

New Designs for Growth

# Planning for Pathways

*An Implementation Resource of the New Designs for Growth Guidebook*



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**Northwest Michigan  
Council of Governments**

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# Planning for Pathways

*Planning for Pathways* is an implementation resource publication of *New Designs for Growth Guidebook*. This publication was developed to aid local governments in their efforts to implement policies included in the *New Designs for Growth Guidebook*.

New Designs for Growth is a program designed to help guide the region's growth and development according to the ten tenets of smart growth. Implementation and outreach aspects of the New Designs for Growth program is administered by the Northwest Michigan Council of Governments. For more information, or to purchase copies of the Guidebook, please contact:



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# Planning for Pathways

## An Implementation Resource of the New Designs for Growth Guidebook

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# Planning for Pathways: Introduction

Pathways are facilities used for non-motorized transportation, primarily walking and biking, and include bike lanes, bike routes, sidewalks, and shared use paths.

These facilities—also known as trails or non-motorized ways or paths—have long been a recreational priority in northwest Michigan, where outdoor activities like hiking, bicycling, and skiing are favorite pastimes for both residents and visitors. But the need for pathway facilities goes far beyond recreation:

- Significant portions of our population can't drive due to age, disability, or financial difficulties. For these individuals, viable options for walking or biking are critical to their safety and mobility.
- According to the Michigan Department of Transportation, in 2005, pedestrians and bicyclists represented 14% of all traffic fatalities in the state. Many of these crashes involve the elderly or children. By offering safe routes for non-motorized transportation and reducing traffic speeds or volume, the number of pedestrian/bicycle crashes can be significantly reduced.
- In the average household budget, transportation expenses are second only to housing—consuming, on average, 19% of a household's budget—so the ability to bike or walk to work, shopping, or school results in immediate savings.
- Many studies have shown that the ability to walk or bike has huge benefits to public health and well-being, encouraging physical activity and reducing the incidence of obesity, which is the fastest growing cause of preventable illness and death in America today.
- Pathways are an economic asset for communities, as well. By connecting residents and visitors alike to our scenic natural resources, our vibrant cities and villages, schools, and shopping, these facilities create tourism opportunities and bring customers to local businesses.
- Pathways also have valuable practical benefits for our overall transportation networks. Nearly half of all automobile trips are less than 3 miles in length. By providing an opportunity to convert these short car trips to biking and walking, pathways can cut traffic congestion—which also reduces pollution.

In recognition of these benefits, walkability and the availability of a variety of transportation choices are a hallmark of smart growth,

## Ten Tenets of Smart Growth

- Mix land uses
- Take advantage of compact building design
- Create a range of housing opportunities and choices
- **Create walkable neighborhoods**
- Foster distinctive, attractive communities with a strong sense of place
- Preserve open space, farmland, natural beauty, and critical environmental areas
- Strengthen and direct development toward existing communities
- **Provide a variety of transportation choices**
- Make development decisions predictable, fair, and cost-effective
- Encourage community and stakeholder collaboration in development decisions

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included in the ten tenets of smart growth and promoted as a key feature in the sustainability of new development. Pathway benefits are recognized as well by all levels of government: the Federal Highway Administration has adopted a “complete streets” policy (see Appendix C) intended to encourage the incorporation of pedestrian and bicyclist accessibility into all transportation projects; while the State of Michigan has developed policies committed to integrating non-motorized projects into statewide transportation planning and programming. Regionally, thirteen counties in Northwest Michigan have collaborated with the Northwest Michigan Council of Governments in the creation of a regional non-motorized transportation strategy.

Local governments are key players as well in creating these pathway networks: throughout the region, townships, cities, villages, and counties have worked in partnership with state, federal, and nonprofit agencies to secure funding, develop, and maintain pathways in their communities. But local governments have a vital role to play even beyond these important activities. Integrating pathways into local planning and zoning efforts can ensure that pathways are developed along continuous, connected routes, and that they are accessible, appropriately designed and adequately maintained.

To assist local governments in planning pathways within—and beyond—their communities, Northwest Michigan planners and pathway stakeholders have collaborated to create this resource for local governments. This document provides background and models for local governments to use in their efforts to promote connected, continuous pathway networks throughout our region.

These local planning efforts are critical to ensure that our communities can offer facilities that provide the mobility, connectivity, recreation, economic, and health benefits that result from safe opportunities for walking and biking throughout our region.



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# Pathways Glossary

*Terms for pathways vary considerably between users. The following terms are standard definitions for pathways and are used throughout this document.*

**Pathways:** facilities used for non-motorized transportation, primarily walking and biking, including bike lanes, bike routes, sidewalks, and shared use paths.

**Bicycle Lanes:** A portion of a roadway which has been designated by striping, signing, and pavement markings for the preferential or exclusive use of bicyclists.



*Example of a bicycle lane. Photo by Russ Soyring*

**Shared Use Paths:** A bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent right-of-way. Shared use paths may also be used by pedestrians, skaters, wheelchair users, joggers, and other non-motorized users. Paths should be constructed at a minimum width of 10 feet, with a minimum separation of 10 feet from the roadway, and should conform with standards established in the most recent edition of AASHTO's Guide for the Development of Bicycle Facilities.



*Example of a shared use path. Photo from New Designs for Growth*

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**Bike Route:** A shared roadway which has been designated by signing as a preferred route for bicycle use.



*Example of a bike route. Photo from Michigan Department of Transportation*

**Shared Roadway:** A roadway which is open to both bicycle and motor vehicle travel. This may be an existing roadway, street with wide curb lanes, or road with paved shoulders.



*Example of a shared roadway. Photo from New Designs for Growth*

**Sidewalks:** The portion of a street or highway right-of-way designed for preferential or exclusive use by pedestrians. Sidewalks should generally be designed at a minimum of 5 feet. Standards for the engineering and design of sidewalks should conform with the standards established in the most recent edition of the *AASHTO Guide for the Development of Pedestrian Facilities*.

**Trail:** Linear route on land or water with protected status and public access for recreation or transportation purposes such as walking, jogging, hiking, bicycling, horseback riding, mountain biking, canoeing, kayaking, backpacking, and vehicular travel by motorcycle or all-terrain vehicles.



*Example of a trail. Photo from New Designs for Growth*

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# Section 1

## Pathways in Local Plans

Many communities plan extensively for and around vehicular transportation, but rarely are pathways addressed as a stand-alone community objective in the comprehensive planning process. However, pathways are a crucial transportation element that have a place in all types of local plans, and should be incorporated into all levels of local planning, budgeting, and management. By including and prioritizing these facilities through the planning process, local governments can take steps to ensure that pathways are a part of all major transportation improvements and, in many cases, integrated into new developments along planned routes.

### Local Plans

The extent to which pathway facilities are addressed in the planning process will vary depending on the size, budget, needs, and population of each jurisdiction; but pathways can be addressed by local governments through pathway plans, recreation plans, master plans, and capital improvement plans.

**Pathway Plans.** Some communities undertake comprehensive planning efforts specifically for pathways. These plans include detailed information relative to the community's non-motorized network, including the following:

- An inventory of existing pathway facilities and gaps in the community's network
- A map of future planned routes and priority routes for paths and trails within a community
- Guidelines for each facility classification
- Prioritization of specific maintenance needs and activities
- Identification of funding sources and budgeting schedules.

Often, these pathway plans are referenced in the community's master plan, transportation, recreation, or capital improvement plans.

**Recreation Plans.** Pathway planning is often addressed by local governments in the context of recreation plans. Many jurisdictions maintain up-to-date recreation plans, which establish eligibility for certain grants offered by the Michigan Department of Natural Resources. Recreation plans include elements such as community background information, recreation facility and resource inventories, and recreation and conservation goals and objectives. Because pathways are often used for recreational purposes, these facilities are likely to be identified through the recreation planning process, with specific goals and objectives relative to their development.

**Master Plans.** Some communities may plan for pathway facilities at a larger scale, incorporating pathway recommendations, objectives, and maps into their master plans. Or, if a pathway or recreation plan has already been adopted by the jurisdiction, their master plans may reference these existing plans, and identify the goals of those plans as an objective.

Pathways can also be promoted through smart growth concepts that encourage walkability and other transportation choices. Master plans can advance these ideas by encouraging community design that creates more opportunity for walking and biking. Compact and mixed use development patterns—with residential, commercial, and office uses in close proximity to one another—reduce the need for long commutes and make non-motorized travel a viable option for residents, customers, and employees.

**Capital Improvement Plans.** A capital improvements plan (CIP) is a schedule of public projects and improvements to be built over a number of years by a local government. The CIP allows the jurisdiction to prioritize public projects, plan capital budgets over a number of years, and identify likely funding sources. A CIP can be an effective means in implementing adopted community plans while optimizing limited financial resources, coordinating projects, and realizing budget goals. If a jurisdiction includes specific pathway project objectives in its master plan, recreation plan, or pathways plan, these projects can be scheduled in a CIP, ensuring that the objectives are addressed in the community's budget.



*The Northwest Michigan Regional Trail Strategy maps priority routes identified by the public in 13 counties*

### Key Considerations

Regardless of the context or level of detail involved in planning these facilities, pathway planning should include, at a minimum, inventories of existing pathway facilities and identification of priority routes, by pathway type, for future networks. Maps may be a part of the master plan, or the plan may reference pathway plans or maps that have been adopted by the jurisdiction. Plans should also address elements such as connectivity, design and context, and implementation strategies.

**Pathway Inventories.** Accurate inventories are crucial to the planning process, as they help in identifying service or connection gaps, as well as any necessary maintenance or infrastructure improvements. For all facilities included in the inventory, information should be included regarding existing conditions of the facility, approximate usage levels, and maintenance issues. Participation from both the public and nonprofit or citizen groups is essential in identifying problems with, and needs for, existing facilities.

**Future Pathway Networks.** All plans should include maps identifying future networks and priority routes. These maps will be critical in securing funding, prioritizing expenditures, and

establishing zoning language. Throughout the planning and mapping process, careful consideration should be given to issues such as potential network connections, property acquisition and potential for public use, easements, and transportation agency concurrence. Public input and participation from nonprofit and transportation agencies is necessary in identifying future routes.

When planning pathway routes, it's also important to consider adopted plans of neighboring communities or regional organizations. Cooperation in pathway planning across jurisdictions can greatly enhance transportation and recreation opportunities for pathway users – which is critical if the community's objectives include the provision of an efficient means of transportation and connectivity between communities.

**Design.** There is no “one size fits all” in designing pathways: facilities should always be planned and designed in relationship to the surrounding transportation network, pedestrian/bicyclist and vehicle traffic volumes, density, and land use patterns. For instance, in high-density urban areas, sidewalks may be the most appropriate type of pathway for pedestrians, with accompanying bike routes or lanes in the road right-of-way. In rural areas, paved shoulders may be sufficient for the level of anticipated use. Plans should indicate which types of pathways are planned, and what design specifications the facilities should meet. The American Association of State Highway and Transportation Officials (AASHTO) and the Federal Highway Administration (FHWA) provide guidance on what types of facilities to develop, based on traffic, land use, and other factors. Chapter 4 includes a list of guidance documents to use when planning what types of facilities to develop, along with engineering and design specifications for those facilities.

**Implementation.** All plans should include specific implementation strategies as a “blueprint” for realizing the community's goals. Implementation strategies will vary depending on the community's goals and objectives, but may include:

- Adoption of zoning language, such as pathway-specific site plan review requirements, overlay districts, or planned unit development standards
- Identification of funding sources
- Budgeting commitments
- Partnership with neighboring jurisdictions or nonprofit organizations

## LOCAL EXAMPLES

### Pathways in Master Plans

Pathways or non-motorized transportation facilities are identified as goals in local master plans throughout Northwest Lower Michigan, but the extent varies by jurisdiction:

The Garfield Township Master Plan (2007) includes a “Non-motorized transportation plan” component, as well as a map identifying existing and proposed non-motorized routes.

The Blair Township Master Plan includes some references to non-motorized transportation and cooperation with regional agencies as part of its guiding principles and implementation components.

The Leelanau General Plan recommends that, as part of the County Road Commission's long-range plan, special attention should be focused on an integrated network of non-motorized transportation facilities.

## Section 2

# Zoning for Pathways

Zoning has traditionally been a primary means of implementation for most local land use plans. By defining allowable uses of land, establishing standards for development, and offering incentives for different development types or patterns, zoning offers a number of opportunities for local governments to achieve specific objectives. While it hasn't been used extensively in the past to implement non-motorized transportation objectives, there is a role for zoning in ensuring that these objectives are addressed, either by the jurisdiction itself or by private developers.

By incorporating pathway requirements into site plan or development review, planned development, and overlay zoning language, local governments can address where and what type of facilities should be constructed, as well as what design standards must be met.

### Definitions

To be sure that pathway design and construction is consistent across types and projects, carefully-worded definitions are a must. At a minimum, definitions should distinguish between sidewalks, bike paths, trails, and shared use paths. It is also helpful to identify appropriate engineering or other standards, though these can also be referenced in other parts of the zoning ordinance.

### Site Design and Development Review

Site design—the location and pattern of streets, buildings, landscaping, and open space—has enormous impacts on pedestrian and bicyclist accessibility both within and nearby the site. Site plan review is a tool that can be used to ensure that site design incorporates pathway objectives into individual projects throughout the community.

Virtually all zoning ordinances require site plan review or another type of design review to ensure that projects are well-designed, compatible with surrounding uses, provided with adequate services and infrastructure, and in compliance with the community's zoning provisions. Most site plan review language requires that plans provide for safe vehicular and pedestrian access throughout the site; this language may be expanded to require a pathway network throughout the site and connected to adjacent pathways (see Appendix B for sample language).

When reviewing site plans, it's important to remember that pedestrian and bicyclist accessibility is affected by elements in the site plan beyond transportation infrastructure. Other issues that should be addressed in terms of non-motorized transportation include:

**Visible connections.** Buildings, roadways, open space, and other site features should be aligned so that pedestrians can



*Sites designed at a human scale encourage pedestrian travel*



see their destinations before arriving there.

**Building entries.** Clear and direct pedestrian entries should be accessible and visible from the street. Entries from parking lots should not be the primary building entrance.

**Continuity and Connectivity.** Pathways should be provided both within the site and linking the site to neighboring facilities. Pathways should provide a continuous network that links and facilitates access to buildings and parking areas as well as to nearby pathway networks, parks, shopping areas, neighborhoods, subdivisions, and other destinations.

**Pedestrian scaled design.** Lighting, signs, and other site features should be scaled to the pedestrian level. Building features like porches, recesses, bay windows, and balconies should also be included to create a human scale on the street and in building facades. By providing visual interest, these features encourage more pedestrian travel for longer distances.

**Bridges and overcrossings.** Bridges and crossings should be provided over rivers, drainages, and other features that could interrupt a continuous pathway network.

**Crosswalks and Signals.** The need for crosswalks and signals depends on the volume of pedestrian traffic and roadway type. AASHTO and FHWA publications (see Chapter 4, Guidelines and Engineering Standards) are available to help determine whether or not crosswalks or signals are necessary, and provide guidance on how these features should be designed for maximum safety.

**Building placement.** When a building is located at a distance from the right-of-way or pathway, walking or bicycling is discouraged. Buildings should be located close to the right-of-way, with parking located to the side or rear of the building. This results in shorter walking distances and eliminates the need for walking from the right-of-way through a parking lot, thus shortening the walking/bicycling distance and encouraging more pedestrian and bike travel.

**Block Size.** Smaller blocks (under 400 ft in length) are more manageable for pedestrians and encourage greater pedestrian travel.

### Planned Unit Developments and Mixed-use

Planned Unit Developments (PUDs) can include mixed use or open space design projects. These development types provide flexibility in design, lot area, uses, or other requirements to a developer, in return for benefits such as open space preservation or recreation areas. The zoning ordinance may allow these developments throughout the community as an overlay, or only in certain zoning districts.

PUDs and other mixed use developments can promote non-motorized

## LOCAL EXAMPLES

### Zoning for Pathways

The City of Traverse City  
In Traverse City, all projects subject to off-street parking requirements must also provide bicycle parking.

Acme Township  
requires sidewalks or non-motorized ways along US-31 and other major corridors.

transportation goals in two important ways. First, by allowing a variety of residential, commercial, or recreational uses in close proximity to one another, mixed use projects or PUDs create more opportunities for walking or biking to destinations—particularly when these uses are linked by a continuous pathway network.

Second, these uses are typically subject to approval based on the project's adherence to a number of standards – and on the provision of certain benefits – as defined in the ordinance. For instance, density standards may be modified, but only if the project provides a public amenity or meets certain aesthetic standards. Pathway facilities may be required as an approval standard for these types of developments. Under this scenario, approval may be granted for a project only if certain conditions are met—such as the provision of a continuous pathway network throughout the site, with connections to nearby networks.

Zoning may require non-motorized facilities in all projects of this kind, or only in those projects that occur along planned priority routes as identified in adopted plans.



*Zoning language can ensure an adequate amount of bicycle parking and encourage non-motorized travel to a site. Photo by Russ Soyring*

### Overlay districts/general standards

Overlay zoning allows a separate zoning district to be applied “on top of” an area of pre-existing zones, thus imposing an additional set of regulations for certain uses, without changing the underlying zoning district. Development of these uses can only occur if both sets of zoning regulations are met. Overlay zoning can be used along planned priority pathway routes to require that any development in the overlay zone provides pathway facilities meeting specified standards. For instance, a corridor overlay zone can be used along major arterials to manage development and access. In addition to the underlying density, height, and use restrictions, standards would require developers to provide bike paths or sidewalks along planned pathway routes (see Appendix B for sample language). Please note, that if zoning requires pathways along designated routes, it's important that these routes are part of an adopted plan.

### Bicycle parking

Communities usually require off-street automobile parking for nearly all land uses, but bicycle parking is rarely addressed in zoning regulations. However, because adequate bicycle parking areas encourage the use of non-motorized transportation to access a site, provisions should be made in local parking regulations to require bike racks or bike lockers in projects subject to a certain level of off-street parking. Language may specify the amount or type of bicycle parking required for each use, and should also specify that racks or lockers are visible, easily accessible, and located near main building entrances (see Appendix B for sample zoning language).



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## Section 3

# Maintenance

Regular, consistent, ongoing maintenance is critical for travel on non-motorized facilities: without it, non-motorized facilities can be difficult to travel, and in some cases can become a liability to the community. When planning for non-motorized transportation, maintenance issues should thus be a top priority.

Maintenance and operational activities depend on facility surface types, uses, intensities, and local government and nonprofit capacities, and can include mowing, plowing, pothole repair, surface cleaning, litter cleanup, plantings, and leaf removal. Because the financial resources available for these activities are often limited, agencies often partner to share the financial and operational burdens of facility maintenance. For instance, a nonprofit trail agency may provide some routine maintenance such as tree pruning or litter cleanup, while governmental agencies with access to appropriate equipment may provide snow plowing, asphalt repair, pavement coating or sealing, and pavement markings on an as-needed basis. Maintenance agreements between all parties are usually established to specify the type and extent of maintenance activities, and to identify responsible agencies. These agreements or plans should be established prior to approval or construction of a trail, with concurrence from all affected agencies or communities.



*Proper maintenance will help to ensure safety for all users. Photo by Russ Soyring*

For trails that cross jurisdictional boundaries, an intergovernmental agreement should be established to coordinate activities, in order to ensure that trail maintenance is consistent across boundaries.

**Proper, ongoing maintenance must be planned for and provided in all pathway construction.** Without an agreement in place, or without an agency available to take responsibility for maintenance, it may be appropriate to reconsider the development of a pathway.

Maintenance agreements and procedures vary widely based on the agencies involved and the facilities themselves. Following are some models from Michigan and Ohio; a sample maintenance agreement is included in Appendix C.

### Benzie County

The Betsie Valley Trail in Benzie County was developed under an agreement authorizing the Michigan Department of Natural Resources (DNR) to develop and maintain the trail for three years, if the County would commit to maintaining and operating the trail, through the County-appointed Betsie Valley Trailway Management Council (BVTMC), after the initial 3-year time period. However, because the BVTMC does not have sufficient resources for operation and

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maintenance, the trail is now maintained through an agreement between the BVTMC and the nonprofit Friends of the Betsie Valley Trail (FBVT). As a nonprofit, the FBVT has the ability to solicit donations and seek grants to commit to maintain the trail. The Council seeks funding from the State and other sources for operation and maintenance; but asks donors to channel donations through the FBVT. The Council appoints a Trail Care Coordinator who is nominated by the Friends; while the Coordinator is responsible, as an agent of the Council, for routine maintenance, development, and volunteer coordination and supervision. The Friends provide funding for materials, supplies, or services for the operation and maintenance of the trail.

### TART Trails

Traverse Area Recreation and Transportation Trails, Inc. (TART) is a nonprofit organization that works to provide a network of non-motorized facilities in the Grand Traverse region, and has led the development of a number of trails and bikeways in Grand Traverse and Leelanau Counties. Maintenance and operational responsibilities and costs are shared with various jurisdictions. Within the Traverse City city limits, TART takes responsibility for some mowing, sweeping, brush trimming, and signage, while the City provides repairs, snow removal, and other maintenance responsibilities. For trails outside the City limits, Grand Traverse County and TART share maintenance responsibilities. In Leelanau County, TART bears the burden for all maintenance outside of the Village of Suttons Bay. These varied maintenance agreements reflect the different uses and intensities of the facilities, as well as the various capacities of the jurisdictions within which the facilities are located.

### Greene County, Ohio

Greene County partners with a number of cities, villages, and townships, through an intergovernmental agreement, to facilitate the maintenance and management of trails in the County. Participating jurisdictions make deposits into a County-administered fund for long-term trail maintenance activities such as tree replacement, signage, amenities, fencing, sealcoating, repaving, and restriping. Before any expenditures are made out of the fund, a County trail manager provides estimates and benefit analyses to the jurisdiction in which the funds will be spent. Expenditures are approved by a Trail Management Committee and the County Board of Commissioners. Other repairs and requests beyond the scope of the intergovernmental agreement are the responsibility of the jurisdictions, unless agreed to unanimously by all other participants (see Appendix C for agreement).

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## Section 4

# Guidelines and Engineering Standards

To ensure safety for all types of traffic, it's important for pathways to meet minimum engineering standards. Often, planning, zoning, or other transportation policies will require pathway facilities to follow design guidelines published by relevant agencies. Following are the most commonly used sources for pathway design and engineering specifications. These publications can be referenced in definitions or elsewhere in local policies to ensure that new facilities meet a minimum threshold in terms of design.

### AASHTO

The American Association of State Highway and Transportation Officials publishes specifications and guidelines for the design and construction of roads, streets, sidewalks, and other transportation facilities. These are considered the “industry standard” for facility design; other design manuals released by agencies such as the Federal Highway Administration (FHWA) and Institute of Transportation Engineers (ITE) generally reference the engineering specifications published by AASHTO. Local policies and definitions may reference these publications or standards to ensure that facilities meet minimum design criteria. Relevant publications include:

*AASHTO Guide for the Development of Bicycle Facilities*, 1999. This publication provides information on the development of facilities to enhance and encourage safe bicycle travel, with information that will help accommodate bicycle traffic in most riding environments.

*AASHTO Guide to the Planning, Design, and Operation of Pedestrian Facilities*, 2004. This guide provides guidance on the planning, design, and operation of pedestrian facilities along streets and highways. This guide also recognizes the profound effect that land use planning and site design have on pedestrian mobility and addresses these topics as well.

*Policy on Geometric Design of Streets and Highways*, 2004 (the Green Book). This publication covers the functional design of roads and highways including such things as the layout of intersections, horizontal curves and vertical curves.

### FHWA

The Federal Highway Administration (FHWA), an agency of the US Department of Transportation, provides financial and technical support for construction, improvements, and preservation of the national highway system. FHWA publishes guidebooks that are intended to encourage uniformity in design of transportation facilities. Please note

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that FHWA references AASHTO standards for facility design and construction. Relevant publications include:

*Manual on Uniform Traffic Control Devices (MUTCD)*, 2003. The MUTCD defines the standards used nationwide to install and maintain traffic control devices on all streets and highways. Signs, signals and pavement markings for bicycle facilities should be consistent with the standards in this guide.

*Implementing Bicycle Improvements at the Local Level*, 1998. Publication No. FHWA-98-105. This document provides guidance on what types of bicycle facilities to develop based on traffic volumes, land use, and other factors.

*Implementing Pedestrian Improvements at the Local Level*, 1999. This document provides guidance on what types of pedestrian facilities to develop based on traffic volumes, land use, and other factors.

#### Americans with Disabilities Act

*ADA Accessibility Guidelines for Buildings and Facilities (ADAAG)*. This document sets guidelines for accessibility to places of public accommodation and commercial facilities by individuals with disabilities. These guidelines are to be applied during the design, construction, and alteration of such buildings and facilities to the extent required by regulations issued by Federal agencies, including the Department of Justice, under the Americans with Disabilities Act of 1990. All pathway facilities should be ADA compliant. The relevant guidelines are available online at [www.ada.gov/stdspdf.htm](http://www.ada.gov/stdspdf.htm)

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## Section 5

# Other Issues

Pathway development is a complex process: planning, funding, maintenance, and construction all require collaboration between a variety of different interests. Following are some issues often encountered in the development process that should be recognized and addressed prior to any implementation efforts:

### Funding Pathways

Funding for the development of pathways can be obtained through a number of local, state, federal, and private sources. Often, a combination of sources is used to develop pathways, with partnerships required between governmental and nonprofit agencies to facilitate different funding scenarios. Some common funding sources include:

- Safe, Accountable, Flexible, Efficient Transportation Act: A Legacy for Users (SAFTEA-LU). *Please note this act will be reauthorized in 2009-2010; legislation name may change.*
- Transportation Enhancement Program (TE)
- Congestion Mitigation and Air Quality Improvement Program
- Highway Safety Programs
- Safe Routes to School
- National Scenic Byways Program
- Recreational Trails Program
- Michigan Transportation Fund
- Michigan Natural Resources Trust Fund
- Local millages
- Michigan Public Act 51 funding
- Pay Boxes
- Licensing Fee for Bicycles
- Recreational Authorities
- Private foundations
- Endowment fund

When applying for funding, it's important to note that these funding sources have specific guidelines that must be met. State guidelines for the development of a pathway may differ from federal requirements.

### Advocacy

The importance of advocates in pathway development cannot be underestimated. Advocates—either individuals, citizen groups, nonprofits, or local governments themselves— often “lead the charge,” encouraging their communities to plan, seek funding for, or develop pathways. While nonprofit agencies may act as advocates for pathways, it's critical for residents to act as a voice to promote the creation of comprehensive pathway networks in their own communities.

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## Ownership

In some cases, pathways will be located in the public right-of-way; in others, pathway routes or parts of pathway networks will cross private property. To establish public access over private property, local governments or nonprofit agencies may consider either purchasing the property outright, or negotiating an easement. Property purchases may be appropriate for some pathway development projects, depending on the type and extent of the planned route; but easements also provide an effective way to allow public access across private property. Under an easement agreement, the owner would allow a linear portion of the property to be used by the public as a pathway, while the owner maintains all other rights to the land. Easements can be donated or sold for their appraised value, and are legal restrictions that run with the title of the land. Easements are usually less costly than outright property purchase, but there are some legal complexities involved in negotiating and establishing easements.



# Appendices







# Appendix A

## Sample Master Plan Language

*The language provided is intended as sample language only. Communities may wish to modify language to fit their specific needs or situations.*

*Some references are made to adopted pathway plans; if your community does not have an adopted pathway plan in place, language can also refer to adopted recreation plans, the Northwest Michigan Regional Non-Motorized Strategy, or other adopted plans indicating priority pathway routes.*

### Pathways Policy

Pathway facilities, including sidewalks, bike paths, trails, and shared use paths, offer important alternatives for transportation and recreation. Pathways provide a number of health benefits resulting from increased opportunities for physical activity, and can result in fewer driving trips, reduced traffic congestion, and decreased emissions. Pathway facilities also offer safe opportunities for walking, biking, and other forms of non-motorized transportation, thereby reducing the incidence of vehicle-pedestrian accidents and fatalities.

Pathway facilities should be encouraged in *[community]* to provide safe, continuous linkages for bicyclists and pedestrians between communities and neighborhoods, and to connect residential areas with services and other uses. It is the policy of this plan to encourage and facilitate the development of pathway facilities between new and established developments, parks, and services; and to enhance regional non-motorized transportation opportunities by facilitating linkages of new pathway facilities with existing or planned facilities between communities.

### Goals:

- Encourage and facilitate a continuous and coordinated regional pathway transportation network that will increase opportunities for bicycling and walking.
- Reduce the number of bicycle and pedestrian accidents, injuries, and fatalities.
- Provide pathway facilities between planned and existing residential areas and services.
- Provide pathway facilities that connect with the existing and planned pathway facilities of neighboring communities.
- Encourage the creation of complete streets.

### Objectives

- Coordinate with state and regional agencies and trail development organizations to plan and develop integrated, interconnected pathway opportunities.

- Incorporate bicycle and pedestrian ways in new transportation construction and reconstruction projects in urbanized areas/high density development areas.
- In rural areas, include paved shoulders in all new transportation construction and reconstruction projects used by more than 1,000 vehicles per day. *[This language is based on FHWA policy; see Appendix C for the complete policy]*
- Ensure that all new development projects along planned pathway routes incorporate pathway facilities into the development.
- Ensure that all pathway facilities are designed, constructed, operated, and maintained so that all pedestrians, including people with disabilities, can travel safely and independently. *[This language is based on FHWA policy; see Appendix C for the complete policy]*
- Maintenance plans addressing plowing, mowing, and other maintenance activities shall be established for all pathways prior to construction.

#### Implementation Recommendations:

- In coordination with neighboring jurisdictions, regional and state agencies, and trail development organizations, develop and maintain an up-to-date pathway plan, as a component of the Parks and Recreation Plan or as a stand-alone pathway plan, that identifies each of the following: existing pathway facilities; planned facilities; priority routes and investments; and opportunities for connections with adjacent community networks. Any planned pathway facility types and routes should be appropriate for existing or planned development densities. *[The pathway plan may also be integrated into the community's master plan.]*
- Integrate any planned pathway transportation facilities into capital improvements and transportation planning processes.
- Establish zoning ordinance requirements to encourage or require installation of pathways, integrated with any adjacent existing or planned trail systems, in qualifying developments *[i.e. those developments located in areas identified in any adopted pathway plan]*.
- Pursue recreation grants and opportunities, in coordination with state and regional agencies and trail development organizations, to expand the jurisdiction's pathway network.

# Appendix B

## Sample Zoning Language

*The language provided is intended as **example only** and is based on adopted language in local ordinances. The sample language provided may not be appropriate for all jurisdictions, and it may be necessary to modify zoning language to a more appropriate scale or section for use in your zoning ordinance. All zoning language should be reviewed by your community's attorney before adoption.*

*Please note that if a maintenance agency, such as a department of public works or a nonprofit agency, is not available to provide ongoing maintenance in your jurisdiction, it may not be appropriate to require pathways in all situations.*

*Some references are made to adopted pathway plans; if your community does not have an adopted pathway plan in place, language can also refer to adopted recreation plans, the Northwest Michigan Regional Non-Motorized Transportation Strategy, or other adopted plans indicating priority pathway routes.*

### General Development Standards/Supplementary Regulations

*(Based on Acme Township Zoning Ordinance language regarding sidewalks; applies to all developments specified by a jurisdiction. This language could also be modified for use as an overlay district.)*

*For all qualified developments [i.e., projects along particular corridors, planned unit developments, developments subject to site plan review, developments in one or more districts], non-motorized pathways shall be constructed to provide pedestrian, bicycle, or other non-motorized access along [specify routes identified in locality's non-motorized transportation plan], at such a time as any parcel with frontage along said corridors is improved either by new construction or improvement to an existing land use. Pathway facilities are not required along these corridors when the cost of providing the facilities exceeds 20% of the total infrastructure cost associated with the development.*

Pathways shall meet the following requirements:

1. Construction shall meet prevailing standards of the American Association of State Highway and Transportation Officials (AASHTO).
2. All facilities shall comply with prevailing Americans with Disabilities Act Accessibility Guidelines.
3. The pathway shall extend across the entire frontage of the property ownership *or along planned pathway facility routes.*
4. Pathways may be located within the public road right-of-way. Pathways may also be located on private property as part of an easement dedicated to the public.

5. Pathways shall be located so as to insure connection and continuity with existing or future walkways or bike paths on adjoining properties.
6. In addition to the required site plan, the applicant shall also submit a maintenance plan specifying the extent and responsibility of the future maintenance of the facility.

Circulation and Parking Standards—Bicycle Parking  
*(Excerpted from the City of Traverse City Zoning Ordinance. This language can be incorporated into off-street parking standards. )*

- A. **Compliance Required.** Whenever full off-street parking compliance is required, a minimum of one bicycle rack or locker is required and shall be located within 50 feet of the main entrance of a building or inside a building in a location that is easily accessible by bicyclists. For sites that require more than 25 motor vehicle spaces, the ratio is one rack for every 25 motor vehicle spaces. When units of measurement determining the number of required parking spaces result in a fractional space, any fraction up to and including one-half shall be disregarded and fractions over one-half shall require one parking space.
- B. **Exception.** The requirements of this section do not apply to residential uses in the RC, R-1a, R-1b, and R-2 districts or uses in the C-4 district.
- C. **Standards**
  1. **Bicycle lockers.** Where required bicycle parking is provided in lockers, the lockers must be securely anchored.
  2. **Bicycle racks.** Where required bicycle parking is provided in racks, the racks must meet the following standards:
    - A. The bicycle frame and one wheel can be locked to the rack with a high-security, U-shaped shackle lock if both wheels are left on the bicycle.
    - B. A bicycle six feet long can be securely held with its frame supported so that the bicycle cannot be pushed or fall in a manner that will damage the wheels or component.
    - C. The rack must be securely anchored.
  3. **Maneuvering Areas.**
    - A. Each required bicycle parking space must be accessible without moving another bicycle; and
    - B. There must be an aisle at least 5 feet wide behind all required bicycle parking to allow room for bicycle maneuvering.

Site Plan Review: Standards for Approval

There shall be provided a pathway network which is insulated as completely as reasonably possible from the vehicular circulation system and is connected to any pathway networks on property or pathways and rights-of-way adjacent to the site.

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## Planned Unit Developments: Standards for Approval

The PUD shall result in recognizable and substantial benefits to the ultimate users of the project and to the community, where such benefits would otherwise be unlikely to be achieved under the regulations of the underlying zoning districts.

The following benefits shall accrue from the PUD:

- 1) The maintenance of significant recreational opportunities and a high level of environmental quality.
- 2) The long-term protection and preservation of open space, valuable natural resources, and wildlife habitat.
- 3) The efficient use of land, arrangement of utilities, and design of traffic circulation systems including limitations on the number of vehicular access points along the existing road network, thus minimizing traffic conflicts while satisfying emergency needs.
- 4) The siting of structures so as to preserve important visual, ecological, recreational, and agricultural resources.
- 5) Protection and preservation of the existing natural and rural character and appearance of the Township, as viewed from roadways and public open spaces, through appropriate siting and setback of new structures along road corridors.
- 6) Enhanced opportunities for non-motorized transportation, through the development of pathway networks that are consistent with [adopted pathway plan/ specify routes identified in the locality's adopted pathway plan] and/or connected with adjacent pathway networks.

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# Appendix C

## FHWA Complete Streets Policy

Excerpted From: *Design Guidance Accommodating Bicycle and Pedestrian Travel: A Recommended Approach*; A US DOT Policy Statement Integrating Bicycling and Walking into Transportation Infrastructure

1. Bicycle and pedestrian ways shall be established in new construction and reconstruction projects in all urbanized areas unless one or more of three conditions are met:

- bicyclists and pedestrians are prohibited by law from using the roadway. In this instance, a greater effort may be necessary to accommodate bicyclists and pedestrians elsewhere within the right of way or within the same transportation corridor.
- the cost of establishing bikeways or walkways would be excessively disproportionate to the need or probable use. Excessively disproportionate is defined as exceeding 20% of the cost of the larger transportation project.
- where sparsity of population or other factors indicate an absence of need. For example, the Portland Pedestrian Guide requires "all construction of new public streets" to include sidewalk improvements on both sides, unless the street is a cul-de-sac with four or fewer dwellings or the street has severe topographic or natural resource constraints.

2. In rural areas, paved shoulders should be included in all new construction and reconstruction projects on roadways used by more than 1,000 vehicles per day, as in States such as Wisconsin. Paved shoulders have safety and operational advantages for all road users in addition to providing a place for bicyclists and pedestrians to operate. Rumble strips are not recommended where shoulders are used by bicyclists unless there is a minimum clear path of four feet in which a bicycle may safely operate.

3. Sidewalks, shared use paths, street crossings (including over- and undercrossings), pedestrian signals, signs, street furniture, transit stops and facilities, and all connecting pathways shall be designed, constructed, operated and maintained so that all pedestrians, including people with disabilities, can travel safely and independently.

4. The design and development of the transportation infrastructure shall improve conditions for bicycling and walking through the following additional steps:

- planning projects for the long-term. Transportation facilities are

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long-term investments that remain in place for many years. The design and construction of new facilities that meet the criteria in item 1) above should anticipate likely future demand for bicycling and walking facilities and not preclude the provision of future improvements. For example, a bridge that is likely to remain in place for 50 years, might be built with sufficient width for safe bicycle and pedestrian use in anticipation that facilities will be available at either end of the bridge even if that is not currently the case.

- addressing the need for bicyclists and pedestrians to cross corridors as well as travel along them. Even where bicyclists and pedestrians may not commonly use a particular travel corridor that is being improved or constructed, they will likely need to be able to cross that corridor safely and conveniently. Therefore, the design of intersections and interchanges shall accommodate bicyclists and pedestrians in a manner that is safe, accessible and convenient.
- getting exceptions approved at a senior level. Exceptions for the non-inclusion of bikeways and walkways shall be approved by a senior manager and be documented with supporting data that indicates the basis for the decision.
- designing facilities to the best currently available standards and guidelines. The design of facilities for bicyclists and pedestrians should follow design guidelines and standards that are commonly used, such as the *AASHTO Guide for the Development of Bicycle Facilities*, *AASHTO's A Policy on Geometric Design of Highways and Streets*, and the ITE Recommended Practice "*Design and Safety of Pedestrian Facilities*".

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# Appendix C

## Sample Maintenance Agreement: Greene County, Ohio

### MANAGEMENT AGREEMENT FOR GREENE COUNTY GREENEWAYS

WHEREAS, the following jurisdictions have participated in ownerships, planning, and developing of recreational trails in Greene County, Ohio, hereafter known as GreeneWays, and

WHEREAS, the Green County Recreation, Parks and Cultural Arts Department (GCRPCA) has taken the responsibility and lead in the construction and management of the trails as an agent of the Greene County Commission, and

WHEREAS, the initiating agreement organizing and maintaining the GreeneWays expires on September 14, 2000,

THEREFORE, BE IT RESOLVED that the City of Beavercreek, City of Fairborn, City of Xenia, Beavercreek Township, Village of Cedarville, Village of Yellow Springs, and the Greene County Park District and Greene County enter into this five year renewable agreement for management of 50.78 miles of trail (GreeneWays) corridors, plus connecting spurs, as documented September 1999 with the county-wide Trails Maps and any approved additions by the Greene County Commissioners and the GCRPCA; effective September 15, 2000 through September 14, 2005 with annual renewal beyond the termination date being automatic unless acted upon otherwise by the parties listed.

Any jurisdictions who violate either the management agreement or the policies of Greene County GreeneWays may be subject to fines for recovery of damages to the trails and/or loss of voting status on the Management Committee.

Prior agreements entered into for the planning and development of trails between the Greene County Park District and the Federal Highway Administration remain in effect and on file with the Greene County Parks Office.

Prior management agreements among jurisdictions are nullified by this agreement, and this agreement supercedes all previous agreements for the administration, management, maintenance and patrol of trails.

#### **I. Administration**

A. Administration of the GreeneWays corridors will be the responsibility of the Board of Greene County Commissioners using their agents: Greene County Recreation, Parks and Cultural



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Department; and the Greene County Park District.

B. A Management Committee of representatives from the participating jurisdictions shall discuss and decide future use of the corridors including utilities and occupations and will establish policies affecting the trails. This Committee will meet on a quarterly basis at minimum. Special meetings may be called as needed. Actions concerning Greene County GreeneWays will be regulated by a separate policy handbook which will be the responsibility of the Management Committee.

C. The Management Committee consists of the following representatives:

Greene County Administrator  
Greene County Board of Park District Commissioners,  
President  
Greene County Recreation, Parks and Cultural Department,  
Director  
Greene County Recreation, Parks and Cultural Department,  
Trail Manager  
City of Xenia, City Manager  
City of Fairborn, City Manager  
Beavercreek Township Trustees  
Village of Yellow Springs, Village Manager  
Village of Cedarville, Mayor

These individuals or their designees shall serve and meet as indicated.

D. Business may be enacted by a majority vote of members present at a regularly called meeting or special meeting.

E. Future jurisdictions, or additional acquisitions for proposed trail corridors, wishing to participate in GreeneWays and be included on the committee must petition for membership and receive a majority vote of the Management Committee.

F. Regular operations of the GreeneWays shall be governed by the Policy Manual.

## **II. Maintenance**

A. Maintenance of GreeneWays shall be the responsibility of the Greene County Recreation, Parks and Cultural Department.

GreeneWays Corridors within the agreement include: *(List trails, where they are located and how many miles)*

AGREEMENT FOR FUNDING LONG-TERM CARE AND  
MAINTENANCE OF TRAILS IN GREENE COUNTY, OHIO

This agreement, made the \_\_\_ day of \_\_\_, between the City of Xenia, City of Beavercreek, Beavercreek Township, Greene County Park District, City of Fairborn, Village of Yellow Springs, Village of Cedarville, Greene County Engineer (hereinafter "participants") and the Board of Greene County Commissioners through the Greene County Recreation, Parks and Cultural Arts Department, as agent for the Board of Greene County Commissioners and trail management agency (hereinafter "the County"):

WITNESSETH:

WHEREAS, Section 307.15 of the Ohio Revised Code states, in part... "The board of county commissioners may enter into an agreement with the legislative authority of any municipal corporation, township, ... park district ..., or other taxing district or with the board of any other county, and such legislative authorities may enter into agreements with the board, whereby such board undertakes and is authorized by the contracting subdivision to exercise any power, perform any function or render any service, on behalf of the contracting subdivision or its legislative authority ..." and,

WHEREAS, a Trail Management Agreement was entered into to facilitate the maintenance, management, and improvement of the trails in Greene County, Ohio, and

WHEREAS, the County has established a special fund to receive moneys for the maintenance and management of the trails, and

WHEREAS, the trails contain occupations of public utilities, communications and various other occupations for which fees may be paid.

NOW THEREFORE, IN CONSIDERATION OF THE MATTERS DESCRIBED IN THE ABOVE RECITALS AND IN SEPARATE AND INDEPENDENT CONSIDERATION OF THE PROMISES SET FORTH BELOW, THE PARTIES AGREE AS FOLLOWS:

1. Participant agrees to deposit all current and future moneys derived from rents and/or occupations into the fund established by the Greene County Auditor and administered by the Board of Greene County Commissioners to provide for the long-term care and maintenance of the trails.
2. Participants will sign necessary consent legislation as required to permit the Board of Greene County Commissioners to utilize these funds for the long-term care and maintenance of the trails.
3. Long-term care and maintenance shall be defined as replacement of trees, shrubs, signs and other trail amenities, planting of additional trees and shrubs, the addition of supplemental signage and fencing; sealcoating, repaving and restriping and other maintenance and amenities that provide for the safety, enjoyment and benefit of trail

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users.

4. The Trail Manager, as agent for the County, will provide cost estimates to participants in advance of any proposed expenditure, along with a benefit analysis by jurisdiction of the work to be performed.
5. Proposed projects for improvements or maintenance will be submitted to the management committee for approval in advance of the work being performed. The Trail Manager will develop bid specifications and contracts as required for the conduct of all work under the requirements of the Ohio Revised Code for such work.
6. Expenditures from the Trail Management Fund will be approved annually by the Trail Management Committee and the Greene County Board of Commissioners.
7. Specific infrastructure repairs and requests for additional services, not covered by this agreement are the responsibility of the local jurisdictions, unless agreed to unanimously by all other participants.

This agreement is contingent upon approval and authorization by all parties.

NOW, THEREFORE, BE IT RESOLVED that the City of Xenia, City of Beavercreek, City of Fairborn, Village of Yellow Springs, Village of Cedarville, Beavercreek Township, Greene County Engineer, Greene County Park District, Board of Park District Commissioners and Board of County Commissioners of Greene County, Ohio enter into this Agreement for the Long-Term Care and Maintenance of Trails within Greene County, Ohio.

Signatures.....

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# References

## Bibliography

*Guide for the Development of Bicycle Facilities*, American Association of State Highway Transportation Officials, 1999

*New Designs for Growth Guidebook*, Traverse City Area Chamber of Commerce, 2006

*Implementing Bicycle Improvements at the Local Level*, U.S. Department of Transportation, Federal Highway Administration, 1999

*Northwest Michigan Regional Non-Motorized Transportation Strategy*, Northwest Michigan Council of Governments, 2008

*Non-Motorized Plan for Washtenaw County*, Beneficial Designs, Inc., Washtenaw Area Transportation Study, 2006

*Pathways Master Plan*, Grand Blanc Township

## Other Pathway Resources

*Connecting Michigan: A Statewide Trailways Vision and Action Plan*, Michigan Trails and Greenways Alliance, National Park Service, and Michigan Recreation And Park Association, 2007

*Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities: An ITE Recommended Practice*, Institute of Transportation Engineers, 2006

*Design Guidelines for Active Michigan Communities*, Michigan Department of Transportation, 2006

*Designing Sidewalks and Trails for Access: Best Practices Design Guide*, Federal Highway Administration., 1999

*State Long-Range Transportation Plan, Non-Motorized Transportation Technical Report*, Michigan Department of Transportation, 2007

*Trails for the Twenty-First Century: Planning, Design, and Management Manual for Multi-use Trails*, Rails-to-Trails Conservancy, 2001

