



Master Plan for the Wabash River Greenway

November 18, 2010

A Project of
The Wabash River Enhancement Corporation

Funded by:
North Central Health Services
U.S. Army Corps of Engineers, Louisville District



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The Wabash River like many great rivers across the country served as the foundation for human activity along its banks. It provided transportation, food and water, and a fertile environment to live and thrive for its inhabitants.

Its history, ranging from being the intrinsic home to various Native American tribes, serving as a transportation route and center for early European traders, and, again acting as a transportation conduit, this time for American expansion via steamboat and canal boat, the Wabash River was the heart and soul for why and how humans came, survived, and thrived in what is now Tippecanoe County.

The Lafayette community was founded, grew, and prospered as a "River Town" along the Wabash River and readily became a canal port when the Wabash and Erie Canal came through. As technology and commerce grew and evolved, built on the new dominance of the railroad, the river was forgotten and this once vital ribbon running through our community, binding it together, was ignored and viewed as a barrier and waste zone.

As commerce and technology continue to evolve and change nationwide, and our country once again turns to its rivers to enhance its growth and prosperity, Lafayette-West Lafayette also has returned to its river to once again be the heart and soul of our community and bind us together along its banks.

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Forward

Make no little plans; they have no magic to stir men's blood, and probably themselves will not be realized. . . Daniel Burnham

In 2004, as a result of a generous grant from North Central Health Services, the cities of Lafayette and West Lafayette, Tippecanoe County, and Purdue University launched the Wabash River Enhancement Corporation (WREC). As a nonprofit charitable organization, its mission is to undertake projects and programs to enhance the the Wabash River and its tributaries in a manner that will contribute to the quality of life of the Greater Lafayette community and surrounding area. WREC's mission reflects a growing recognition that the Wabash River, which has played such an important historic role in the region's development, offers significant health, recreation, education, economic development, environmental management and cultural opportunities that can contribute to the region's future prosperity.

Since its establishment, WREC has received financial support from the cities of Lafayette and West Lafayette, Tippecanoe County, Duke Energy Foundation, Lilly Tippecanoe Laboratories, Caterpillar, Community Foundation of Greater Lafayette, Lafayette Urban Enterprise Association, Purdue Research Foundation, Alcoa Foundation, West Lafayette Parks and Recreation Foundation, Tippecanoe County Park and Recreation Foundation, the Indiana Department of Environmental Management, the U.S. Environmental Protection Agency, and the Corps of Engineers. Thanks to those funders, the organization has made significant progress towards achieving its mission, by identifying opportunities and needs of the Wabash River and its tributaries and undertaking specific projects such as acquiring outdated industrial sites for parks, trails and redevelopment.

This master plan for a Wabash River Greenway is an important step towards developing a coherent vision and blueprint for enhancing the river and its tributaries. Given the successes of other greenways in Indiana and across America, we are confident that the Wabash River Greenway offers an innovative and yet practical concept that will significantly benefit present and future generations. It requires a partnership among diverse but complementary interests to provide the necessary leadership and long-term commitment to making the greenway a reality. The Wabash River Enhancement Corporation is prepared to move forward with its partners in making that happen.

We greatly appreciate the broad support we have received from the public, non-profit and private sectors, whose continued involvement will be critical as we embark on this exciting new venture.

President	Tony Roswarski, Mayor City of Lafayette
Vice President	Tom Murtaugh, Tippecanoe County Commissioner
Treasurer	John Dennis, Mayor, City of West Lafayette
Secretary	John Collier, Purdue University, Representing the Office of the President
Member	Andy Gutwein, Tippecanoe County Council
Member	John Gambs, Tippecanoe County Park and Recreation Board
Member	Ted Bumbleburg, City of Lafayette Park and Recreation Board
Member	Richard Shockley, City West Lafayette Park and Recreation Board
Member	Norman Neiburger, Wabash River Parkway Commission
Executive Director	Stanton Lambert

Introduction

Our vision is a safe, healthy, and accessible Greater Lafayette community that embraces our rich history, culture and diversity. We are true stewards of our natural resources, striving to balance planned growth and economic vitality. Our citizens, government, business, social and educational institutions all actively work together to achieve our community goals

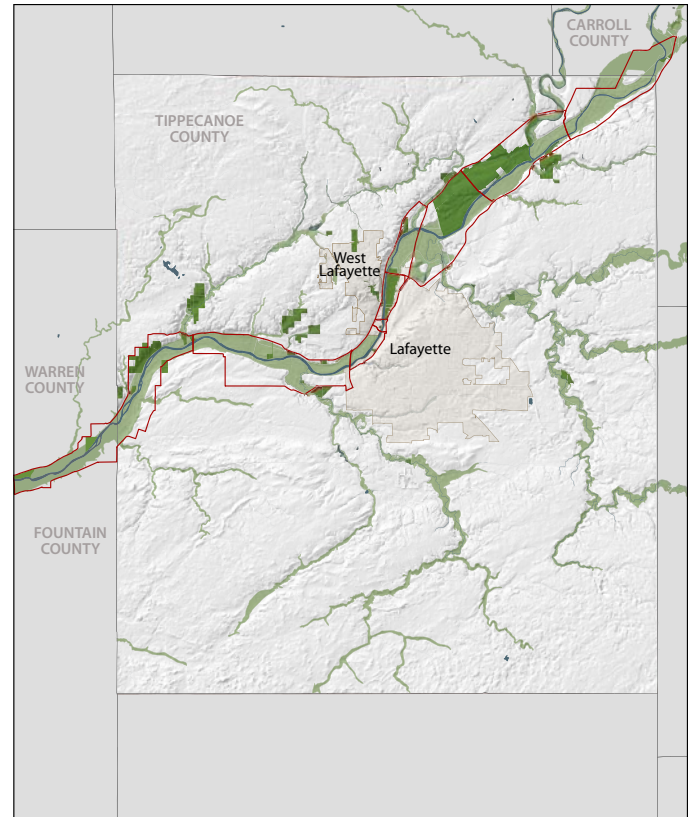
Vision 2020: A Plan for the Future of Greater Lafayette (August 2001)

The River in Perspective

The Wabash River travels 31 miles through Tippecanoe County. Its drainage system within the county comprises 375 miles of tributary rivers and streams. Associated with those waters are nearly 28,000 acres of floodplain lands, representing almost nine percent of the county's land area. The drainage system is embedded within an ancient river valley altered by glaciers, and post-glacial erosion and depositional processes that created alluvial corridors, outwash terraces, bluffs and terraces and tributary valleys. It is a living ecosystem encompassing people and wildlife linked together by the soil, air and water that support them. Functioning as a free-flowing river, the system is constantly changing, as evidenced by water levels that can vary as much as 20 feet within a week.

In the late 18th century, the Wabash River and its drainage area were clothed by prairie and forest communities, serving as a principal source of sustenance to a Native American culture. The river became the major travel route for early Canadian traders. In the early 19th century, it was discovered by European settlers who quickly learned about the agricultural productivity of its bottomlands. By the turn of the early 20th century, the river corridor had become a major spine for the region's agricultural and manufacturing economy, its cities and transportation systems. It also became a pipeline for sewage and industrial wastes.

In the latter part of the 20th Century, long-held views about the river's mostly utilitarian functions began to shift with the emergence of the environmental movement and a changing economy. Efforts began to restore the river ecosystem through improved agricultural practices, better sewage treatment and stormwater management. New investments were made in urban renewal projects near the river. Land use controls were enacted and new acquisitions were made in parks and nature preserves. During the past decade, those trends have continued, along with a growing recognition that the river and its tributaries can contribute significantly to the region's quality of life.



Setting for the Wabash Greenway

- Greenway Travel Routes
- Parkland and Preserves
- 100-Year FEMA Designated Floodplain

These trends have set the stage for a larger vision for the river -- one that capitalizes on past accomplishments, current activities and seeks new opportunities to redefine the river's proper place as one of the region's most valued resources. It can accommodate diverse but interrelated goals such as sustaining the agricultural economy, encouraging physical exercise, creating desirable environments for businesses, preserving the region's cultural heritage, improving water quality and restoring natural habitats. The vision can be achieved through a Wabash River Greenway.

Greenway Defined

Greenway. *n.* 1. A linear open space established along either a natural corridor, such as a riverfront, stream valley, or ridgeline, or overland along a railroad right-of-way converted to recreational use, a canal, a scenic road, or other route. 2. Any natural or landscaped course for pedestrian or bicycle passage. 3. An open-space connector linking parks, nature reserves, cultural features, or historic sites with each other and with populated areas. 4. Locally, certain strip or linear parks designated as parkway or greenbelt. [American neologism: green + way; origin obscure.]

Charles E. Little, *Greenways for America* (1990)

Highlights of the Wabash River Greenway

Greenways can be traced back to at least the 1860s in the United States, when Frederick Law Olmsted and other prominent planners began working on linear park designs in places such as Berkeley, California, Brooklyn, New York and Minneapolis - St Paul, Minnesota. Since that time, numerous communities have successfully developed greenways, including those in Indiana such as Indianapolis, Fort Wayne and Carmel. Although they share certain linear characteristics, greenways vary in their resource settings, size, ownership, facilities and management. Perhaps their most important consistent attribute is the way in which they provide connectivity and opportunities to integrate goals for conservation, recreation, education and economic development.

Although it borrows from greenway experiences elsewhere, the Wabash River Greenway would be tailored to fit the specific circumstances in Tippecanoe County. Its landscape scale perspective offers the possibility of establishing a cohesive identity for resources now fragmented by multiple land owners, and the means for building mutually beneficial relationships and cooperation among them. Various aspects of the greenway concept already exist, such as landowners assistance programs, land use regulations, land acquisitions for parks and preserves, and projects to construct trails and recreation facilities. Therefore, one of its most compelling arguments is that it would build upon and “connect the dots” of past accomplishments and current initiatives.

The main ideas behind the Wabash River Greenway are summarized as follows.

1. The greenway would develop in accordance with guiding principles that address a range of economic, social and environmental issues.
2. It would encompass the 100-year floodplain associated with the river and its tributaries, thereby coinciding with the floodplain zoning district of the Unified Zoning Ordinance administered by the Area Planning Commission of Tippecanoe County.
3. As opportunities arise, the greenway would be extended beyond the floodplain to encompass lands contributing to the greenway’s vision and integrity.
4. Greenway lands would be in private, public and nonprofit land ownership, based upon a greenway classification system.
5. The greenway’s mix of land uses would evolve over time as a result of landowner actions and the success of the greenway’s programs and initiatives.
6. The greenway’s development sites and its network of roadways, pathways and waterways would provide multiple opportunities for users with varied interests, capabilities and time availability, with special care given to respecting private property rights.
7. The greenway’s river corridor has been divided into three sections: a mostly urbanized central section and north and south sections that are primarily rural-suburban. Specific enhancement projects recommended for the central corridor are summarized in this plan and covered in more detail in a separate document.
8. Implementation of the greenway calls for three strategies that include: building support for the greenway, managing greenway resources and enhancing greenway experiences, and developing a greenway partnership.

Organization of the Greenway Master Plan

Chapter 1. The Setting for a Greenway

An understanding of its setting is an essential beginning point for planning a greenway. This chapter identifies landscape features that define the greenway's natural configuration. It provides information on flow regimes, water quality, plant communities and wildlife, thereby enabling an assessment of potential greenway resources, their suitability for different uses, and their protection and restoration needs. It lists cultural sites that offer greenway opportunities for protecting and interpreting the area's cultural heritage. It presents the current pattern of land use and ownership, which has strong implications for the kinds of strategies required for the greenway's implementation. It reviews past and current plans that provide important references for designing a greenway consistent with their findings and recommendations.

Chapter 2. A Greenway Concept

A Wabash River greenway concept evolves from guiding principles intended to shape its design and development. Nine principles address a range of needs such as protecting fundamental resources, providing opportunities for many greenway experiences, and working cooperatively with greenway landowners. This chapter also defines the greenway's land base as the 100-year floodplain, and it suggests three approaches for extending the greenway beyond the floodplain.

Chapter 3. A Greenway Development Framework

A greenway development framework consisting of five categories of lands provides the basis for developing partnership initiatives to work with private, public and nonprofit landowners in implementing the greenway concept. This chapter presents an approach for evaluating landholdings representing important greenway resources, resulting in a range of alternatives for a landowner's consideration. It describes how the cumulative outcome of many decisions and actions taken by landowners, government agencies and nonprofit organizations will determine the greenway's ultimate character.

Chapter 4. Experiencing the Greenway

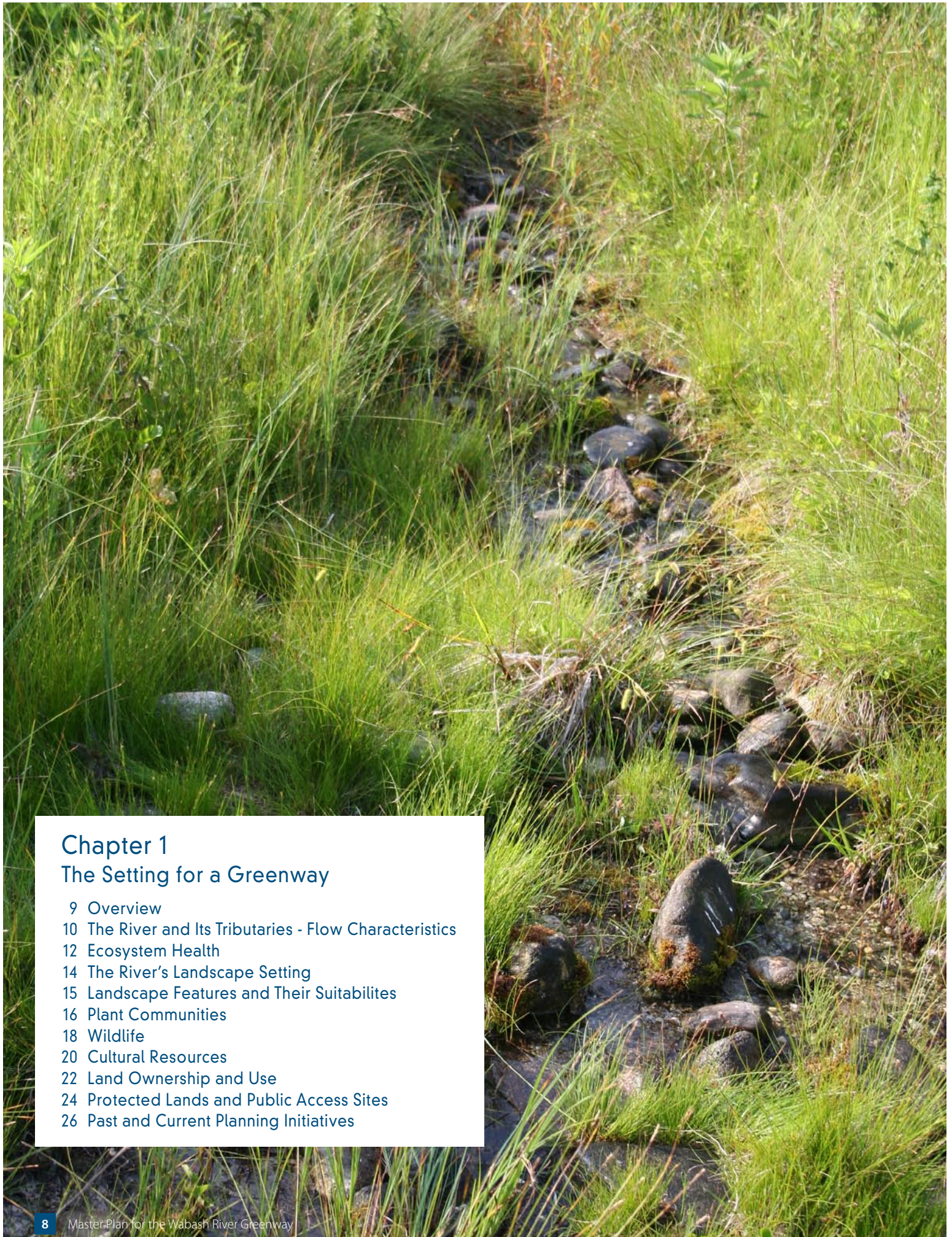
A circulation network of roadways, pathways and waterways will provide opportunities for local residents and visitors to experience the greenway in a manner appropriate to their interests, capabilities and available time. This chapter describes that network and suggests general standards for its development. It divides the greenway into six sections, describing each in terms of the circulation network, existing and potential facilities, historic features, and remnant natural areas.

Chapter 5. Central Corridor Projects

The greenway planning process followed two parallel tracks - one for the predominantly urbanized "central corridor" associated with the cities of Lafayette and West Lafayette, and the other for the greenway sections north and south of the central corridor. This chapter summarizes proposed projects for the central corridor. They are covered in more detail in a separate planning document. Fifteen projects are presented according to their locations in either West Lafayette and Lafayette. Additionally, six bridge projects are proposed to improve circulation and connections between the two cities.

Chapter 6. Implementation

This chapter describes three interrelated strategies for implementing the greenway, all of which are required to realize its ultimate success. Building support for the greenway will require a well-conceived and executed communications plan. New initiatives are needed to work with landowners, acquire additional parklands and preserves, and to insure the effective use of zoning and subdivision ordinances. A greenway partnership will be required to provide leadership for the greenway's implementation.



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Chapter 1

The Setting for a Greenway

Overview

The River and Its Tributaries. The Wabash River winds its way for 31 miles through Tippecanoe County. Its drainage area within the county encompasses over 375 miles of tributaries. Flowing freely without dams on the last 411 miles of its journey to the Ohio River, the Wabash is the longest free-flowing river east of the Mississippi. As a result, combined with runoff conditions in its watershed, the river and its tributaries have extensive floodplains and dramatic flow variations. That dynamic environment poses challenges for all land uses in the river's corridor.

Ecosystem Health. The health of the river ecosystem has been under stress for many years as a result of loss of native vegetation, sediment and nutrient loads, urban stormwater, and sewage and industrial wastes. During the past 20 years, conditions have been improving. Although facing significant challenges, opportunities exist for continued improvement of the ecosystem's health.

Landscape Setting. The river follows an ancient river valley altered by glaciation and post-glacial erosion and depositional processes. It has a distinctive landscape setting characterized by a major alluvial corridor, outwash terraces, bluffs and till plain plateaus. Those features have implications for the greenway's design.

Plant Communities. Prior to European settlement, forests and prairies were the predominant native plant communities in the watershed. Native American cultures used and managed those communities for fuel, shelter, food, medicines and spiritual purposes. Although largely replaced by agricultural and urban uses, Tippecanoe County is fortunate in having remnant patches of native vegetation representative of the region's prior natural diversity. Current initiatives are demonstrating the feasibility of restoring those communities.

Wildlife. Bald eagle, river otter, the eastern box turtle and red-headed woodpecker represent a small cross-section of species that can be seen today along the river and its tributaries. With restored habitats and management practices, the ecosystem is capable of supporting diverse wildlife species and migratory birds. Landscape scale habitat conservation strategies are critical to the success of such efforts.

Cultural Resources. Numerous cultural sites are associated with the river and its tributaries. They provide opportunities to learn about the area's history, traditions and values. Along with preservation initiatives, an interpretive program could tell the stories of pre-European Native American culture, relationships between Native Americans, fur traders and settlers, early agriculture and its evolution, and the transportation role of the river and the Wabash and Erie Canal.



Land Ownership and Use. In Tippecanoe County, the 100-year floodplain of the river and its tributaries encompasses about 27,950 acres or 9 percent of the county's land area. Although much of that acreage is in a relatively few large properties, it includes many smaller parcels that extend outside of the floodplain. Approximately 5,660 tax parcels encompassing 74,190 acres are associated with the floodplain and adjacent lands in the river and its tributaries. Almost 80 percent of those parcels are classified as agriculture, 13 percent as residential, commercial or industrial, and the remaining 7 percent in public or nonprofit ownership.

Protected Lands and Public Access Sites. Lafayette, West Lafayette and Tippecanoe County maintain 20 parks and water access sites encompassing approximately 1,700 acres in or near the floodplain of the river and its tributaries. Prophetstown State Park is 2,000 acres with nearly two miles off frontage along the river. Other lands set aside for conservation, research or educational purposes encompass an additional 2,800 acres. In total, approximately 6,500 acres of protected lands are within, contiguous to, or near the floodplain.

Past and Current Planning Initiatives. Over the past several decades, municipal, county, regional, and state planning initiatives have considered the future of the river and its tributaries. Examples include the Plan for the Preservation and Management of Wildcat Creek (1980), the county's Comprehensive Plan (1981), Lafayette's Master Plan for the Wabash Waterfront (1999), West Lafayette's Levee Area Development Plan (2003), and the Wabash River Watershed Management Plan - Region of the Great Bend (current).

The River and Its Tributaries - Flow Characteristics

The Wabash rises in level Country, consequently is not subject to those sudden floods and rapid streams, so prevalent on the Western Waters. Its rising is slow and regular, taking several weeks to get up to full beds - and as long and slow in falling..It is a beautiful and valuable stream -- the water generally perfectly clear and transparent - exhibiting a clean gravelly bottom

Caleb Lowmes (1815)

The Wabash River originates in northwestern Ohio and travels 464 miles to its confluence with the Ohio River near Mount Carmel, Illinois. The Ohio's largest tributary, the Wabash River watershed encompasses over 21 million acres, of which about 65 percent is in Indiana. Below Huntington Reservoir on the river's main stem, the river flows freely for the last 411 miles of its journey to the Ohio. It has been said that it is the longest free-flowing river east of the Mississippi River.

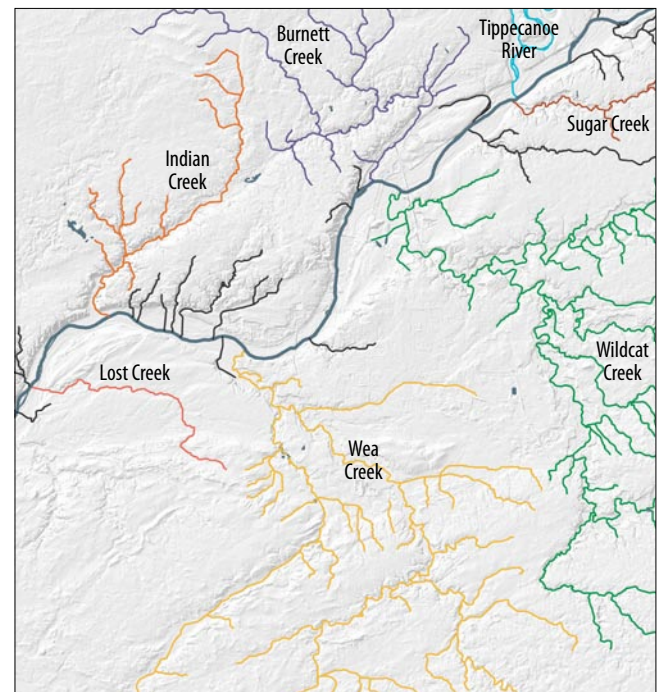
The Wabash River travels 31 miles through Tippecanoe County, which is entirely within its watershed. Major tributaries within the county, whose headwaters originate in adjoining counties, are the Wildcat, Wea, Burnett Creeks and the Tippecanoe River. Its drainage system in Tippecanoe County comprises over 375 miles of rivers and streams that flow year-around or seasonally.

The river and its tributaries experience significant flow variations, with the highest average discharge occurring in March and April, about four times higher than August - October. Relatively low permeable soils, agricultural uses and urban runoff contribute to dramatic fluctuations in river flow within short time periods.

The Federal Emergency Management Agency (FEMA) has mapped the 100-year floodplain for the Wabash River and its tributaries. It represents a flood event with a statistical expectation of occurring once in 100-years, but such events may actually occur more or less frequently than their statistical projections.

The Tippecanoe Area Planning Commission adopted floodplain zoning in 1965, prohibiting new dwellings and other enclosed and roofed buildings within the 100-year floodplain. Although floodplains are generally highly productive for agricultural crops, farmers face the prospects of losing their crops - an important factor being the length of time of inundation. Similarly, the floodplain presents challenges for the construction and maintenance of trails, boat launching sites and other facilities.

The River and Its Tributaries



Map Color	Tributary	Length
	Burnett Creek	45 Miles
	Indian Creek	27 Miles
	Lost Creek	9 Miles
	Sugar Creek	9 Miles
	Tippecanoe River	9 Miles
	Wabash River	31 Miles
	Wea Creek	118 Miles
	Wildcat Creek	110 Miles
	Minor Tributaries	49 Miles

Total Length: 407 miles

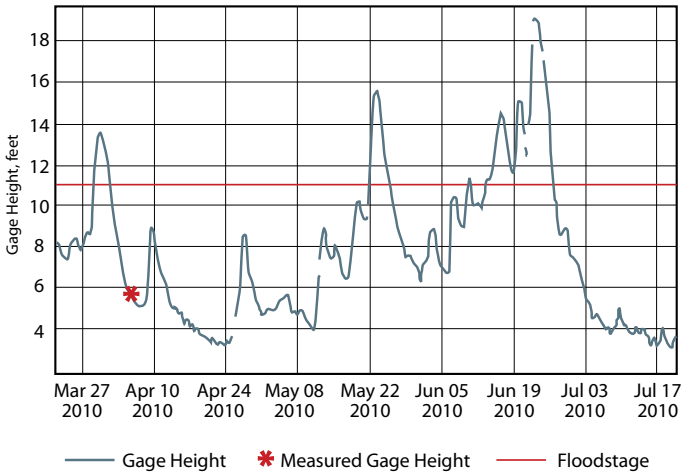
(Data Source: Hydrology_pline.shp. [shapefile]. (2000). Evansville, IN: US Geological Survey and the US Environmental Protection Agency, (compilation): Bernardin, Lochmueller and Associates, INC. Available FTP: http://inmap.indiana.edu/dload_page/hydrology.html.)

As shown in the hydrograph for the U.S. Geological Survey gauging station at Lafayette, between March 27 and July 17, 2010, the Wabash River exceeded flood stage elevation on three occasions, the last being approximately a week in early-mid-June when the river rose nearly 20 feet, followed by sharp decline of water levels to below four feet. During such periods, water access at sites such as Mascouten Park, can range from being impossible during flooding to difficulties in using the boat ramp during low flow. The map of flood zones in the Lafayette - West Lafayette area illustrates the variability in flood prone areas caused by local topographic conditions.



Flood Zones

(Data Source: Floodplain_General.shp. [shapefile]. (2002). Evansville, IN: Bernardin, Lochmueller and Associates, INC.)



USGS Hydrograph

USGS 03335500 Wabash River at Lafayette, IN - provisional data subject to revision



Seasonal Flooding

(image: WRT)

Ecosystem Health¹

The first rate lands lie on the Wabash all the way to the lakes on the most beautiful stream in my recollection... it is a beautiful and valuable stream -- the water generally perfectly clear and transparent -- exhibiting a clean gravelly bottom. It abounds with fish of various kinds -- bass, pickerel, pike, perch, catfish, etc. The catfish are of every size up to 122-1/2 lb. (1861)
S.S. McCord, *Travel Accounts of Indiana 1679-1961* (excerpted by Gammon (1998))

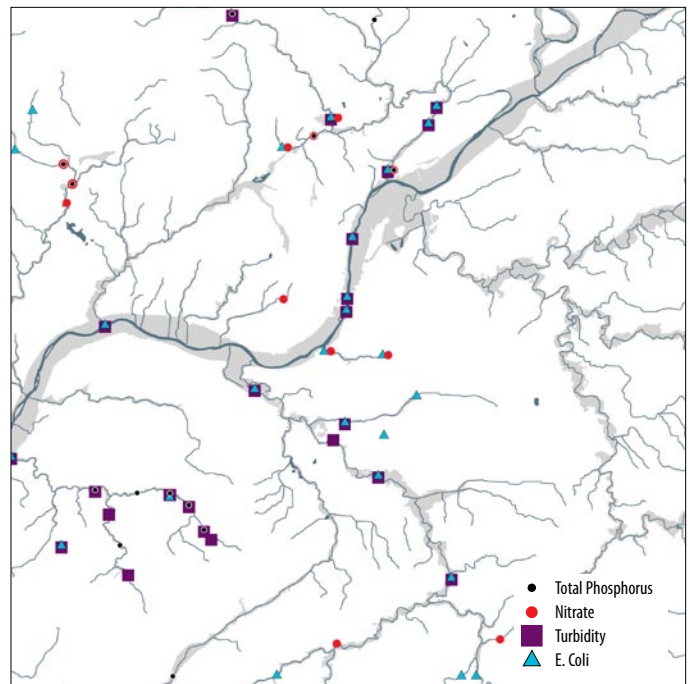
Early observations of relatively pristine conditions along the Wabash River and its tributaries reflected conditions associated with the watershed's extensive forests and prairies. Natural vegetation allowed for precipitation to infiltrate into the ground, thereby reducing stormwater runoff and sediment deposits into the drainage system. An extensive forest along the river's alluvial corridor contributed significantly to the ecosystem's biodiversity. The riparian forests played a key role in controlling erosion, maintaining river channel depths and habitat diversity.

Agricultural, rural, suburban and urban uses have replaced most of the region's native forests and prairies. As a result, the watershed has an altered flow regime with more frequent and intense stormwater runoff and flooding, nutrient enrichment, higher sediment loads and degraded habitat substrates. Sections of the river and its tributaries fail to meet Indiana's water quality standards. In addition to upstream land use practices and pollutants, conditions in Tippecanoe County are also contributing to the degraded health of the system.

However, the ecosystem is also experiencing positive trends. In recent decades, communities have upgraded their wastewater treatment plants and stormwater management systems. In 2004, Lafayette expanded the waste water treatment plant, resulting in improved treatment levels and a higher treatment capacity (about 26 million gallons daily). Similarly, West Lafayette's treatment plant was upgraded 1997 and now treats about 9 million gallons daily. As in other cities, a major problem in Lafayette and West Lafayette are combined sanitary and storm sewers (nearly 600 miles) which cause treatment problems and incidents of untreated discharge into the Wabash River during severe storm events. Extensive improvement projects in both cities, such as Lafayette's recently completed storage tunnel for the Pearl River lift station and Lafayette's west side interceptor project, are resulting in improved conditions and fewer incidents of sewer overflow. Lafayette has a land application program in which treated "biosolid" wastes are applied as nutrient supplements to 5,000 acres of agricultural lands owned by 25 landowners.

The ecosystem also experiences stresses from various "nonpoint" sources such as fertilizers, sediments and toxic pollutants from streets and parking areas. In 2009-2010, the Wabash River Enhancement

Corporation, in cooperation with Purdue University and other partners, conducted "sampling blitzes" involving dozens of volunteers who measured temperature, orthophosphate, nitrates, e-coli and other water quality indicators. For example, on April 9, 2010, the blitz volunteers sampled 210 sites and found that the river and its tributaries present a mixed picture in terms of meeting state water quality standards. A combination of improved agricultural management practices, water quality monitoring and public education appear to be making progress towards controlling nonpoint pollutants.



Sites Failing to Meet Water Quality Standards - March, 2010





...Efforts should be made to restore green belts along the river corridors of the Wabash River and its tributaries. Many of its former backwaters and oxbows no longer connect with the main Wabash River channel, thus reducing habitat diversity and eliminating valuable spawning habitat for some desirable species of fish
James R. Gammon. *The Wabash River Ecosystem*, p xix (1998)

A 1994 analysis of fish populations in Tippecanoe County recorded 109 fish species from 70 sites (Spacie, 1999). They included 13 previously unrecorded species such as the spotted gar, threadfin shad and striped bass. Also found was a thriving population of the central mudminnow in an oxbow-like side channel near the mouth of Wea Creek, suggesting the possibility that the site is serving as a refuge from which that species disperses to surrounding waters. Such findings illustrate the importance of side channels and tributaries to ecosystem health.

An analysis of the shovelnose sturgeon in the upper Wabash River by Kennedy (2007) suggests a relatively healthy population but at risk of decline because of global market demands for caviar. It also mentions the river's role as a refuge from commercial fishing upstream of State Route 26 to the J. Edward Roush Lake where only recreational catches are allowed. A survey of freshwater mussels at 52 sites on 12 streams in Tippecanoe County by Myers-Kinzie (2001) found 28 mussel species and a strong correlation between species richness and watershed conditions. The authors recommended further study because of the recent decline in mussel populations.

An assessment of threats to the Wabash ecosystem by Armitage (2008) for The Nature Conservancy, summarizes previous studies indicating that the Wabash contains a relatively large proportion of its historical fish populations, although many are reduced in abundance and seven species have disappeared. Current fish populations include a diversity of species sensitive to degraded water quality conditions, such as longear sunfish and smallmouth bass, but an over abundance of tolerant and moderately tolerant invasive species such as silver carp, bighead carp, grass carp, common carp and the zebra mussel.

While there have been losses in biodiversity, the Armitage assessment suggest that the ecosystem retains the foundation for substantial ecological rehabilitation. Such efforts would need to address the loss of riparian forests and the current levels of bank erosion that contribute sediments to the river and its tributaries, and thereby impacting natural sand and gravel substrates. Loss of the riparian forest has also reduced wood structure along the water courses serving as prime habitat for many species. Reintroduction of forests and reconnecting wetland habitats, oxbows, sloughs and backwater channels would have substantial benefits. Restoration of tributaries and small headwater streams provide some of the greatest opportunities to significantly improving ecosystem health.

¹ The Wabash ecosystem encompasses the various species living in an area (including people) and the ecological processes that link them together, and the soil, air and water that support these species and processes. Ecosystems can occur on any scale, from the very small, such as a spring, to the very large, such as a large valley. (Source: The Nature Conservancy, Managing Biodiversity - Forest Operations Manual. The Conservation Forestry Program, Clinch Valley, Virginia. Undated)

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Sites Failing to Meet Water Quality Standards - March, 2010
(Data Source: Sara Peel, Wabash River Enhancement Corporation)

Wabash Sampling Blitz

Volunteers collect water quality samples and measure temperature at Haywood Ditch during the Spring 2010 Wabash Sampling Blitz. (image: Valerie Kasper)

Page 13, from left:

Wabash Fish Collecting Trip

(image: "Moxostoma falcatus." Photograph. thirdwind. Available From North American Native Fishes Association: <http://www.nanfa.org/convention/99Wabash.shtml>)

Shovelnose Sturgeon

(image: "Shovelnose Sturgeon 01-19-08 1241" Photograph. Kbh3rd. Available From Wikipedia: http://en.wikipedia.org/wiki/File:Shovelnose_Sturgeon_01-19-08_1241.jpg)

Silver Carp

(image: "Hypophthalmichthys molitrix 03." Photograph. Tino Strauss. Available From Wikipedia: http://commons.wikimedia.org/wiki/File:Image-Hypophthalmichthys_molitrix_03.jpg)

The River's Landscape Setting

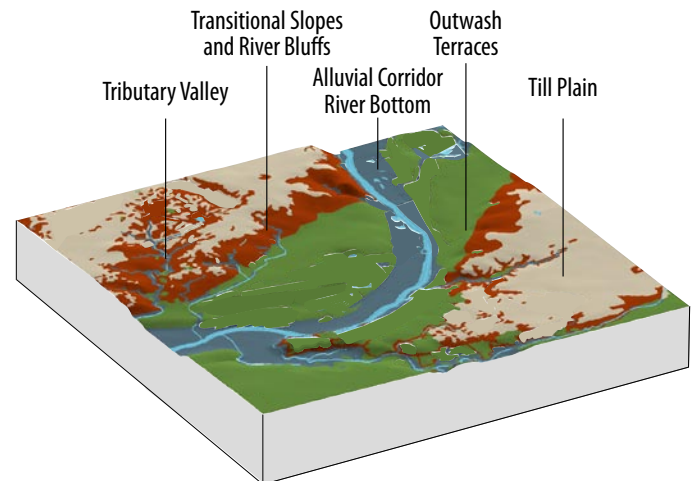
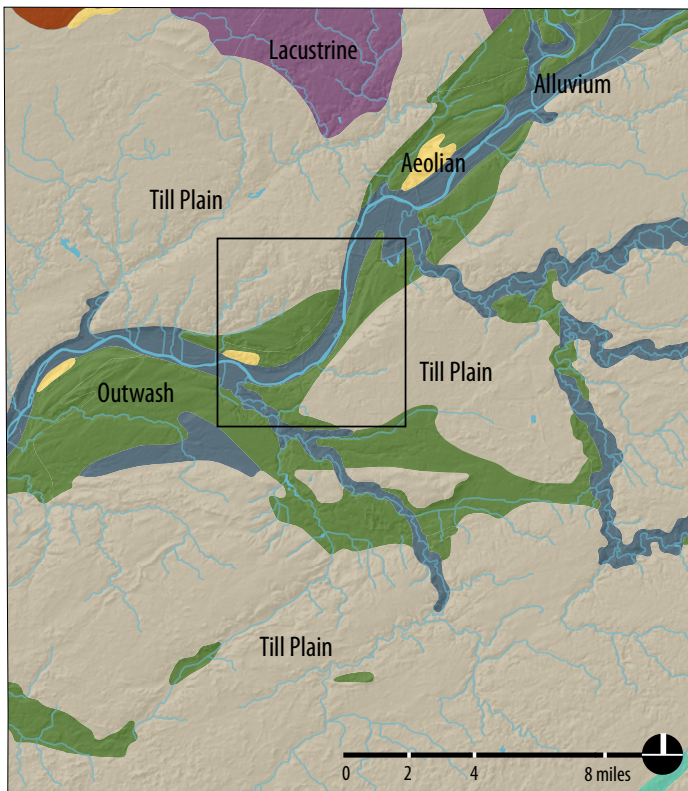
The Wabash River follows an ancient river valley altered by glaciation as well as post-glacial erosion and deposition processes. Its geologic history has produced landscapes with diverse suitabilities for different uses. Such suitabilities have implications for the configuration of a greenway.

Major Alluvial Corridor

The river's channels and bottomlands are embedded within a corridor of alluvial sediments actively worked by river flows. Most of the alluvial corridor is associated with the 100-year floodplain. Although vulnerable to frequent and devastating floods, making it a poor location for permanent structures, native Americans and early settlers recognized the corridor's fertile well-drained soils and favorable climate. The corridor also has high intrinsic values for wildlife habitat and scenic quality.

Upper Outwash Terraces

Relatively broad, flat to gently sloping terraces of glacial outwash occur above the alluvial corridor, sometimes separated by natural levees of more steeply sloping lands. Although subject to flooding particularly by local tributaries, they tend to be above the 100-year floodplain. Less vulnerable to floods but near the river, their gentle slopes were preferred locations for early agriculture and settlement, as well as subsequent urban development. Along with the alluvial corridor, outwash terraces are prime locations for groundwater recharge.



Landscape Features

The countywide map (left) illustrates the river's setting in a pre-glacial river valley altered by glacial till and outwash deposits. A portion of the county (block diagram above), presents a more detailed picture of landscape features.

(Data Source: Soils_SSURGO_NRCS_IN.shp. [shapefile]. (2004). Fort Worth, TX: U.S. Department of Agriculture, Natural Resources Conservation Service. Available FTP: <http://SoilDataMart.nrcs.usda.gov/>.)

Transitional Slopes and Bluffs

Situated above the upper terraces are slopes and steeper bluffs that typically transition to till plain plateaus. These features may be subtle but become more apparent where elevation changes approach 150 feet. They are dissected extensively by minor streams and major tributaries. Slopes exceeding 10 percent adjacent to the alluvial corridor and upper outwash terraces comprise nearly 16,400 acres in Tippecanoe county. Their steepness can be a limiting factor in their use for agriculture, structures, septic systems and roads. Areas of moderate slopes can be prime building locations, offering protection from flooding and views from higher elevations. The tops of bluffs (“rims”) are particularly prime building sites because of view opportunities. Forested slopes and bluffs contribute significantly to the absorption of precipitation from storm events and snowfall, which otherwise would occur as surface runoff carrying sediment loads into the river. They also serve as important upland forest wildlife habitat.

Tributary Valleys

In Tippecanoe County, the Wabash River has seven major tributaries as well as numerous minor streams draining directly into the river. Most of the major tributaries have well-defined valley features whose geometry resembles a smaller scale version of the Wabash River, i.e., they have alluvial bottomlands, terraces, and bluffs that typically become more prominent at or near their confluence with the river. As a result of agricultural drainage practices in the till plain plateaus, the numbers and sizes of these valleys may be substantially larger than in pre-European settlement. Some of their alluvial bottomlands are in agricultural uses. Other land uses include residential subdivisions, parklands and undisturbed privately-owned woodlands. As with the steeper bluffs, the rims of tributary valleys, i.e., where they intersect with the plateaus, offer amenities for residential uses. Tributary valleys can accommodate sensitively designed development but their protection and careful management are very important to the health of the river ecosystem.

Plateaus

Primarily associated with the glacial till plain, plateaus represent the highest elevations of the river landscape. Although frequently having poor drainage, they are prime farmlands when properly drained. Such drainage improvements have also had an impact on the river and its tributaries.

Landscape Suitabilities

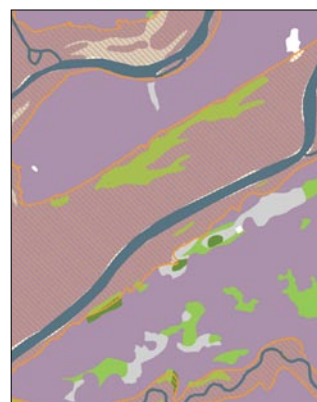
The Natural Resources Conservation Service, in cooperation with Purdue University, provides maps and suitability interpretations for Tippecanoe County’s soils. They illustrate the usefulness of soil interpretations in assessing the various suitabilities of the river’s landscapes for different uses.



Farmland Classifications
 ■ Prime
 ■ Prime if Drained
 ■ Not Prime
 ▨ 100-Year FEMA Designated Floodplain



Grass and Legume Habitat
 ■ Good
 ■ Fair
 ■ Poor
 ▨ 100-Year FEMA Designated Floodplain



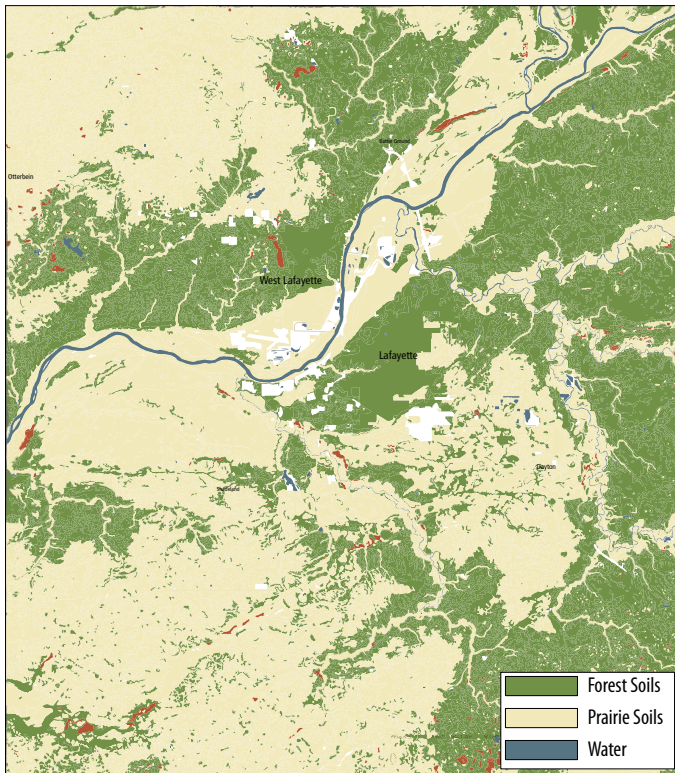
Wetland Habitat
 ■ Good
 ■ Fair
 ■ Poor
 ■ Very Poor
 ▨ 100-Year FEMA Designated Floodplain



Dwelling Suitability
 ■ Not Limited
 ■ Somewhat Limited
 ■ Very Limited
 ▨ 100-Year FEMA Designated Floodplain

(Data Source: Soils_SSURGO_NRCS_IN.shp. [shapefile]. (2004). Fort Worth, TX: U.S. Department of Agriculture, Natural Resources Conservation Service. Available FTP: <http://SoilDataMart.nrcs.usda.gov/>)

Plant Communities



Historic Forest and Prairie Soils

Prior to European settlement, forests and prairies were the predominant native plant communities in the Wabash River watershed. Extensive forests occurred along the bottomlands. Major species included black willow, silver maple, American elm and cottonwood, which occurred in association with sycamore, red elm, cork elm, box-elder, white ash and hackberry (Lindsey, 1961). Riparian forests played a key role in controlling erosion and maintaining river channel depths and habitat diversity.

Over the past 200 years, agriculture and land development have removed most of the watershed's natural communities. In 2009, the Conservation Design Forum (CDF) undertook a limited assessment of remnant native communities associated with the river and its tributaries in Tippecanoe County. CDF identified 35 potentially

significant sites, mostly on lands in public or nonprofit ownership. At least as many sites probably occur on private lands. CDF characterized the following types of remnant communities and identified representative sites where they occur, as well as their condition and management status.

- Outwash Plain Sandy Savannas
- Plain Hill Prairies
- Wooded Outwash Bluffs
- Wooded Outwash Bluffs and Springs
- Outwash Spring Run
- Outwash Tributary Woods and Prairie
- Outwash Fens
- Outwash Marshes
- Floodplains
- Outwash Swamp and Morainic Ravines
- Wooded Morainic Bluffs and Marshes
- Wooded Morainic Bluffs and Seeps
- Wooded Morainic Bluffs and Prairie
- Wooded Morainic Ravines
- Wooded Upland Moraines
- Morainic Lowlands

The most numerous remnant forest communities are associated with relatively undisturbed locations such as transitional slopes, bluffs and tributary valleys. Fewer high quality prairie and marsh communities exist because of historic and present land use practices. Examples of public lands having significant remnant communities include the wooded outwash bluffs at Tippecanoe County's Amphitheatre, the wooded bluffs and marshes at the county-owned J. Frederick Hoffman Memorial Nature Area, the sand savanna and outwash fen at Prophetstown State Park, and wooded bluffs at Purdue University's Ross Preserve.

Current restoration initiatives at sites such as Prophetstown State Park and NICHES preserves provide valuable experience in restoring and maintaining native plant communities. They reflect an understanding that the character of many native plant communities was influenced by native American cultures that used them for harvesting food, medicinal plants and other purposes. Periodic burning, and control of white-tailed deer and invasive plant species are often required to successfully manage such sites.

Historic Prairie and Forest Soils

(Data Source: Soils_SSURGO_NRCS_IN.shp. [shapefile]. (2004). Fort Worth, TX: U.S. Department of Agriculture, Natural Resources Conservation Service. Available FTP: <http://SoilDataMart.nrcs.usda.gov/>)



Fen: Prophetstown State Park
(Image: WRT)



Oak Woodland Savanna: Prophetstown State Park
(Image: WRT)



Prairie Grassland: Weiler-Leopold Nature Preserve
(Image: WRT)

Although the county's remnant native plant communities are relatively scarce, according to CDF's assessment, Tippecanoe County has an unusually large number compared to many other areas in the Midwest. A greenway could provide new opportunities for identifying, protecting, restoring and maintaining such communities for environmental, educational, recreational and cultural purposes. New initiatives could help reestablish some of the county's indigenous biological diversity and interpret its past. For example, CDF has suggested the possibility of partially restoring the outwash marsh at Battleground on both sides of Route 225 through the diversion of stormwater, prescribed burning and other actions. As a consequence, the site could more vividly tell the story that it was the marshy prairie through which the allied warriors crept during the night of November 6, 1811 towards General Harrison's army.

The Indiana Department of Natural Resources identified the following types of plant communities as endangered, threatened or rare in Tippecanoe County, using the following state ranking system: S1 = critically imperiled, S2 = imperiled, S3 = rare or uncommon, and S4 = widespread and abundant but with long term concern. Source: Indiana Natural Heritage Data Center (2005)

- | | |
|----|---------------------------|
| S1 | Barrens - Gravel |
| S1 | Wetland - Seep |
| S2 | Prairie - Dry-Mesic |
| S2 | Barrens - Sand |
| S3 | Forest - Upland Mesic |
| S3 | Wetland - Fen |
| S4 | Wetland - Marsh |
| S4 | Forest - Upland Dry-Mesic |

Wildlife



Indiana's 2006 Comprehensive Wildlife Strategy (CWS) provides a framework for assessing and protecting wildlife populations and their habitats at a landscape scale appropriate to the Wabash River. It identifies species of greatest conservation need in Indiana, which include over 100 vertebrates and 150 invertebrates. The CWS uses a habitat approach that recognizes the interconnections among species and the importance of maintaining Indiana's biological diversity.

The CWS identifies the kinds of actions required for managing different wildlife populations and their habitats. More than 60 habitat types were identified within eight major categories that include: agricultural lands, aquatic systems, barren lands, developed lands, forest lands, grasslands, subterranean systems and wetlands. The CWS is driven by a statewide database enabling experts and organizations to contribute data on species and habitat conditions, as well as monitoring and research activities throughout the state. Indiana has more than 50 programs that provide funding for wildlife and habitat conservation, and over 120 organizations involved in wildlife management activities, some of which may be applicable to wildlife management strategies for the Wabash River.

Bald eagle, river otter, the eastern box turtle and red-headed woodpecker represent a small cross-section of the many wildlife species that could benefit from a river greenway.

Bald Eagle

Following precipitous population declines from the effects of DDT and other pesticides, bald eagle populations are recovering and no longer are on federal and state endangered species lists. They began nesting again in Indiana in 1989, and approximately 100 active nests have been recorded throughout the state. Eagles prefer large trees for nesting near rivers and lakes. They forage along rivers such as the Wabash.

River Otter

Declared extinct in Indiana in 1942 as a result of trapping, habitat destruction and water pollution, river otter are returning to the state as a result of their reintroduction by Indiana DNR in 1995. Because of those efforts, the otter was removed from Indiana's endangered species list in 2005. However, it continues to be a species of special concern. Although not large in number, otters have been recorded in Tippecanoe County.

Red-Headed Woodpecker

Declining over much of its breeding range, the red-headed woodpecker is an edge species that breeds in deciduous open woodlands, river bottoms and along forest edges. It winters in mature forests, especially those with oaks. It is one of only four woodpeckers known to store food, and the only one known to cover its food with wood or bark.

Eastern Box Turtle

At the northern edge of its range in central Indiana, box turtles are slow growing and have few young. They commonly reach 25-30 years of age. They live in open woodlands, pastures and marshy meadows, and they are often found near streams and ponds. Habitat fragmentation and destruction are major concerns. They typically have a home range of 750 feet or less in which they normally stay. However, if confined to small areas, they can have difficulties finding food and mates. Young turtles often hunt in ponds and streams because food is easier to catch, but adults usually feed on land.

From Left:

Red-Headed Woodpecker

(image: "Red-headed woodpecker." Photograph. Henry McLin. Available From Flickr: <http://www.flickr.com/photos/hmclin/2057370547/>)

Box Turtle

(image: "Box Turtle Closeup." Photograph. audreyjm529. Available From Flickr: <http://www.flickr.com/photos/audreyjm529/155024495/>)

River Otter

(image: "River Otter." Photograph. Eric Begin. Available From Flickr: <http://www.flickr.com/photos/ericbegin/520954529/>)

Habitat Conservation Strategies

Habitat loss and fragmentation are among the most serious threats to conserving biological diversity. Properly designed, linear conservation areas such as greenways, can contribute significantly to improving habitats and supporting wildlife populations. As summarized in Indiana's Comprehensive Wildlife Strategy, the design of conservation areas requires a step-by-step procedure that includes: identifying and assessing species of greatest conservation need, determining the location and condition of key habitats essential to their survival, and understanding the problems that may adversely affect such species.

A general landscape model for habitat protection and management envisions three kinds of areas - patches, corridors and the landscape matrix.

Patches

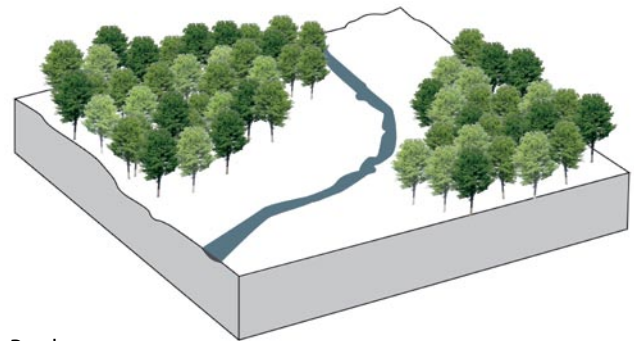
Patches are relatively discrete areas providing the resources required for a species' survival, reproduction and movement, surrounded by larger areas with different habitat conditions. An example would be a woodlot surrounded by agricultural lands. Patches can vary in size, ranging from small areas with limited capacity, to tracts capable of supporting larger and more diverse populations.

Corridors

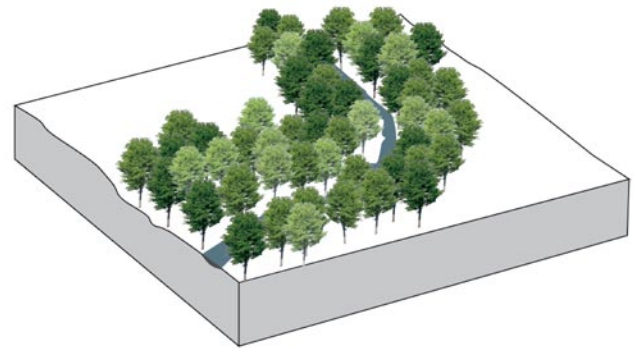
Corridors are linear landscape elements, sometimes described as linear patches, that differ in character from adjacent landscapes. Corridors may be isolated but preferably should be attached to patches. They can vary in their contribution to a species' survival, reproduction and movement. For example, a corridor may provide habitat that facilitates movement but is not necessarily suited for reproduction. Consequently corridors may or may not meet all of the requirements for a species' survival. One rationale for corridors is to allow for the continued exchange of populations. Corridors create large amount of "edge" which can be good for some species but not for others.

Matrix

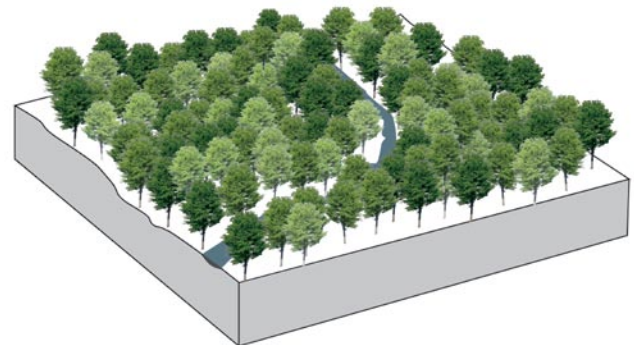
The matrix provides the background within which patches and corridors exist. Being the most extensive of the three landscape elements, it can have a profound influence on the viability of wildlife populations. For example, a small wetland surrounded by a matrix of suburban subdivisions, will function differently than one surrounded by forest or native grasslands.



Patches



Corridor



Matrix

Cultural Resources

... Native Americans who settled along the Wabash for its fresh water, fish and mussels found within the river valley everything they needed to support their ways of life. The river and its banks provided them with both land and water modes of transportation. European settlers added another enduring layer of history and culture. In the 17th century, French and English fur traders traveled along the river corridor and established trading posts for exchange of goods with the Native Americans. The river became a well-traveled mode of transportation for many forms of commerce. The Wabash and Erie Canal was built to complement the transportation capacity of the river. Many settlements were established along the Wabash; some are now thriving cities such as Lafayette... while others have faded away. The land transportation along the Wabash began as deer trails, followed by Native American travel routes, which evolved into settlers' wagon trails, and then into highways and railroads connecting towns and cities¹....

A greenway could provide new opportunities to learn about the area's history, historic sites, traditions and the generations of people whose lives were intertwined with the river and its tributaries. A greenway interpretive plan could provide the blueprint for creating a coherent set of "place-based" educational experiences for school programs and the general public. Such a plan could tie together the many historic sites within or near the greenway. Its interpretive themes would address topics related to pre-European Native American culture, relationships between native Americans, fur traders and settlers, early agriculture and its evolution, and the transportation role of the river and the Wabash and Erie Canal.

The greenway could provide the impetus for new projects to protect and restore historic sites, as well as the development of cultural interpretive centers associated with existing sites such as the Wabash and Erie Canal Center in Delphi, Tippecanoe Battlefield Park, Historic Prophetstown and Fort Ouiantenon. While cultural interpretive experiences would rely on self-guided media such as interpretive panels and printed material, the greenway could also provide new opportunities for lecture series, new classroom curricula and guided tours.



Wea Plains Historic Marker
(image: WRT)

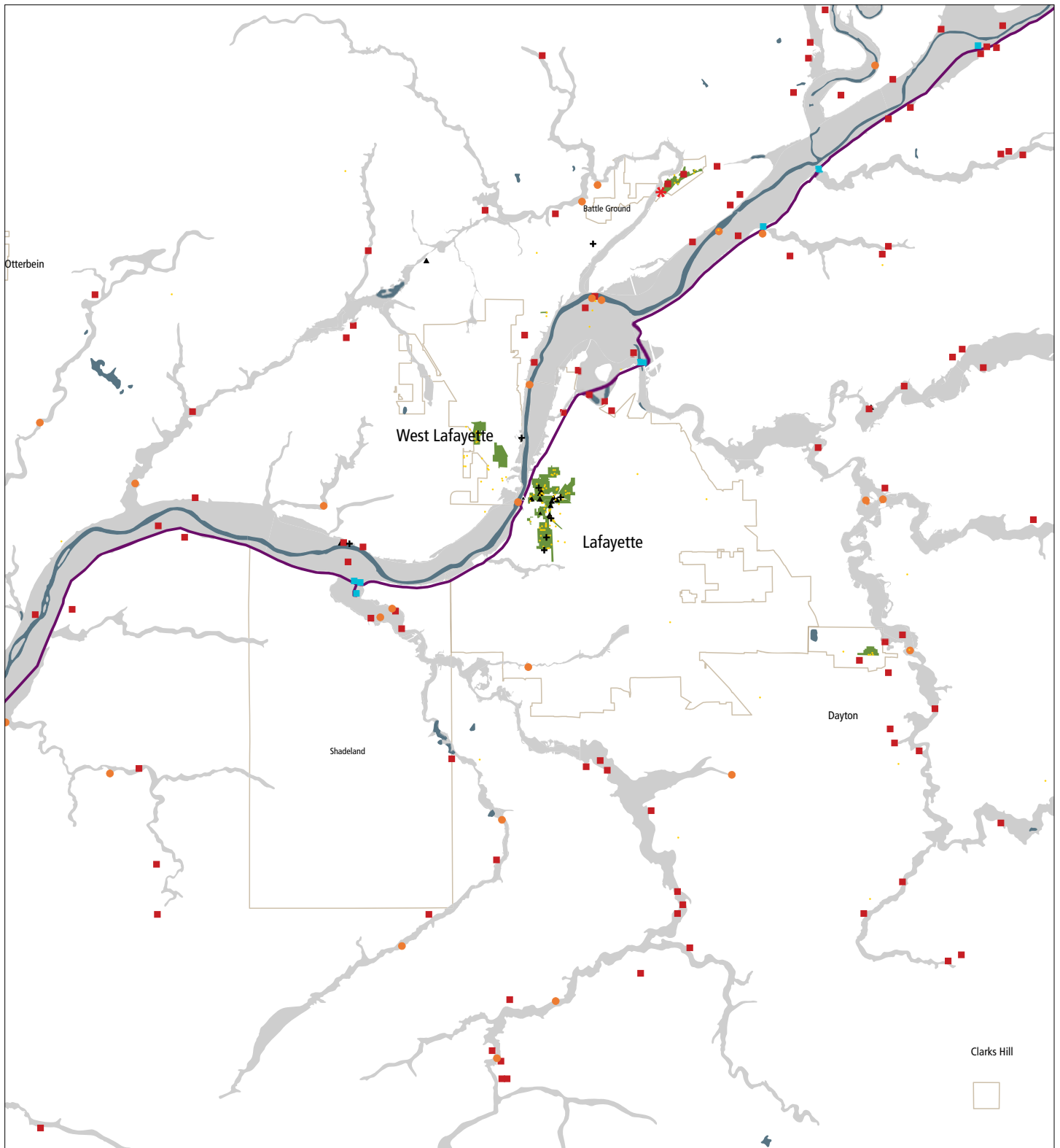


Historic Prophetstown
(image: WRT)







Wabash & Erie Canal Interpretive and Conference Center
(image: WRT)

¹Excerpted from Statement of Significance - Application for River Road Scenic Byway. Vision 2020 (2007)








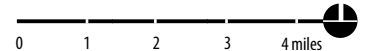
Cultural Resources¹

Designated Cultural Resources within Tippecanoe County

-  National Historic District²
-  National Historic Landmark²
-  Sites Listed on the National Register of Historic Places²
-  Sites Listed on the National American Engineering Record²

Other Cultural Resources within Tippecanoe County

-  Other Local Historic Sites Designated "Outstanding" in the Tippecanoe Interim Report of Indiana Historic Sites and Structures²
-  Other Local Historic Sites²
-  Historic Canal Route and Structures⁴
-  Historic Bridges⁵
-  Historic Markers⁶



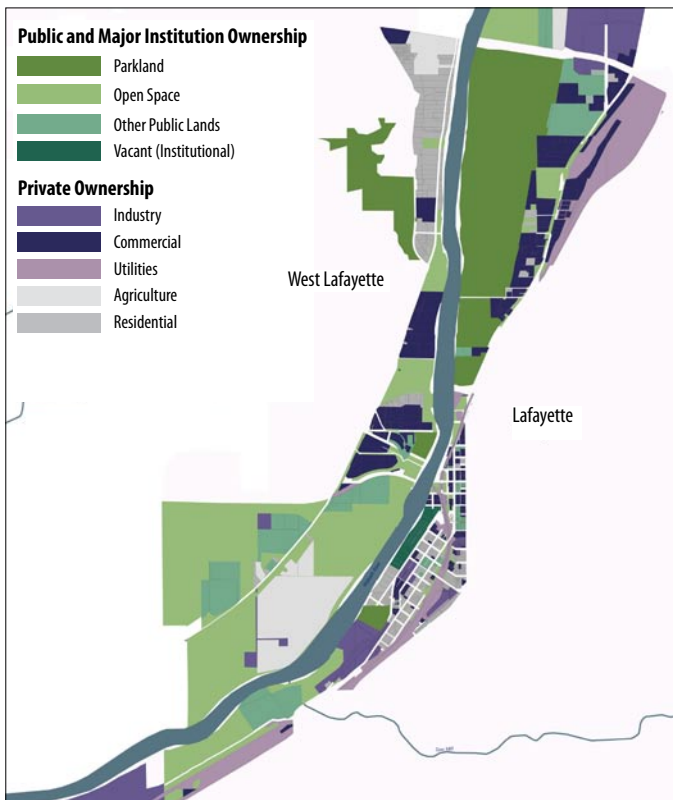
¹The map of cultural resources shows only shows historic sites within or near the 100-year floodplain of the river and its tributaries. For more detail, see greenway section maps (pages 61-71).

Data Sources:
²Historic Landmarks Foundation of Indiana's 1990 Interim Report of Indiana Historic Sites and Structures
³Historical Map of Tippecanoe County Indiana, Tippecanoe County Historical Association (1975).
⁴Canals_historic_routes_in.shp, [shapefile]. (2007). Evansville, IN: Bernardin, Lochmueller and Associates, INC.
⁵<http://bridgehunter.com/in/tippecanoe/>
⁶Greater Lafayette Chamber of Commerce

Land Ownership and Use

The 100-year floodplain associated with the river and its tributaries encompasses approximately 9 percent of the county's total land area. Although much of the floodplain in the river's alluvial corridor is owned by a relatively small number of large properties, it includes many smaller parcels whose lands lie within and outside of the floodplain. Smaller parcels are the more common pattern of floodplain ownership in the tributaries. As a result, the county's 27,950 acres of floodplain are associated with parcels that include an additional 46,240 acres outside of the floodplain. Approximately 16,370 acres (35 percent) of contiguous lands outside of the floodplain are on slopes exceeding 10 percent. Without appropriate controls, indiscriminate development and other site disturbances on those slopes could be adverse to the river ecosystem.

Based upon the county's tax records classifications, 80 percent of the parcels within or contiguous to the floodplain are classified as "agriculture," which includes but is not limited to lands in active agriculture use. Parcels classified as residential, commercial or industrial encompass approximately 13 percent of the total tax parcel acreage. The remaining 7 percent of that acreage is in public or nonprofit ownership. Ownership patterns in the urban section of the Wabash River corridor differ from the county as a whole, where public and institutional ownership comprise a much larger percentage of floodplain lands.



Central Corridor Land Use and Ownership

Floodplain

100-Year Floodplain	27,950 acres
---------------------	--------------

Affected Tax Parcels¹

Number	5,659 parcels
Acreage in floodplain	27,950 acres
Acreage outside of floodplain	46,240 acres
Total acreage	74,190 acres

County Tax Parcel Classifications²

Agricultural lands	59,320 acres
Residential, commercial and industrial lands	9,500 acres
Lands in public or nonprofit ownership	5,370 acres
Total acreage	74,190 acres

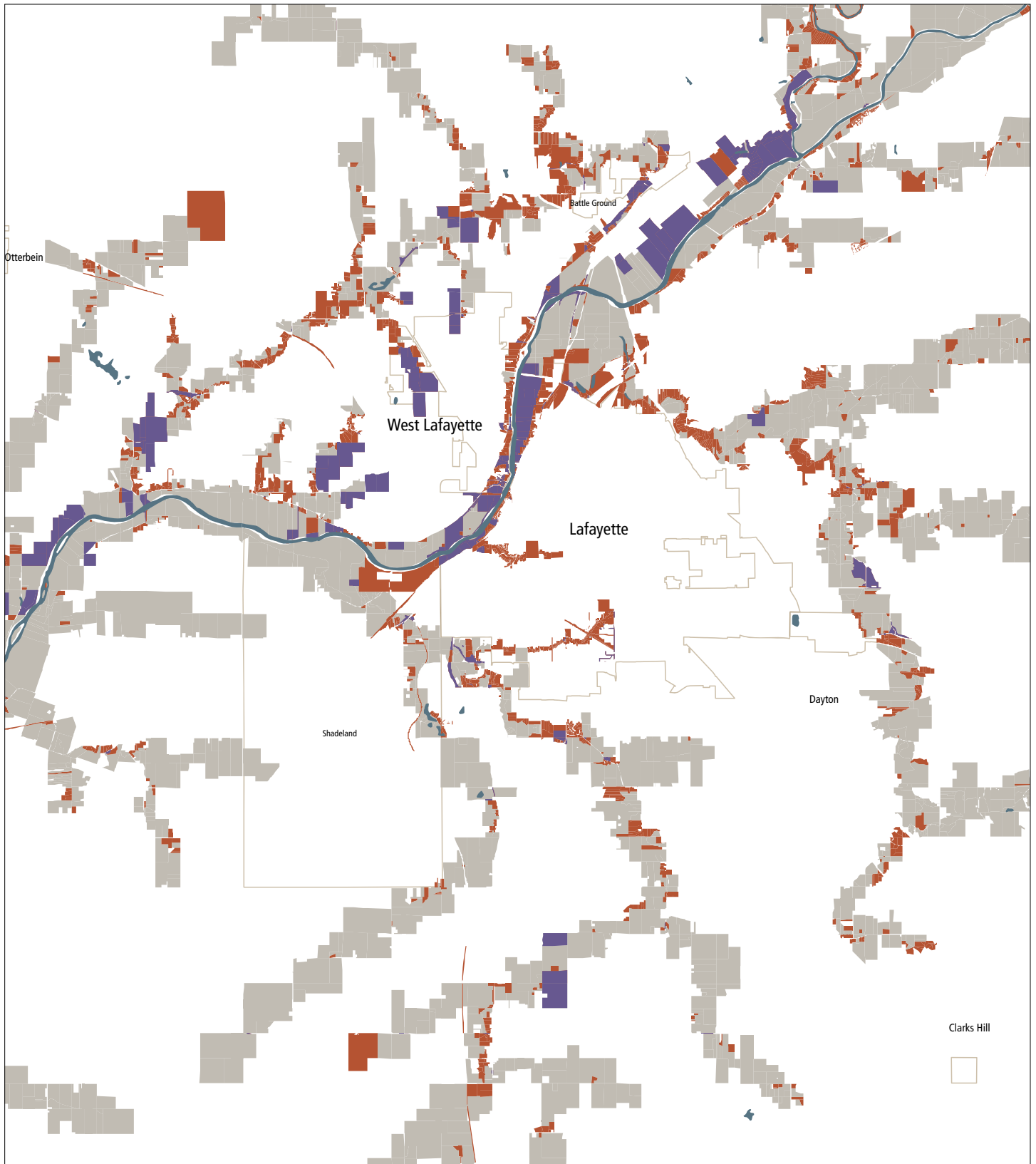
Tippecanoe County

Total acreage	319,360 acres
Agricultural uses (2008 Agricultural Census)	218,300 acres

¹ "Affected parcels" are those that include all or portions of the 100-year floodplain.

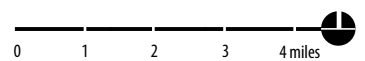
² Estimates are based upon land use classifications in Tippecanoe County tax records, and GIS data layers for the 1000-year floodplain. Land use classifications include:

- Agriculture. Vacant land, grain/general farming, poultry, fruit and nut farms, and other agricultural uses
- Residential, Commercial, Industrial. Developed lands and unplatted and platted vacant lands.
- Lands in Public or Nonprofit Ownership. Federal, state, county, township, municipal, board of education, park district, exempt, and utilities lands.



Existing Land Use¹

- Agriculture
- Residential, Commercial, and Industrial
- Lands in Public or Nonprofit Ownership



¹Lands shown on this map include all parcels partially or entirely within the 100-year floodplain.

Data Source: Tippecanoe County Real Estate Duplicate Book (3.23.08)

Protected Lands and Public Access Sites

Lafayette, West Lafayette and Tippecanoe County maintain 20 parks with frontage and/or lands near the river and its tributaries, which encompass approximately 1,700 acres. The 2,000 acre Prophetstown State Park has nearly two miles of frontage along the river. Other lands set aside for conservation, research or educational purposes include:

- 316 acres owned by nonprofit conservation organizations such as NICHES and The Nature Conservancy
- 34 acres owned by the Tippecanoe County Historical Association
- 1,467 acres owned by Purdue University and Purdue Research Foundation
- 1,000 acres owned by Evonik Corporation

Municipal and county park and recreation departments each have plans for the continued development of parks, facilities and programs in the Greater Lafayette area. For example, West Lafayette is pursuing its goal of becoming a bike and pedestrian community through additional trail links, bike lanes, crosswalks and enhanced pedestrian opportunities. Lafayette is planning system-wide improvements to promote a family atmosphere at all of its parks. It is also planning for fully-developed river corridor parks that maximize their potential along the Wabash River. Tippecanoe County intends to improve its existing boat launching sites at Davis Ferry and Granville and provide for boat access at its new J. Frederick Hoffman Memorial Nature Area.

All three political jurisdictions share a goal of promoting trail connectivity. For example, West Lafayette is working on an extension of the Wabash Heritage Trail along Route 43 that will tie into Happy Hollow Park. The county's planned extension of that trail on South River Road to link Fort Ouiatenon, will establish that site as an important trailhead and advance the goal of extending the trail south to Black Rock. Plans call for a trail associated with new Route 231 that would link the Wabash Heritage Trail with the Purdue campus.

Adequate connectivity and water access facilities have been chronic issues with respect to providing opportunities to experience the river and its major tributaries. Designing and maintaining attractive water access sites capable of withstanding floods and functioning during periods of high and low flow periods is a challenge. A greenway could provide new opportunities for multi-jurisdictional cooperation among all park agencies as well as nonprofit organizations, in areas such as joint fundraising, equipment purchases, and sharing of expertise and labor on specific projects.

Tippecanoe County Parks

1	Clegg Botanical Gardens	15 acres
2	Davis Ferry Park*	13 acres
3	Fairfield Lakes Park*	55 acres
4	Fort Ouiatenon*	34 acres
5	Goose Island Park	8 acres
6	Granville Park*	15 acres
7	Hoffman Memorial Nature Center	434 acres
8	Mar Len Park	29 acres
9	Ross Hills Park	168 acres
10	Tecumseh Trails Park	23 acres
11	Tippecanoe County Amphitheater Park	166 acres
12	Tippecanoe Battlefield Park	96 acres
13	Wildcat Park*	53 acres
Total		1,109 acres

City of Lafayette Parks

14	Lyboubt Sports Park	52 acres
15	McAllister Park	350 acres
16	Shamrock Park	11 acres
Total		413 acres

City of West Lafayette Parks

17	Cumberland Park	62 acres
18	Happy Hollow Park	81 acres
19	Mascouten Park*	15 acres
20	Tapawingo Park*	20 acres
Total		178 acres

Indiana State Park

21	Prophetstown State Park	2,000 acres
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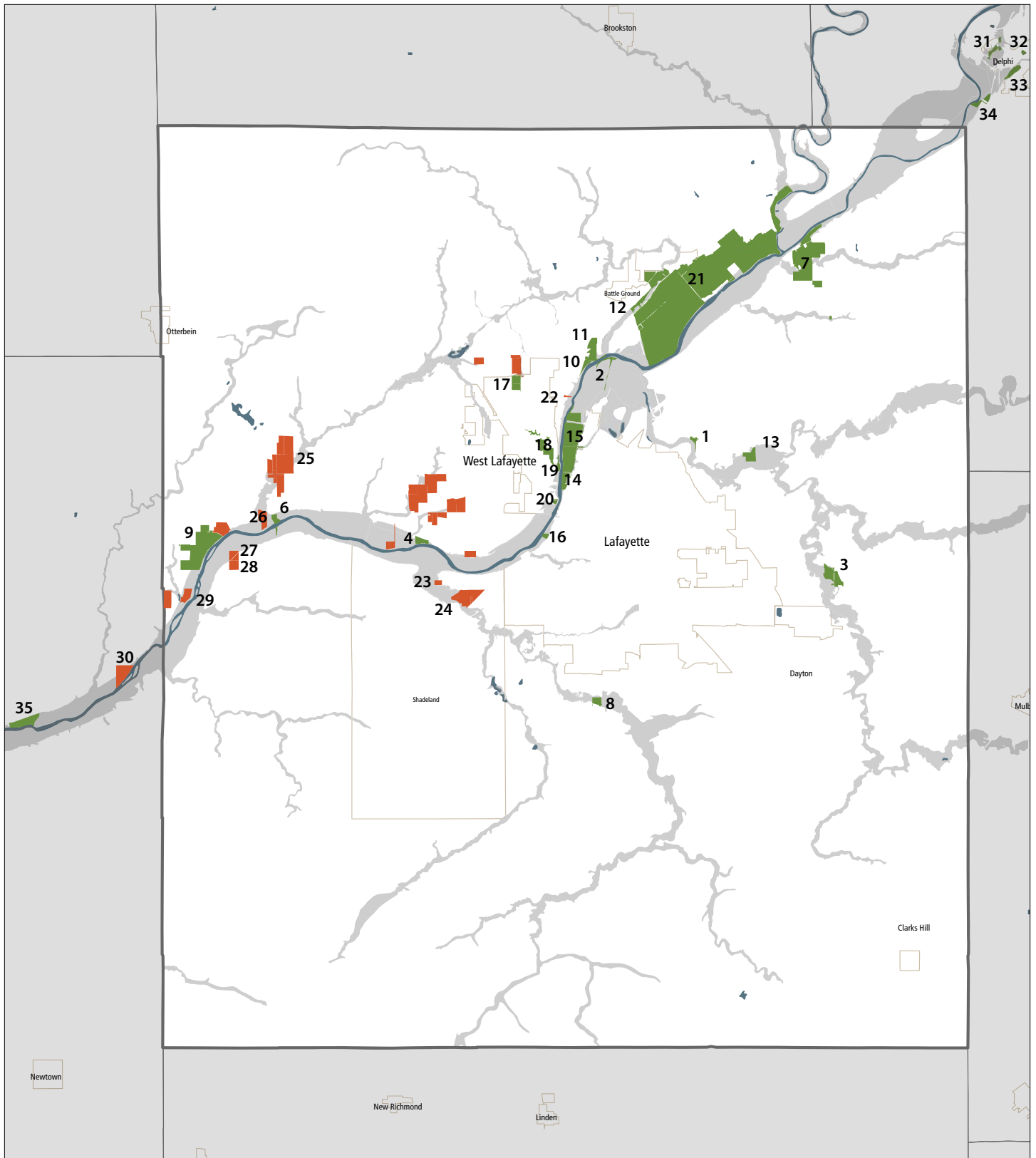
Other Nonprofits/Institutions

22	Boehning Nature Reserve (NICHES)	17 acres
23	Wea Creek Gravel Hill Prairie (The Nature Conservancy)	15 acres
24	Evonik Tippecanoe Laboratories Wildlife Habitat Area	1,000 acres
25	Martell Forest (Purdue)	419 acres
26	Indian Creek Basin (NICHES)	59 acres
27	Granville Sand Barrens (NICHES)	40 acres
28	Roy Whistler Wildlife Area (NICHES)	40 acres
29	Wabash Bottoms (NICHES)	45 acres
Purdue University (not shown on map)		1,048 acres
Total		2,683 acres

Sites in Adjacent Counties

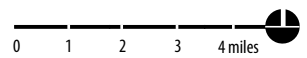
30	Black Rock Barrens (Warren County)
31	Canal Park (Carroll County)
32	City Park (Carroll County)
33	Riley Park (Carroll County)
34	Trailhead Park (Carroll County)
35	Cicott Park (Warren County)

*Sites with existing water access.



Parks and Water Access Sites

- Public Ownership
- Nonprofit/Institution Lands



Data Source: Tippecanoe County Real Estate Duplicate Book (3.23.08)

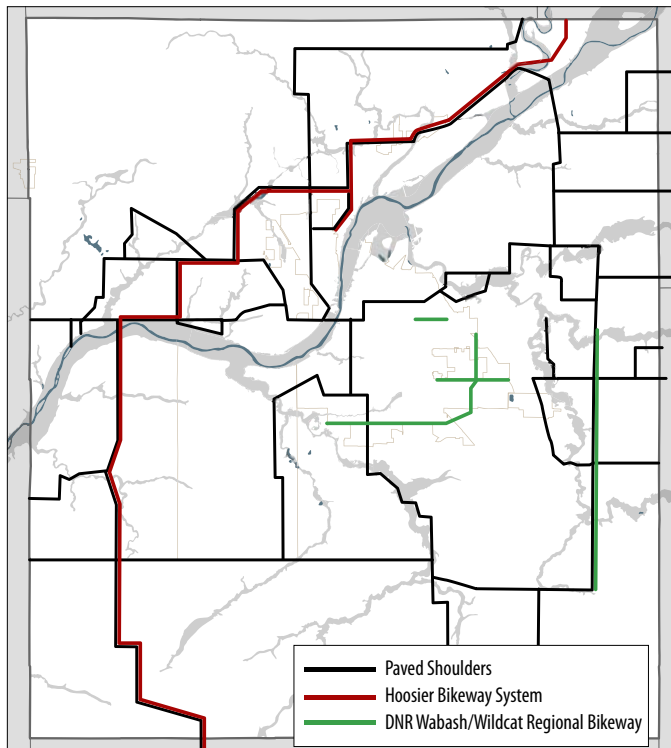
Past and Current Planning Initiatives

Past and current planning initiatives provide important references for greenway planning. Representative plans are summarized as follows.

A Plan for the Preservation and Management of Wildcat Creek

Indiana Department of Natural Resources (1980)

Prepared in 1980 as part of Indiana's River Preservation Act of 1973, this plan proposes the inclusion of Wildcat Creek as a component of the state's Natural Rivers System (which subsequently occurred). With the participation of a local citizen advisory group, the plan also recommends actions to protect the river's ecosystem, maintain the natural and scenic quality of the river corridor, control future corridor development, and manage public use of the river. In addition to improving existing public access facilities, it identifies seven new recreation sites in the river corridor.



Tippecanoe Comprehensive Plan: Bikeway Network

Based on a 1997 Bicycle and Pedestrian Plan, the map illustrates options for cyclists ranging from paved shoulders to segments which are part of a greater bikeway network, such as the Hoosier Bikeway System.

(Tippecanoe County Bicycle & Pedestrian Plan. Area Plan Commission of Tippecanoe County, August 1997.)

Tippecanoe County Comprehensive Plan

Area Plan Commission of Tippecanoe County (1981)

First adopted in October 1981 and subsequently amended, the County's comprehensive plan serves as a countywide policy guide for land use, housing, transportation, bike and pedestrian trails, parks and open space, and other community concerns. It prescribes a phased development strategy for urbanizing and rural areas, using a land-use decision making model. One of the plan's goals is to protect natural and scenic areas and preserve prime agricultural lands. Its park and open space elements set policies for developing the Wabash Heritage Trail and other trails, a countywide network of nature preserves and other passive recreation areas, and coordination among park agencies.

Tippecanoe County Parks and Recreation Plan

Area Plan Commission of Tippecanoe County (1999)

This plan proposes an integrated park and recreation concept for the Lafayette, West Lafayette and Tippecanoe County park boards. Prepared in an "issue analysis" format, it identifies areas of greatest concern to assist the boards in allocating their resources, planning for future land acquisitions and park development, and addressing operational issues. It outlines individual plans specific to each jurisdictional agency, which include proposals for establishing greenway networks, trails, and park development.

Master Plan for Lafayette's Wabash Waterfront

Lafayette Parks and Recreation Board (1999)

This plan proposes a vision for a two mile stretch of Lafayette's riverfront, calling for the revitalization of 450 acres of the city's parks department managed lands and adjoining properties. It identifies park enhancements as a strategy for stimulating economic growth, increasing community wellness and enhancing the Wabash River as a natural amenity. It recommends establishing an organization to enhance the area's positive image and further stimulate community support.

Vision 2020 - A Plan for the Future of Greater Lafayette

Vision 2020 Steering Committee (2001)

Based upon a three-year community initiative, this plan defines eight action areas that include: economy, education, environment, future leadership, government, and use, quality of life, and smart growth. Among its recommendations is the development of a comprehensive and integrated plan for parks, recreation, leisure, historic and cultural sites and other interesting places along the Wabash River corridor. That plan would create physical linkages among villages, towns and points of interest, including linear parks, greenways, walkways and trails. This effort led to the formation of the Wabash River Enhancement Corporation.

Levee Area Development Plan

City of West Lafayette (2003)

With the completion of enhancement projects such as Wabash Landing, this plan proposes a long-range vision for the Levee Area, which includes policies to guide and coordinate public and private improvements. The plan envisions a “town center” comprised of a mix of high-quality retail, service, entertainment, recreational, and residential uses, that will become an attraction within the nine-county region.

Wabash River Heritage Corridor Commission Master Plan

Wabash River Heritage Corridor Commission (2004)

An update of the 1993 Corridor Management Plan, the document serves as a guide for corridor communities to “protect and enhance the natural, cultural, historical, and recreational resources and encourage sustainable development of the corridor.” The plan identifies significant resources within the corridor and suggests strategies for resource enhancement and conservation.

Hoosiers on the Move

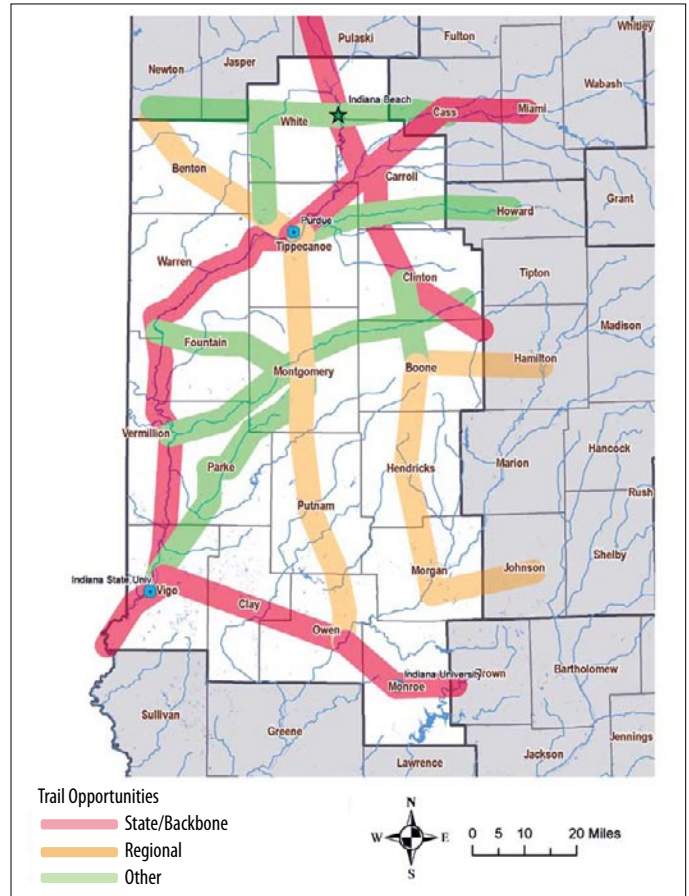
Indiana Department of Natural Resources (2006)

This document proposes a coordinated approach for both governmental entities and private organizations to establish a statewide trail system. The plan serves as a tool for enhancing existing trails and developing future trails to connect public lands, natural areas, communities, and tourist destinations throughout Indiana. The plan identifies the Wabash River corridor as a state visionary trail corridor with the potential to serve as a statewide trail backbone connecting existing and future trail initiatives.

Wabash River Watershed Management Plan - Region of the Great Bend

Wabash River Enhancement Corporation (ongoing)

This planning program stems from several initiatives undertaken by a partnership between the Wabash River Enhancement Corporation (WREC) and Purdue University’s Living Laboratory on the Wabash (LLOW), which identified water quality improvement and education as two of the most important needs of the Wabash River corridor. WREC and its partners obtained a “Section 319” grant from the Indiana Department of Environmental Management to prepare the watershed management plan, scheduled to be completed in 2011.



Hoosiers on the Move: Indiana Trails Summit West Central Region Planning Session

Based on feedback from a May 2006 trail summit, the map illustrates potential trail destinations and broad corridors with potential for development by multiple entities. (*Hoosiers on the Move*. Indianapolis: Indiana Department of Natural Resources, July 2006.)



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Chapter 2

A Greenway Concept

Overview

A concept for a Wabash River Greenway emerges from a landscape scale perspective of the Wabash River and its tributaries. It seeks to capitalize on the cumulative benefits of past and current actions to protect, enhance, restore and use the river system as an environmental, economic, recreation and educational resource. The greenway concept would develop under the following guiding principles.

- Protect Fundamental Resources and Values
- Connect the Greenway to Other Places
- Provide Opportunities for Many Greenway Experiences
- Design Greenway Improvements and Facilities to the Highest Standards
- Use the Greenway as a Classroom and Laboratory
- Work Cooperatively with Landowners
- Promote Public Awareness and Support
- Build on Past Accomplishments and Current Initiatives
- Promote Partnerships and Recognize Leaders

This chapter describes the greenway's "land base" as the 100-year floodplain encompassing the river and its tributaries.¹ As opportunities arise, it proposes extending the greenway beyond the floodplain to include contiguous parcels and associated landscapes. It also suggests the possibility for incorporating the greenway concept into a comprehensive vision for linking conservation land, parks, sports areas and cultural sites in Tippecanoe County.

¹As described on page 33, alluvial soils data would also be used to delineate the greenway in circumstances in which 100-year floodplain information doesn't exist or its accuracy is in doubt.

Guiding Principles

The following guiding principles provide the basis for developing the greenway.

Protect Fundamental Resources and Values

The greenway's fundamental resources and values are those features, processes, experiences, stories, scenes, sounds and other attributes that contribute to its character and integrity. The Wabash River, its tributaries and their associated landscapes are among the most prominent features of Tippecanoe County and the Greater Lafayette communities. They have helped to shape the region's history and have contributed significantly to the region's quality of life and economy. The greenway should provide a means for protecting those resources and values for present and future generations.

Connect the Greenway to Other Places

The greenway should be a part of community life by connecting neighborhoods, schools, parks and other recreation areas, as well as commercial areas. Those sites should be linked by a road and pathway network capable of accommodating vehicles, bicyclists and pedestrians. In addition to supporting greenway uses, the network should provide non-automobile travel alternatives.

Provide Opportunities for Many Greenway Experiences

The greenway should provide opportunities for diverse experiences for people of all ages, interests, incomes and physical abilities, to the extent consistent with its resource protection needs and user safety. Such experiences should include but not necessarily be limited to walking, bicycling, scenic automobile routes, river trips, fishing, nature observation, visiting historic sites, attending events, picnicking, camping and simply being near water. Wherever possible, the greenway should encourage physical exercise to promote public health.

Design Greenway Improvements and Facilities to the Highest Standards

The greenway should adopt high quality design standards for all site improvements and facilities, taking into account concerns for functionality, durability, costs, aesthetics and environmental sustainability. Maintaining the smallest possible "footprint" of development should be an important consideration. Examples of such standards are provided by The Sustainable Sites Initiative sponsored by the American Society of Landscape Architects and its partners, which provides guidelines for sustainable practices in landscape design, construction, operations and maintenance. Facility design and signage should also provide a consistent greenway identity, comparable to the recognizable look of facilities in national parks and other park systems.

Use the Greenway as a Classroom and Laboratory

The greenway should offer "place-based" educational and interpretive opportunities, enabling learning experiences from first-hand field observations of real sites in the greenway. Interpretive themes and media should be developed in collaboration with a partnership of institutions that include school corporations, Purdue University, Ivy Tech Community College, Tippecanoe County Historical Association and other interests. A consistent set of themes should provide for coordinated and coherent educational experiences. One example is the Natural Heritage of Indiana Project's themes that include: "the Indiana that was, life in the water, life on land, and a changing landscape." The greenway should also serve as a resource for research and demonstration projects such as those of Purdue's Living Laboratories on the Wabash.

Work Cooperatively with Landowners

The greenway will require strong support and cooperation from private, corporate and nonprofit landowners, particularly those whose properties are within or contiguous to the greenway. Respecting private property rights, sharing information, maintaining communications and providing substantive opportunities for landowner involvement will be key factors in building successful relationships. Providing sound technical assistance to landowners will also be important, to help (when asked) on a variety of issues regarding current and future uses of their properties. The Tippecanoe County Soil and Water Conservation District and nonprofit conservation organizations capable of providing such services should be asked to participate in those efforts.

Promote Public Awareness and Support

The greenway should promote ongoing public awareness and support of its goals, programs and projects through a combination of printed, web-based and video media, as well as greenway sponsored events. As indicated by a 2009 survey of public perceptions of the river, undertaken by Purdue University's Living Laboratories on the Wabash, while supportive of efforts to invest in the river, many respondents didn't use the river for recreation and expressed concerns about its water quality. New initiatives, such as river trips, should help the public gain a better appreciation of the Wabash as a valuable and attractive resource.

Build on Past Accomplishments and Current Initiatives

Rather than being a "start-from-scratch" idea, the greenway concept should be an integral part of a continuum of local and regional initiatives to protect and enjoy the river and its tributaries. Efforts to develop the greenway should build upon the ideas, programs, accomplishments and experience gained from past planning initiatives such as designation of Wildcat Creek as a state wild and scenic river (1980), the master plan for Lafayette's Wabash waterfront (1999), and the Wabash River Heritage Corridor Plan (2004). It should also be coordinated with current initiatives such as the "Region of the Great Bend" watershed management planning project led by the Wabash River Enhancement Corporation.

Promote Partnerships and Recognize Leaders

The greenway's development should be a shared endeavor, involving numerous partners from the public, nonprofit and private sectors. Rather than being a national or state park or some other entity under single ownership, the greenway is expected to remain in mixed ownership and uses involving agriculture, parks and greenway preserves under the jurisdictions of different public and nonprofit site managers, and privately held related lands. Therefore, effective partnerships are essential to the greenway's success. A greenway partnership needs to engage the participation of leaders from the public, nonprofit and private sectors, and to recognize, celebrate and support their contributions to the greenway.

The Greenway's Land Base: The 100-Year Floodplain



Representative Zoning of the 100-Year Floodplain and Adjacent Lands (Source: Unified Zoning Ordinance - The Area Plan Commission of Tippecanoe County)

The 100-year floodplain should provide a minimum land base for creating the greenway and serve as the foundation for designating additional greenway lands, as described on pages 32 and 33. Public policy to control development in the floodplain dates to 1965 when the Area Plan Commission (APC) adopted floodplain zoning. The boundaries of the floodplain zone are derived from mapping by the Federal Emergency Management Agency (FEMA), as approved by the Indiana Department of Natural Resources, and supplemented by alluvial soils data provided by the Natural Resource Conservation Service. Although future consideration should possibly be given to creating supplemental regulatory mechanisms such as a riverfront overlay zone, the county's current floodplain zone provides an adequate basis at this time for developing the greenway.

Excerpts from Section 2-26 Flood Plain Zones¹ Unified Zoning Ordinance - 2nd Edition

2-26-1 Intent

To protect lowland areas adjacent to lakes and ponds and areas within the flood plain of watercourses and watersheds all of which are subject to inundation and damage from flood waters up to the elevation of the regulatory flood.

2-26-2 Boundaries²

Flood Plains exist adjacent to all natural and manmade watercourses, regardless of contributing drainage area or whether they have been defined or mapped. All land in a flood plain below the regulatory flood elevation shall be contained in an FP zone. Boundaries of FP zones are shown on the official zoning maps as approved by the Indiana Department of Natural Resources (IDNR), reflect the best available information. Each specific FP zone may not be shown on the zoning maps because of a lack of information and detailed studies. In instances where there is a lack of information and detailed studies, the boundaries of the FP zone shall be established on an individual basis for land development by using a regulatory flood elevation authorized by either the IDNR or the APC's Executive Director.

2-26-3 Uses and Structures Permitted Within a Floodway Fringe³

As specified in section 3-2, primary permitted uses include: agricultural production (crops and livestock); boarding and training of horses; forestry, fishing, hunting and trapping; pipelines, local telephone communications and electric transmission lines; water supply and sewerage systems; and arboreta and public parks. Structures accessory to permitted primary uses, provided they do not obstruct circulation of water, threaten water quality, create erosion hazards or disrupt significant wildlife habitat, include: unenclosed carports and driveways, mailboxes, parking spaces, recreational equipment, streets and bridges, observation decks, wildlife management shelters and other specified structures constructed on pilings to permit the unobstructed flow of water and the natural contours of the flood plain on public park land, and enhancement of wetlands to improve wildlife habitat.

¹See Tippecanoe County's Unified Zoning Ordinance for a complete description of the Flood Plain Zone

²Definitions (Section 1010 of the Unified Zoning Ordinance, 2nd Edition)

- Flood Plain. The area adjoining the river or stream which has been or may hereafter be covered by flood water from the regulatory flood, including those areas defined as the regulatory floodway and floodway fringe
- Regulatory Floodways. Determined by the Federal Insurance Administration's Flood Boundary and Floodway Maps and/or by designation in writing by the Indiana DNR. In small drainage basins, the limits of alluvial soils shall be considered as the regulatory floodway.
- Flood protection Grade. The elevation of the lowest floor of a building, including the basement, which shall be two feet above the elevation of the regulatory flood
- Floodway Fringe. That portion of the flood plain lying outside the regulatory floodway, which is inundated by the regulatory flood.

³Uses allowed in the FP zone by special exception include: mining, water transportation, sporting and recreational camps, vehicle parks and campgrounds, public golf courses, riding clubs, outdoor amusement and recreation services not elsewhere classified, and riding stables.

A Greenway Encompassing the River and Its Tributaries

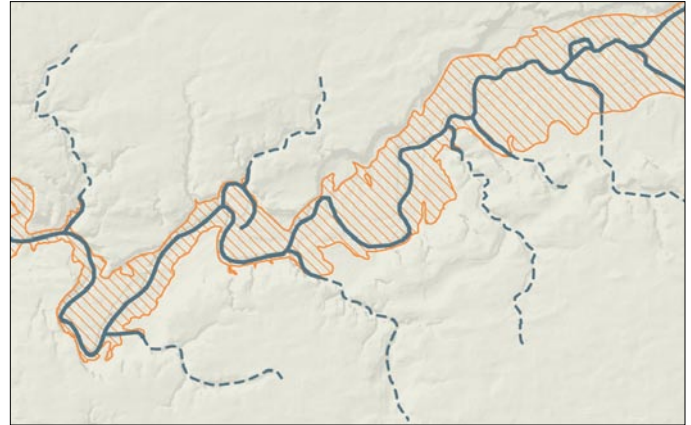
Should the greenway be associated only with the main stem of the Wabash River or include its tributaries? Their inseparable ecological relationship to the river, along with their other environmental, scenic and recreational assets, provide compelling reasons for their inclusion in the greenway. This is particularly true for major tributaries such as Wildcat Creek, already recognized as a state scenic river.

A second question is how far the greenway should extend into the headwaters of major tributaries and minor drainages, where stream flow tends to be seasonal or occurs briefly following periods of precipitation? Regardless of their size or flow regimes, cumulatively, headwaters and minor drainages are significant contributors to water quality and biodiversity downstream. Therefore, they should also be an integral part of the greenway.

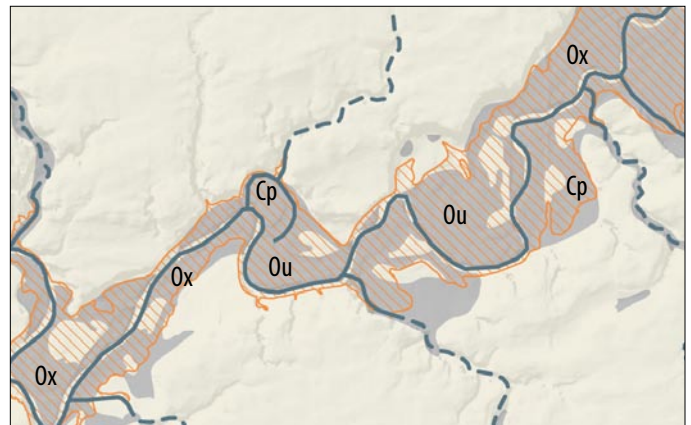
Given that 100-year floodplain data may not always have sufficient accuracy, particularly in headwater drainages, the presence of alluvial soils should also serve as a guide in determining the upstream extent of the greenway. Depending upon the specific circumstances, the greenway may be defined according to the 100-year floodplain, alluvial soils or some combination thereof. Such an approach would be consistent with the regulations of the APC's flood plain zoning district as described on page 32.

The parent material of alluvial soils is typically sand, silt or clay deposited on land by streams. Examples of alluvial soils in Tippecanoe County, as identified in the Tippecanoe County Soil Survey include:

- *Cohactah loam (Cp)*
Nearly level, very poorly drained soil on flood plains, subject to occasional flooding for brief periods during the winter and spring.
- *Ouiatenon sandy loam (Ou)*
Nearly level, somewhat excessively drained soils on flood plains, subject to frequent flooding for brief periods from late fall through spring.
- *Ouiatenon loamy sand (Ox)*
Nearly level, somewhat excessively drained soils on flood plains, subject to occasional flooding for brief periods from late fall through spring.



An example of the mapped 100-year flood zone (orange stripes) of a major tributary with minor drainages (dashed lines).



An enlarged section of the top map, showing the 100-year floodplain (orange stripes) and alluvial soils (gray), illustrating the congruence disparities that can occur between those two data layers.

Data Sources:
Floodplain_General.shp. [shapefile]. (2002). Evansville, IN: Bernardin, Lochmueller and Associates, INC.

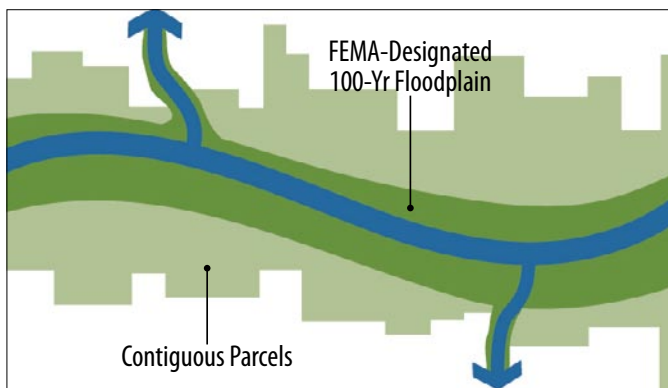
Soils_SSURGO_NRCS_IN.shp. [shapefile]. (2004). Fort Worth, TX: U.S. Department of Agriculture, Natural Resources Conservation Service. Available FTP: <http://SoilDataMart.nrcs.usda.gov/>.

Extending the Greenway Beyond the 100-Year Floodplain

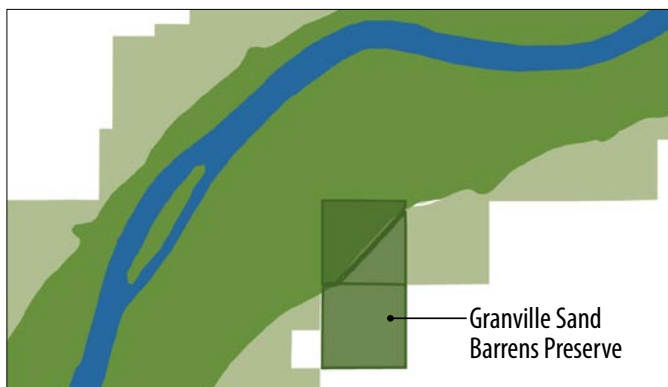
As warranted by circumstances and opportunities, the greenway should extend beyond the 100-year floodplain and alluvial soils associated with the river and its tributaries. Three concepts for building the greenway are: (1) inclusion of selected parcels contiguous to the floodplain, (2) inclusion of associated landscape features such as steep slopes and tributary valleys, and (3) incorporation of the greenway into a comprehensive approach for managing growth and conserving land in Tippecanoe County. Not mutually exclusive, those concepts should be seen as an integrated strategy for building the greenway and achieving other regional objectives for conservation and development.

Contiguous Parcels Concept

Over 5,600 parcels straddle the 100-year floodplain, encompassing approximately 46,240 acres of lands contiguous to the proposed greenway. In certain instances, it would be appropriate to add parts of or entire contiguous parcels to the greenway. The NICHES Granville Sand Prairie Preserve is an example of such a property.



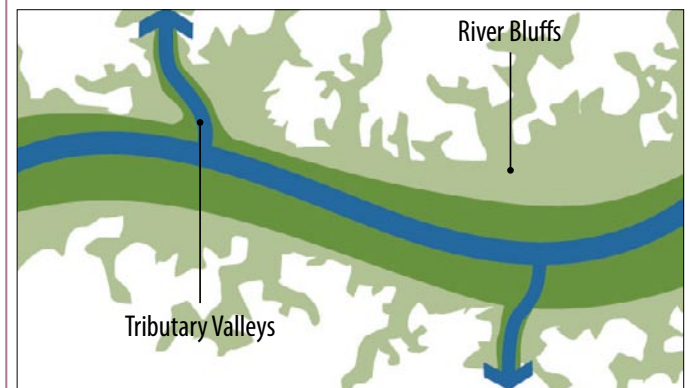
Concept



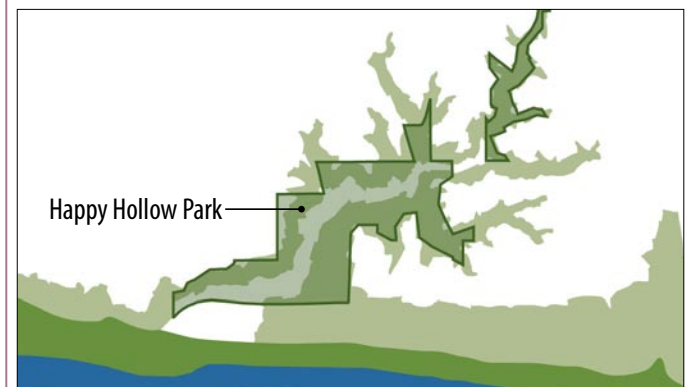
Example

Associated Landscapes Concept

In some circumstances, it will be appropriate to add lands to the greenway based upon their landscape characteristics. Such lands may include bluffs, tributary valleys or outwash terraces that provide opportunities for enhancing water quality, restoring wildlife habitats, providing groundwater recharge, or enabling recreation development and improved access to the river. West Lafayette's 81-acre Happy Hollow Park, one of the city's most popular parks, situated in a tributary valley, is an example of this concept.



Concept

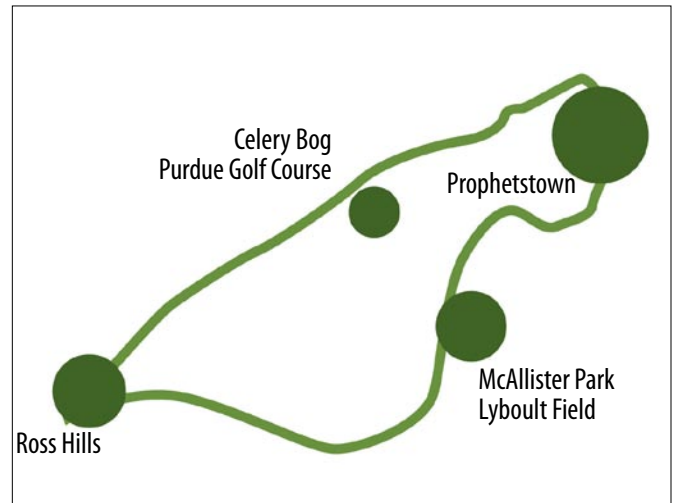


Example

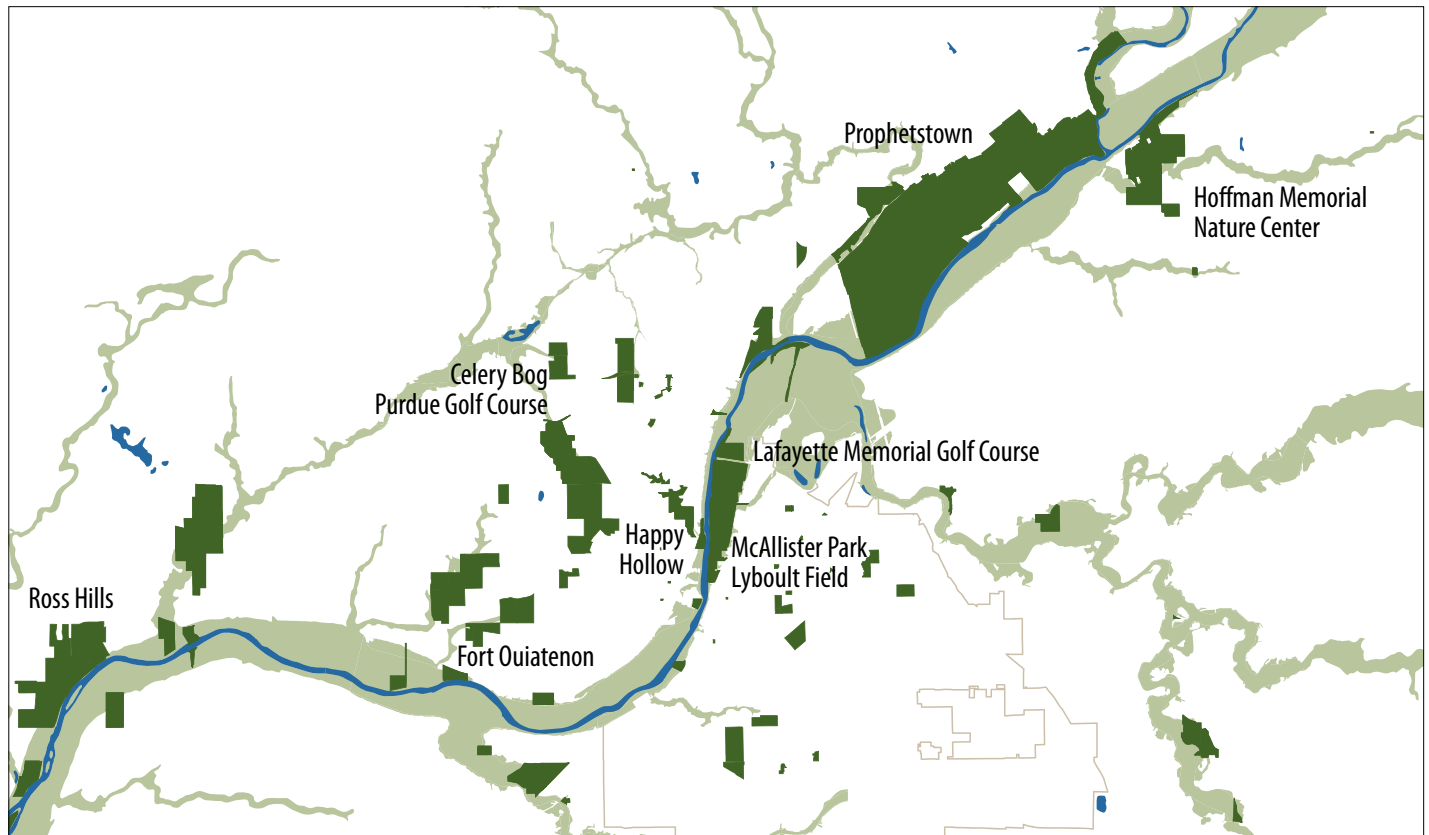
The Greenway as Part of a Comprehensive Plan

Rather than being an isolated entity, the greenway should be part of the region's comprehensive vision for conservation lands, parks, sports areas, cultural sites, public gardens and other amenities that contribute to its quality of life. Sometimes called a "links and nodes" concept, the greenway would help to provide connectivity among those sites. The concept is also comparable to the philosophy of developing "green infrastructure," i.e., an interconnected network of conservation lands that provide ecological, recreation and other services. The approach would be consistent with the planning policies of the Tippecanoe County Area Planning Commission, as well as the parks departments of Tippecanoe County and the cities of Lafayette and West Lafayette.

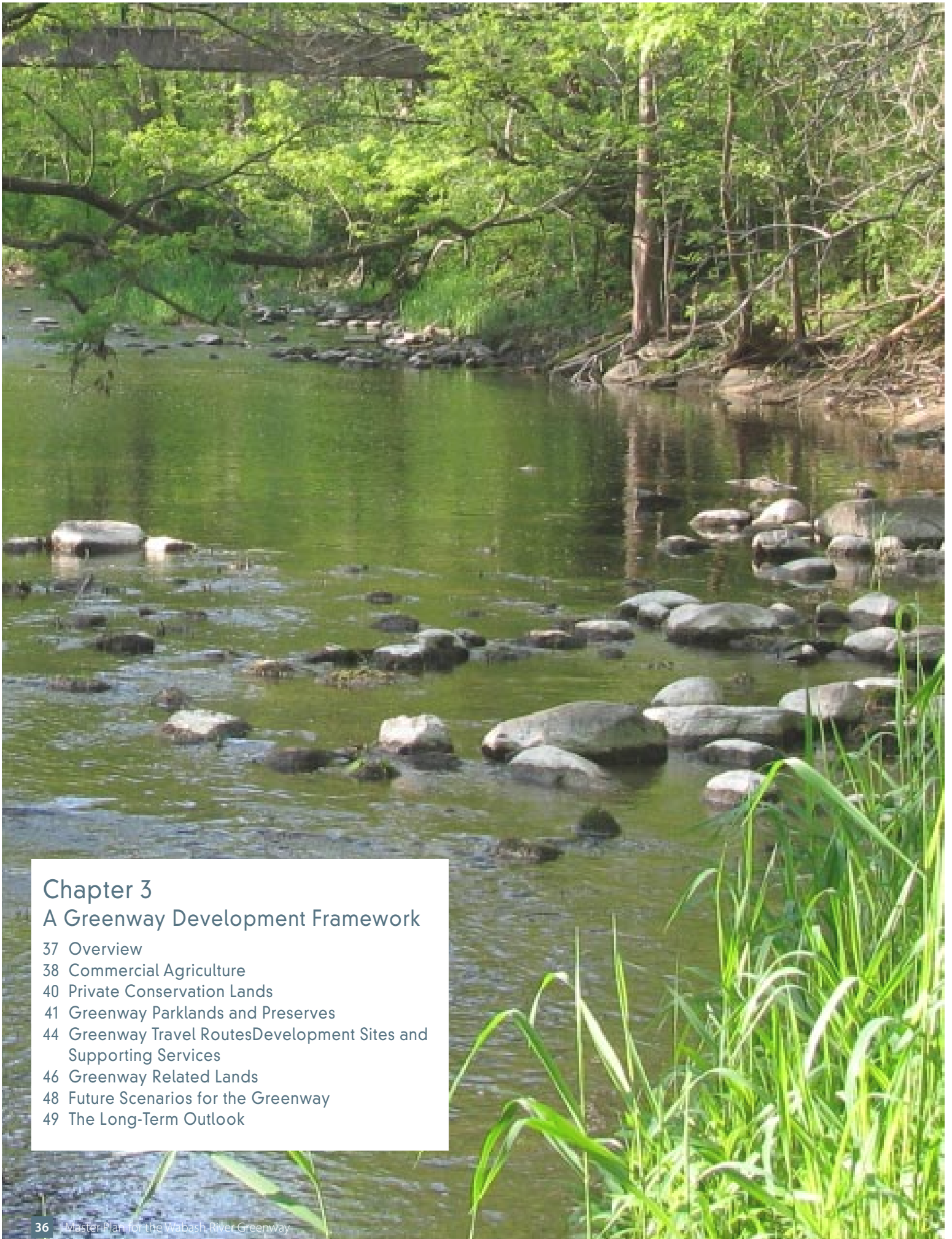
One illustration of this concept is the greenway's potential development along the Wabash River, Indian Creek and Burnett Creek, thereby creating a natural loop of conservation lands that provide connections to major parks such as Prophetstown and Ross Hills, natural areas such as Celery Bog, and sports complexes such as Purdue's and Lafayette's golf courses.



Concept



Example



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- 44 Greenway Travel Routes Development Sites and Supporting Services
- 46 Greenway Related Lands
- 48 Future Scenarios for the Greenway
- 49 The Long-Term Outlook

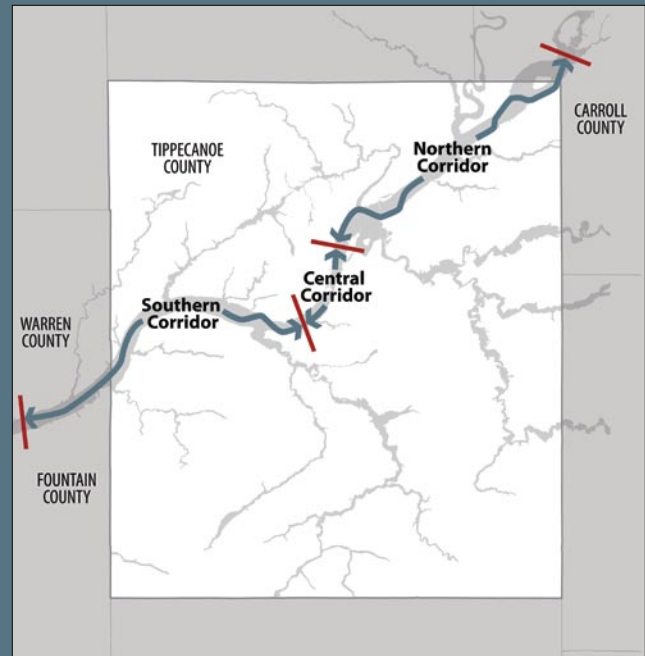
Chapter 3

A Greenway Development Framework

Overview

The Wabash River Greenway will be in mixed private, public and nonprofit ownership and uses, characterized as follows:

1. **Commercial Agricultural Lands.** These lands are the greenway's "working landscape." The greenway would encourage agriculture practices reflecting the standards set by Indiana's River Friendly Farmer Program and other programs that promote an economic and environmentally sustainable agricultural economy.
2. **Private Conservation Lands.** These lands are managed primarily to achieve conservation goals such as enhancing water quality, wildlife habitat, and protecting historic sites. Landowners may adopt conservation measures either on a short- or long-term basis.
3. **Greenway Parklands and Preserves.** These lands are owned and managed by public agencies and nonprofit organizations for conservation, recreation or educational purposes, allowing for the public's enjoyment of those lands under the policies of their individual owners.
4. **Greenway Development Sites and Services.**¹ Such sites provide facilities for greenway users. They occur primarily on parklands and preserves but may include privately-owned commercial sites such as campgrounds and boat launching ramps. Greenway services are those provided primarily by the private sector such as equipment rentals, restaurants and grocery stores.
5. **Greenway Related Lands.** These lands encompass mostly privately-owned parcels not in commercial agricultural use. They occur within and, in many cases, extend beyond the 100-year floodplain. The greenway would have a related lands program to promote land uses that would be mutually beneficial to landowners and the greenway.



The main greenway corridor following the Wabash River consists of the north, central and south sections, as shown on this map.

The mechanisms needed to insure the greenway's successful evolution must focus on individual parcels whose owners present opportunities for building the greenway. The cumulative outcome of many decisions and actions taken by landowners, government agencies and nonprofit landowners will shape the greenway's future.

¹ The greenway's travel routes, which include roadways, pathways and waterways, are described on pages 52-57 in Chapter 4.

Commercial Agriculture

The lands, that we call first rate corn-lands, are generally alluvial bottom lands, or walnut or burr oak table-lands. These lands, properly cultivated, produce about the average of sixty-five bushels of corn to the acre; some of the very best, produce eighty bushels to the acre, and are cultivated for successive years in corn.

Henry William Ellsworth. Valley of the Upper Wabash, Indiana - With Hints of Its Agricultural Advantages. Pratt, Robinson, and Co., New York 1838.

The greenway would support the continuation of agriculture and those practices that reflect the standards set by Indiana's River Friendly Farmer Program.

The evolution of agriculture along the Wabash River and its tributaries over the past 200 years is a story of the settlement of America's frontier and the forces of change in agricultural products and markets, technology, science, labor, transportation and public policy. While today's farmers face many of the historic challenges such as flooding, soil management and seasonal unpredictability, much has changed since early settlement when 65 bushels of corn per acre was considered good, compared to current yields which usually exceed three times that amount. Today's farmers must also grapple with the complexities of a global economy, governmental programs, and environmental concerns.

Although the Wabash River's bottomlands have a rich history of different kinds of farming, corn and soybean crops are likely to continue as the preferred form of agriculture in the foreseeable future. Other enterprises such as vegetables, landscape nurseries, hybrid poplars and livestock offer potential opportunities but also face the same formidable challenges of flooding.

The greenway would support best management practices of floodplain agriculture and encourage agricultural and other landowners to take advantage of assistance programs provided by the Tippecanoe County Soil and Water Conservation District (SWCD), Purdue Extension, the Tippecanoe County Farm Bureau and others. The SWCD has set a high priority for establishing riparian buffer zones and habitats in targeted sensitive areas. In 2008, it identified a need for nearly 4,700 additional acres of buffer lands along 107 stream miles in five priority watersheds in Tippecanoe County. Other conservation practices should be explored, such as the two-stage ditch design to control topsoil and chemical runoff, researched by The Nature Conservancy.

The greenway could introduce new mechanisms to support agriculture. For example, consideration might be given to a greenway program to purchase, re-sell or lease land to farmers on a long-term basis, particularly to those who currently are only able to rent short-term. Such arrangements, which would include requirements for environmentally sustainable management practices, could provide opportunities for the next generation of local farmers.

The greenway would strongly support enrollment of agricultural lands in one or more of the federal and state conservation programs administered by the Natural Resources Conservation Service (NRCS) in cooperation with state and local partners.¹ Some of those programs are summarized as follows:²

Conservation Reserve Program (CRP)

The CRP offers technical and financial assistance to eligible farmers to address soil, water and related natural resource concerns on their lands. It encourages the conversion of highly erodible cropland or other environmentally sensitive acreage to vegetative cover such as grass waterways, native grasses, wildlife plantings, trees, filter strips and riparian buffers. Farmers receive annual rental payments for the term of the contracts.

Environmental Quality Incentives Program (EQIP)

The EQIP is a voluntary program to promote agricultural production, forest management and environmental quality as compatible goals. It offers financial and technical assistance to implement conservation practices.

Wildlife Habitat Incentive Program (WHIP)

The WHIP provides technical assistance and up to 75 percent cost-share assistance to improve fish and wildlife habitat, primarily on private land. It is particularly applicable to conservation-minded landowners unable to meet the eligibility requirements of other USDA programs. Enrollment is based upon criteria reflecting national and state priorities for habitat improvement.

Conservation Stewardship Program (CSP)

The CSP encourages agricultural producers to undertake conservation practices such as prescribed burning to benefit wildlife, renovation of seasonal wetlands, and restoring native habitats. It offers financial assistance through annual and supplemental payments.

Emergency Watershed Protection (EWP)

The EWP offers technical and financial assistance to undertake measures such as purchase of flood plain easements, runoff retardation and soil erosion control, and removal of stream debris. Its floodplain easement program (FEP) offers payments for permanent conservation easements.³

Farm and Ranch Lands Protection Program (FRPP)

The FRPP is intended to protect prime or unique farmland and ranchland, as well as historic and archaeological resources on those lands, from converting to non-agricultural uses. It provides matching funds to eligible entities to purchase development rights, providing up to 50 percent of the easement's fair market value.

Grassland Reserve Program (GRP)

The GRP offers landowners the opportunity to protect, restore and enhance grassland, while retaining the right to conduct grazing and production of forage. Grassland management is subject to restrictions during nesting seasons to protect bird species in significant decline or protected under federal of state law.

Indiana Wetlands Reserve Program (WRP)

The WRP encourages landowners to protect, restore and enhance wetlands on their properties to provide habitat for migratory birds and wetland dependent wildlife. Its other goals address water quality, flooding, groundwater recharge, land conservation, protecting native flora and fauna, and educational scholarship. The program offers three options to landowners: permanent conservation easements, 30-year easements, and restoration cost-share agreements for a minimum of 10-years. This program has contributed to the protection of 34,000 acres along the lower Wabash in Indiana and Illinois.

Healthy Forests Reserve Program (HFRP)

The HFRP promotes the recovery of endangered and threatened species, improving plant and animal biodiversity and enhancing carbon sequestration by assisting landowners in restoring and protecting forest lands through permanent conservation easements, 30-year contracts and 10-year cost-share agreements. Landowners granting permanent conservation easements may be eligible for 100 percent of the easement value as well as 100 percent of the average cost of the approved conservation practices.

¹Information on these and other programs is available from the NRCS District Conservationist and Tippecanoe County Soil and Water Conservation District, located at the USDA's Field Service Center in Lafayette.

²This is only a partial listing of landowner programs. For example, the Indiana Division of Fish and Wildlife (DNR) manages a number of incentive programs that reimburse landowners for habitat development projects. One of those is the Landowner Incentive Program (LIP) designed to work with property owners whose lands are important to endangered or special status species.

³A conservation easement is a legal agreement between a landowner and a qualified organization that restricts future activities on the land to protect its conservation values. Source: *The Conservation Easement Handbook*, by Elizabeth Byers and Karin Marchetti Ponte, Land Trust Alliance (1988)

Indiana's River Friendly Farmer Program

Program Goal

To publicly recognize and reward farmers who do an excellent job of managing their farms in an economically and environmentally sound way that protects and improves Indiana's soil and water resources for future generations.

Criteria

- Soil loss on all land is at or below tolerable soil loss levels, either by maintaining 30% crop residue or other appropriate tillage or crop rotation measures.
- Field soil tested at least once every three years.
- Fertilizer applied at correct application rates based on soil tests. Realistic yield goals used in setting fertilizer application rates.
- Nutrient credits given for manure applied and legumes used in rotation.
- Use of nitrogen best management practices, as recommended by Purdue University.
- Phosphorus fertilizer banded or incorporated when applied on crop land, or incorporating practices used to keep soluble phosphorus from reaching water sources.
- Livestock manure utilization as part of farming operation. Fencing used to exclude livestock from sensitive areas. Manure storage facilities having at least 120 days storage capacity.
- Livestock facilities currently approved by the Indiana Department of Environmental Management or in the process of being approved.
- Pesticides and their containers handled, stored and disposed of in accordance with labeled recommendations.
- Non-cropland areas are managed and/or enhanced in an environmentally appropriate manner.
- Farm records are kept to track inputs and conservation practices

The River Friendly Farmer Program, sponsored by Indiana's Soil and Water Conservation Districts, the Indiana Department of Agriculture and the U.S. Department of Agriculture's Natural Resources Conservation Service, was initiated in 1999 as a statewide initiative to recognize farmers committed to protecting Indiana's rivers, streams and lakes. Over 400 farms have now been honored for their stewardship.⁴

⁴Source: River Friendly Farmer Program brochure, Indiana Association of Soil and Water Conservation Districts, Indianapolis (2009)

Private Conservation Lands

The greenway would encourage land stewardship on all private lands. Landowners whose properties are within or contiguous to the 100-year floodplain may be willing to consider such practices, given the potential benefits of doing so, and their views that such practices would be compatible with their particular circumstances and interests. The greenway would address a variety of potential landowner concerns, such as costs and impacts on property values. Private conservation lands would not be expected to be accessible to the public.

Some landowners may choose to take advantage of conservation programs applicable to non-commercial agricultural lands, such as a number of those listed on page 39. They may also choose to adopt conservation practices on the condition that they would not require long-term commitments or cost obligations of certain funded programs. Alternatively, some landowners may consider granting permanent conservation easements on all or portions of their holdings. In short, arrangements with landowners would be tailored to fit their interests and characteristics of their properties.

The greenway could contribute to private land conservation in the following ways.

1. Promote the concept and its benefits.
2. Support agencies such as the Soil and Water Conservation District, as well as nonprofit organizations that assist landowners in adopting conservation measures.
3. As appropriate, work directly with landowners to help them assess their lands and consider alternatives for their properties.
4. Promote cooperation among neighboring landowners in the greenway to realize the shared benefits of private land conservation on multiple properties.
5. Recognize and celebrate the efforts and successes of conservation landowners, in a manner comparable to the River Friendly Farmer program.

Conservation Easement

Signs denote the boundary of a Wetland Reserve Program (WRP) conservation easement in Pembroke, Massachusetts. (Image: Natural Resources Conservation Service. http://www.ma.nrcs.usda.gov/news/news_Edgewood_Pembroke_WRP.html)



Conservation Easements¹

"The great conservation opportunities of the next century will be on privately owned land, and conservation easements are the most effective way to protect those lands. Landowners like conservation easements because they are a refreshing alternative to government regulations: they are voluntary, local, and respect private property rights. For the many people who love their land, it is the best way to ensure that it will be preserved for all time.

Rand Wentworth, President, Land Trust Alliance (2005)

Conservation easements have been used in every state to protect millions of acres of land. Although the total numbers of easements held by federal, state and local agencies have not been well documented, a 2004 survey by the American Farmland Trust counted almost 9,500 easements on nearly 1.5 million acres of farmland, held primarily by state and local agencies. Over the past decade, public agencies have increasingly established easement purchase programs, funding them through a variety of financing mechanisms. In 1988, land trusts had protected 290,000 acres with conservation easements, a number that rose to five million acres by 2003.⁶

¹Source: The Conservation Easement Handbook by Elizabeth Byers and Karin Marchetti Ponte, published by the Trust for Public Land and the Land Trust Alliance (2005 reprint).

²A land trust is a nonprofit organization that, as all or part of its mission, actively works to conserve land by undertaking or assisting in land or easement acquisitions, or by engaging in the such stewardship of such land or easement [Source: Ibid]

Greenway Parklands and Preserves¹

The greenway's parklands and preserves are owned by public agencies and nonprofit organizations, and managed for conservation, recreation or educational purposes. Policies regarding management and public use of those lands are determined by their respective owners.

As described on pages 24-25, the greenway already has numerous parks, golf courses, playing fields and preserves. Some are confined mostly to the floodplain, whereas others include both floodplain and contiguous lands. For example, Wabash Bottoms, Granville, Fort Ouiantenon Park and Lafayette Memorial Golf Course fall almost entirely within the floodplain, whereas Ross Hills Camp, Prophetstown State Park and the J. Frederick Hoffman Memorial Nature Area also encompass contiguous lands. The configuration of the greenway's future parks and preserves are likely to also include a mix of floodplain and contiguous lands.

The greenway distinguishes parklands from preserves on the basis that parklands are more appropriate locations for accommodating a variety of public uses and facilities. Preserves typically will have lower intensity uses consistent with their emphasis on managing natural and cultural resources. In some instances, a preserve may be imbedded within a park, as in the case of Prophetstown Fen at Prophetstown State Park. Parklands and preserves may differ in their approach to resource management. For example, a parkland meadow may be mowed regularly to serve as a general play area in conjunction with nearby picnicking facilities, whereas a similar meadow at a preserve may be managed to restore native prairie vegetation.

The preserve concept is not new to the Wabash River and its tributaries in Tippecanoe County. In 1974, the Wildcat Creek Foundation was created - initially in response to the Corps of Engineers' proposal to build a dam on the Wildcat Creek. It evolved into a nonprofit organization to acquire preserves, i.e., strips of land along Wildcat Creek for conservation and recreation purposes. Over the years, it has acquired approximately 125 acres that provide six access sites to Wildcat Creek.

Greenway land acquisitions may be initially undertaken without necessarily distinguishing whether they are intended to be parklands or preserves. In some cases, as with state and county parks, such distinctions may be determined subsequently in developing their master plans, in which they may be distinguished simply as different management units. In other instances, the distinctions will be clearer because of funding mandates and the type of agency or organization involved. For example, most nonprofit conservation organizations involved in greenway projects would be oriented more towards preserves than parklands.



Prophetstown Picnic and Fen Restoration Areas

Managed to accommodate a variety of public uses, areas of Prophetstown State Park are mown to provide areas for picnic and play facilities while adjacent area are managed as habitat restoration zones. (image: WRT)

¹In the context of the greenway, parklands and preserves refer primarily to two types of lands that provide some degree of public access. The facilities and services provided for the public's use and enjoyment are referred to as development sites, as described on pages 44 and 45. A primary reason for making this distinction is the need to implement greenway strategies to acquire parklands and preserves in a timely manner, as opportunities arise, which may occur years ahead of planning, funding and constructing visitor facilities.

While supporting a diversity of uses, the greenway also encourages connectivity among certain uses to insure their viability. That may apply to the minimum land area required for economically viable agriculture and/or lands needed to support functioning wildlife habitats.

With respect to parklands and preserves, the greenway should encourage actions to achieve their connectivity, e.g., by filling gaps and expanding existing holdings where justified by a sound rationale for such actions. The greenway framework should enhance the possibility to obtain funding for parkland and preserve acquisitions at a landscape scale, rather than only for individual transactions.

A good example of the connectivity concept is the state's conservation initiative to acquire 43,000 acres from willing sellers along the Wabash River and Sugar Creek in west central Indiana, with the intent of establishing 94 miles of continuous habitat. Funding for that project is supported by the Lifetime License Trust Fund (\$21.5 million) and the U.S. Fish & Wildlife Service (\$10 million). The initiative promises to make that section of the Wabash a major waterfowl destination which will also promote regional tourism.

In Indiana, the preserve concept has a level of recognition not commonly seen in other states. Indiana's Nature Preserve Act, passed in 1995, called for a statewide network of preserves, which currently include over 225 properties encompassing almost 33,000 acres. The Indiana Heritage Trust is an important funding vehicle, enabling the state and its partners such as The Nature Conservancy, Central Indiana Land Trust and NICHES Land Trust to acquire such lands.

As defined by the act (Article 31, Indiana Code 14-31), a nature preserve is an area in which an estate, an interest or a right has been set aside for the following purpose:

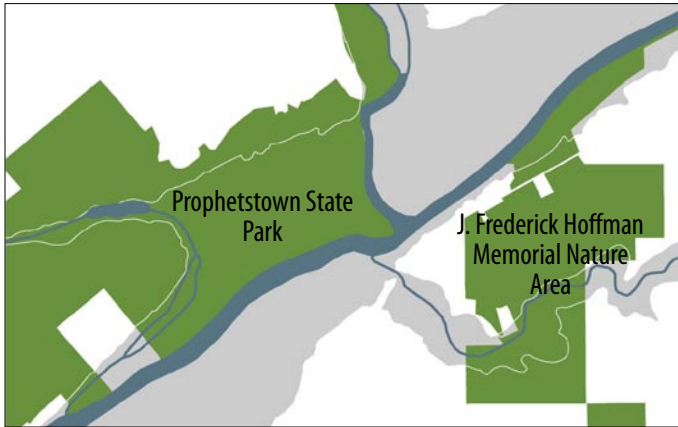
"To secure for the people of Indiana the benefits of an enduring resource of areas for: scientific research, teaching of biology, natural history, and other subjects, as habitats for plant and animal species, as reservoirs of natural materials, as places of natural interest and beauty, as living illustrations of natural heritage, to promote understanding and appreciation of esthetic, cultural, scientific and spiritual values, for the preservation and protection of nature preserves against modification or encroachment."

Examples of state recognized nature preserves in Tippecanoe County include: Prophetstown Fen (IDNR), Celery Bog Nature Area (City of

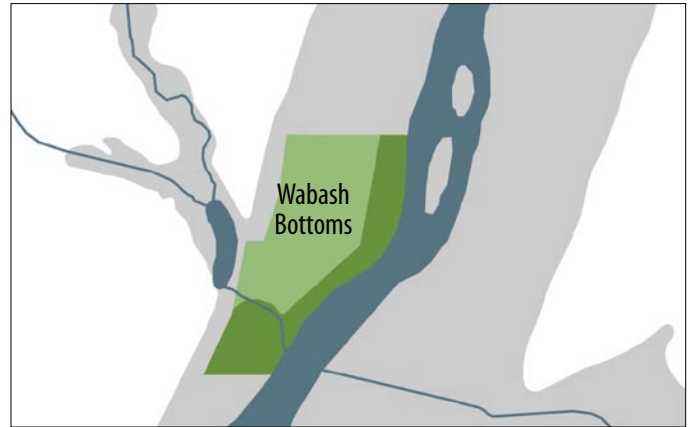
West Lafayette), Wabash Bottoms (NICHES and Tippecanoe County), Granville Sand Barrrens (NICHES) and Wea Creek Gravel Hill Prairie (The Nature Conservancy).

Founded in 1995 and based in Lafayette, NICHES Land Trust serves Tippecanoe, Warren, Carroll and ten other Indiana counties. It works with landowners, other nonprofit organizations and government agencies to protect natural areas ranging from small green spaces to nature preserves of high biological integrity. As of April 2010, it had permanently protected 25 properties totaling almost 2,500 acres. It has eight preserves in Tippecanoe County encompassing 211 acres. The Nature Conservancy, one of the nation's largest conservation organizations, maintains a network of 55 preserves throughout Indiana. Its Wabash Rivers Initiative - Tippecanoe office, in Winamac, focuses on protecting the Wabash's biodiversity in partnership with other groups; filling gaps in areas for which no conservation work is underway. Along with state, county and municipal agencies, NICHES and The Nature Conservancy are potentially important nonprofit partners in expanding the network of preserves in the Wabash River greenway.

Relationship of Existing Parks, Preserves, and Recreation Areas to the 100-Year Floodplain - Selected Examples



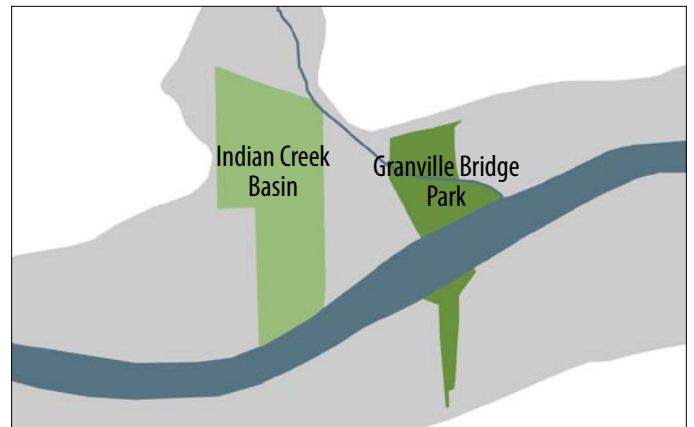
Prophetstown State Park and J. Frederick Hoffman Memorial Nature Area Preserve



Wabash Bottoms



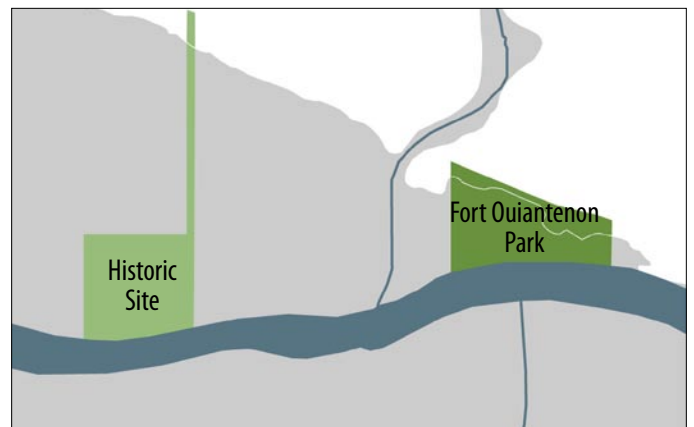
Lafayette Memorial Golf Course and Happy Hollow Park



Granville Area



Ross Hills Camp and Ravine Golf Course



Fort Ouiantenon Park and Historic Site

Greenway Travel Routes, Development Sites and Supporting Services

Facilities and services contributing to the public's use and enjoyment of the greenway fall into the categories of travel routes and way-finding, development sites, and supporting services. As described on pages 52-57, the greenway's travel routes consist of roadways, pathways and waterways, as well as way-finding directional signs and information kiosks. Greenway development sites and supporting services are described in more detail as follows.

Greenway Development Sites

Development sites will be located at appropriate locations within the greenway's parklands and preserves. They may also occur on private lands managed for commercial purposes, such as campgrounds and river access sites. Different kinds of development sites would include but not necessarily be limited to those described below.

- *Pathway Trailheads.* These are access points for the greenway's trails (also referred to as pathways). At a minimum, they should include safe and well-maintained access roads, parking (off-street, wherever possible), directional signs, and orientation signs with trail information. Trailheads may be individual sites or associated with day-use or other greenway facilities. Depending upon the policies and capabilities of individual site managers, trailheads should have restrooms and picnicking facilities, wherever feasible.
- *Boat Access Sites.* The greenway would have full-service sites with ramps for boats appropriate for the river and its major tributaries, as well as smaller sites designed only for canoes and kayaks. Given the extreme variations in current velocities and water elevations, a major challenge will be to design sites that will work under different conditions. Given safety considerations and their different needs, boat ramps and paddler put-in/take-out facilities should be separated at full service sites. Safety precautions and user guidelines should be posted at all sites, including motorboat horsepower and speed limits, and other rules and courtesies reflecting the state's boating regulations. Wherever possible, seasonal or permanent restroom facilities should be provided at all boat access sites. Similarly, as with trailheads, ideally boat access sites should occur in conjunction with day-use sites.
- *Day-Use Sites.* These sites provide opportunities for experiencing the greenway by providing safe access to the banks of the river and its tributaries, as well as picnicking facilities and multi-purpose areas that can serve a variety of uses such as sports activities, river festivals and other events. Such sites may have pavilions and fireplaces in addition to picnic tables. Seasonal or permanent restrooms should be

provided at all day-use sites, as should potable water, wherever possible. Improved well-marked parking areas should be constructed to meet normal summer time uses, with overflow parking available for events and other times of peak use.

- *Overnight Sites.* These may include campgrounds for recreational vehicles and tent campers, boat access campsites for river travelers, and group camping, lodges and dormitories for youth outings and other groups. Other than the boat access campsites sites, overnight accommodations would be planned with consideration given to providing such facilities to serve overnight accommodation needs not directly related to the greenway.
- *Observation and Interpretive Sites.* These are mostly "pull-off" areas along roadways and locations along pathways that afford views of the greenway and provide opportunities for interpretation and way-finding. Observation sites along the roadway network would provide coordinated interpretive experiences as developed in the greenway's interpretive plan.

These five kinds of sites are intended to provide a general typology for greenway facilities. Other than identifying certain sections of the greenway where additional water access would be desirable (Chapter 5), this plan does not contain specific recommendations for new development sites at existing parklands and preserves. As described in Chapter 6, this plan proposes ongoing collaborative planning among parkland and preserve managers to coordinate the development of existing and future facilities serving the greenway. Wherever possible, such planning should include consideration of consistent facilities designs and management policies, to encourage relatively seamless visitor waterway and pathway experiences.

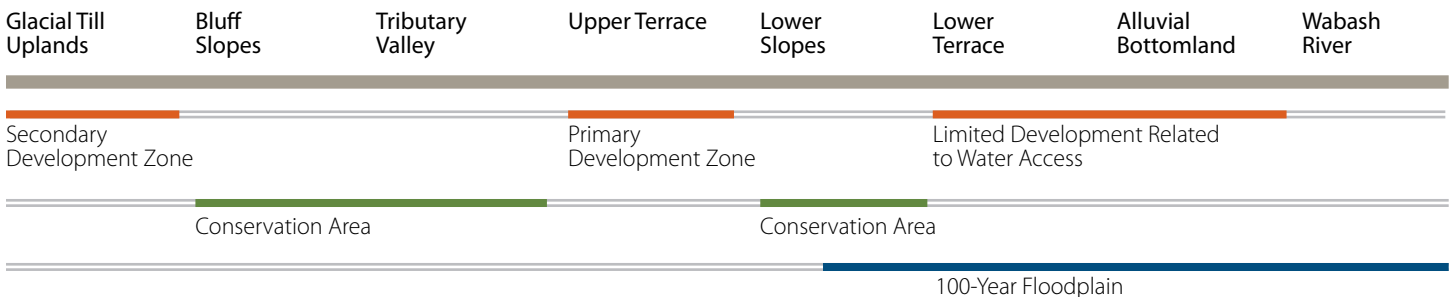
Greenway Supporting Services

The greenway should encourage supporting services, provided primarily by the private sector, such as canoes, kayak and bike rental shops, river transportation shuttles and restaurants offering riverfront amenities. Other services such as grocery stores, recreational equipment sales, and overnight accommodations, which will generally require more than greenway business to survive economically, should be encouraged to locate near the greenway whenever possible. Joint planning for the greenway and adjacent commercial development would increase the likelihood of providing supporting services and potentially contribute to the local economy.

Conceptual Illustration - Greenway Development Site

The sketch below illustrates the characteristics of a multi-purpose greenway development site where conditions are suitable for accommodating the facilities summarized on page 44. The site offers opportunities for full service boat access, loop trail walks, picnicking and other day-use activities, camping, and interpretive programming. It also has a habitat restoration area available for educational purposes. A visitor contact station, staffed at peak times, would also serve the site’s administrative needs. Although not shown, this site could have a storage structure for maintenance equipment.

In addition to indicating general relationships among various activities, the sketch illustrates the varying suitabilities of the greenway’s landscape features. The upper terrace is the primary development zone, whereas the floodplain has only facilities required for water access. Tributary valleys and bluff slopes are designated as conservation areas. Although the sketch reflects common landscape conditions, particularly on the west side of the Wabash River, it is not intended to represent a template that can be applied anywhere along the greenway. The layout of every development site should reflect local conditions. Smaller development sites with limited facilities such as trailheads, limited picnicking facilities and water access for paddle boats, may serve greenway needs in many instances.



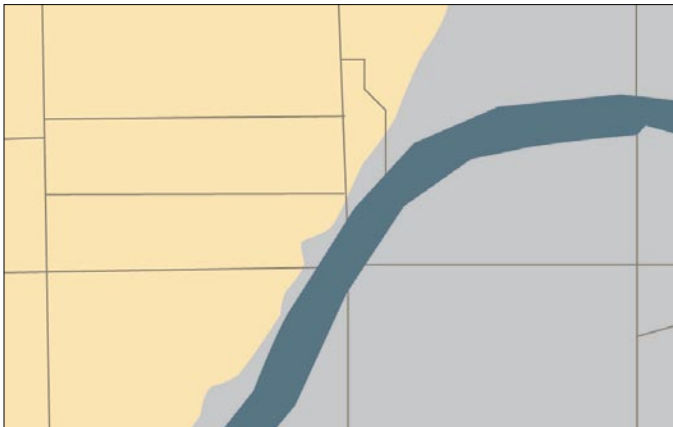
Greenway Related Lands

These lands encompass mostly privately-owned non-agricultural parcels within and, in many cases, extending beyond the 100-year floodplain. Although the majority of greenway related properties are in residential use and cannot be further subdivided under current zoning, they include larger parcels that could be subdivided and developed outside of the floodplain zone.

A national study by The Trust for Public Land indicates that market values of properties located near a park or open space are frequently higher than those of comparable properties elsewhere.¹ In a 2003 study of Marion County's greenway corridors, the Central Indiana Center for Urban Policy and the Environment found that the average value of homes sold in all property sales was \$111,689, whereas the mean value of homes sold in greenway conservation corridors was \$140,586. These and other studies suggest that greenways can have very positive impacts on adjoining properties.

As shown in the sketches below, related lands occur in a variety of settings throughout the greenway. In rural areas, they are likely to be relatively large vacant parcels mixed with smaller ones. In suburban areas they are mostly residential lots. Some of those are older narrow street frontage lots extending to the river or a tributary, whereas others are more recent subdivisions with cul-de-sac lots fronting on bluffs and steep tributary valleys. In a few areas, mixed residential-commercial areas about the greenway. Related lands also occur in older relatively high density residential settlements such as Americus. Related lands issues and opportunities will vary among those different settings.

A greenway program should focus on opportunities to work with owners of greenway related lands. It should provide educational outreach and technical assistance on matters ranging from current management issues to long planning for those properties. To be



Agriculture - Rural Setting



Suburban Residential Setting



Mixed Residential - Commercial Setting



Free-Standing Community Setting

effective, such assistance will require specialists with expertise in landowner advisory services, such as those who work for the Soil and Water Conservation District and land trusts.

Consideration should also be given to the applicability of Tippecanoe County's zoning and subdivision ordinances to the greenway's related lands. Many properties are likely to fall within other zoning districts in addition to the floodplain zone. The county's subdivision procedures prescribe additional requirements such as consideration of open space requirements based upon standards in the county's land use and recreation plans.

Consideration should also be given to the potential benefits of amending the county's zoning and subdivision ordinances in the following areas:

- Referencing the greenway by name in appropriate sections of the regulations;
- Incorporating requirements for sketch plan submissions for lands within or contiguous to the greenway;
- Adopting standards for architectural design and landscape buffers to mitigate development impacts on greenway resources;
- Providing requirements and incentives to consider conservation design principles in subdivisions within or contiguous to the greenway;

Encouraging conservation design could be one of the most potent strategies for building the greenway in conjunction with the future subdivision and development of related lands.² The conservation design process would provide opportunities for protecting greenway resources and creating interconnected parklands, preserves and trails.

Mean Value of Homes Sold in Marion County and in Greenway Corridors in 1999*

Category	Homes Sold (% of total)	Average Value of Homes Sold
All Marion County property sales in 1999	9,348 (100%)	\$111,689
Homes sold in all greenway corridors	2,157 (23%)	\$122,692
Homes sold in greenway trail corridors	1,253 (13%)	\$114,240
Homes sold in greenway conservation corridors	1,087 (11.6%)	\$140,586
Homes sold in greenway trail corridors, excluding the Monon Trail	957 (10.2%)	\$111,592
Homes sold within 1/2 mile of the Monon Trail	334 (3.6%)	\$124,415

* Note: Properties in a greenway corridor are those within one-half mile of a greenway trail. (Source: Central Indiana Center for Urban Policy and the Environment, December 2003.)

¹See The Economic Benefits of Land Conservation, The Trust for Public Land, San Francisco (2007)

²See publications by Randall Arendt on the conservation design process, such as his latest book Envisioning Better Communities (2009), available at www.greenerprospect.com

Future Scenarios for the Greenway

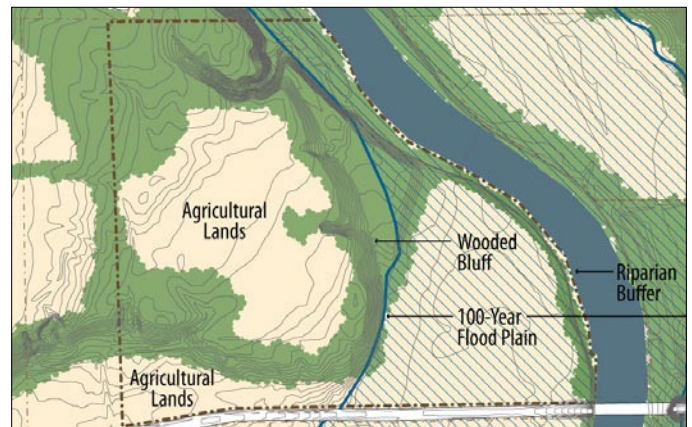
The greenway's development framework provides flexibility in terms of what, where, when and how decisions will be made regarding future land ownership and uses in the greenway. Although it could benefit from robust and well-funded initiatives for acquiring conservation easements and parklands, more realistically, the greenway will evolve over time as a result of working with its landowners.

Therefore, in the years ahead, its character is likely to reflect the cumulative outcome of many decisions and actions taken by landowners, government agencies and nonprofit organizations. The mechanisms needed to insure the greenway's successful evolution must ultimately focus on individual parcels. They will require a blend of: positive relationships between landowners and greenway representatives, creative strategies benefiting landowners and the greenway, and the capacity to implement those strategies in a timely manner. Every property represents a unique set of conditions and opportunities, requiring an understanding of its physical characteristics, potential uses and market values, and the landowner's interests and circumstances.

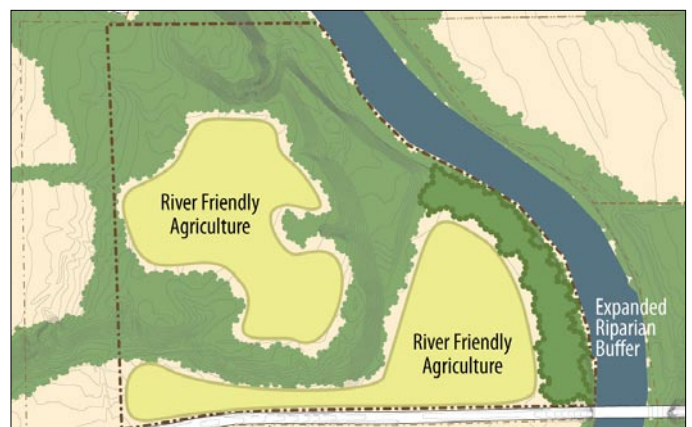
The accompanying sketches illustrate a hypothetical rural property of approximately 140 acres, situated along one of the river's larger tributaries. It includes bottomland floodplain, bluffs and terrace lands. The floodplain and portions of the terraces are currently in agricultural uses, and the remainder of the property is wooded. For illustrative purposes, the landowner wishes to sell the property at fair market value and has asked greenway representatives to identify various scenarios and indicate if they have an interest in acquiring all or part of the property. Four scenarios that could be consistent with the greenway are summarized below.

- *Scenario A - Continuation of Agriculture.* Sale of the property to a buyer who would continue to maintain it in agricultural and woodland uses. Greenway representatives would offer assistance and incentives to promote river-friendly agricultural practices such as reinforcing the riparian buffer. This scenario could include a new owner-occupied residence and the conveyance of a conservation easement on the property.
- *Scenario B - Large Lot Conservation Subdivision.* Sale of the property to a buyer who would subdivide the property into several large rural residential parcels. Greenway representatives would work with the seller and/or buyer in designing the subdivision, adopting river-friendly and other conservation practices, and applying conservation easements that would benefit the greenway as well as parcel buyers.

- *Scenario C - Compact Conservation Subdivision and Greenway Preserve.* Sale of the property to a buyer who will develop the property as a conservation subdivision consisting of clustered lots sufficiently large to handle individual on-site septic systems. The subdivision's designated conservation lands could be managed by a homeowners association for the private use of its residents. Part of the preserve might be conveyed to a conservation organization. Greenway representatives would assist the buyer in designing the project, including providing support in the subdivision review process.
- *Scenario D - Greenway Preserve.* Greenway representatives would assist the owner in conveying the property to a park agency or nonprofit organization. It would become a greenway preserve and restored as a natural area. Facilities would be provided for visitor uses consistent with the preserve's conservation plan.



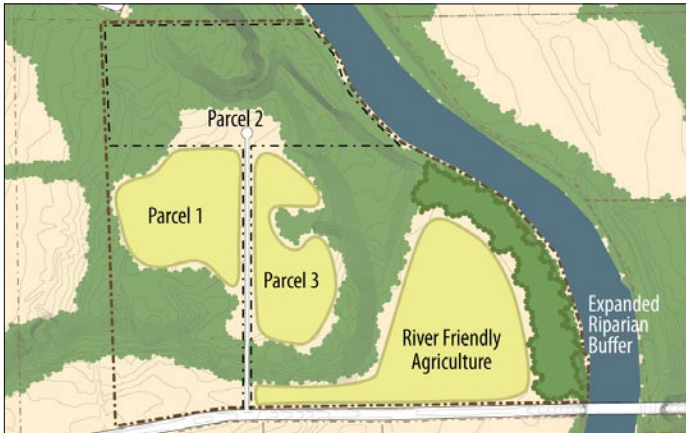
Existing Conditions



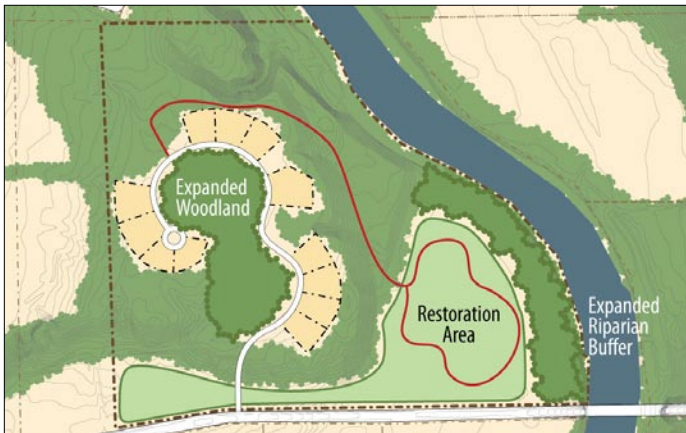
Scenario A - Continuation of Agriculture

The Long-Term Outlook

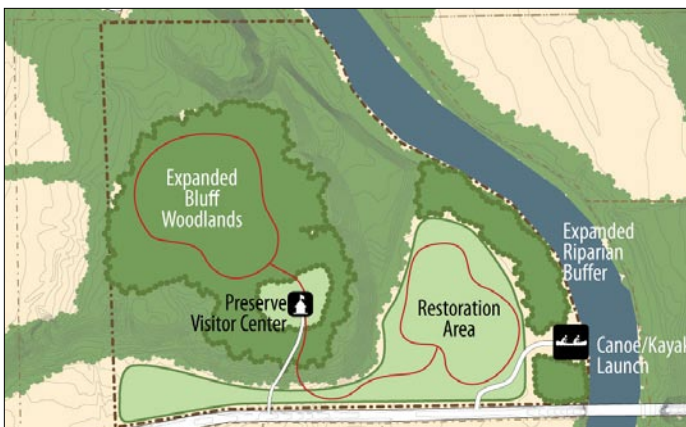
The charts below indicate several long-term possibilities for a mix of greenway land uses, reflecting the outcomes of working with numerous property owners in the years ahead. One possibility is the continued predominance of agricultural uses in the greenway's northern and southern sections, in which an emphasis is placed on promoting river-friendly practices. Another possibility would be a balance of agriculture and greenway preserves resulting from the acquisition of agricultural lands from willing sellers. A third possibility is a more definitive transition from agriculture uses to greenway parklands and preserves. The greenway could be considered a success under any of those alternatives.



Scenario B - Large Lot Conservation Subdivision



Scenario C - Compact Conservation Subdivision and Greenway Preserve

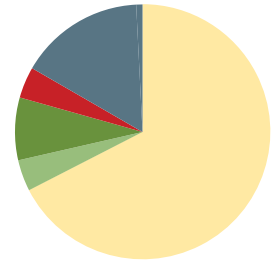


Scenario D - Greenway Preserve

Alternative Mixed-Use Concepts for the Greenway

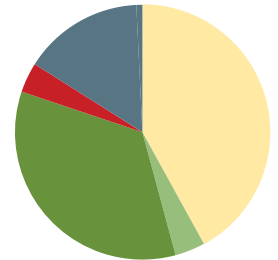
Emphasis on River-Friendly Agriculture

- Agriculture
- Private Conservation
- Parks and Preserves
- Development Sites
- Related Lands



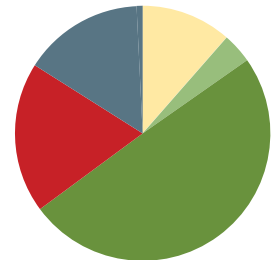
Emphasis on Agriculture and Greenway Preserves


- Agriculture
- Private Conservation
- Parks and Preserves
- Development Sites
- Related Lands



Emphasis on Greenway Parks and Preserves

- Agriculture
- Private Conservation
- Parks and Preserves
- Development Sites
- Related Lands





Chapter 4

Experiencing the Greenway

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Chapter 4

Experiencing the Greenway

Overview

For many local residents and visitors, the primary greenway experience will be associated with travel routes which, as shown on the accompanying map, will include a combination of roadways, pathways and waterways. The main circulation system will be a series of roadway loops and a linear trail in the river corridor (the Heritage Corridor Trail). The intersections among those travel routes, occurring in a regular pattern at bridge crossings over the river, would provide a convergence opportunities for driving, walking, biking and being on the water. A way-finding system, i.e., coordinated signs and other information helping to orient greenway users find their way to their chosen destinations, will be critical to the success of the travel route network.

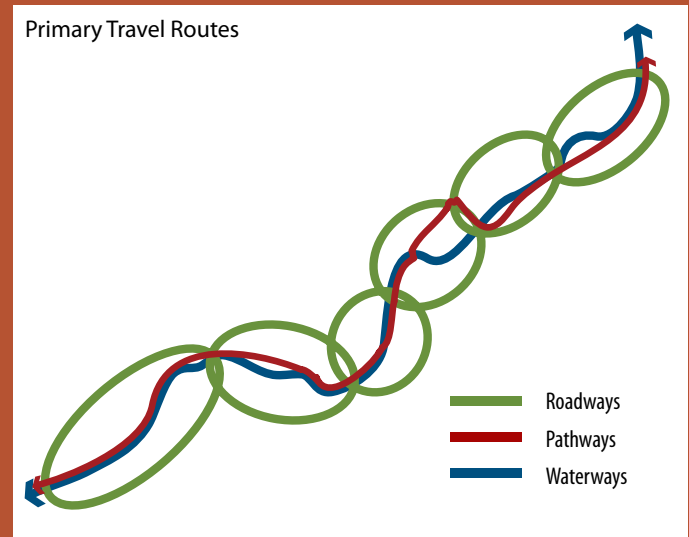
Roadways. Six roadway loops totaling about 90 miles in length, will provide for vehicular and bicycle movement around the greenway. The routes range from arterial highways to lightly traveled country roads. Proposed is a road classification system that distinguishes roads according to their suitability for bikers.

Pathways. Pedestrian and bicycle pathways are trails that enable the public to view the greenway and enjoy greenway sites open to the public. Linear, loop and connector pathways will comprise the pathway network. General design standards are proposed for the pathway system.

Waterways. The river and the downstream sections of its major tributaries constitute the greenway's waterways. Under suitable conditions, they offer opportunities for short and longer experiences on the water, as well as river events.

The greenway has been divided into six sections as a means of providing information in a format helpful to greenway users as well as landowners and site managers. Those sections, delineated primarily on the basis of the area's network of roads and bridges, include:

- Section 1. Delphi to Americus
- Section 2. Americus to Route 225
- Section 3. Route 225 to Route 52
- Section 4. Route 52 to Route 231
- Section 5. Route 231 to Route 700W
- Section 6. Route 700W to Independence



Roadways

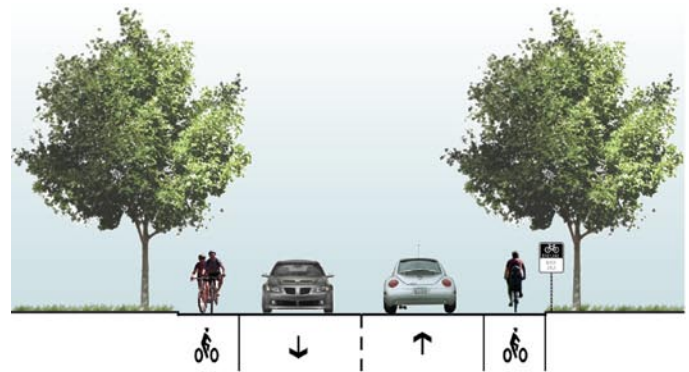
An existing road network provides the means by which the public can travel around the greenway in motorized vehicles or on bicycles. Major roads and their classifications for bike travel are shown on the map on page 53. More detailed information on those routes is provided on the greenway section maps (pages 60-71).

Comprised of state and local routes ranging from arterial highways to rural lightly travelled roads, the network provides opportunities to see many parts of the greenway as well as to gain access to sites open to the public. If traveling by bicycle, a series of road loops provide various options, depending upon a person's interests, available time and skill level. Although the road network is intended primarily for motorized vehicles and bicyclists, sections having separated lanes may also be of interest to pedestrians.

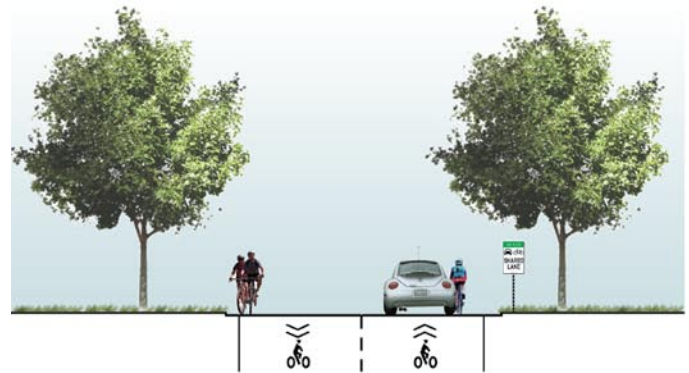
As permitted by state and local highway policies, the road network should have distinctive and consistent signage for "way-finding" around the greenway, as well as safety precautions for motorists and bicyclists. At selected sites, to be identified in advanced planning for the greenway, the road network should have roadside pull-offs with greenway overlooks, orientation information and interpretive kiosks explaining the greenway's natural and cultural history. Consideration should be given to determining if sections of the road network would be eligible for designation as part of Indiana's scenic byway system, to expand upon the current scenic designation of River Road.

The accompanying chart and cross-section sketches describe an approach to classifying the greenway's road network for bicycle use. Based upon available rights-of-ways, pavement and shoulder dimensions, such routes would be defined as: exclusive bike lanes, marked shared lanes, or unmarked shared lanes.¹ The chart provides additional information on the classifications and their suitabilities for various bicyclist skill levels. Needs to improve the road network for greenway and other users should be addressed in advanced planning.

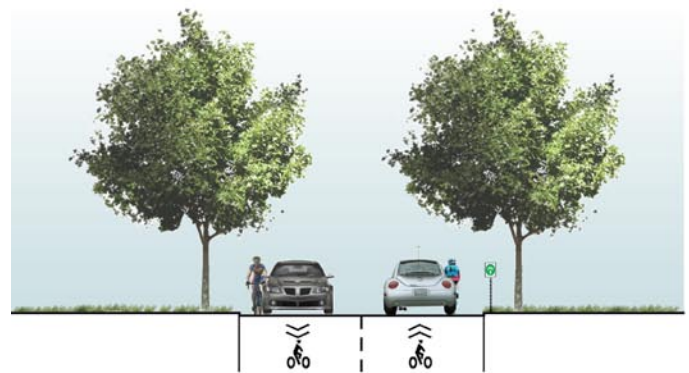
¹Exclusive bike lanes are part of the greenway's pathway network, as described on page 54.



Separated Exclusive Bike Lane



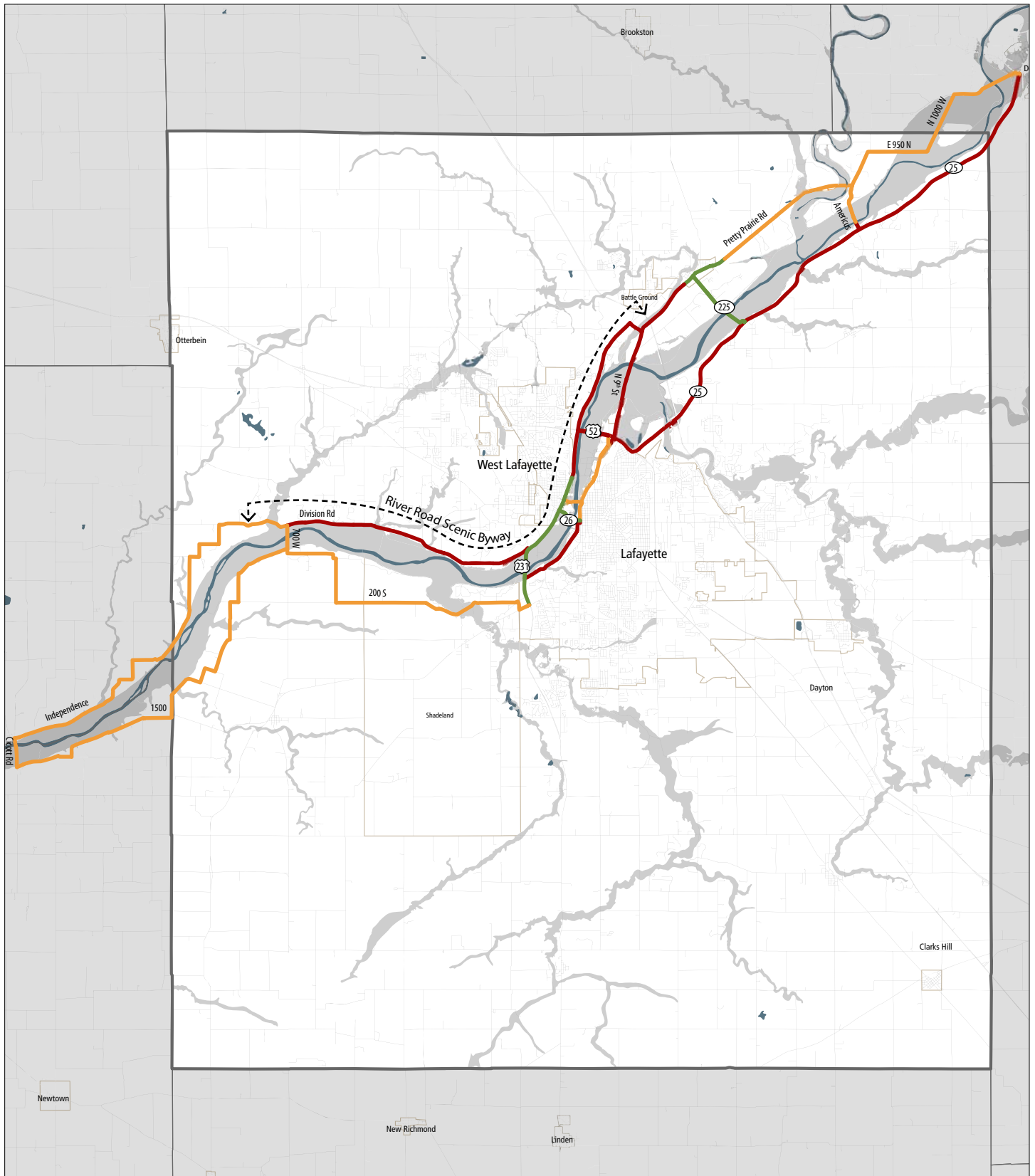
Shared Lane - Marked



Shared Lane - Unmarked

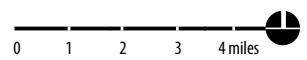
Roadway Classifications for Cyclists

Classification	Cyclist User Group	Cyclist Route Location	Cyclist Route Marking	Vehicular Traffic
Separated Exclusive Bike Lane	Novice to confident cyclist	≥ 5' striped path on shoulder	Way-finding signage and striped lane for bicycle traffic	Exclusive pathway on roads typically over 35 mph
Shared Lane - Marked	Average to confident cyclist	≤ 5' shoulder/shared on-street path (sharrow)	Way-finding signage and striped lane where possible	Lower vehicular speeds (<35 mph) and volumes
Bike Route - Unmarked	Confident cyclists	Shared on-street (sharrow)	No onstreet markings, bike route signs	Higher vehicular speeds (>35 mph) and volume



Greenway Travel Routes and Bicycle Classifications

- Separate Exclusive Bike Lane
- Shared Lane - Marked
- Shared Lane - Unmarked



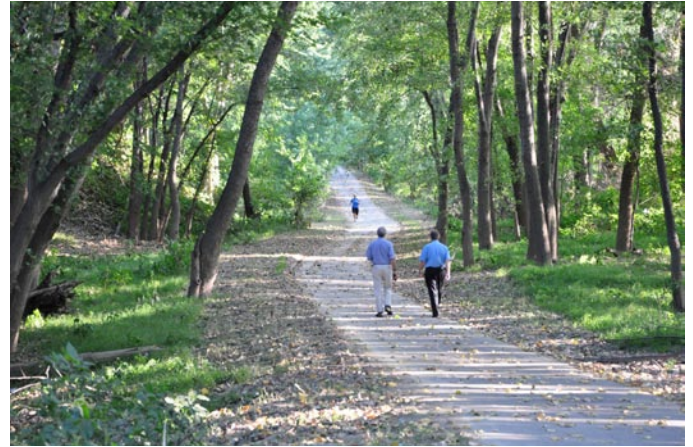
NOTE:
 For more detail, see greenway sections maps (pages 61-71).
 Bicycle classifications are preliminary, based on current conditions.

Pathways

Pedestrian and bicycle pathways are trails that will enable the public to view the greenway and gain physical access to its parklands, preserves and development sites.¹ The pathway network will include linear, loop and connector trails. The Wabash Heritage Trail is the principal linear pathway. Currently providing opportunities to experience certain greenway sections, when completed, it will enable the public to travel the entire greenway “end-to-end. Loop pathways will provide access within the greenway’s parklands and preserves. Connector pathways provide links between the greenway and other places such as neighborhoods and schools. The pathway network should ultimately provide an interconnected circulation system convenient to many users.

Depending upon their functional purposes, pathways may vary from multi-purpose paved routes to relatively narrow trails on natural trail surfaces. The accompanying chart summarizes general design standards for the pathway network. Those standards are intended to serve as a general reference for further planning and are not intended to replace classifications adopted by individual park agencies. Advanced planning will develop multi-jurisdictional strategies to design, construct and manage the pathway network. It should also consider options for accommodating specialized uses such as technical mountain biking and horseback riding.

The inset map on page 55 illustrates the possibility for an expanded pathway system associated with the Wabash River’s tributaries. Illustrated is a metropolitan pathway loop in the general form of a figure 8, loosely aligned with Indian, Burnett, Wea and Wildcat Creeks. The merits and feasibility of such a concept would require further study.



¹Pathways include separated exclusive bike lands in road rights-of-ways, as described on page 54.

Wabash Heritage Trail

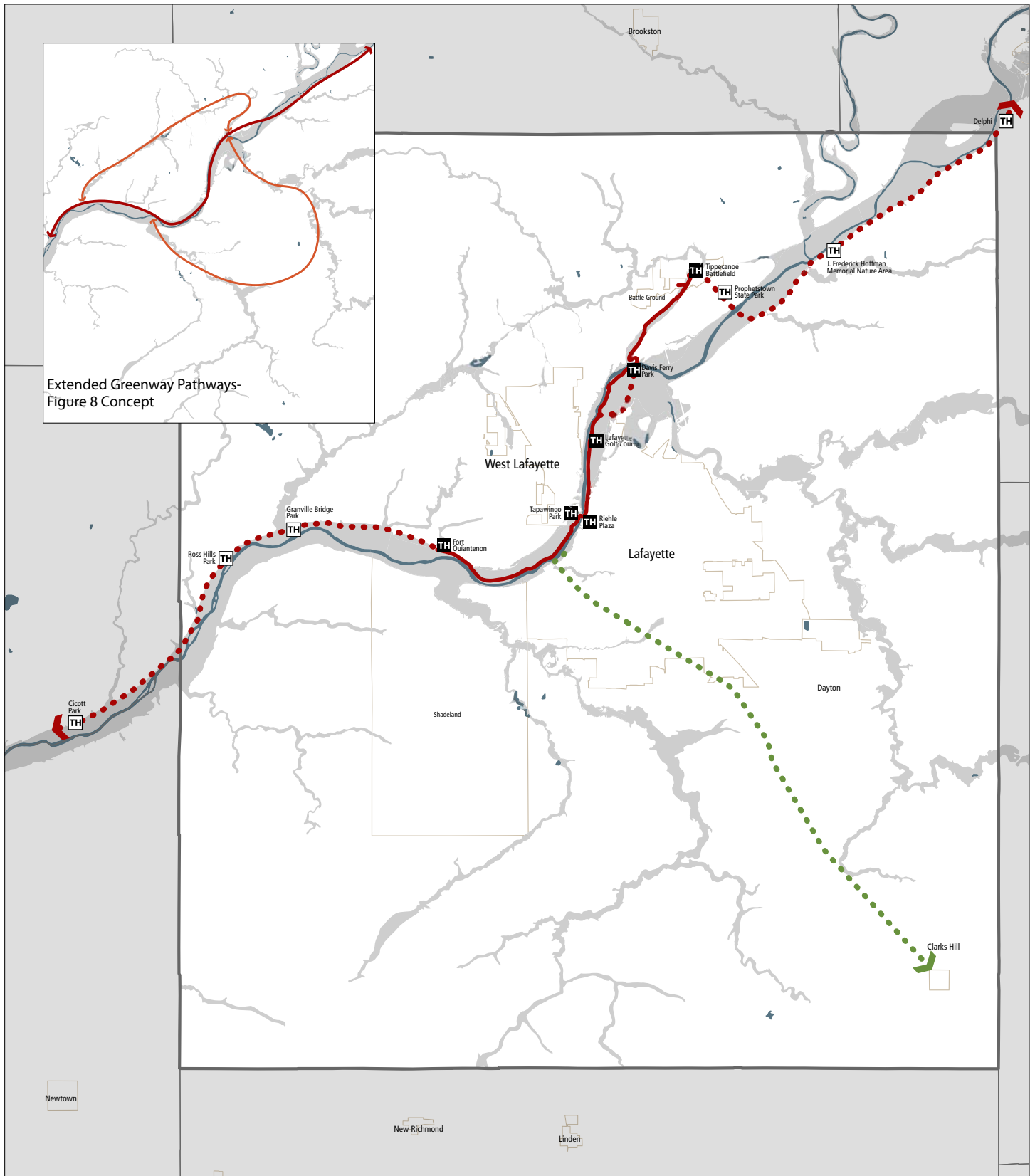
The Wabash Heritage Trail presents the potential to serve as the spine of a greater trail system connecting pathways, parks, and communities throughout the county. (image: WRT)

Pathway Classifications

Design Standard	User Groups	Typical Pathway Width	Typical Surface Treatment
A	Regular all-season use by walkers, joggers and bicyclists	6 to 10 feet	Graded and paved
B	Moderate use by walkers, joggers and bicyclists, and seasonally by x-country skiers and snowshoers	3 to 6 feet	Graded and stabilized with on-site soil and/or imported surface material, depending upon conditions
C	Moderate to limited use by walkers and/or mountain bikers, and seasonally by x-country skiers and snowshoers	Under 3 feet	Minimal grading, generally using on-site soils and minimal imported material
D	Specialized users, e.g., mountain bikers and horseback riders	As required	As required

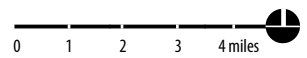
NOTES:

All trails should be designed to insure proper drainage
 ADA accessibility should be considered for all trail types
 Flooding frequency to be considered



Wabash Heritage Trail - Existing and Planned

- Existing Wabash Heritage Trail
- Potential Wabash Heritage Trail
- Planned Heritage Farm Trail
- TH Existing Trailhead
- Potential Trailhead



NOTE:
 More detailed information on pathways is shown on the greenway section maps on pages 60-71

Waterways

Under suitable conditions, being on the river or its tributaries will offer one of the best ways to experience the greenway. Using a kayak, canoe or small motorboat, such experiences may include:

- A short trip of up to a few hours to experience a section of the river and/or a tributary
- A longer river trip through the greenway, with stops at points of interest along the way
- A trip that includes an overnight stay at a campground or other accommodation
- Participation in a river event

While most trips will be self-guided, qualified guides should be available to lead trips, particularly for inexperienced boaters, to assure their safety and enjoyment, and to interpret the river's ecology and its history.¹

A major challenge will be in developing and managing waterway access sites to safely accommodate people with different skills, interests and watercraft under varying flow conditions. The greenway's website should provide information for waterway trip planning. Consideration should also be given to issuing river advisories to discourage use of the waterways during hazardous periods.

The greenway's current and potential waterway access sites are listed on the accompanying chart and shown on page 57. Several existing sites that are difficult to manage and use because of flooding and/or low flow conditions, such as Davis Ferry and Granville, will require improvements or relocation. Advanced planning should further consider the best locations for new water access sites.

Existing and Potential Water Access Sites

Full-Service Sites - Boat Ramps and Paddler Put-In/Take-Out

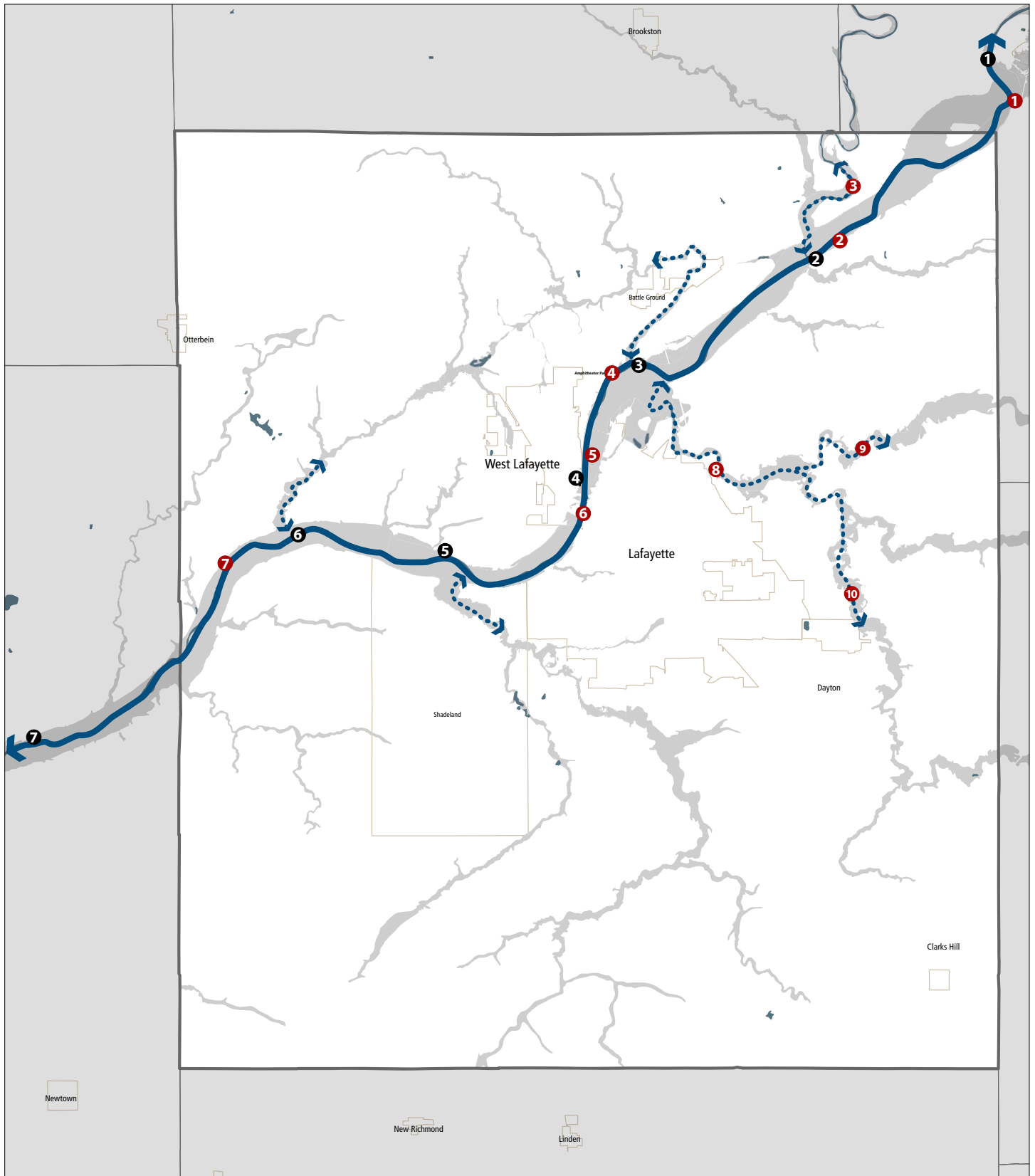
1. Delphi (potential)
2. River Junction (existing)
3. Davis Ferry Park (existing)
4. Boat basins (potential)
5. Fort Ouiatenon (existing)
6. Granville Bridge Park (existing)
7. Cicott Park (potential)

Sites Limited to Paddler Put-In/Take-Out

1. Trailhead Park (potential)
2. J. Frederick Hoffman Memorial Nature Area (potential)
3. Pretty Prairie Road (potential)
4. Amphitheatre Park (only by prior approval from County Parks Department)
5. Overlook Park (potential)
6. Tappawingo Park (existing)
7. Ross Hills Camp (existing)
8. Wildcat Creek (potential)
9. Missola Access Site (existing)
10. Fairfield Lakes (existing)

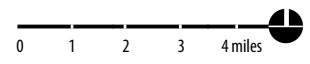
Note: Sites are listed in downstream order

¹See Wabash River Guide Book by Jerry M. Hay, published by IndianaWaterways.com (2008)



Waterway Access Sites

- Wabash River Waterway
- Tributary Waterways (seasonal navigability for paddle boat)
- # Boat Ramp
- # Paddler Put-In/Take-Out



Greenway Sections - Wabash River Corridor¹

Six sections divide the greenway as a means of providing information in a format helpful to greenway users, landowners and site managers. The section maps shown on pages 60-71 are based upon current conditions and information, and they should be updated as necessary. Although the greenway master plan has been limited to Tippecanoe County, the Wabash River Enhancement Corporation envisions expanding the greenway concept to become a multi-county initiative. Therefore, the maps indicate potential greenway sections extending to Delphi in Carroll County, and Independence in Warren County. Those and further extensions of the greenway should be discussed with adjacent communities and counties.

The sections are summarized below from north to south, and described in more detail in the following pages.

Section 1. Delphi to Americus

Situated largely in a rural agricultural setting, this section is largely privately owned. Existing public access sites include Canal Park in Delphi and "Trail Park" on Route 25 south of Delphi.

Section 2. Americus to Route 225

The greenway continues generally through a rural and agricultural setting in which Prophetstown State Park is a major presence on river right.² When opened to the public, the new J. Frederick Hoffman Memorial Nature Area will become an important greenway property on river left. This section includes downstream sections of Tippecanoe River and Sugar Creek, and their confluences with the Wabash.

Section 3. Route 225 to Route 52

This section is on the northern edge of Lafayette and West Lafayette. Prophetstown State Park continues as a major presence on river right. An extensive flood plain and agricultural lands occur on river left. It includes Wildcat Creek and Burnett Creek, and their confluences with the river.

Section 4. Route 52 to Route 231

The greenway is primarily in an urban - suburban setting of Lafayette and West Lafayette, with Lafayette golf course, McAllister Park and Lybault Field on river left. The southern part of this section on river right is a broad floodplain in agricultural uses

Section 5. Route 231 to Route 700W

The greenway returns to a largely rural agricultural setting. It includes Fort Ouiantenon and The Nature Conservancy's Wea Creek Gravel Hill Prairie Preserve, as well as part of Wea Creek and its confluence with the river.

Section 6. Route 700W to Independence

The greenway continues in a rural agricultural setting to Cicott Park in Warren County. This section has Granville Park, Ross Hills Park and Wabash Bottoms on river right.

Note:

Each section includes a section overview, facilities chart and map highlighting historic features and remnant natural areas. The following notes apply to pages 60-71.

Section Overview

- Length - refers to total distance of greenway roadway routes, colored in red.
- Bike Route Condition - classifications based upon those described in page 52.
- Potential Route Stops - those listed are illustrative and are not necessarily a complete list. Public access will be determined by public agencies and nonprofit organizations managing those sites.

Facilities Chart

- Existing Facilities - Representative and not necessarily a complete list;
- Potential Facilities Benefiting the Greenway - those indicated are suggested for future consideration and do not represent policies or plans of public agencies or nonprofit organizations managing those sites.

Historic Features

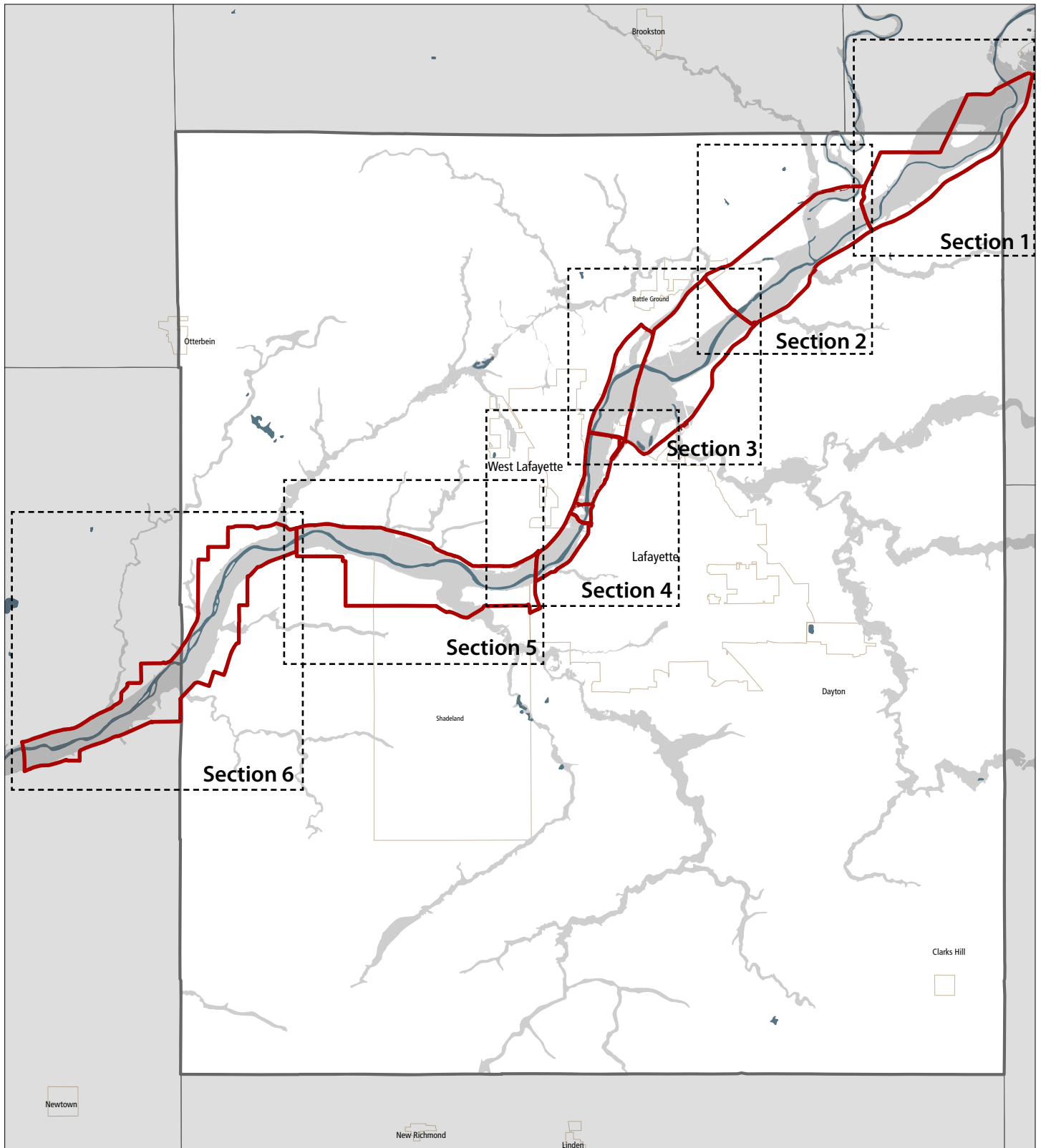
- In some instances, historic features shown on the maps have been removed or demolished. Many historic features are on private lands not accessible to the public.
- Sources: Historic Landmarks Foundation of Indiana's 1990 Interim Report of Indiana Historic Sites and Structures, Tippecanoe County's Historical Society's Map of Tippecanoe County, Bernardin, Lochmueller and Associates

Remnant Natural Areas

- Source: Conservation Design Forum

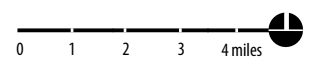
¹This chapter focuses primarily on the greenway corridor associated with the Wabash River. Future planning for the tributaries should provide a comparable analysis.

²The terms "river right" and "river left" refer to those respective sides of the river, looking downstream.



Greenway Segments

- Segment Route
- 100-Year FEMA Flood Plain



Section 1

Experience (traveling clockwise from Canal Interpretive Park)

Departing from Canal Park, the route follows Route 25 through the Wabash River’s corridor. Several vantage points and potential roadside pull-off points along the route provide views of the river and islands. While this stretch of Route 25 is currently classified as a bike route, the soon-to-be completed Hoosier Heartland Highway may alleviate traffic volumes to enhance the Wabash corridor experience for both vehicles and cyclists. Those improvements would create a continuous route condition along the segment appropriate for a larger range of cyclists.

Route 25 parallels the historic canal route and several associated canal structure sites. Its proximity to ongoing interpretive efforts by the Wabash & Erie Canal Association in Delphi presents an opportunity to build upon current initiatives and provide a distinct interpretive experience of the canal’s significance to the region’s development. Delphi also includes a 10 mile trail network connecting parklands and other attractions.

The Route 25 greenway route continues south to the town of Americus and the J. Frederick Hoffman Memorial Nature Area, crossing the Wabash on Grant Road. Initially platted as a canal port, Americus is a potential site for establishing a greenway park.

In contrast to the river left experience, on river right, travelers continue north along a series of less-traveled paved and unpaved rural routes through corn and soy fields. Historically prairie soils, the surrounding agricultural lands reflect the early European settlers’ discovery of the alluvial corridor’s productive agricultural soils.



Section 1 Overview

Length 14 Miles

Bike Route Condition Shared Lane-Marked and Bike Route-Unmarked

Potential Route Stops Historic Canal Route, Delphi, J. Frederick Hoffman Memorial Nature Area

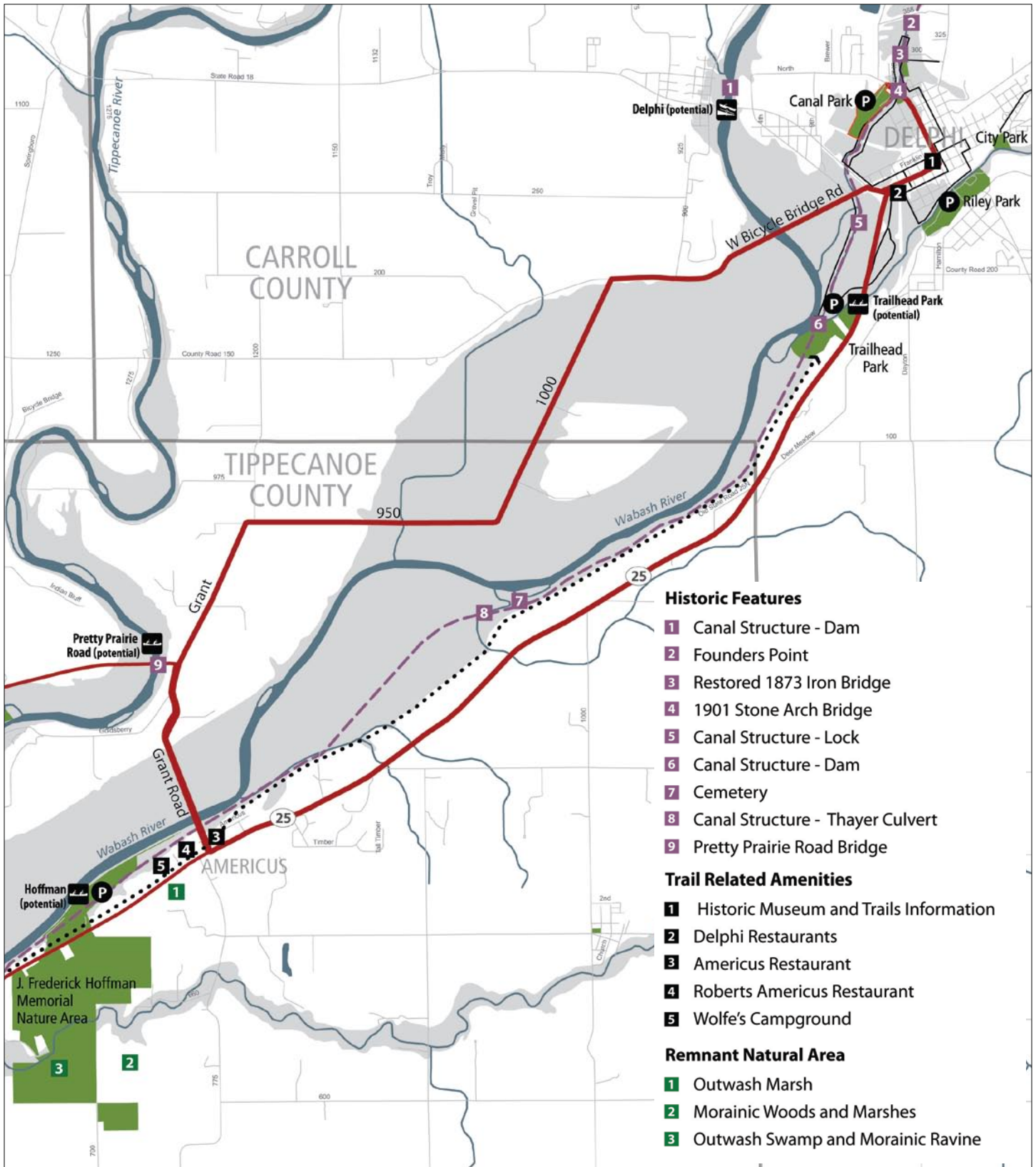
Greenway Development Sites

- Existing
- Potential

Greenway Development Site	Parking	Restroom	Spur Trail	Boat Launch	Boat Ramp	Concessions	Camping	Picnic Facilities	Interpretation	Play-ground
Canal Interpretive Park	●	●	●						●	
Trailhead Park	●		●	●						
J. Frederick Hoffman Memorial Nature Area	●	●	●		●		●	●	●	●

Canal Interpretive Park

Sites along the greenway, such as the Wabash & Erie Canal Association’s Canal Interpretive Park, present opportunities to build upon ongoing initiatives and collaborate with communities and organizations along the greenway. (image: WRT)



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Section 2

Experience (traveling clockwise from J. Frederick Hoffman Memorial Nature Area)

When opened to the public, the J. Frederick Hoffman Memorial Nature Area will offer trails through its woodlands, marshes, and ravines. It includes a visible portion of the Wabash-Erie Canal. The natural areas, historic features, and habitat restoration projects will create numerous interpretive opportunities.

Continuing south along Route 25, travelers traverse a mix of woodlands and agricultural lands. For a two-mile stretch, the Stair Road serves as a scenic alternative to Route 25. A rural, less travelled route parallel to Route 25, it provides a more relaxed experience through the alluvial corridor and includes potential sites for roadside pull-offs.

Crossing the Wabash at Route 225 and the historic Jewettsport Ford Bridge site, the route loops north by Prophetstown State Park. In addition to its recreation facilities, visitors may observe Prophetstown's restored prairies, fens, and savannahs evocative of the pre-European settlement landscape. A water access site on the Tippecanoe River or another nearby location would be a desirable addition. Located within the state park, Historic Prophetstown operates as an early 20th century farmstead providing opportunities for learning about agriculture and horse powered farming.

The loop continues north along Pretty Prairie Road, connecting travelers to interesting historic sites and trails in Battle Ground, a pioneer settlement. The route follows Pretty Prairie Road, bordering the northern part of Prophetstown State Park and traversing agricultural fields.



Prophetstown State Park

An important part of the greenway, Prophestown provides opportunities for picnicking, camping, playground activities, hiking and natural and cultural history interpretation. (image: WRT)

Section 2 Overview

Length 12 Miles

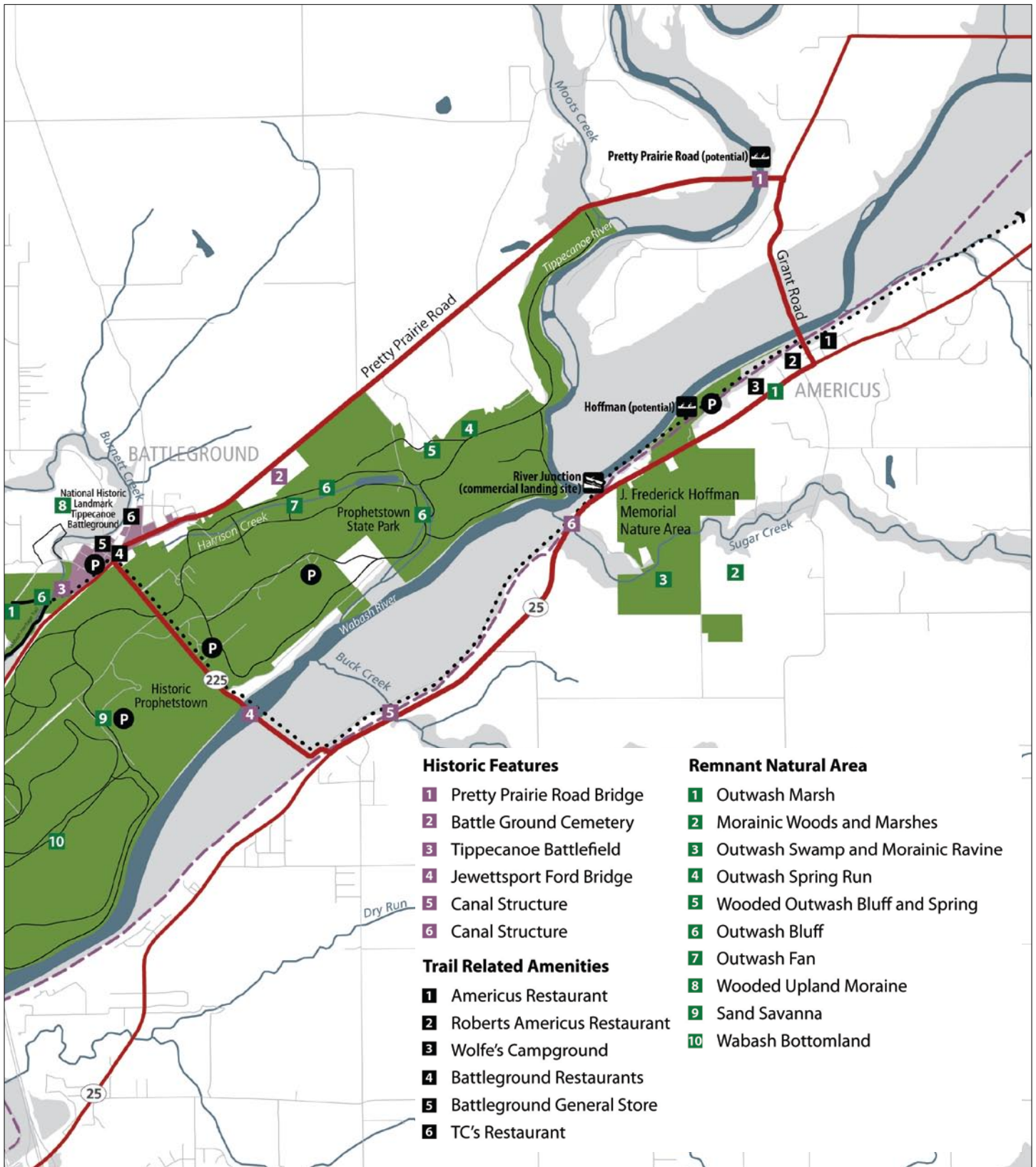
Bike Route Condition Separated Exclusive Bike Lane, Shared Lane-Marked, and Bike Route-Unmarked

Potential Route Stops Prophetstown State Park, Historic Prophetstown, Battleground, Historic Canal Route, J. Frederick Hoffman Memorial Nature Area

Greenway Development Sites

- Existing
- Potential

Greenway Development Site	Parking	Restroom	Spur Trail	Boat Launch	Boat Ramp	Concessions	Camping	Picnic Facilities	Interpretation	Play-ground
Prophetstown State Park	●	●	●			●	●	●	●	●
J. Frederick Hoffman Memorial Nature Area	●	●	●		●		●	●	●	●



Historic Features

- 1 Pretty Prairie Road Bridge
- 2 Battle Ground Cemetery
- 3 Tippecanoe Battlefield
- 4 Jewettsport Ford Bridge
- 5 Canal Structure
- 6 Canal Structure

Trail Related Amenities

- 1 Americus Restaurant
- 2 Roberts Americus Restaurant
- 3 Wolfe's Campground
- 4 Battleground Restaurants
- 5 Battleground General Store
- 6 TC's Restaurant

Remnant Natural Area

- 1 Outwash Marsh
- 2 Morainic Woods and Marshes
- 3 Outwash Swamp and Morainic Ravine
- 4 Outwash Spring Run
- 5 Wooded Outwash Bluff and Spring
- 6 Outwash Bluff
- 7 Outwash Fan
- 8 Wooded Upland Moraine
- 9 Sand Savanna
- 10 Wabash Bottomland

Section 2

- Greenway Travel Route
- Boat Ramp
- Canoe Launch/Landing
- Existing Trail
- Planned Trail
- Historic District
- Historic Feature
- Trail Related Amenities
- Remnant Natural Area
- Parking
- Historic Canal Route
- Parkland and Preserves
- 100-Year FEMA Designated Floodplain

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Section 3

Experience (traveling clockwise from Prophetstown State Park)

Traveling south along Route 25, greenway users transition from an alluvial corridor to an outwash terrace landscape. Typically out of the floodplain, the broad and gently sloping outwash terraces are in residential and agricultural uses.

Crossing the Wabash on Route 52, travelers overlook the future wetland restoration site north of Lafayette Memorial Golf Course and access site to the Wabash Heritage Trail. Travelers proceed north via North River Road, passing several remnant bluffs, prairies, and seeps.

Alternatively, travelers may cross the Wabash by taking the North 9th Street Bridge. That route provides access to the Wabash Heritage Trail and Wabash River at Davis Ferry Park, which has a boat launching site.

The alternative routes intersect at Burnetts Road and North 9th Street. Historic sites at Tippecanoe Battlefield and Prophetstown State Park offer interpretative opportunities. Battle Ground, a historic district, includes historic sites, restaurants and stores.



Section 3 Overview

Length 13 Miles

Bike Route Condition Separated Exclusive Bike Lane and Bike Route- Unmarked

Potential Route Stops Prophetstown State Park, Battleground, Historic Canal Route, Tippecanoe Amphitheater

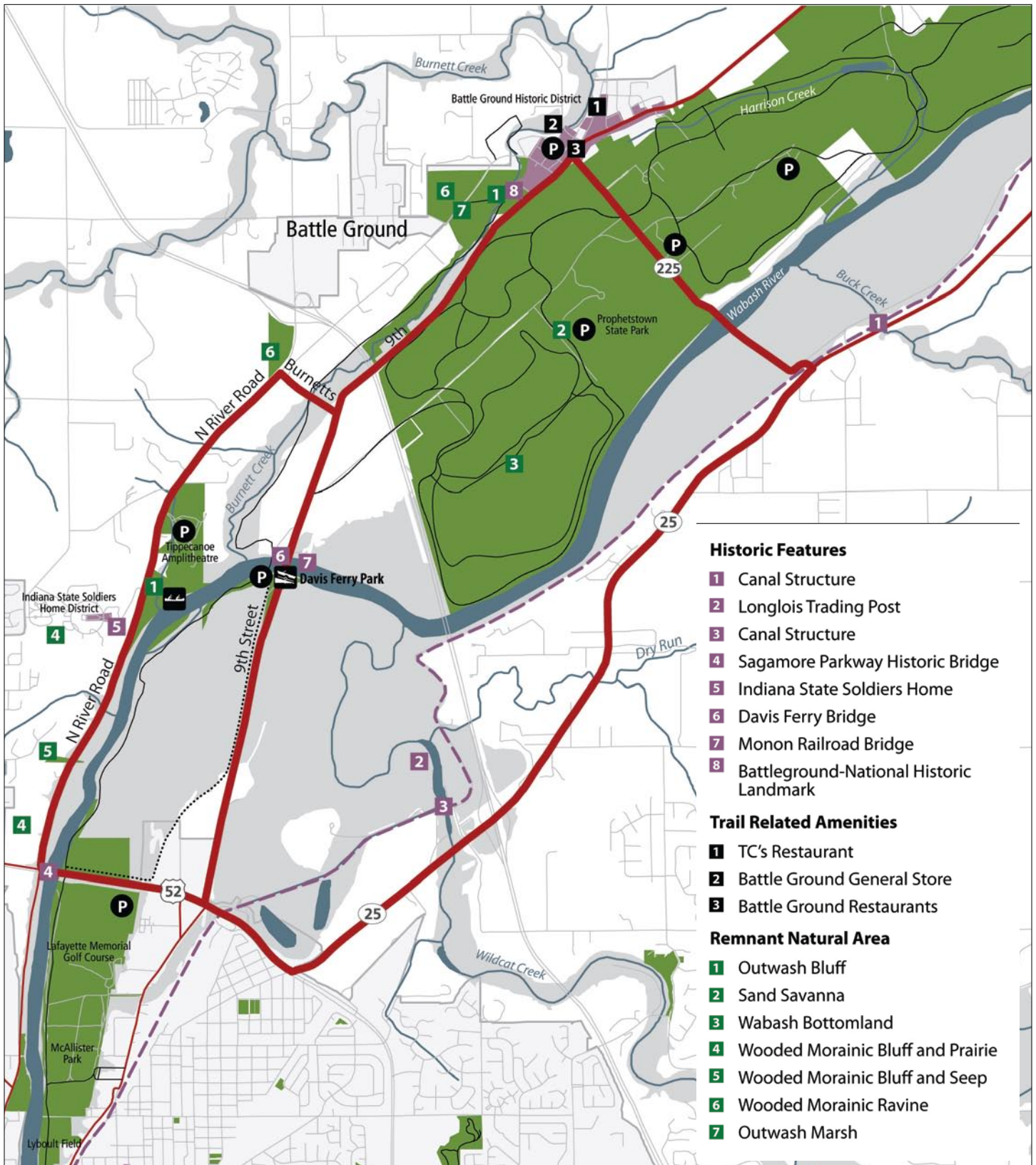
Greenway Development Sites

- Existing
- Potential

Greenway Access Point	Parking	Restroom	Spur Trail	Boat Launch	Boat Ramp	Concessions	Camping	Picnic Facilities	Interpretation	Play-ground
Prophetstown State Park	●	●	●			●	●	●	●	●
County Land	●	●	●					●		
Tippecanoe Amphitheatre	●	●		●			●			

Monon Rail Bridge

Historic sites along the greenway, such as the Monon Rail Bridge, could be incorporated into a network of roadside interpretive markers highlight sites and their relation to the Wabash River and surrounding area. (image: WRT)



Historic Features

- 1 Canal Structure
- 2 Longlois Trading Post
- 3 Canal Structure
- 4 Sagamore Parkway Historic Bridge
- 5 Indiana State Soldiers Home
- 6 Davis Ferry Bridge
- 7 Monon Railroad Bridge
- 8 Battleground-National Historic Landmark

Trail Related Amenities

- 1 TC's Restaurant
- 2 Battle Ground General Store
- 3 Battle Ground Restaurants

Remnant Natural Area

- 1 Outwash Bluff
- 2 Sand Savanna
- 3 Wabash Bottomland
- 4 Wooded Morainic Bluff and Prairie
- 5 Wooded Morainic Bluff and Seep
- 6 Wooded Morainic Ravine
- 7 Outwash Marsh

Section 3

- Greenway Travel Route
- Historic District
- Parkland and Preserves
- Boat Ramp
- Historic Feature
- 100-Year FEMA Designated Floodplain
- Canoe Launch/Landing
- Trail Related Amenities
- Existing Trail
- Remnant Natural Area
- Planned Trail
- Parking
- Historic Canal Route

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Section 4

Experience (traveling clockwise from Lafayette Golf Course)

Distinct from other greenway segments, this section is in the greenway's more urbanized "central corridor" that has numerous historic sites, parks, cultural institutions and services. Proposed projects for the central corridor would significantly enhance the greenway experience (see Chapter 5).

Starting at Lafayette Golf Course, greenway travelers would proceed south on North 9th Street and connect with some of Lafayette's larger park facilities. While its northern stretch is a heavily travelled route lined with urban uses, the southern portion is bordered largely by lower density residential uses and open spaces. The route could connect to the proposed Farm Heritage Trail which would extend from Lafayette to Zionsville. A new river access site between Route 26 and 231 would be desirable.

Crossing the Wabash via Route 231, travelers would be on a section of the River Road Scenic Byway, offering several opportunities for access the Wabash Heritage Trail. It provides views across low-lying agricultural lands to the Wabash River. Continuing north, the route is lined with a mix of commercial, residential and other uses. The route connects to the Mascouten Park water access site and the Happy Hollow Park pathway network.



Section 3 Overview

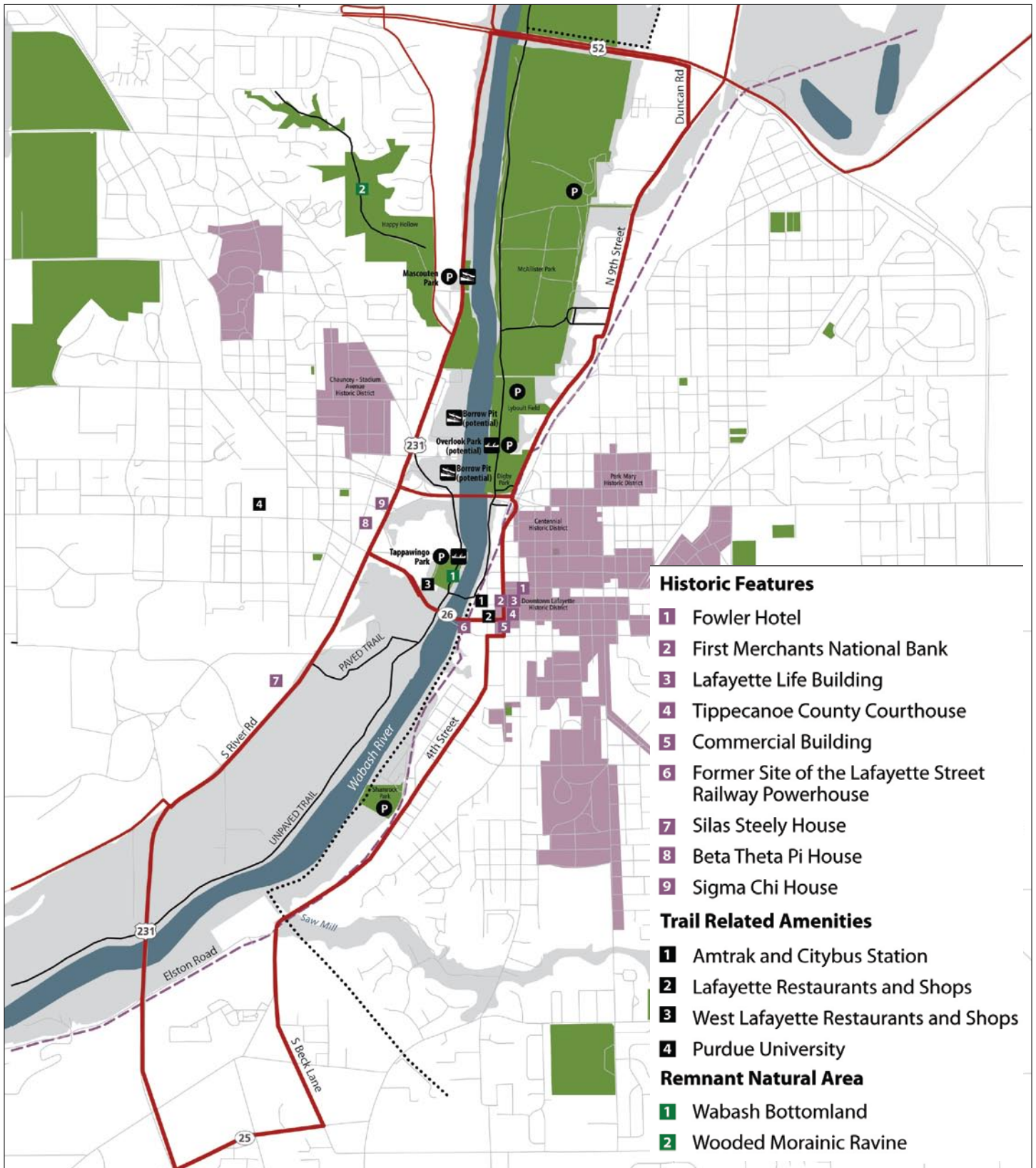
Length 13 Miles

Bike Route Condition Separated Exclusive Bike Lane, Shared Lane-Marked, and Bike Route-Unmarked

Potential Route Stops Riehle Plaza, Levee Plaza, Tappawingo Park, Mascouten Park, Happy Hollow Park,

Myers Pedestrian Bridge

Within the central greenway, numerous existing and proposed river crossing will present opportunities for experiencing the river. (image: WRT)



Section 4

- Greenway Travel Route
- Boat Ramp
- Canoe Launch/Landing
- Existing Trail
- Planned Trail
- Historic District
- Historic Feature
- Trail Related Amenities
- Remnant Natural Area
- Parking
- Historic Canal Route
- Parkland and Preserves
- 100-Year FEMA Designated Floodplain

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Section 5

Experience (traveling clockwise from Tippecanoe Laboratories Wildlife Habitat Area)

Traveling west along Lilly Road, this section connects several remnant prairie areas once typical of outwash terraces. Both the Tippecanoe Wildlife Habitat Area and NICHE's Wea Creek Gravel Hill Prairie include interpretive programming and loop trails to explore those distinctive features.

The route follows a series of rural roads through agricultural and wooded landscapes. Tributary crossings, the Wea Plains and Granville present opportunities for scenic roadside pull-offs with interpretive media.

Crossing the Wabash at Granville Bridge Park, the route follows the Wabash Scenic Byway and parallels the planned extension of the Wabash Heritage Trail. Continuing along South River Road, the route generally follows the river's alluvial corridor and higher outwash terraces. It connects to Fort Ouiantenon Park, providing opportunities for recreation, interpretation, and water access.



Section 5 Overview

Length 16 Miles

Bike Route Condition Separated Exclusive Bike Lane, Shared Lane-Marked, and Bike Route-Unmarked

Potential Route Stops Fort Ouiantenon, Granville Bridge Park, NICHES Preserves

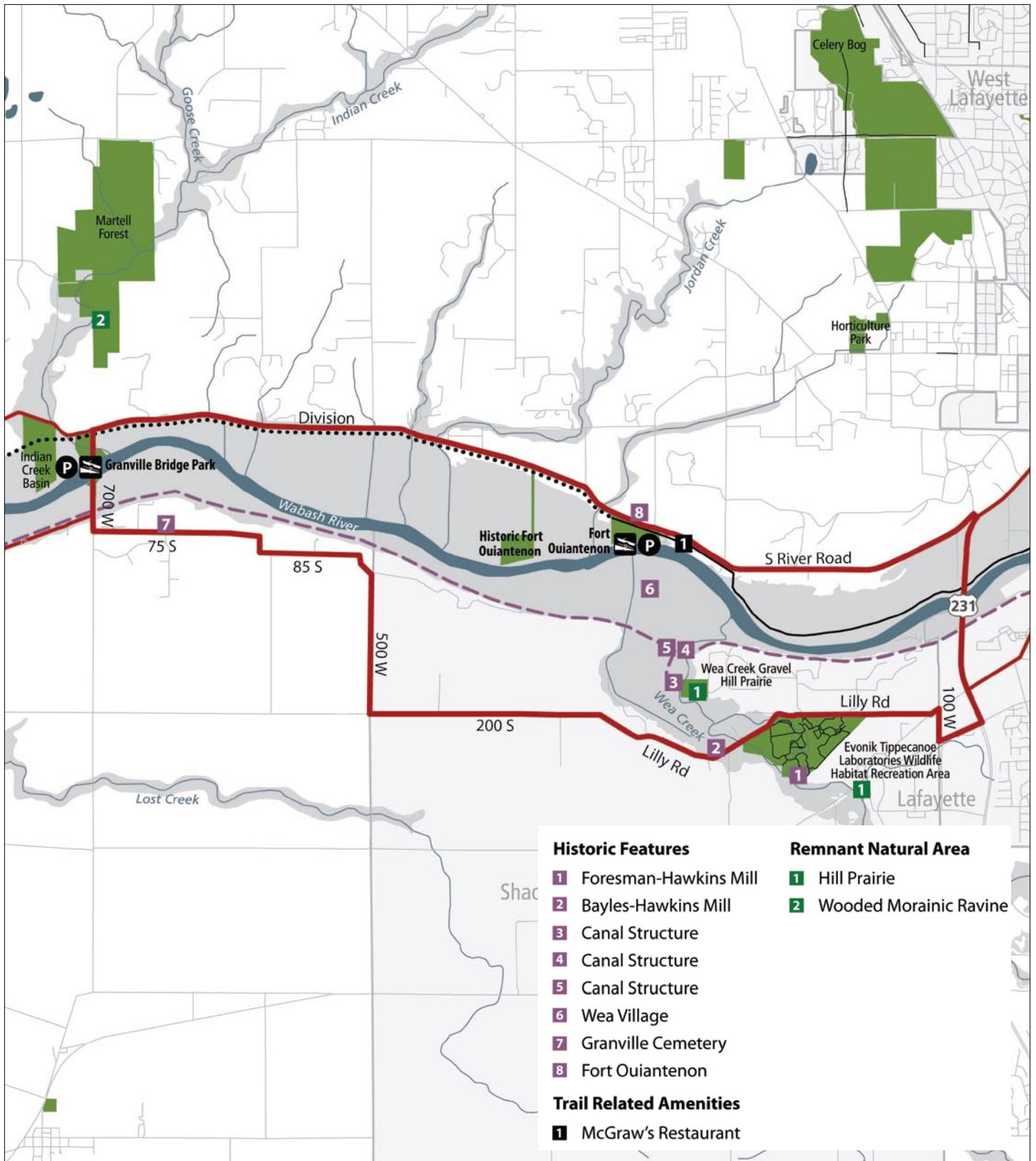
Greenway Development Sites

- Existing
- Potential

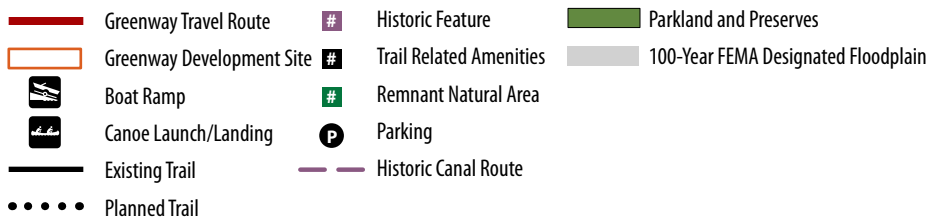
Greenway Development Site	Parking	Restroom	Spur Trail	Boat Launch	Boat Ramp	Concessions	Camping	Picnic Facilities	Interpretation	Play-ground
Fort Ouiantenon	●	●			●			●	●	
Granville Bridge Park		●	●		●			●		

Granville

Existing roadside signage along the rural route, such as the Granville site, provides interpretive opportunities for travelers. (image: WRT)



Section 5



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Section 6

Experience (traveling clockwise from Granville Bridge Park)

Travelling southwest on scenic rural roads, the southernmost greenway section highlights unique plant communities and cultural resources related to early settlement. Remnant habitat areas and ongoing preservation and restoration efforts present greenway users with opportunities for viewing wildlife and experiencing the Wabash landscape. The Roy Whistler Wildlife Area and Granville Sand Barrens have loop trails through high quality sand barrens, prairie, and successional forests representative of the pre settlement Wabash landscape. Black walnut plantations also contribute to the experience along the southern travel route.

Continuing south along the Wea Plain, the route parallels the historic canal and canal structures. Structures related to early European settlement such as the Peter Weaver home present opportunities to build upon existing interpretive waysides. Minor tributary crossings and the Wabash's visibility provide opportunities for roadside pull-offs. A new water access site along this section would be also desirable.

Crossing the Wabash at Cicott Road, travelers continue northeast to Cicott Park and Black Rock Nature Preserve. The preserve has loop trails through rare sandstone/siltstone barrens and a unique sandstone outcrop.



Section 6 Overview

Length 23 Miles

Bike Route Condition Shared Lane-Marked

Potential Route Stops Granville Bridge Park, Ross Hill Park, NICHES Preserves, Cicott Park

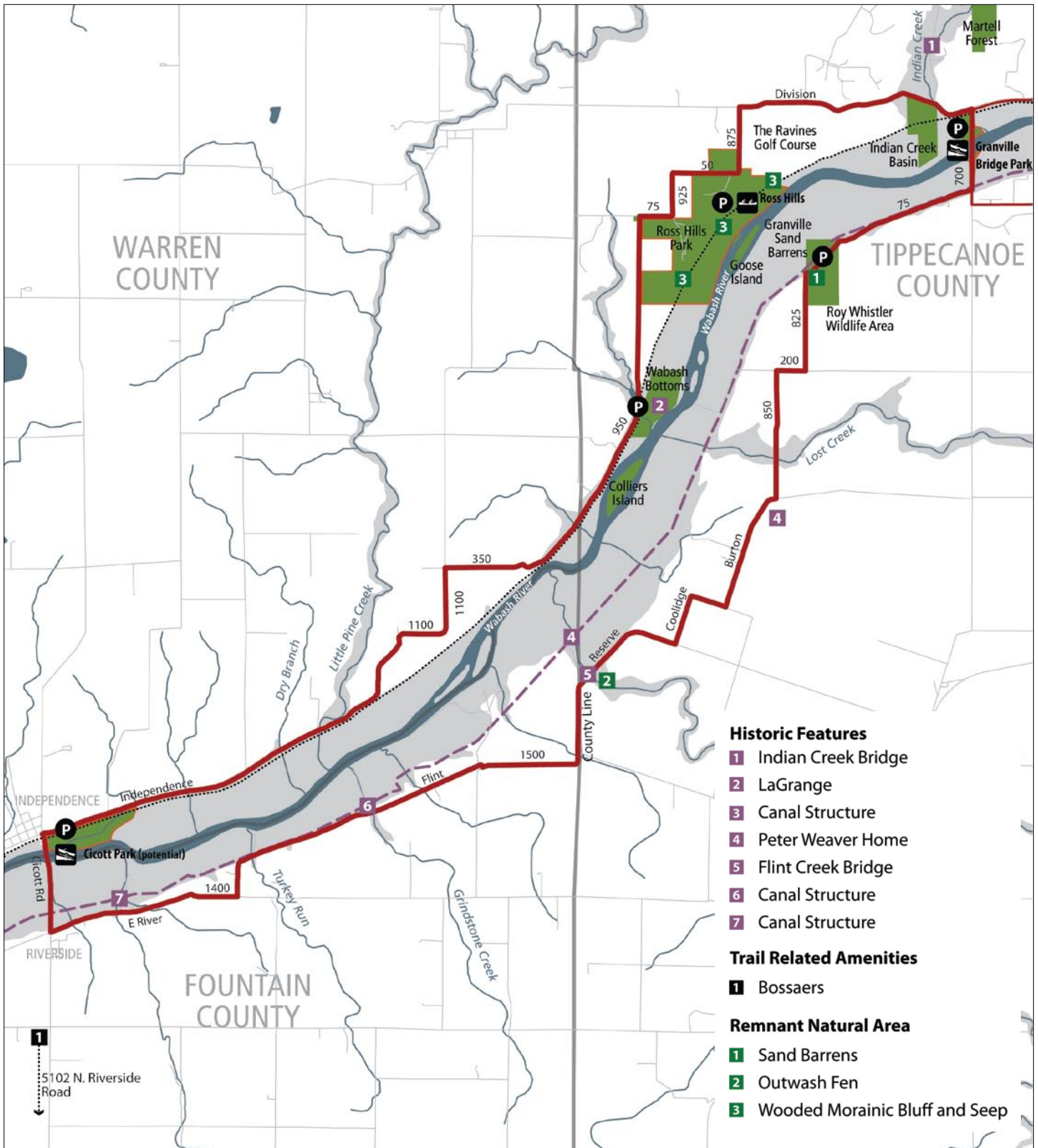
Greenway Development Sites

- Existing
- Potential

Greenway Access Site	Parking	Restroom	Spur Trail	Boat Launch	Boat Ramp	Concessions	Camping	Picnic Facilities	Interpretation	Play-ground
Granville Bridge Park	●	●			●			●		
Ross Hill Park	●	●	●	●			●	●		
Cicott Park	●	●	●		●			●		

Cicott Park

Located at a historic trading post site along the Wabash, Cicotts Park includes amenities related to recreation and interpretation. (image: WRT)



Section 6

- Greenway Travel Route
- Historic Feature
- Parkland and Preserves
- Boat Ramp
- Trail Related Amenities
- 100-Year FEMA Designated Floodplain
- Canoe Launch/Landing
- Remnant Natural Area
- Existing Trail
- Parking
- Planned Trail
- Historic Canal Route

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Chapter 5 Central Corridor Projects

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- 74 Central Corridor Projects
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- 77 City of Lafayette
- 80 New Connections and Improved Circulation

Chapter 5

Central Corridor Projects

Overview

Chapter 5 describes central corridor projects identified in the 2010 Wabash River Enhancement: Central Area Plan. Central corridor projects reflect the surrounding community's commitment to enhance the area's recreation, quality of life, ecological function, and economic development. Community members, along with stakeholders of Lafayette and West Lafayette, developed the following project goals to guide the central area plan. These goals include:

- Connect the cities to the river and create a healthy balance.
- Cultivate healthy ecosystems.
- Engage the whole community.
- Connect the cities to each other.
- Focus on creating a sustainable community of choice.

The central area plan recognizes three distinct zones within the urban corridor. These primary zones along the Wabash are: the Northern Reach, the Central Reach, and the Southern Reach. The Northern Reach is largely parkland and includes great opportunity for ecological, educational, and recreational enhancements, as well as investments in neighborhood development. The Central Reach, the civic core of Lafayette and West Lafayette, presents opportunities to enhance the relationship to the riverfront and connectivity between the two cities. The Southern Reach includes several WREC properties, the Wabash Avenue neighborhood, and parkland, offering significant opportunities for interpreting cultural resources, ecological enhancement, environmental education, and recreation.

The following pages provide a brief overview of project sites and recommendations. Descriptions are organized by the location within the City of Lafayette or the City of West Lafayette or as new connections and improved circulation projects.



Central Corridor Projects: Northern Reach



Central Corridor Projects: Central Reach



Central Corridor Projects: Southern Reach

Central Corridor Projects

City of West Lafayette

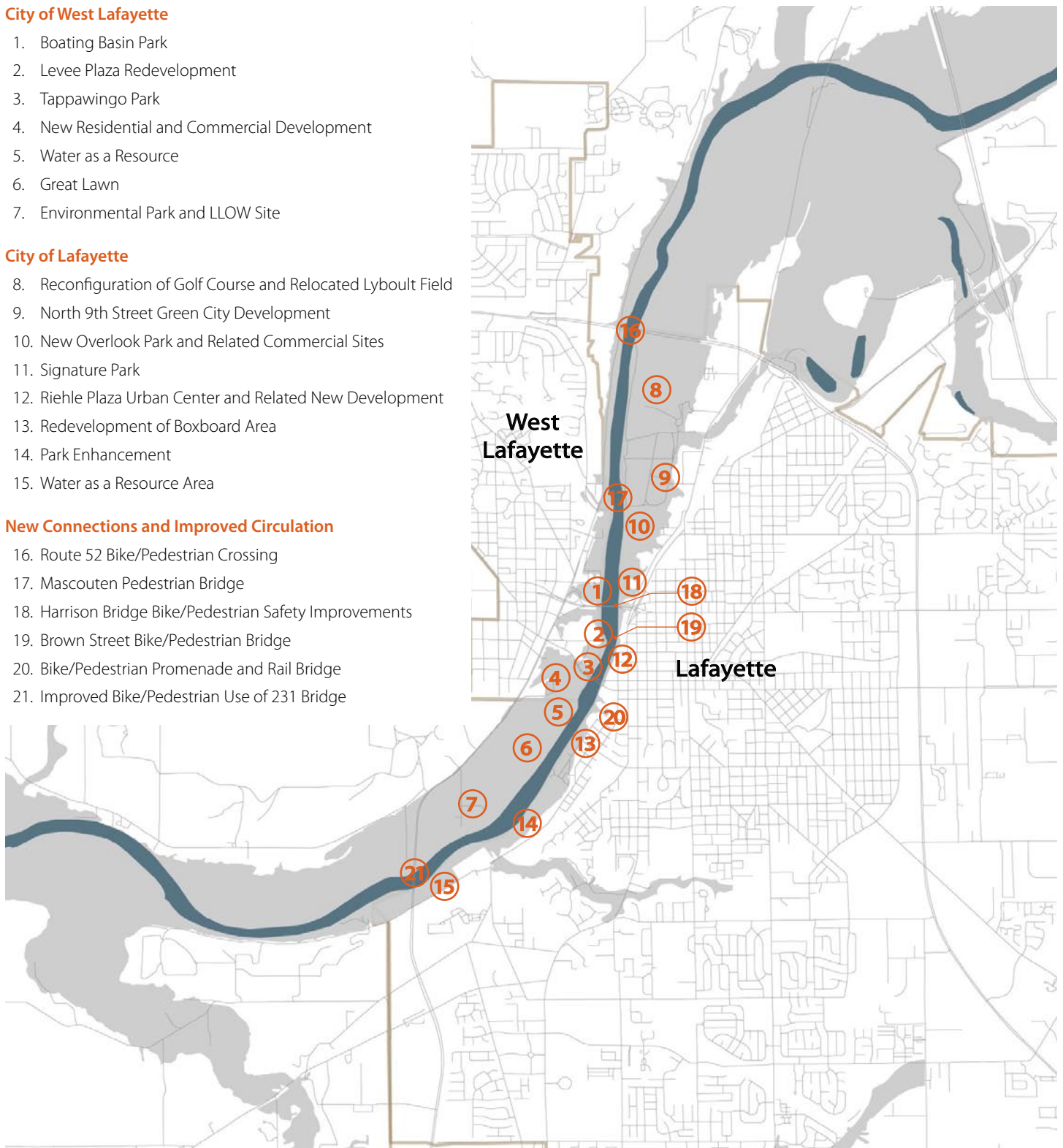
1. Boating Basin Park
2. Levee Plaza Redevelopment
3. Tappawingo Park
4. New Residential and Commercial Development
5. Water as a Resource
6. Great Lawn
7. Environmental Park and LLOW Site

City of Lafayette

8. Reconfiguration of Golf Course and Relocated Lyboulte Field
9. North 9th Street Green City Development
10. New Overlook Park and Related Commercial Sites
11. Signature Park
12. Riehle Plaza Urban Center and Related New Development
13. Redevelopment of Boxboard Area
14. Park Enhancement
15. Water as a Resource Area

New Connections and Improved Circulation

16. Route 52 Bike/Pedestrian Crossing
17. Mascouten Pedestrian Bridge
18. Harrison Bridge Bike/Pedestrian Safety Improvements
19. Brown Street Bike/Pedestrian Bridge
20. Bike/Pedestrian Promenade and Rail Bridge
21. Improved Bike/Pedestrian Use of 231 Bridge





1. Boating Basin Park

Located in a central location along the Wabash River in West Lafayette, the existing borrow pits were created with the construction of adjacent apartments.

Recommendations:

- Convert borrow pits to boating basins
- Create bladder dams to retain water during low water periods
- Relocate Purdue Boathouse to this site
- Extend the Wabash Heritage Trail through site

2. Levee Plaza Redevelopment

The 40-acre commercial site is currently underutilized and serves as a barrier between West Lafayette and the River. Prime for redevelopment, the site is strategically located at the intersection of two major streets and in close proximity to Purdue University and Lafayette’s downtown.

Recommendations:

- Redevelop site to provide a mix of retail, service, entertainment, recreation, and residential uses
- Extend the Wabash Heritage Trail through site

3. Tappawingo Park

Located in a central location along the Wabash, Tappawingo Park includes a portion of the Wabash Heritage Trail and is the site of several community events throughout the year. The 20 acre park includes opportunities for both passive and active recreation.

Recommendations:

- Create an amphitheater
- Expand park to the north and south
- Provide connecting trails

4. New Residential and Commercial Development

Currently, this area is a mix of commercial and residential uses but significant gaps in the area’s urban fabric limit circulation and discourage use.

Recommendations:

- Capitalize upon adjacent parks and create dense mixed-use development
- Create a better connected and logical network of complete streets



5. Water as a Resource

Located adjacent to the wastewater treatment plant and Wabash River, the site is located within the 100-year floodplain. The Wabash Heritage trail provides access through the site which is characterized by a wetland landscape.

Recommendation:

- Preserve and enhance existing wetlands to promote infiltration of cleansed wastewater from both treatment plants

6. Great Lawn

Currently a mix of agriculture and open space uses, the site is publicly owned and includes a portion of the Wabash Heritage Trail. Located in the 100-year flood plain, the site is susceptible to flood inundation.

Recommendations:

- Provide a setting to accommodate large civic gatherings
- Create a low-investment park design to accommodate flood events

7. Environmental Park and LLOW Site

Located at the central corridor's southern extent, the Environmental Park and LLOW site are currently in agriculture use. Within the 100-year floodplain, the site is susceptible to flood inundation.

Recommendations:

- Establish opportunities for environmental and cultural heritage education with an emphasis on best practices for stormwater, flood, and agricultural uses
- Create a low-investment park design to accommodate flood events and enhance water quality
- Extend the Wabash Heritage Trail



8. Reconfigured Golf Course and Relocated Lyboubt Field

Located in low-lying land adjacent the Wabash River, the golf course and 52-acre sports park are frequently inundated by flood waters. Flood inundation requires pumping water back into the river to keep golf courses operable.

Recommendations:

- Reconfigure golf course implementing best environmental practices (enhance riparian buffer, wetlands, and well field protection)
- Relocate course away from the river and extend the course south into McAllister Park

9. North 9th Street Green City Development

Bordered by McAllister Park to the west and a correctional facility to the north, the area is largely characterized by industrial uses with limited residential and open space uses.

Recommendations:

- Encourage a smart growth neighborhood of sustainable buildings with high ecological performance
- Establish both residential and office mixed use
- Develop a parallel street west of North 9th Street (behind the current development corridor) to create a new high value development corridor

10. New Overlook Park and Related Commercial Sites

Surrounded by a mix of industrial and residential uses, the area is currently the site of Lyboubt Fields Sports Park. Located within the 100-year floodplain and subject to flooding.

Recommendations:

- Remediate contaminated riverfront property
- Establish an overlook park with commercial recreation
- Create a "Kids Zone"



11. Signature Park

Located along the Wabash, the Signature Park area is currently a large tract of open space surrounded by parkland and utility uses.

Recommendations:

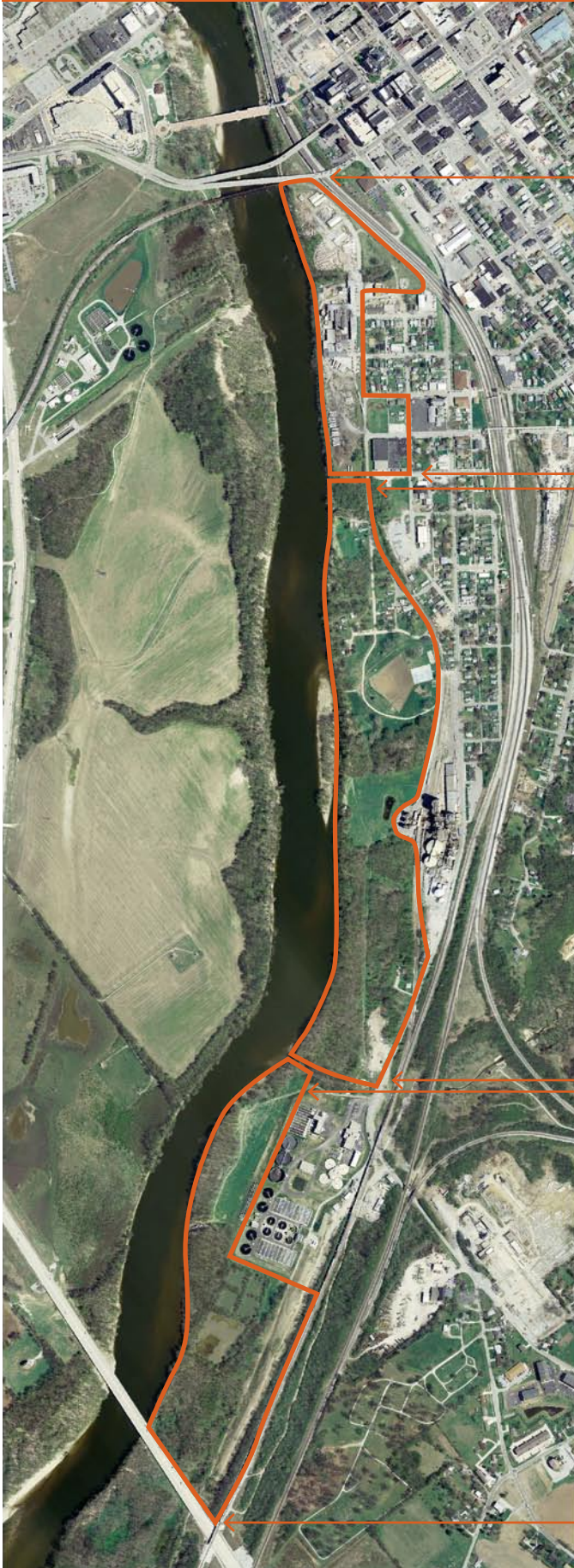
- Implement ecological enhancements
- Create downtown recreation opportunities
- Connect downtown Lafayette, North Lafayette, and riverside trails

12. Riehle Plaza Urban Center and Related New Development

A result of the Rail Relocation Project, Riehle Plaza was built over the Amtrak station and serves as an intermodal hub within Lafayette. The plaza is located adjacent to the primary station for CityBus. Riehle Plaza also supports important civic events such as the summer concert series. The plaza becomes congested at times with bus traffic. Physically handicapped riders can experience difficulties in gaining access to their bus.

Recommendations:

- Enhance this civic core
- Encourage denser development oriented to the plaza



13. Redevelopment of Boxboard Area

Located adjacent to the river, rail and street infrastructure create a barrier between Lafayette and the Boxboard site.

Recommendations:

- Connect Lafayette to the Wabash via a “Railroad Crossing” bridge
- Establish Wabash and Erie Canal interpretive feature within the wide right-of-way along Sycamore Street

14. Park Enhancement

Largely open space, the site is bordered by the Wabash to the west and railroad to the east. Rail and road infrastructure limited access points to the site present an obstacle to the surrounding community accessing the area and existing Shamrock Park.

Recommendations:

- Expand parkland along Old Tow Path Road to connect Shamrock Park and Lafayette’s Wabash Neighborhood
- Establish opportunities for interpretation of historical features and activities
- Improve and/or re-create wetland/greenspace within the 100-year flood plain

15. Water as a Resource Area

Located adjacent to the Wastewater treatment plant and Wabash River, the site is within the 100-year flood plain and includes wetlands.

Recommendations:

- Feature reuse and infiltration of treated water from both sanitary water plants through wetlands and other features
- Preserve and enhance existing wetlands to promote infiltration of cleansed wastewater from both plants
- Provide opportunities for environmental education by integrating trails and passive recreation opportunities



16. Route 52 Bike/Pedestrian Crossing

Located at the northern border of the urban core, the roadway does not include designated travel routes across the Wabash presenting an obstacle for cyclists or pedestrians travelling across the river.

Recommendation:

- Explore options to establish a new pedestrian/bicycle connection across the Wabash

17. Mascouten Pedestrian Bridge

A popular boat launch site along the Wabash, Mascouten Park is located close to the Happy Hollow Park trail network and across the river from McAllister Park.

Recommendations:

- Construct a new bridge as a pedestrian connection across the Wabash
- Create a distinctive visual landmark

18. Harrison Bridge Bike/Pedestrian Safety Improvements

Recommendations:

- Reconfigure existing exit ramps to create new development on West Lafayette side of the bridge
- Modify ramps to provide boat access and allow boathouse development lining basins
- Improve bike/pedestrian safety on bridge



19. Brown Street Bike/Pedestrian Bridge

While the Brown Street Bridge once provided a connection across the Wabash, an abutment remains in West Lafayette serving as an overlook area providing views of the Wabash and Lafayette.

Recommendations:

- Construct a new Brown Street Bridge to establish a pedestrian and bicycle connection between Tapawingo Park and the proposed CityBus Transit Plaza
- Provide a distinctive visual landmark and contemporary interpretation of historic feature

20. Bike/Pedestrian Promenade and Rail Crossing Bridge

Currently, the railroad serves as a barrier between Lafayette and the Wabash River.

Recommendation:

- Create upper level promenade over Amtrak tracks
- Develop a new bike/pedestrian promenade and rail crossing bridge connecting Rheile Plaza, Myers Pedestrian Bridge, and downtown Lafayette to Wabash Avenue neighborhood

21. Improved Bike/Pedestrian use of 231 Bridge

Currently, the 231 Bridge provides vehicular connections across the Wabash. The bridge's steel plate grinders present the opportunity to widen the bridge to accommodate cyclists and pedestrians.

Recommendation:

- Widen bridge for pedestrian/bicycle access



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Chapter 6

Implementation

Overview

Examples of six greenway programs, all but one of which are in Indiana, illustrate a range of similarities and differences in their characteristics, ownership, development and management. Initiated between 1975 and 1993, they include pathways, waterways, conservation corridors and recreation facilities. Their pathway systems range from seven to sixty miles in length. Some are entirely publicly- owned whereas others include private lands. Each is managed somewhat differently, employing arrangements that include consortiums, coordinating committees, city agencies, and a state chartered greenway development commission. Funding sources for acquisitions and operations are also diverse. They suggest that greenways evolve in different ways that reflect particular circumstances. Because every situation is somewhat different, no single template for implementation can apply to all greenways.¹

Three strategies are proposed for developing the Wabash River Greenway. They are interrelated in that all are needed for the greenway's ultimate success.

Strategy 1 **Building Support for the Greenway**

One of the greenway's most compelling arguments is that it would build upon past accomplishments and current initiatives. By "connecting the dots," it would create a new identity for resources fragmented by many landowners, as well as new opportunities for the public's appreciation and enjoyment of those resources. But a greenway cannot be realized without broad public support. It will require a well-conceived and executed communications strategy to gain that support from many diverse interests.

Strategy 2 **Managing Greenway Resources and Enhancing Greenway Experiences**

The Wabash River's landscapes, natural communities and cultural sites provide a complex of resources, most of which are owned and managed by private landowners. How they are managed and the extent to which they contribute to the greenway concept will depend upon new initiatives to work cooperatively with landowners, to acquire parklands and preserves, and to insure the effective use of mandates and incentives in the county's zoning and subdivision ordinances.

While opportunities already exist for the public's enjoyment of the greenway, further investments are needed to enhance the quality and diversity of greenway experiences. Municipal, county and state agencies, and nonprofit organizations should be encouraged to coordinate their planning, capital projects and operations in a manner mutually beneficial to their individual interests and the greenway.

Strategy 3 **Developing a Greenway Partnership**

The greenway's implementation will require an effective and sustainable partnership that can successfully engage in collaborative initiatives. Its functions would include:

- Setting priorities and milestones
- Being a leading voice for the greenway
- Advanced planning
- Undertaking projects and programs
- Fundraising
- Monitoring progress and celebrating success

Several options exist for structuring the partnership, which include: an informal arrangement among interested parties, a partnership defined by a cooperative agreement, or an incorporated partnership entity.

¹ More information about Indiana Greenways can be obtained from the Greenways Foundation, based in Indianapolis http://www.indygreenways.org/supporters/gf_about.htm

Greenway Case Studies

The following case studies highlight the implementation of successful greenway initiatives that are comparable to the proposed Wabash River Greenway. These precedents include brief descriptions of greenways partnerships, funding sources, and other planning and implementation components related to the Wabash River Greenway.

Meramec Greenway

St. Louis to Sullivan, Missouri



Authorized by Congress in 1974, a study by the Department of Interior, state and local governments, and citizens assessed declining resources along 108 miles of the lower Meramec River. The findings of this study resulted in the recommendation to pioneer a new approach to restoration involving all levels of government and private entities. The Meramec Greenway's mission is to protect the River and its watershed and enhance adjacent lands for recreational, educational, and economic benefit of the public.

The greenway currently includes 28,000 acres of parklands and conservation areas with eighty miles of trails and amenities related to picnicking, water access, athletic fields, and numerous other recreational facilities. Greenway lands include the river valley within the 100-year flood plain, upland areas related to the river, public recreational lands, environmental resources, historic and education facilities. The majority of the described greenway lands remain in private ownership and are governed by local zoning and land use decisions. Priorities for acquisitions includes lands within 300 feet of the river needed for river bank protection, trail development, and other greenway related amenities. While lands are publicly and privately managed and owned, the Meramec River Recreation Association Coordinating Committee is primarily responsible for overseeing management and planning the greenway.

Ohio River Greenway

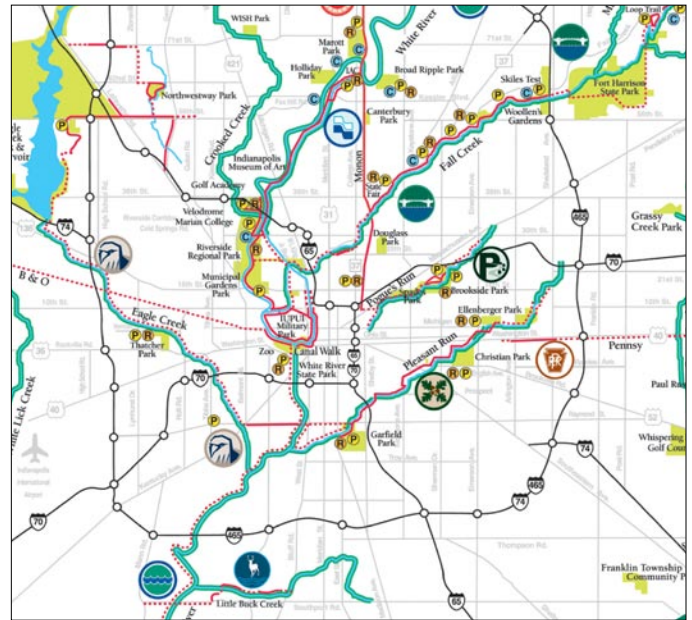
Clark County and Floyd County, Indiana

Chartered by Indiana Legislature, the Ohio River Greenway Development Commission was founded in 1993 and issued a conceptual master plan the following year. When complete, roadway improvements and seven miles of multi-use pedestrian and bicycle pathways will connect Jeffersonville, Clarksville, and New Albany and also provide opportunities for passive recreation and river access.

Funding for the \$41 million trail comes from a combination of federal sources, private partnerships, and local municipalities. Maintenance and Greenway Commission administration costs are presently funded by three municipalities the greenway traverses. The Ohio River Greenway Commission is currently exploring other funding sources for maintenance costs. The greenway could potentially have a commission exclusively for the purpose of maintenance, operating much like a flood levee commission.

Indy Parks Greenways

Indianapolis, Indiana



The Indy Greenway Plan envisions an openspace network connecting communities, promoting recreation, and establishing conservation corridors throughout Marion County. The greenway presently consists of 29 miles of trails, 26 miles of blueways, and eight conservation corridors. In the future, the greenway will include more than 150 interconnected trails.

Since 1993, the majority of funding has come through federal transportation enhancement (TE) funds. Other funding sources include non-profit foundations, corporations, local tax moneys, local and national endowments, and federal and state grant programs. The City's Department of Parks and Recreation manages the greenway and is advised by the Indianapolis Greenways Development Committee.

Meramec Greenway Map

(image: <http://www.meramecgreenway.org/>)

Indy Parks Greenway Map

(image: <http://www.indy.gov/eGov/City/DPR/Greenways/Pages/home.aspx>)

Rivergreenway

Fort Wayne, Indiana

The Rivergreenway, a 24 mile linear park, parallels the banks of the St. Marys, St. Joseph, and Maumee Rivers. The greenway is used for bicycling, hiking, jogging, rollerblading, and walking, offering scenic overlooks of the rural and urban settings. Both a recreational asset and alternate transportation network, the trail averages over 25,000 monthly users (based on September and October 2000 counts).

Largely funded by the state of Indiana, the federal Land and Water Conservation Fund, and federal TE funds, the greenway is owned by the City of Fort Wayne and maintained by the Parks and Recreation Department and Public Works Department. A volunteer nonprofit group, the Greenway Consortium, advocates for the Rivergreenway's continued expansion.

Monon Trail

Carmel, Indiana

The result of a 1980's grassroots effort, the 10.5 mile Monon Trail is recognized as one of the busiest greenways in the nation averaging 1.2 million visitors/year. The greenway connects parks, preserves, and other trail systems and has sparked adjacent development including: canoe launches, parking, restrooms, food and bikes shops.

Cardinal Greenways

Monon to Richmond, Indiana

At 60 miles in length, the Cardinal Greenway is Indiana's longest rail-trail accommodating a variety of users and connecting several towns, parks, preserves, etc. Throughout the year events special events occur attracting visitors to the network. Bike access/use of the trail is enhanced through a public transportation system with several stops along the greenway.

Cardinal Greenway, a private not-for-profit organization comprised of 4 staff and 350 volunteers, manages the greenway. A combination of federal and private sources fund trail construction and operation. To date, Cardinal Greenways has received federal funding close to \$20,000,000.

Trail	Description	Greenway Owners/Manager(s)	Funding Sources
Meramec Greenway St. Louis to Sullivan, Missouri Date Started: 1975	28,000 acres of parkland and conservation areas, 80 miles of trails	Greenway lands are publicly and privately owned and managed by the Meramec River Recreation Assocaion Coordinating Committee	Local, non-profit, private and federal sources including: the National Flood Insurance Act, Superfund, and Water Conservation Fund
Ohio River Greenway Clark County and Floyd County, Indiana Date Started: 1993	7 miles of multi-use trail	Ohio River Greenway Commission	Federal, local municipality public funds, private partnerships
Indy Parks Greenway Indianapolis, Indiana Date Started: 1885	29 miles of trails, 26 miles of blueways, and eight conservation corridors	Greenway lands are publicly and privately owned and managed by Department of Parks and Recreation with guidance from the Indianapolis Greenways Development Committee	Federal transportation enhancment (TE) funds, non-profit foundations, corporations, local taxes, local and national endowments, and federal and state grant programs
Rivergreenway Fort Wayne, Indiana Date Started: 1976	20 mile linear park	Greenway lands are owned by the City of Fort Wayne and managed by the Parks and Recreation Department and Public Works Department with guidance from the Greenway Consortium.	Larger funders include the state of Indiana, the federal Land and Water Conservation Fund, federal TE funds
Monon Trail Carmel, Indiana Date Started: mid 1980s	10.5 mile rail-trail connecting a network of parks, preserves, and other trail systems	Owned by the three municipalities the trail crosses, the trail is managed by the City of Carmel, Town of Westfield's Department of Parks and Recreation, and the City of Indianapolis' Department of Parks and Recreation.	Federal, local municipality public funds, private partnerships
Cardinal Greenways Marion to Richmond, Indiana Date Started: 1993	60 mile paved rail-trail	Cardinal Greenways owns and manages the greenway	Federal and private funds (individuals, businesses, grants, sponsorships, endowments)

Building Support for the Greenway

One of the most compelling arguments for the Wabash River Greenway is that it would build upon past accomplishments and current initiatives. In fact, various aspects of the greenway concept are already in place. The regional importance and enhancement needs of the river and its tributaries are cited in planning documents prepared by Tippecanoe County, the cities of Lafayette and West Lafayette, and the State of Indiana. The county's Unified Land Zoning Ordinance controls land use in the 100-year floodplain. The Soil and Water Conservation District assists farmers and other landowners in practices to improve water quality and enhance wildlife habitats. Municipal, county and state park agencies own and continue to acquire parklands with frontage on the river and its tributaries, as are conservation organizations whose interests focus on a network of nature preserves. Work continues on expanding the Heritage Corridor Trail. Boat access facilities exist at eight sites and more are planned.

The greenway can "connect the dots" by tying together and building upon what is already in place. It can establish a more cohesive identity for resources now fragmented by multiple landowners with different interests, and it can provide a means for building mutually beneficial relationships and cooperation.

But the greenway's potential cannot be realized without broad support from private landowners, elected officials, public agencies, nonprofit institutions, the business community and the general public. It must address anticipated frequently asked questions on issues such as public access, private property rights, water quality health risks, and the greenway's costs. In addition to presenting a case for the "greater good," a greenway communications strategy must be sensitive to varying perspectives of landowners, recreation interests, the nonprofit community and others. For example, while landowners may be most concerned about property rights, institutions such as Purdue University may be particularly interested in the greenway's potential benefits to its students and faculty.

The greenway's potential economic benefits must be embraced by the business community. While it promises new opportunities for restaurants, merchandise sales, equipment rentals and other services, the greenway could positively impact real estate values of existing residences, as well as the success of future residential and commercial development projects that take advantage of their proximity to greenway lands. Such projects could also contribute to the greenway by adding selected lands to the greenway and providing connecting pathways and other facilities.

A strategy for building support for the greenway should be taken in measured steps and seen as an ongoing process. Needed at this time is a means by which the greenway can obtain endorsements from the public, private and nonprofit sectors.

An Initial Communications Strategy

Branding. The greenway would have its own graphic identity for printed materials, signage, interpretive exhibits and other uses. Its logo should be adaptable for use by different greenway partners.

Greenway Website and Other Internet Media. The greenway would have a website to serve as the primary information source for the greenway's programs, maps, current and upcoming activities, with links to the websites of its partners. Consideration would be given to developing other social network media to engage the public in sharing ideas, experiences, photographs and other information relevant to the greenway.

Printed Material. Greenway brochures and maps would become readily available to the public. A guidebook would be helpful in providing detailed information for greenway users. Consideration would be given to preparing a "coffee table" book with high quality photographs on the greenway's resources, which would be tied to the greenway's interpretive and educational programming. A series of newspaper and magazine articles would feature interesting information about the greenway.

Presentations and Events. Opportunities would be sought to present the greenway concept to landowners, civic organizations, government representatives, funders, recreation and sports groups, tourism and economic development interests, and other potentially interested parties. As appropriate, the greenway would become one of the sponsors of river-oriented events as well as introduce new events that promote the greenway concept.

Video Series. A series of videos on a variety of topics would be developed over time, relying primarily on the greenway's website as the primary means of distribution. While maintaining a consistent standard of quality and format, the videos would cover many topics, such as being on the river, environmental issues, river-friendly agricultural practices, wildlife at greenway preserves and historic sites.

Managing Greenway Resources and Enhancing Greenway Experiences

Managing Greenway Resources

The greenway's resources are a rich complex of natural and cultural features, some of the best examples of which are owned and managed by private landowners. As described in Chapter 3, the greenway concept envisions that private landowners would serve as major stewards of the greenway's resources, along with acquisitions of parklands and preserves from willing sellers, as opportunities arise at appropriate locations. The mechanisms for achieving those outcomes are summarized as follows.

Working with Private Landowners

Finding ways to work cooperatively with private landowners should be a key strategy for managing greenway resources. As described in Chapter 4, the greenway categorizes such lands as commercial agriculture, private conservation, or greenway-related. The category of any parcel could change as a result of a landowner's decision, e.g., to discontinue or resume commercial agricultural operations, subdivide and build, or convey all or part of the property for conservation purposes.

The greenway should develop its own program to work with current landowners, prospective buyers, and professionals actively involved in land use matters, such as realtors, developers, planners, engineers, surveyors, architects and attorneys. That program should complement rather than compete with current assistance programs offered by the Soil and Water Conservation District and others. Following the alternatives assessment approach outlined on pages 48-49, it would focus on lands of high resource value to the greenway, particularly those susceptible to change in ownership and use. It would seek solutions mutually beneficial to landowners and the greenway. In instances when such lands are on the market, the program could work with sellers or prospective buyers. It should have the capacity to find "conservation buyers" willing to acquire parcels and donate conservation easements on such lands.

Acquiring Parklands and Preserves

As described on pages 41-43, the greenway concept envisions future acquisitions of parklands and preserves from willing sellers within or near the 100-year floodplain. The Greenway Partnership would develop criteria, prepare plans and set priorities for such acquisitions, working closely with park agencies, conservation organizations, and others.¹ The partnership would also identify acquisition opportunities and, as appropriate, provide support in structuring and obtaining funding for individual transactions. The greenway's program would also identify landowners potentially interested in conveying lands to the greenway at fair market value, bargain sale or by gift. Private lands potentially eligible for parkland and preserve acquisitions would need to meet the greenway's established criteria.

¹The partnership would recognize and respect the planning processes and priorities of agencies and nonprofit organizations having their own directives and priorities for greenway-related acquisitions, seeking to work with them, wherever possible.

Experience in acquiring parklands and preserves may indicate the desirability of creating a greenway real estate entity to take an equity interest in certain transactions, in coordination with park agencies or nonprofit organizations. That entity could be effective in circumstances requiring actions in a short time period, or in instances requiring unusual funding strategies and complex transactions involving multiple sellers and buyers. It could be particularly useful in situations involving conservation design subdivisions, as summarized on pages 47-49. It may need to hold lands on an interim or long term basis in instances when no agency or nonprofit organization is able to assume such responsibilities.

Code Mandates and Incentives

As described on pages 32 and 47, the county's unified zoning and subdivision ordinances already provide an important regulatory framework for the greenway. The Greenway Partnership should work closely with the Area Plan Commission (APC) in reviewing development applications pertaining to lands within, adjacent or otherwise potentially impacting the greenway. As appropriate, the partnership should be prepared to provide review comments and testimony at public meetings, expressing concerns and/or support for particular applications. It should also be prepared to work with the APC in the periodic review of regulations to identify areas in which amendments to regulatory content or procedures could benefit the greenway.

Enhancing the Greenway Experience

The greenway's success will ultimately depend upon the experiences it offers to residents and visitors having different interests, abilities and available time. While numerous opportunities already exist to enjoy various aspects of the greenway, further investments are needed to enhance the quality and diversity of those experiences. As described on pages 44-45, the greenway requires an "infrastructure" of travel routes, development sites and supporting services. Although many parts of that infrastructure are already in place, the Greenway Partnership should promote the development of a network of facilities and services that provide consistently high quality experiences for greenway users.

As principal providers of facilities benefiting the greenway, Lafayette, West Lafayette and Tippecanoe County maintain good working relationships on several fronts. For example, a county naturalist works at West Lafayette's Lilly Nature Center, and park department directors share information and periodically meet to discuss issues such as funding opportunities and common management concerns. Recognizing that various obstacles exist, such as in sharing of equipment, the Greenway Partnership should provide the impetus for further collaboration among municipal, county and state agencies, as well as nonprofit organizations. It should encourage coordinated planning, capital projects and operations beneficial to the greenway. A high priority should be given to developing consistent signage and orientation information for greenway users. A working group facilitated by the partnership should pursue such opportunities.

Developing a Greenway Partnership

Many greenways are under single ownership with one entity responsible for their management. The multi-jurisdictional and mixed ownership characteristics of the Wabash River Greenway present both challenges and potential advantages in terms of obtaining broad support. Its implementation will require an effective and sustainable partnership that can successfully engage in collaborative initiatives.

An impressive list of potential greenway partners can be drawn from the region's elected officials, county and city agencies, other local and state government representatives, landowners, businesses, academic institutions, and many nonprofit organizations. Prescribing their level of involvement in the greenway would be premature in this plan, given that they must individually consider the extent and the means by which they will support the greenway. Initial meetings with prospective participants would determine their interests which may range from endorsing the greenway to their active involvement in its development. Another consideration is how a new greenway partnership would relate to current collaborative efforts that directly or indirectly address greenway issues.

The functions of a greenway partnership could include:

- **Setting Priorities and Milestones.** Limited financial and human resources will require the setting of priorities for the greenway's implementation, reflecting those actions considered as achievable and having significant short-term or long-term outcomes. The partnership would set milestones for measuring progress and success.
- **Being a Leading Voice for the Greenway.** The partnership would become the greenway's leading advocate. Its public image and how it conducts itself will set the tone for all other greenway activities.
- **Advanced Planning.** The partnership would assume responsibility for advanced planning in areas such as developing the landowner outreach program, interpretive and educational programming, and interagency coordination related to the greenway's development sites.
- **Projects and Programs.** The partnership would undertake project and program initiatives in collaboration with others. Representative types of initiatives are listed in the accompanying chart.
- **Fundraising.** The partnership would seek to develop a broad funding base for the greenway's development. Outreach to funding sources in the public, nonprofit and private sectors should be one of its major priorities. The partnership should support the fundraising efforts of others whose activities will benefit the greenway.
- **Monitoring Progress and Celebrating Success.** The partnership would make an annual assessment of the greenway, presented in a "state of the greenway" report made available to the public. It should also celebrate greenway successes, recognizing individuals, organizations and agencies that have contributed to the greenway.

The following options present different approaches to structuring the greenway partnership to assume the functions described above.

Option 1. An Informal Partnership of Interested Parties. This arrangement would provide a means by which agencies and organizations would share information on a range of matters contributing to the greenway concept, as well as identifying needs and opportunities for specific greenway initiatives undertaken individually or collaboratively by partnership participants. While it has the advantage of simplicity and flexibility, it has the potential disadvantage of limited accountability among participants and not remaining viable over time. However, it could serve as a useful beginning point, followed by a more formalized partnership arrangement.

Option 2. A Formalized Partnership Defined by a Cooperative Agreement. This approach envisions a partnership defined by a cooperative agreement identifying its mission and the responsibilities of its participants. Compared to Option 1, it would provide a more manageable mechanism for fundraising. It should have an administrator which could initially be a part-time position, funded by the partnership or provided by one of its partners. In addition to serving as a forum, it would provide a more stable platform than Option 1 in coordinating greenway projects among the partners and others.

Option 3. An Incorporated Partnership Entity. Resembling Option 2, this approach would take the next step in having the partnership function as an incorporated nonprofit charitable organization. It would offer the potential advantages of positioning the partnership to directly receive and disburse funds, undertaking real estate transactions and taking other actions requiring an incorporated entity.

This plan does not contain recommendations for one of these partnership options, in that such a decision should be made by the partnership's participants. Other alternatives for creating and managing the partnership may also warrant consideration.

The Wabash River Greenway Partnership might consider the following kinds of initiatives in its assessment of implementation priorities for the greenway.

Building Public Support for the Greenway

- Branding
- Greenway Website and Other Internet Media
- Printed Material
- Presentations and Events
- Greenway Videos

Protecting Greenway Resources

- Working with Private Landowners
- Acquiring Parklands and Preserves
- Regulatory Mandates and Incentives

Enhancing the Greenway Experience

- Travel Infrastructure - Roadways, Pathways and Waterways
- Greenway Development Sites
- Educational and Interpretive Programming
- Greenway User Services

Future Prospects

As demonstrated throughout the United States, greenways provide a means for defining and protecting the unique identity of communities, rural countrysides and entire regions, while providing, recreational, educational and economic benefits to residents and visitors alike. As a place, Tippecanoe County cannot be described or fully understood without mentioning the Wabash River and its tributaries, and explaining how they have helped to shape the lives of American Indians, early settlers and those who followed in the 19th and 20th centuries. Their waters and associated landscapes have had a major influence on the region's historic development.

Their current and future contribution to the region's character and quality of life may differ from the past, but it is no less significant. In short, the Wabash River and its tributaries remain one of the region's most important "placemakers." For these reasons, a Wabash River greenway has emerged as a promising concept for preserving, restoring, managing, interpreting, and enjoying the Wabash's unique resources. It would also bring together the varied but largely complementary interests of government agencies, nonprofit organizations and landowners along the Wabash River and its tributaries.

The good news is that the foundation for a Wabash River greenway already exists, as a result of actions taken by the public, nonprofit and private sectors. For many years, floodplain lands have been appropriately zoned to control development. Floodplain agriculture, dating from the early 19th century, continues to contribute to the region's economy and is employing practices addressing important environmental concerns, with the help of agencies such as the Tippecanoe County Soil and Water Conservation District. In recent decades, state, county and municipal governments have established new parks along the river and its tributaries. These parks provide public water access and opportunities to protect and restore natural areas. Nonprofit conservation organizations have acquired nature preserves and provided for improved public water access. New trails have been built and more are on the drawing board. The real estate market has long recognized the value of building homes with frontage on wooded riverine valleys. There is growing interest in incorporating conservation lands into residential subdivisions. Particularly important have been efforts to clean-up pollutant discharge from wastewater treatment plants and stormwater systems, as well as to undertake watershed assessments and water quality monitoring programs.

At the same time, the Wabash River greenway concept must address significant challenges if it is to become a reality. For example, public support for a greenway may be compromised by a misconception that the river is dirty and not fit for human contact. The river can be dangerous, especially during periods of flooding, while at other times it is difficult to navigate because of low water. Limited public access sites have made it difficult for the public to discover the Wabash and gain an appreciation for its many assets. For fishermen, the Wabash's native fish populations have been threatened by non-native fish such as the silver carp. And in many places, natural habitats for wildlife are fragmented, in poor condition or simply absent. But on balance, the possibilities for establishing a successful greenway far outweigh the liabilities. There is little doubt that the human, technological, and institutional resources exist within Tippecanoe County to get the job done. It would require both innovative and practical planning, collaboration among many partners, and time.

About the Wabash River Enhancement Corporation (WREC)

Enhancement of the Wabash River corridor as a priority community development project grew out of *Vision 2020*, a Lafayette-West Lafayette, Tippecanoe County regional comprehensive planning initiative completed from 1999 to 2001. *Vision 2020* identified enhancement of the Wabash River corridor as the most important multi-jurisdictional community development project facing the Greater Lafayette area.

As recommended in *Vision 2020*, a community coordinating committee was formed with leadership provided by North Central Health Services (NCHS). Its assignment was to consider local options and resources and to review river projects nationwide to identify a successful strategy to accomplish river corridor enhancement. Due to the project's anticipated fiscal cost, the committee recommended that the project be community-driven rather than local government-driven. It further recommended that a non-profit corporation lead the corridor enhancement effort, following models of successful river enhancement elsewhere in the country. The management strategy selected recognized the need for the new non-profit agency to partner closely with local government. The strategy also envisioned an evolving leadership structure so that regional and county leaders could be included in its management and governance.

In 2004, the Wabash River Enhancement Corporation was formed as a non-profit agency by the cities of Lafayette and West Lafayette, Tippecanoe County, and Purdue University. Initial funding was

provided through a generous \$500,000 grant from North Central Health Services. WREC began active operations in 2005 with the hiring of Stanton Lambert, its executive director. WREC is governed by a nine-member board of directors including:

- Mayor, City of Lafayette
- Mayor, City of West Lafayette
- Tippecanoe County Commissioner representative
- Tippecanoe County Council representative
- Purdue University President or designee
- City of Lafayette Park and Recreation Board representative
- City of West Lafayette Park and Recreation Board representative
- Tippecanoe County Park and Recreation Board representative
- Wabash River Parkway Commission representative

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