittent basis. The level of patrol should be based on reported incidents and problems.

Signage

Installation of regulatory signs at common intervals along trails notifies users of trail rules. Repetition is the least expensive and most effective enforcement. The following signs are examples of those that might be placed on the trail to enhance safety and security:

- Trail users must stay on the path
- No motorized vehicles
- Area Closed Dusk to Dawn Daily
- Bicyclists Yield to Pedestrians
- Pass on the Left
- Slower Traffic, Stay Right
- Speed Limits (if applicable)

Appropriate civil penalties may be posted as well.
Trail Access

As much as it is feasible, provide frequent trail access points. Access points should be inviting and signed to welcome the public onto the greenway. This includes access from trailheads, other trails, adjacent communities, neighborhoods, roadway crossings, parks and destination points.

Good Visibility from Adjacent Neighbors

Neighbors adjacent to the greenway potentially provide 24-hour surveillance of the corridor and can become a system manager’s ally. Though some screening and setback of the trail or greenway is needed to protect an adjacent neighbor’s privacy, complete visual screening of the trail from neighborhood view should be discouraged.

High Level of Maintenance

A well-maintained greenway sends a message to the public that the community cares about the facility and discourages undesirable activity along the corridor.

Trail Safety Education and Outreach

Ongoing safety education is an important means of reducing liability exposure, encouraging safe behavior and providing awareness and understanding of good safety practices. Management agencies can initiate a variety of formal education programs and events to do this. Some possible strategies for this important goal are listed below.

Trail Brochures

Management agencies and/or private organizations should consider developing and distributing brochures about the system. Content could include safety information, maps of existing and planned trails, walkways, stairs, bikeways, and other greenway related facilities, as well as information encouraging more local trips by foot or bicycle. Maps should include transit stops to demonstrate how people can use a combination of the various modes of transportation (i.e., walking, cycling and transit) to reach their destination. Brochures should be available at trailheads, local government offices, visitor centers, libraries, community centers, parks, universities and local bicycle shops.

Trail Patrols for User Outreach

Volunteer or professional greenway patrols are also beneficial in improving corridor safety. Patrols range from informal monthly clean-up and maintenance crews to daily patrols that provide maps, information and emergency assistance. The primary function of these patrols should be to educate trail users and to provide assistance when necessary. Patrols should also be equipped to alert public safety agencies quickly if needed. Above all, the presence of a patrol deters crime and improves the users’ trail experience. System managers should be creative in using “friends of the trail” groups, local community organizations and law enforcement to maintain and monitor the greenway corridors.
Programmed Events

Events along the greenway will help increase public awareness of the facility, thereby bringing more people to the greenway. Events might include an annual run or walk event to raise money for a local charity or a series of short walks/local history tours led by long-time residents or local community leaders.

Community Projects

Community projects are the strongest means of creating a sense of ownership along the trail and they are perhaps the strongest deterrent to undesirable activity along the trail. Ideas for community projects include volunteer trail clean-up days in the spring, planting events and art projects.

Adopt-a-Trail Program

Businesses and residential communities that abut the greenway should be approached to provide support. Neighbors of the trail often see the benefit of involvement in the greenway development and maintenance. Businesses and developers may view the greenway as an integral piece of site planning and thus be willing to take on some level of responsibility for the corridor segment near their property. Creation of an adopt-a-trail program should be explored to capitalize on this opportunity and build civic pride. The adopt-a-trail program could include an adopt-a-creek or adopt-a-riverbank component to keep the creeks and riverbanks clean from garbage and natural materials such as tree limbs and leaves.

Maintenance

A high level of trail, bike facility and sidewalk maintenance is critical to any greenways system. Regular, routine maintenance on a year-round basis will prolong the life of the facilities and improve trail safety. A successful maintenance program features a high level of citizen involvement and regular activities that include a variety of maintenance practices (i.e., pavement stabilization, landscape maintenance, sign replacement, fencing, mowing, litter removal, painting, and pest control) and strategies.

Good maintenance is also an essential element in minimizing exposure to liability. It is an effective deterrent to vandalism, litter, and encroachments, an excellent way of helping advertise and promote trails as a local and regional recreational resource, and a necessary prerequisite to positive relations between adjacent land owners and local government. Proper maintenance helps make enforcement of regulations more efficient. The management agencies, local organizations and service groups that take pride in “their” trail network will be more responsive in protecting a well-maintained system as well.

General Maintenance Guidelines

The Terre Haute - Vigo County trails and greenways system will have its own distinct character and feel, its own uniqueness and will be just as distinct in its needs. Its trails network maintenance requirements will be geared toward the necessities of each of its individual facilities. Some guidelines applicable to maintenance practices for general facility types and situations are helpful however, and are detailed for reference in the sub-sections below.

Paved Multi-use Path Maintenance

Trail surfaces should be swept periodically to keep them free of sharp objects, loose gravel, broken glass, leaves and stray branches, and any other trail impediments. Multi-use path segments in forested areas will tend to accumulate surface debris such as leaves and branches at a faster rate than others. These areas should be swept more frequently to
Poor drainage infrastructure can damage trail surfaces. The edge of this multi-use path is crumbling due to inadequate drainage system.

Maintain safe surface conditions. Sweeping should be scheduled according to individual needs. Cracks, ruts and water damage will have to be repaired periodically. In addition, vegetation control will be necessary on a regular basis. Where drainage problems exist along the trails and ditches and drainage structures will need to be kept clear of debris to prevent wash outs. Checks for erosion along the trails should occur immediately after any storm that brings flooding to the local area.

On-Street Bikeway Maintenance

Keeping bikeway facilities in good condition is very important. When a bicycle lane becomes filled with debris, for example, cyclists are forced into the motor vehicle lane. Poor bikeway maintenance can contribute to accidents and deter potential cyclists unwilling to risk flat tires and skidding on roadways. Periodic checks should be made of the on-street bikeway network with work being confined to spot fixes and damage response. Sweeping of on-street facilities will need to be coordinated with the management agency’s roadway maintenance program to ensure that the roadway is cleared curb to curb. Activities could also be driven by maintenance requests from the public.

Bridges in general, even small road bridges, tend to collect road debris on the edges, removal of this debris allows cyclists to use the right hand side of the lane. Bridge sweeping will be an important network maintenance task as more on-street facilities are developed. The existing bridge over the Wabash River gathers debris in the spring after snow melt, near the curbs and on the sidewalks where a cyclist might ride and a pedestrian would walk. When a new pedestrian bridge is installed, bridge sweeping will be a necessary task.

Sidewalk Maintenance

Sidewalk maintenance includes crack and heaving repair as well as snow removal in the winter. Ongoing maintenance of sidewalks and promenades are the key to providing safe and convenient access to local schools, recreational opportunities, and other destinations in and around developed areas. It should be a goal of management agencies to keep all sidewalks clear in winter and summer alike. Local ordinances usually place the responsibility of sidewalk snow removal on the adjoining property owner and these ordinances are usually enforced based on complaints. Crack and heaving repair is typically the responsibility of the local jurisdiction and is achieved either through ordinance or the creation of new assessment districts. For segments of sidewalks included in the greenway system, management agencies will want to pay special attention to making provisions for keeping these sidewalks clear of snow.

Temporary Trail Closure

Sections of the network may be closed from time to time during periodic maintenance of the facility or environmental issues. Trail users will need to be notified during these closures. The procedural policies that the management agency should follow prior to the closing of a trail or segment are as follows:
• Post signs at all trail entrances on the impacted segments to be closed, indicating the duration of the closure.
• Do everything reasonably possible to notify the public at least 48 hours in advance of closures, except in cases of emergency, and make every effort to keep the closure period as short as possible.
• Physically block the closed trail with barriers and post “Trail Closed” signs.
• Provide “Detour” signs describing alternate routes.

The management agency should not re-open the trail until it has been inspected to ensure it is in usable condition. If any obstructions remain, the agency should provide warning signs for trail users to slow down or dismount where needed.

Seasonal Management Issues

Year-round trails systems provide for users to enjoy the bikeways and trails in different ways, with a variety of experiences throughout the seasons; however, it should be noted that four-season trails systems require a special level of management. Specific concerns include winter trail grooming, freeze/thaw cycles, spring runoff of sand and gravel at trail/roadway sections, and flooding conditions in both spring and summer. These concerns can be a challenge when a limited construction and maintenance season of approximately six months of the year constrains the management of these trails maintenance and projects. The table below summarizes general maintenance recommendations:

Table 7: Maintenance Tasks and Suggested Frequency

<table>
<thead>
<tr>
<th>Maintenance Task</th>
<th>Suggested Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspections</td>
<td>Seasonally (4 times/year)</td>
</tr>
<tr>
<td>Sign repair/replacement</td>
<td>1-3 years</td>
</tr>
<tr>
<td>Site furnishings; replace damaged components</td>
<td>As needed</td>
</tr>
<tr>
<td>Fencing repair</td>
<td>Inspect monthly for holes and damage, repair immediately</td>
</tr>
<tr>
<td>Pavement markings replacement</td>
<td>1-3 years</td>
</tr>
<tr>
<td>Pavement sweeping/blowing</td>
<td>As needed; before high use season</td>
</tr>
<tr>
<td>Pavement sealing; pothole repair</td>
<td>5-15 years</td>
</tr>
<tr>
<td>Lighting repair</td>
<td>Annually</td>
</tr>
<tr>
<td>Introduced tree and shrub plantings, trimming</td>
<td>1-3 years</td>
</tr>
<tr>
<td>Shrub/tree irrigation for introduced planting areas</td>
<td>Weekly during summer months until plants are established</td>
</tr>
<tr>
<td>Shoulder plant trimming (weeds, trees, branches)</td>
<td>Bi-annual (Fall or Spring)</td>
</tr>
<tr>
<td>Major damage response (fallen trees, washouts, flooding)</td>
<td>As needed</td>
</tr>
<tr>
<td>Culvert inspection</td>
<td>Late fall each year; after major storms</td>
</tr>
<tr>
<td>Maintaining culvert inlets</td>
<td>Inspect late fall of each year</td>
</tr>
<tr>
<td>Trash disposal</td>
<td>Weekly during high use; twice monthly during low use</td>
</tr>
<tr>
<td>Litter pick-up</td>
<td>Weekly during high use; twice monthly during low use</td>
</tr>
<tr>
<td>Graffiti removal</td>
<td>Weekly; as needed</td>
</tr>
</tbody>
</table>
Agencies responsible for system maintenance should maintain a written record of inspections to create a database of information. This database can then be used to identify safety trends and use patterns that assist the agency with prioritizing maintenance dollars. Written records also help protect the agency from potential liability by providing documentation of diligent maintenance practices targeted towards protection of the public. Typical inspection records include:

- Regular inspection reports noting any hazards that have been found along the trail along with remedial action. These note basic items such as debris found on the trail or other trail obstructions.
- Monthly inspection reports documenting the condition of the entire trail and noting any potential hazards on the trail (cracks, erosion, overhead vegetation, etc.). Corrective actions can then be integrated into the next 30-day maintenance plan.
- Quarterly visual and operational inspection reports of all trail amenities such as benches, signage, drinking fountains, bike racks and signals. Recommended corrective actions are made and integrated into a 3-month maintenance work plan.

**Risk Management**

All public facilities require a careful effort to maximize public safety and minimize exposure to liability. Best practices in minimizing potential legal actions are to manage the trails system in a coordinated program that proactively identifies safety issues whenever possible and acts to remedy them efficiently.

Risk management includes the following recommendations:

- Implement a risk management program that includes a systematic, inter-agency assessment review for all proposed improvements. Department managers, planners, designers and engineers, law enforcement, fire/rescue and field maintenance personnel should be consulted in the design and design review process.
- Implement an emergency response protocol, working with law enforcement, EMS agencies, and fire and rescue departments that includes mapping of trails and open space access points, access roads, and an “address system” such as mile markers to identify locations.
- Implement a database management system in cooperation with law enforcement agencies for tracking specific locations and circumstances of all crashes, crime incidents and safety reports, and create a safety follow-up task force to address any problems that develop.
- Routinely inspect for safety hazards, defective structures, missing safety signs, etc.
- Post and enforce safe user behavior and pathway speed limits in congested areas.
- Trim trees/brush/tall grass to address sight distance issues.

**Approach to Plan Implementation**

As stated earlier, this plan is a subset of the *Terre Haute – Vigo County Long Range Transportation Plan 2030*. Therefore, after formal adoption by the MPO’s Transportation Policy Committee this plan will serve as the principal guide for further improvement and development of the MPA’s alternative transportation network consisting of trails and greenways, especially those portions of the network that are developed and constructed using federal transportation funds provided under 23 U.S.C. and 49 U.S.C. Chapter 53.

After adoption of this plan, the MPO and its local planning partners are tasked with the responsibility of identifying potential funding sources and then securing funds to move identified projects forward within specified time frames. Once funding is secured, the MPO and local project sponsors will have to follow applicable rules, regulations and procedures to program projects and advance them through the project development cycle to construction. The typical time period for full development of a trail and/or greenway project that involves the use of federal transportation funds is 2 to 3 years, although most recreational trails projects can usually be completed in 12 to 18 months. Guidance about advancement of locally

As projects are completed and the network expands, local government agencies will face the challenge of finding the fiscal resources to maintain the system. Therefore, new ideas for generating income to maintain the system will be needed (perhaps through property, vehicle, or sales tax, user fees, non-profit or corporate sponsorships, etc.).

In summary, the implementation of this plan, which will be updated by the MPO at least every 5 years, will require the perpetual, engaged support, involvement and tenacity of all the abovementioned individuals and groups that participated in the plan development process. It is through the consistency of combined participation, effort and cooperative planning that the transportation network in Terre Haute and Vigo County will become a truly multi-modal community.
### Appendix A – Committee Membership Lists

#### Project Management Committee

<table>
<thead>
<tr>
<th>Organization</th>
<th>Name</th>
<th>Title/Dept.</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Terre Haute</td>
<td>Duke A. Bennett</td>
<td>Mayor</td>
</tr>
<tr>
<td>Terre Haute Engineering Dept</td>
<td>Chuck Ennis</td>
<td>City Engineer</td>
</tr>
<tr>
<td>Terre Haute Engineering Dept</td>
<td>Pat Martin</td>
<td>Chief Planner</td>
</tr>
<tr>
<td>Terre Haute Parks Dept</td>
<td>Eddie Bird</td>
<td>Superintendent</td>
</tr>
<tr>
<td>Terre Haute Redevelopment Dept</td>
<td>Cliff Lambert</td>
<td>Executive Director</td>
</tr>
<tr>
<td>Town of Riley</td>
<td>Clay White</td>
<td>Town Council President</td>
</tr>
<tr>
<td>Town of Seelyville</td>
<td>Brent Spier</td>
<td>Town Manager</td>
</tr>
<tr>
<td>Vigo County Area Planning</td>
<td>Jeremy Weir</td>
<td>Executive Director</td>
</tr>
<tr>
<td>Vigo County Board of Commissioners</td>
<td>Judy A. Anderson</td>
<td>Commissioner</td>
</tr>
<tr>
<td>Vigo County Highway Dept</td>
<td>Jerry Netherlain</td>
<td>County Engineer</td>
</tr>
<tr>
<td>Vigo County Parks Dept.</td>
<td>Keith Ruble</td>
<td>Superintendent</td>
</tr>
<tr>
<td>WCIEEDD/MPO</td>
<td>Merv Nolot</td>
<td>Executive Director</td>
</tr>
<tr>
<td>WCIEEDD/MPO</td>
<td>Ron Hinsenkamp</td>
<td>Chief Transportation Planner</td>
</tr>
<tr>
<td>WCIEEDD/MPO</td>
<td>Pat Macke</td>
<td>Transit Planner</td>
</tr>
<tr>
<td>WCIEEDD/MPO</td>
<td>Jackie Mitchell</td>
<td>Highway Planner</td>
</tr>
<tr>
<td>WCIEEDD/MPO</td>
<td>Dan Wegner</td>
<td>Highway Planner/Modeler</td>
</tr>
<tr>
<td>West Terre Haute Town Board</td>
<td>Earl Rodgers</td>
<td>Designated Representitive</td>
</tr>
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</table>

#### Trails Advisory Committee

<table>
<thead>
<tr>
<th>Organization</th>
<th>Name</th>
<th>Title/Dept.</th>
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</thead>
<tbody>
<tr>
<td>Art Spaces</td>
<td>Kathy Hannum</td>
<td>Board Member</td>
</tr>
<tr>
<td>Collett Park Neighborhood Association</td>
<td>Marshall Rector</td>
<td>President</td>
</tr>
<tr>
<td>Dobbs Glen Neighborhood Group</td>
<td>Don Cvengros</td>
<td>Board Member</td>
</tr>
<tr>
<td>Downtown Terre Haute Inc.</td>
<td>Andrew Connor</td>
<td>Executive Director</td>
</tr>
<tr>
<td>Edgewood Grove Neighborhood Group</td>
<td>Denise Pendergast</td>
<td>President</td>
</tr>
<tr>
<td>Farrington Grove Historical District</td>
<td>Steve Pontius</td>
<td>President</td>
</tr>
<tr>
<td>Harrison College</td>
<td>Patricia J. Mozley</td>
<td>Regional Executive Director</td>
</tr>
<tr>
<td>Idle Creek</td>
<td>Rick Jenkins</td>
<td>Representative</td>
</tr>
<tr>
<td>Indiana National Road Association</td>
<td>Joseph Jarzen</td>
<td>Executive Director</td>
</tr>
<tr>
<td>Indiana State University</td>
<td>Kevin Runion</td>
<td>Assoc. VP of Facilities</td>
</tr>
<tr>
<td>Indiana State University</td>
<td>John McNichols</td>
<td>Coord-Head Mens Track/CC Coach</td>
</tr>
<tr>
<td>Ivy Tech Community College</td>
<td>John R. Adkins</td>
<td>Exec Dir Admin Regional Scvs</td>
</tr>
<tr>
<td>Lakewood Subdivision</td>
<td>Norm Froderman</td>
<td>Representative</td>
</tr>
<tr>
<td>Lincolnshire/Woodshire Neighborhood Group</td>
<td>Shirley Waterman</td>
<td>President</td>
</tr>
<tr>
<td>Minority Health Coalition</td>
<td>Diane Hart</td>
<td>President</td>
</tr>
<tr>
<td>National Road Bicycle Club</td>
<td>Dan Watson</td>
<td>President</td>
</tr>
<tr>
<td>Neighborhood</td>
<td>Bobbi McPeak</td>
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<tr>
<td>North Willow Brook Homeowner's Association</td>
<td>Molly Hawes</td>
<td>President</td>
</tr>
<tr>
<td>Quails Forever</td>
<td>Steve Hill</td>
<td>President</td>
</tr>
<tr>
<td>Regional Hospital</td>
<td>Mindy Balka</td>
<td>Marketing Director</td>
</tr>
<tr>
<td>Rose Hulman Inst. Of Technology</td>
<td>James McKinney</td>
<td>Professor of Civil Engineering</td>
</tr>
<tr>
<td>Ryves Neighborhood Group</td>
<td>Tom Hildebrand</td>
<td>President</td>
</tr>
<tr>
<td>Sisters of Providence</td>
<td>Pat Goodwin</td>
<td>Facilities Planner</td>
</tr>
<tr>
<td>Organization</td>
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<td>Title/Dept.</td>
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</tr>
<tr>
<td>South Willow Brook Subdivision</td>
<td>Rick Gordon</td>
<td>President</td>
</tr>
<tr>
<td>Terre Haute Chamber of Commerce</td>
<td>Rod Henry</td>
<td>President</td>
</tr>
<tr>
<td>Terre Haute Economic Development Corp.</td>
<td>Lisa Johnson</td>
<td>President</td>
</tr>
<tr>
<td>Terre Haute Landmarks</td>
<td>Mike McCormick</td>
<td>President</td>
</tr>
<tr>
<td>The Will Center</td>
<td>Peter C. Ciancone</td>
<td>Executive Director</td>
</tr>
<tr>
<td>Trees, Inc.</td>
<td>Daniel Conley</td>
<td>Member</td>
</tr>
<tr>
<td>Twelve Points Greater Northside</td>
<td>Rich Curtis</td>
<td>President</td>
</tr>
<tr>
<td>Union Hospital</td>
<td>Lorrie Heber</td>
<td>Director of Public Relations</td>
</tr>
<tr>
<td>Vigo County Historical Society</td>
<td>Marylee Hagan</td>
<td>Executive Director</td>
</tr>
<tr>
<td>Vigo County School Corp.</td>
<td>Ray Azar</td>
<td>Director of Student Services</td>
</tr>
<tr>
<td>Wabash River Development &amp; Beautification, Inc</td>
<td>John Mutchner</td>
<td>President</td>
</tr>
<tr>
<td>Wabash Valley Community Foundation</td>
<td>Beth Tevlin</td>
<td>Executive Director</td>
</tr>
<tr>
<td>Wabash Valley Roadrunners</td>
<td>Mike Morris</td>
<td>President</td>
</tr>
<tr>
<td>Washington Park Neighbor</td>
<td>Annetta Sweatt</td>
<td>Member</td>
</tr>
<tr>
<td>West Terre Haute</td>
<td>Earl C. Rodgers</td>
<td>Representative</td>
</tr>
</tbody>
</table>
Appendix B - Trail and Greenway Facility Types

Greenways, Multi-Use Trails, and Shared-Use Paths

Shared-use paths and greenways (also referred to as “trails” and “multi-use paths”) such as the NRHT are often viewed as recreational facilities but they are also important corridors for utilitarian trips. Shared use paths serve both bicyclists as well as pedestrians and provide additional width over a standard sidewalk. These facilities may be constructed adjacent to roads, through parks or open space areas, along creeks, or along linear corridors such as abandoned railroad lines.

In rural areas, shared use paths can serve as an alternative to formal curb, gutter and sidewalks. If an asphalt or concrete surface is not desired, paths can be constructed with an aggregate material to better fit in with the rural environment. Regardless of the type, paths constructed next to the road must have some type of vertical (e.g., curb or barrier) or horizontal (e.g., landscaped strip) buffer separating the path area from adjacent vehicle travel lanes.

Shared use paths can provide a desirable facility particularly for joggers, runners, walking trips, and cyclists of all skill levels preferring separation from traffic. Shared use paths should generally provide travel opportunities not provided by existing roadways. Elements that enhance shared use path design include:

- Frequent access points from the local road network
- Directional signs to direct users to and from the path, street identification signs at every intersection with the road network
- High building standards to allow heavy maintenance equipment to use the path without causing it to deteriorate
- Few at-grade crossings with streets or driveways
- Identification and addressing of potential safety and security issues up front
- Separate bicycle and pedestrian ways to reduce conflicts whenever possible, and especially where heavy use can be expected.

### Trail Corridor Guidelines

<table>
<thead>
<tr>
<th>Design Summary</th>
<th>Design Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Width:</strong></td>
<td></td>
</tr>
<tr>
<td>▪ 12’ is recommended in most situations</td>
<td></td>
</tr>
<tr>
<td>▪ 12-14’ or greater is recommended for heavy use situations with high concentrations of multiple users such as joggers, bicyclists, rollerbladers and pedestrians.</td>
<td></td>
</tr>
<tr>
<td>▪ 10’ is the minimum standard for a two-way shared use path and is only recommended for low traffic situations</td>
<td></td>
</tr>
<tr>
<td><strong>Lateral Clearance:</strong></td>
<td></td>
</tr>
<tr>
<td>▪ A 2’ or greater shoulder on both sides</td>
<td></td>
</tr>
<tr>
<td><strong>Overhead Clearance:</strong></td>
<td></td>
</tr>
<tr>
<td>▪ Clearance to overhead obstructions should be 8’ minimum, with 10’ recommended.</td>
<td></td>
</tr>
<tr>
<td><strong>Separation From Roadway:</strong></td>
<td></td>
</tr>
<tr>
<td>▪ 5’ min. buffer should separate the path from the edge of the roadway, or a physical barrier of sufficient height should be installed where a shared use path must be adjacent to a roadway.</td>
<td></td>
</tr>
</tbody>
</table>

Recommended shared use path design
### Trail Opportunities

#### Rails-to-Trails

Throughout the US, communities utilize abandoned railroad corridors to complete bikeway system gaps. Commonly referred to as Rails-to-Trails, these projects convert vacated rail corridors into off-street paths. Rail corridors offer several advantages, including relatively direct routes between major destinations, and following generally flat terrain.

![National Road Heritage Trail in Terre Haute, IN](image)

#### Rails-with-Trails

Rails-with-Trails projects typically consist of paths adjacent to active railroads. It should be noted that some constraints could impact the feasibility of rail-with-trail projects. In some cases, space needs to be preserved for future planned freight, transit or commuter rail service. In other cases, limited right-of-way width, inadequate setbacks, concerns about trespassing, and numerous mid-block crossings may affect a project's feasibility.

![The San Fernando Bike Path along the Metro Orange Line, Los Angeles](image)

#### Utility and Waterway Corridor Trails

Utility and waterway corridors offer excellent trail development and bikeway gap closure opportunities. Utility corridors typically include power line and sewer corridors, while waterway corridors include canals, drainage ditches, rivers, and beaches. These corridors offer excellent transportation and recreation opportunities for cyclists of all ages and skills.

![The Charles River Esplanade in Boston, MA](image)
Bikeway Selection

Selecting the appropriate bikeway should consider a variety of factors. There is not an established methodology to select a bikeway, however, the American Association of State Highway and Transportation Officials (AASHTO) has developed guidelines and University of North Carolina Bicycle and Pedestrian Information Center researcher, Michael King, compared several bikeway selection methods in use in many states.

A review of existing guidelines and research reveals a wide variety of bikeway selection methods. AASHTO suggests bicyclists with different skill levels prefer certain bikeways and should be considered when selecting a bikeway. King’s research found states use different traffic volume and posted speed thresholds as factors in bikeway selection. King developed a composite chart showing the ranges in thresholds for bicycle facilities. These factors used by the researched states are:

- Average Daily Traffic volume
- Posted Speed
- Roadside Development
- Right of Way Availability
- Topography
- Expected User Type

King’s composite chart is shown below in Figure 8. The relationship between speed and traffic volume is a very important consideration when determining the type of trail whether for walking, running or bicycling. As a general rule, the higher the traffic volume and travel speed on a roadway, the more likely it is that a separated trail is required.

Figure 18: Volume, Speed, and Facility Type
Bicyclists travel reasonably well with automobiles on shared roadways at speeds below 20 mph and traffic below 7,000 vehicles per day. At higher traffic levels, up to 11,000 vehicles per day, wide outside lanes work well. In traffic conditions above 11,000 vehicles, a bike lane or shoulder is recommended at speeds of 15 or 20 mph. As speeds increase above 20 mph, so does the need for wide travel lanes and bike lanes to provide ample width to separate bicycles from automobile traffic. Generally, high traffic volumes warrant bike lanes. However, existing roadway width and posted speeds should also be considered.

Bike lanes, bike routes, and bike boulevards are discussed below.

**Bike Lanes**

Bike lanes are dedicated portions of a roadway for bicycle use only, indicated by white lane striping and pavement markings. Bike lane widths should be five feet or wider if along parked cars or on roadways with traffic speeds greater than 35 miles per hour. The standard minimum bike lane width in Indiana is four feet.

**On-Street Parking:** Minimizing parking lane widths greater than nine feet should be considered to provide more space between parked cars and the bike lane. Painting parking “T”s will help align cars close to the curb. Bike lanes are not recommended on roadways with angled parking because motorists are unable to see on-coming traffic and could collide with bicyclists.

**Roadside Development:** Roadways serving developed commercial areas that encourage automobile travel may be appropriate for bike lanes. Shopping areas and office parks can be attractive to bicyclists if bike lanes are provided.

**Right of Way Availability/Road Diet:** Bike lanes are typically striped within the existing right of way. Lane widths are narrowed or lanes are removed to reallocate space for bike lanes. So called “road diets” require a combination of public agency and community support along with expected future demand.

**Topography:** Bike lanes are considered on uphill sections of roadway so bicyclists are not slowing automobile traffic. If roadway space is available, bike lanes can be installed on downhill sections, though they are not necessary because bicyclists can minimize their speed differential with motorists.

**Expected User Type:** Novice to intermediate riders feel the most comfortable on bike lanes because they are provided with a designated lane.
Bike Route – Shared Wide Outside Lane or Shoulder

Bike routes are roadways signed for bicycles. Typically, bike routes are on roadways that are generally pleasant to bicycle on. Bike routes with wide outside lanes or shoulders are typically in sparsely developed areas and connect to regional destinations.

Right of Way Availability: Bike routes do not require additional ROW.

Topography: Bike routes do not require a particular topography. However, routes may be provided on the downhill direction of a roadway with uphill bike lanes. This scenario may be used when ROW only provides space for one bike lane.

Expected User Type: Intermediate and experienced bicyclists should be expected to use bike routes, especially when traffic volumes or speed are high.

Bike Route – Narrow Outside Lane and Shared Lane Markings

Average Daily Traffic Volume and Posted Speed: Bike routes with narrow outside lanes should have low ADT and posted speeds of 25 miles per hour or less.

On-Street Parking: The presence of on-street parking on bike routes warrant “Shared Lane Markings,” which are bicycle pavement stencils painted approximately 11 feet from the curb to delineate bicycle travel away from opening car doors.

Roadside Development: Bike routes with narrow outside lanes are typically in densely developed areas such as residential neighborhoods and connect to local destinations.

Topography: Since bike routes generally provide local access, topography should be flat or have few low to moderate grades.

Expected User Type: Bicyclists of all skill levels
Bike Boulevards

Bike boulevards are bikeways on low volume urban roadways that encourage bicycle use with a variety of traffic calming treatments (e.g. traffic diverters, traffic circles and bulb-outs). Some cities paint oversized stencils of bikes in the center of the travel lane to notify motorists that bicyclists are prioritized. Bike boulevards typically provide parallel routes to roadways that do not have bikeways or maybe uncomfortable for some bicyclists. Traffic controls along bike boulevards assign priority to through bicyclists while encouraging motorized traffic to use alternate routes.

**Average Daily Traffic Volume and Posted Speed:** Roadways should have low traffic volumes and posted speeds of 25 miles per hour or less. Bike boulevards may be developed on roadways where residents and public agencies desire less traffic and slow traffic speeds.

**On-Street Parking:** Roadways may have on-street parking and “Shared Lane Markings” may be used as a bike boulevard treatment.

**Roadside Development:** Residential areas

**Right of Way Availability:** No additional ROW is needed; however, the agency with jurisdiction should support the construction of traffic calming treatments which effectively reduce traffic volumes and speed.

**Topography:** Flat with minimal or no grades

**Expected User Type:** All skill levels, especially novice and children