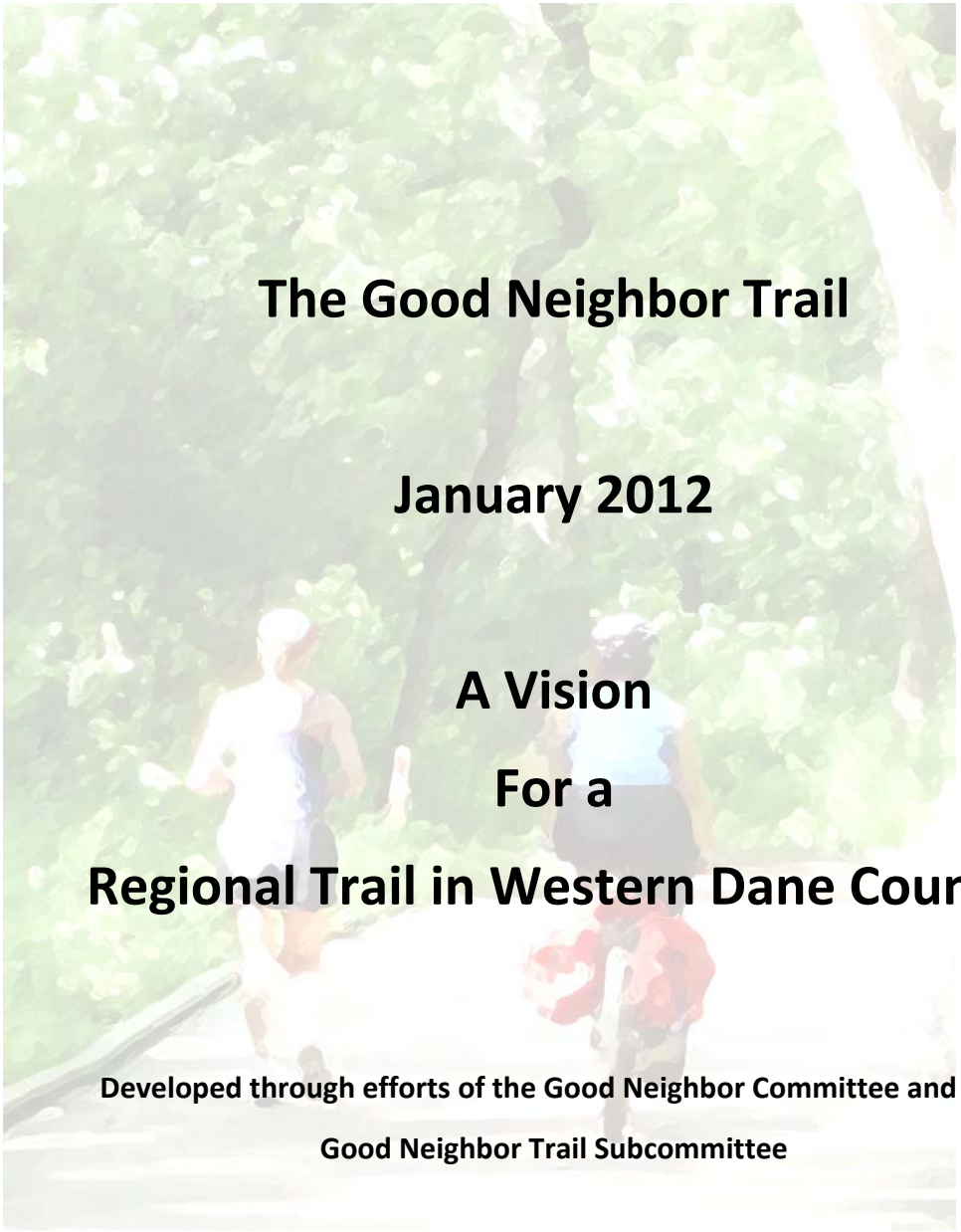

The Good Neighbor Trail

January 2012

A Vision
For a
Regional Trail in Western Dane County

Developed through efforts of the Good Neighbor Committee and the Good Neighbor Trail Subcommittee

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GOOD NEIGHBOR COMMITTEE MUNICPAL MEMBERS

City of Middleton

Town of Berry

Village of Black Earth

Town of Black Earth

Village of Cross Plains

Town of Cross Plains

Village of Mazomanie

Town of Mazomanie

Town of Middleton

GOOD NEIGHBOR TRAIL SUBCOMMITTEE ACTIVE ATTENDEES & MUNICIPAL REPRESENTATIVES

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Tim Henneman, Town of Berry

Karen and Chris Upper, Town of Berry

Don Ripp, Town of Berry

Laurie Statz, Town of Berry

Vera Riley, Town of Cross Plains

Jody Parsley, Town of Cross Plains

Mike Schultz, Village of Cross Plains

Gary Whitney, Town of Middleton

Sara Luedtke, Town of Middleton

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Sam Landes, Dane County Council of Snowmobiles

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Participating Municipalities

City of Middleton: Common Council; Parks, Recreation and Forestry Commission; Conservancy Lands Committee

Village of Black Earth
Village of Cross Plains
Village of Mazomanie

Town of Black Earth
Town of Berry
Town of Cross Plains

Town of Mazomanie
Town of Middleton

Other Supporting Organizations

Dane County Board of Supervisors

Dane County Council of Snowmobiles

National Park Service (NPS)

Ice Age Park and Trail Foundation (IAPTF)

Wisconsin Department of Transportation (WisDOT)

Wisconsin Department of Natural Resources (Wisconsin DNR)

Glacial Drumlin Trail Horse Association (GDHTA)

Pursley's Valley Stable

Sugar Valley Horse Stable

Dairyland Driving Club (DDC)

American Driving Society (ADS)

Wisconsin State Horse Council (WSHC)

Verona Chamber of Commerce

City of Middleton Tourism Department and Chamber of Commerce

Madison Nordic Ski Club (MadNorSki)

Blackhawk Ski Club

Bicycle Federation of Wisconsin

Trail Design Specialists, Inc

Cross Roads Café, Cross Plains

Old Feed Mill Restaurant, Mazomanie

Quaker Steak and Lube Restaurant, Middleton

Madison Fishing Expo, Inc. (MFE)

Dane County Conservation League (DCCL)

Yahara Fishing Club

Black Earth Creek Association (BECWA)

The Nature Conservancy (TNC)

Wisconsin Area Guide Dogs Service (WAGS)

Starlight Veterinary Clinic, Blue Mounds

Cardno JFNew

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City of Middleton, Conservancy Lands Committee

Dane County Council of Snowmobiles

Additional Financial Support provided by:

Dane County Bike Program Grant

Wisconsin State Horse Council

Purpose and Intent

Mission Statement:

> *To create a Trail Master Plan as a forum for discussion and planning the development of a regional trail connecting the City of Middleton and the Village of Mazomanie, within a 2 mile corridor of HWY 14. The Trail Master Plan shall provide conceptual recommendations for future trail development that interconnects people to neighborhoods, business, parks, schools, public facilities, and environmental features. This trail intends to be both recreational and transportation based, with the intention that the planning process will provide insight into recreational and transportation- based opportunities for trail development.*

The Good Neighbor Trail is envisioned to be a regional trail that serves western Dane County as both an alternative transportation route and as a recreation trail. The regional trail will be ADA accessible and serve the needs of diverse trail user groups.

Development of a regional trail system of this length requires substantial financial and community support. The intent of this document is to provide the data necessary to generate community support and approvals, establish the foundation for municipal and jurisdictional approvals, to gather approvals for formal and adoption, and to satisfy application requirements for grant funding or donations.

The Good Neighbor Trail Plan is a planning document, and does not commit any of the municipalities participating in the Good Neighbor Committee, or any local organization or agency to provide financial support or to acquire property or easements for the construction of the trail.

Swamplovers property

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Table of Contents & Plan Outline

Organizational and Process Overview 1

GNT Planning Statement Regarding Public versus Private Property 1

Plan Objectives 3

Planning Considerations 5

The Good Neighbor Trail Planning Corridor 5

Historical/Cultural Context 6

The Built Landscape 14

Community Health 16

Economic Opportunities 18

Transportation Opportunities 19

Commuter Travel 19

Safe Routes to School 20

Recreation Opportunities 24

Horse Enthusiasts 24

Snowmobilers 26

Bicyclists 27

Pedestrians 28

Roller Bladers, Roller Skiers 28

Cross-Country Skiers 28

Fishing 29

Natural Area and Cultural Resource Enthusiasts 29

All Terrain Vehicles (ATV's) 30

Related State, Regional and Local Planning Efforts 33

State of Wisconsin 33

Dane County 33

Local Trail Municipalities 35

Trail Design Considerations 37

Shared Use Trails 37

Need/Intent 37

Design Guidelines 37
Shared Use Paths and Natural Corridors 38
Intent 38
Design Guidelines 38
Regulatory Standards: Crossing Standards 38
Intent 38
Design 38
Shared-use Path & Natural Feature Crossing 39
Intent 39
Design 39
Equestrian Needs Summary 40
Intent 40
Design 40
Physical Forces on the Trail Surface – Trail Design Standards 41
Compaction and Displacement of the Trail Surface 41
Erosion 42
Tread Watershed 42
Rolling Grade/Grade Reversal 42
Trail Etiquette 43
Strategies for Limiting Access 43
Trail User Safety 43
Equestrian Support Facilities 43
Trailer Parking 43
Mounting Blocks/Box 43
Hitching or Tethering 44
Equestrian Trail / Roadway Crossings 44
Accessibility – Equestrian Use 45
Trail Management Objectives 47
Trail Experience 47
Trail Activities 48

Americans with Disabilities Act 48
Trail Surfaces 49
Trail Design Guidelines and User Groups 49
Recommended Good Neighbor Trail Design Standard 51
Recommendations for the Good Neighbor Trail Network 53
Probable Costs and Construction and Maintenance Considerations 57
Potential Trail Funding Sources and Strategies 59
Federal Funding 59
Surface Transportation Program (STP) 60
Transportation Enhancements 60
Congestion Mitigation/Air Quality Improvement Program (CMAQ) 61
Recreational Trails Program 61
Rivers, Trails, and Conservation Assistance Program (RTCA) 61
Land and Water Conservation Fund (LWCF) 62
State Resources 62
Funding for Acquisition 62
Local Partnerships 62
Implementation Efforts and Strategy 63
GNT Plan in the Context of Local Planning Decisions 63
Wolf Run 63

Organizational and Process Overview

The Good Neighbor Committee (GNC) was collectively formed in 2007 by 11 communities in western Dane County to "promote intergovernmental cooperation on matters of mutual interest through communication and information sharing". The committee includes elected and appointed officials, and interested residents from the Towns of Berry, Black Earth, Cross Plains, Mazomanie, Middleton, Springfield, and Vermont; the Villages of Black Earth, Cross Plains, and Mazomanie; and the City of Middleton.

The Good Neighbor Trail Subcommittee (GNTS) was organized to provide a forum to support discussion and the decision-making process for the creation of a regional shared use trail extending 22 miles from the City of Middleton to the Village of Mazomanie. The City of Middleton has been the lead agency for the planning and development of the Good Neighbor Trail.

The Good Neighbor Trail plan provides conceptual recommendations for future trail development that will connect people to neighborhoods, business, parks, schools, public facilities and environmental features. The planning process included over 36 GNTS meetings, conversations with interested stakeholders and landowners, and discussions with each of the local jurisdictions along the trail corridor. The first draft of the Good Neighbor Trail Plan has been distributed for comment to over 20 organizations as well as to individuals who requested a copy.

It is anticipated that the final plan will be adopted by individual municipalities in February/March 2012 and provide the framework for developing the trail in each jurisdiction.

GNT Planning Statement Regarding Public versus Private Property

The Good Neighbor Trail will likely utilize both private and public lands when completed. In the final implementation phase led by the individual jurisdictions, all appropriate measures to protect the property owners' interests should be initiated including agreements for market rate payments or leases, improvements, seasonal use restrictions and appropriate maintenance agreements whenever trail segments traverse private property.

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Plan Objectives

The Good Neighbor Trail Subcommittee approved nine objectives for the Good Neighbor Trail Plan.

They are as follows:

1. Provide both a recreational and alternative transportation trail as an *Americans with Disabilities Act* (ADA) accessible shared-use facility inclusive of snowmobilers, bicyclists, hikers, runners, equestrians, skiers, dog walkers, and possibly – in designated segments and seasons – All Terrain Vehicle (ATV) users.
2. Recognize and incorporate into the design process the perspectives of landowners, trail users, and requirements established by grant funding sources.
3. Formulate and develop trail routes, facility construction standards, and effective maintenance activities that consider topography, existing natural features, parks, conservancy areas, trails and natural resource areas, and that provide contiguous trail segments to minimize impediments to travel.
4. Evaluate financing opportunities for funding trail construction, maintenance and operations.
5. Recognize and incorporate adopted goals and objectives of local, regional and state trail planning initiatives.
6. Identify future trails and linkages that complement the Good Neighbor Trail (e.g. links to existing trails for specific uses, state trails like the Military Ridge Trail and to national trails like the Ice Age Trail).
7. Advocate adoption and inclusion of a Good Neighbor Trail Plan into municipal, county and state planning documents and projects.
8. Provide recommendations for trail standards, rules, user education and etiquette to allow for diverse user groups and minimize inter-group use conflicts.
9. Formulate solutions that balance and respect concerns of individual stakeholder groups yet serve the common good and the interests of the broader, regional community.

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Planning Considerations

The Good Neighbor Trail Planning Corridor

For over 15 years, state, county and municipal governments have discussed the idea of a regional trail extending from Madison to western Dane County along HWY 14. In 2007, the Good Neighbor Committee was formed and began the trail planning effort in earnest, referring to it as the "Good Neighbor Trail" (GNT).

The planning area is generally a two-mile wide corridor that follows HWY 14, WSOR RR and the Black Earth Creek west from the City of Middleton to the Village of Mazomanie. The corridor is an area of exceptional beauty that includes numerous cultural resources, unique natural geographic features and links several popular public and private recreational facilities together with the quaint "main street" route through Cross Plains, Black Earth and Mazomanie.

The extensive conservancy and park lands within the corridor, intertwined within the amenities found in these popular small towns, create a unique backdrop for a regional trail. People using this proposed shared-use trail will be rewarded with rich opportunities to experience the unique geography, scenery and heritage of Wisconsin's Driftless Area communities.

Prairie view from the GNT corridor ***Drew Hanson***

The GNT corridor's abundance of scenic rolling countryside and significant ecological resources are one of the many reasons that this area has been consistently identified as an area for a regional trail. The unique geography, sculpted by the glacial deposits from the terminal moraine of the last glacial period created historically and geographically significant topography defining this area's wetlands, uplands, and streams.

These significant environmental resources have been protected and made available for public enjoyment through extensive land acquisition and conservation easement efforts by the US Fish and

Wildlife Service, United States Department of Agriculture (USDA) Natural Resources Conservation Service, Dane County, the National Park Service, Wisconsin Department of Natural Resources (DNR) and other public and private organizations. Within the planning corridor, there are an estimated 3,619 acres of public and private recreational and conservancy lands.

The regional shared-use trail in this corridor is an innovative way to connect communities with these public lands and with each other. Developing this trail as part of a regional recreation/transportation/ greenway corridor opens doors to more diverse funding resources that can support and enhance the preservation of the unique environmental resources, expand educational opportunities, improve transportation efficiency, and create interesting and enjoyable recreational opportunities.

Historical/Cultural Context

The Driftless Area

The Good Neighbor Trail Corridor is located within a geographical feature known as the *Driftless Area.* Encompassing more than 24,000 square miles in the states of Wisconsin, Minnesota, Iowa and Illinois, the Driftless Area is one of America's unique natural resource treasures. This area was bypassed by the last continental glacier, which flattened much of the landscape in the upper Midwest and left behind large deposits of soil and rock—referred to as *drift*. During the last glacial epoch, this area was *"an island of land rising from a sheet of continental ice."* (Lesson *Jerusalem Creek: Journeys into Driftless Country*).

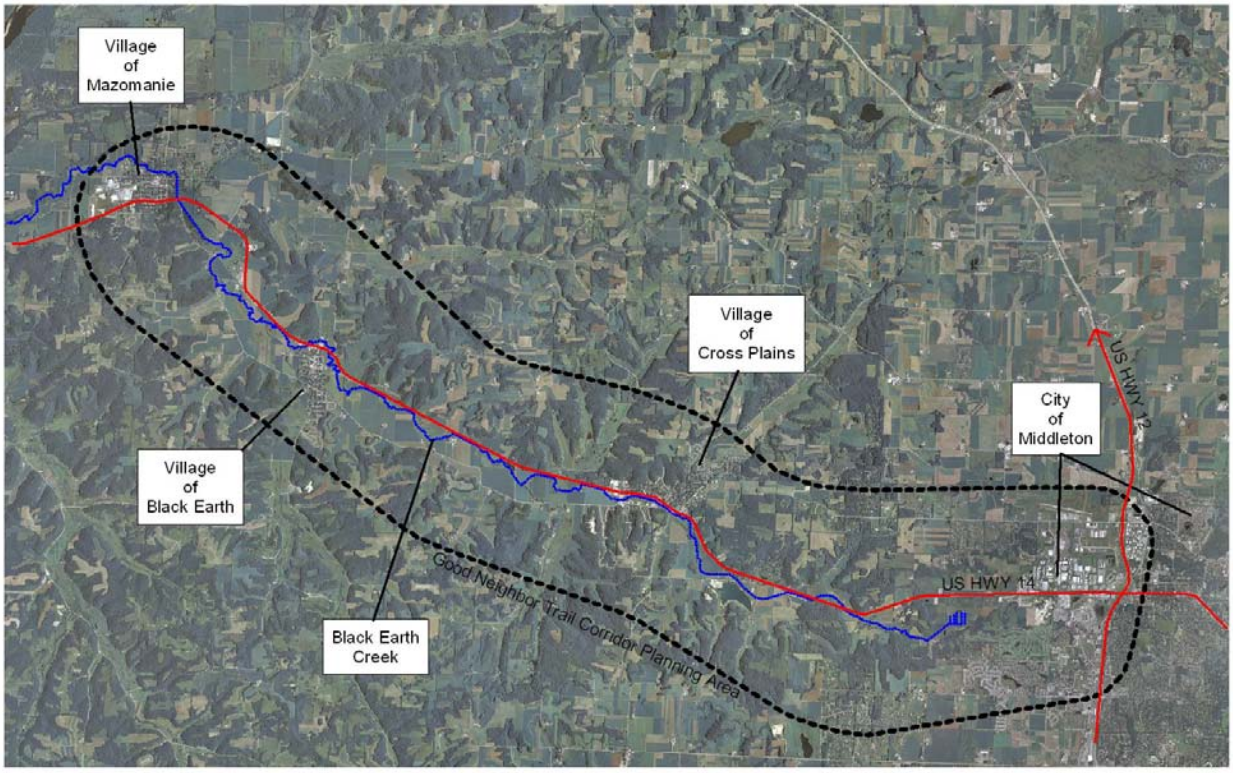
The landscape in the Driftless Area is estimated to be approximately 500 million years old—one tenth of the age of the Earth— and is marked by steep-sided ridges, caves and towering limestone and sandstone bluffs. The region also contains sinkholes and over 600 spring creeks with more than 3,600 stream miles in six major watersheds. These streams, which eventually drain into the Mississippi River, are fed by deep limestone aquifers.

The Driftless Area is rich in natural and human history. In the era of pre-European settlement, the majority of the region was characterized by tall-grass prairies and oak savannahs, which supported a wide range of prairie dwelling animals including elk and bison. Extremely high rates of groundwater discharge kept streams flowing through narrow deep channels with cold pure water supporting a thriving, naturally reproducing population of brook trout. Extensive root systems of the tall-grass prairies lined most stream banks and virtually eliminated bank erosion.

The first non-native populations began to arrive in the early 1800's attracted by the regions abundant natural resources and productive agricultural opportunities. By the mid 1800's there three settlements along Black Earth Creek (Cross Plains, Black Earth and Mazomanie); each had a vibrant and prosperous economy supported by agricultural production from surrounding farmland.

According to the State Historical Society, there are 25 archaeological and cultural sites located in the Black Earth Creek Resource Area. Within the villages and towns that encompass the GNT Trail planning corridor there are over 30 sites and buildings that are listed on the State's register of historic places.

Today, all four communities continue to be attractive and desirable places to live due in large part to their convenient location relative to the Madison metropolitan area, as well as the unique and attractive character of the surrounding countryside.



Topographical Map of the GNT corridor

Terrain

The Good Neighbor trail corridor is diverse with varied terrain and natural resource features that create a unique visual and ecological environment. This GNT trail corridor encompasses:

- Upland wooded habitat /oak woods
- Stream valleys
- Lowland forest
- Oak savanna
- Prairie
- Wetlands
- Open water/ponds

Topographically, the corridor features relatively level bottom lands along Black Earth Creek and stream valleys surrounded by rolling hills and some picturesque 150-foot high bluffs.

Land Cover

Outside of the developed neighborhoods in the communities of Middleton, Cross Plains, Black Earth and Mazomanie, agricultural production and continue to dominate the land uses within this region today. Much of the lands along the Black Earth creek are classified as Prime Farm Soils and Soils of Statewide Importance and continue to be productive farmland.

Wetlands

According to the Wisconsin DOT's HWY 14 Corridor Study, the generalized, non-urban area along the highway corridor "has been historically used for agriculture resulting in a reduction or degradation of many of the once-extensive wetland areas". Currently there are over 450 acres of mapped wetlands and over 1000 acres of hydric soils within the planning corridor.

Streams and Ponds

Birding opportunites abound in the corridor

The predominant natural feature in the trail Corridor is Black Earth Creek, a nationally recognized trout stream (rated in the top 10 in America). Black Earth Creek flows westerly to the Wisconsin River at Spring Green.

The value of Black Earth Creek to the region extends beyond its importance as an ecological resource and is a key factor to the economy of the region. The annual economic impact from fishing was tallied at $647 million in 2006. The headwater wetlands of the Black Earth Creek and all of the reaches of the stream that are designated as cold water fishery are within the trail corridor. In 2010, the Dane County Parks Department sold over 4000 lake access permits indicating the strength of the economic impact of accommodating fishing as a recreational use. According the Wisconsin Department of Natural Resources:

> *Wisconsin has 1.4 million anglers that annually catch 88 million fish and keep 33 million fish of all kinds, releasing the rest to challenge anglers another day. Those kinds of numbers, combined with great scenery, and record fish - such as the world record brown trout caught in Lake Michigan in 2010 - makes Wisconsin the #2 most popular fishing destination in the U.S.*
>
> *Fishing isn't only big adventure here, it's big business - generating $2.75 billion dollars in economic benefits and supporting more than 30,000 jobs. It has been and will continue to be an important part of Wisconsin's nature-based economy.*

Various programs have been developed to ensure that the creek and its tributaries are protected from degradation including: the formation of BECWA (Black Earth Creek Watershed Association), the purchase of parcels adjacent to the creek by DNR and US Fish and Wildlife Service and the development of strict stormwater regulations regarding construction and development of facilities within the Black Earth Creek watershed.

The Pheasant Branch Creek is located in the eastern end of the GNT trail corridor. The Pheasant Branch Creek flows east into Lake Mendota and the Yahara River Watershed. A major portion of the headwaters drainage basin and wetlands of Pheasant Branch Creek and its main tributaries are protected by the City of Middleton's Pheasant Branch Creek Conservancy (PBC). The Pheasant Branch Creek wetland complex has been designated as a "Workhorse Wetland" by the Wisconsin Wetland Association. A 1998 functional assessment of wetlands at this site found that they have groundwater connections of high significance. Two large sets of springs discharge into Pheasant Branch wetlands – each day more than 2.6 million gallons of clear groundwater flow from these springs. Significant volumes of groundwater seep into other marshy areas of the site as well. These wetlands in turn contribute to flow in Pheasant Branch Creek and ultimately feed Lake Mendota. Because of the clear quality of this water, northern pike and other Lake Mendota fish species once used the lower channel and marches for spawning.

Dane County Conservation League awarded Penni Klein, Public Lands Manager for the City of Middleton, Conservationist of the Year for her wetland and fisheries stewardship work in Pheasant Branch Conservancy during the shared use trail development process (2005).

The Pheasant Branch Conservancy area is managed as a public conservancy area and has an extensive network of porous paved and natural surface trails. The PBC attracts nearly 99,000 visitors per year to its shared use trail with no negative impacts to its extensive bio-diversity.

The landscapes in the PBC are, in many ways, similar to the Black Earth Creek and GNT corridor. The shared use trail and habitat management techniques used in the PBC area are models for formulating improvements and management of the Good Neighbor Trail. The 4.2 mile Pheasant Branch Conservancy shared use trail received national recognition in 2004 for its design and layout, highlighting how shared use trails can be developed in cooperation with habitat restoration work and fisheries enhancement. Additionally, the 1.25 mile porous paved DOT trail along the Pheasant Branch Creek was national recognized for innovative green/sustainable design at the 2010 American Trails Conference in Chattanooga, TN.

Sandhill cranes in the Pheasant Branch Conservancy

Other Waterways and Ponds

The GNT planning corridor includes segments of Halfway Prairie Creek, Brewery Creek, Garfoot Creek and Swamplovers wetland areas. It also includes natural kettle ponds, such as Shovelers Sink, Esser's Pond, and Stricker's Pond. In addition, the corridor has several impoundments, including Salmo Pond and Lake Marion, which are popular recreation sites.

Native Habitats and Endangered or Threatened Species

The Good Neighbor Trail planning corridor's glacial terrain and diverse ecological resources create a unique environment with varied topography and ecosystems. The trail corridor encompasses oak woods, oak savanna, prairie, stream valleys and lowlands with wetlands and open water and ponds.

The GNT trail corridor possesses a few scattered remnant native prairies and oak savannas habitats with rare and endangered plant and animal species in natural communities. The most common remnant prairies within the Black Earth Creek watershed are the "goat prairies" on the steep sided hills in the Black Earth Creek valley. The steep hillsides, characterized by red cedar and junipers in the understory of prairie grass, were too difficult for cultivation or grazing.

Table 1. Public Park and Conservancy Lands and Existing Trails Within and Near the Good Neighbor Trail Planning Corridor

	Parks		Conservancies	
Jurisdiction	**Names**	**Acres**	**Names**	**Acres**
Ice Age Park and Trail Foundation, NPS	Ice Age Trail	705*		
Wisconsin DNR	Ice Age Trail	705*	Black Earth Creek Fishery Area	244*
US Fish and Wildlife			Black Earth Creek Fishery Area	244*
			Shovelers Sink	171
Dane County	Festge Park, Walking Iron Park, Salmo Pond, Old Lake Middleton	576	Black Earth Creek Fishery Area	244*
			Black Earth Creek Wildlife Area - Sunnyside	292
City of Middleton	Pleasant View Golf Course, Esser Pond, Quisling Park North and South, Firefighters Memorial Park	399	Pheasant Branch Creek Conservancy (part, including confluence pond and North Fork)	200
Village of Cross Plains	All Parks	25	All Conservancies	81
Village of Black Earth	All Parks	15	All Conservancies	16
Village of Mazomanie	All Parks	108	All Conservancies	2
Town of Middleton	Pioneer, Hickory Woods, Settlers Prairie, Summit Ridge	76	Tallard Conservancy, Goth Park, Pope Farm, Hickory Woods	167
Total Governmental Lands		**1199**		**1173**
Swamp Lovers			Table Bluff Wetland	432
Wolf Run Association			Wolf Run Conservancy	95
The Prairie Enthusiasts Inc			Rettenmund Prairie	15
Total NGO Lands		**0**		**542**
Total Park and Conservancy Lands Within and Near the Good Neighbor Trail Planning Corridor				**3619**

** Land within multiple jurisdictions*

Outdoor Recreation and Conservancy Areas within the GNT Trail Corridor

Within Dane County, there is strong community support for public outdoor recreation and to protect and enhance their ecological function. There is a strong legacy of conservation and preservation of these unique habitats in this area.

All five communities in the corridor unanimously supported the GNT (see Memorandum of Understanding [MOU]'s in appendix and Dane County Resolution) and wish to continue that preservation, enhancement and accessibility of outdoor recreation through the GNT.

Black Earth Creek Natural Resource Area (BECNRA)

The Black Earth Creek Wildlife Area was acquired through joint funding from the Natural Heritage Land Trust, the Wisconsin DNR Stewardship Fund, Dane County, and the Town of Middleton. This land has been identified for passive recreation and natural resource protection. Some of the lands along the creek are owned by the Wisconsin DNR as public fishing and wildlife habitat areas. Future land acquisitions should seek to fill in the gaps between existing publicly-owned lands and protect the scenic quality of the stream corridor.

Festge Park (Dane County) is located in the Driftless Area of Dane County, near the Town of Berry and features an overlook 100 feet above Black Earth Creek. The park contains 126 acres feature hiking trails, shelters, restrooms, recreation fields, and family picnic spot all secluded within mature forested area. An overlook provides panoramic view of the Black Earth Creek valleys.

Salmo Pond is adjacent to Festge Park, south of USH 14 and is owned by the Wisconsin DNR. Dane County has a 99-year management lease on the property that allows for operation and maintenance of the property as a county park. The park offers users a shoreline and ADA pier for fishing. The area features trails and places to picnic around the pond and along Black Earth Creek. A trail runs along a narrow isthmus between Salmo Pond and Black Earth Creek.

Shoveler's Sink Shoveler's Sink is a small, permanent, remnant glacial depression that provides excellent habitat for migratory birds such as waterfowl, shorebirds, songbirds, and water birds seeking a freshwater pond, marsh, and grassland. The pond provides floating and submerged plants in the open water zone and is surrounded by an emergent zone that includes cattails, smartweed, and arrowheads whose tubers provide important food for migrating waterfowl and geese. Shoveler's Sink is also an important area for breeding amphibians, which in turn, makes it very attractive for water birds such as herons and cranes. The area is currently a production area in the Leopold Wetland Management District Waterfowl Production Area. Shoveler's Sink is located off Mineral Point Rd and hosts a wide variety of waterfowl, offering great birding opportunities.

Lake Marion Is a lake just outside Mazomanie, WI which offers fishing opportunities, kayaking and a unique place to sail for model boat hobbyists.

Pleasant View Golf Course is a challenging 27-hole course in Middleton, WI. Located south of HWY 14 on Pleasant View Road, the golf course amenities also include a 9 hole par-3 course, driving range, putting green, a new clubhouse, and cross country ski trails. The property features panoramic views of Lake Mendota, the City of Madison, and the City of Middleton.

Blackhawk Ski Club is a membership club that provides facilities for alpine skiing, ski jumping, snowboarding, cross country skiing, biathlon, Nordic combined, and mountain biking. The ski club property is located in the Town of Middleton featuring 60 acres with five miles of mountain bike trails and open space for cross country and downhill skiing.

Ice Age Trail Corridor – When completed this trail will be thousand mile long footpath, entirely in Wisconsin, that highlights the landscape of the Ice Age Era. The Ice Age Trail is one of 11 National Scenic Trails and allows individuals to walk, hike, snowshoe, and backpack through a landscape varying from a family friendly to a wilderness experience. Approximately 3 miles of the Ice Age Trail passes through the GNT corridor and the Village of Cross Plains.

Hiking the Ice Age Trail

Table Bluff – Located just north of the Village of Cross Plains, this 73 acre unit of the Ice Age Trail occupies a high limestone ridge formed in the Paleozoic Era over 500-million years ago. The trail to Table Bluff features prairie, oak savanna, and forested areas as it ascends 100 feet to the summit. The bluff offers dramatic views of the Driftless Area landscape, Black Earth Creek and the Blue Mound (located in Blue Mound State Park 10 miles to the southwest).

Table Bluff

Black Earth Creek State Fishery – The Wisconsin DNR has 240 acres of land and public easements along Black Earth Creek to provide public fishing and resource management of this class 1 trout stream. Class 1 trout streams are high quality trout waters that have sufficient natural reproduction to sustain populations of wild trout, at or near carry capacity. Streams in this category do not require stocking of hatchery trout. This BEC fishery is an important recreational resource area and is ranked 8th in the country as a cold-water fishing area.

Wolf Run Conservancy – Located immediately southeast of the Village of Mazomanie, this privately managed conservancy is dedicated to the restoration of the natural habitat along Black Earth Creek. The conservancy is also implementing stream improvement and trail development projects in collaboration with the restoration of the adjoining Lake Marion impoundment by the Village of Mazomanie.

DNR Natural Heritage Inventory

The eastern point of the GNT begins in Middleton. Pheasant Branch Conservancy is a spring fed marsh and wetland complex and surrounding hills, and numerous kettle ponds that dot the landscape were created by glacial processes over 15,000 years ago. The glacial ice sheet carved the lakes, kettles formed under ice blocks and the heavy clays deposited in glacial lakes perch water and create the extensive spring fed wetlands adjacent Lake Mendota.

The GNT enters the 103 square mile, Black Earth Creek watershed, which is a tributary to the Wisconsin River. This area was heavily impacted by the last glacial advance and retreat, from between 15,000 and 25,000 years ago. The last glaciation (the Green Bay Lobe) extended to Cross Plains. A series of end moraines, the largest the "Johnstown moraine" are long narrow glacial deposits of rock, gravels and sands deposited by the maximum westward advance of the glacier. The end moraines, located in a northwest to southeast direction are located between Middleton and Cross Plains. During the retreat of the glacier, energetic rivers of melt water scoured the Black Earth Creek corridor and deposited many feet of outwash gravels and sands in the valley.

The Good Neighbor Trail traverses this glacial divide, from the glaciated ice scoured east with more subtle topography, to the Driftless Area west of Cross Plains that the last extent of glacial ice stopped short of. The Driftless Area - steep sloped hills and ridges and narrow river valleys created by millions of years of erosion contain biological richness as well as aesthetic beauty. The geologic events that created this landscape can be seen in the contour of the land and is one of the remarkable features of the Good Neighbor trail route. Trail links to Festge County Park, the Ice Age Trail Table Bluff Segment and the "Swamplovers Foundation" site will offer access to vistas that overlook this dramatic landscape and additional opportunities for educational trail signs or brochures.

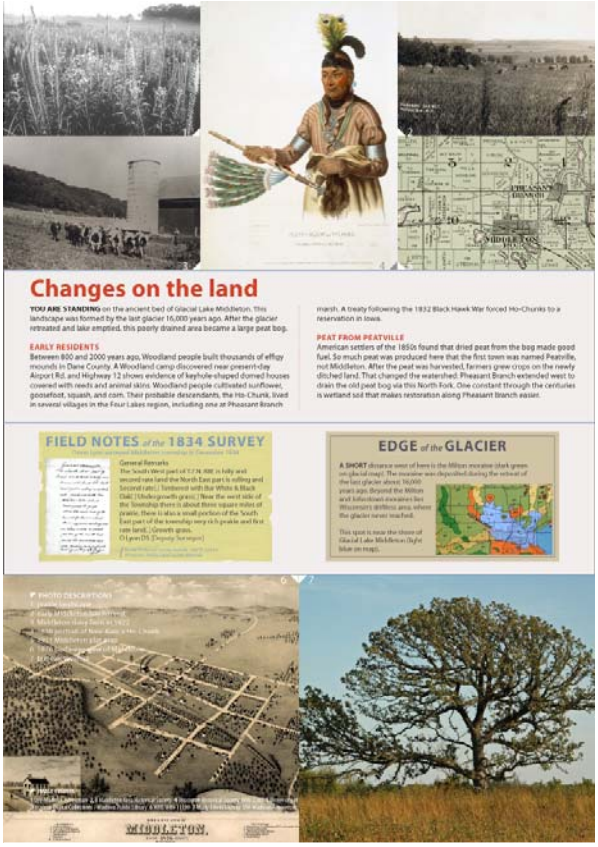
The woolly mammoth and muskox grazing on a glacial tundra landscape were replaced with post glacial marshes, prairie, oak savanna and oak woods, which were altered by settlers who drained the marshes, and farmed the uplands.

The region has a high degree of groundwater that discharges through the outwash rock, gravel, sand and soil from seeps and springs into the Black Earth Creek. The result, the high gradient, clear cool water of the creek is a Class 1 stream supporting trout and trout fisheries. Both brown trout and native brook trout are naturally reproducing, creating a steam section named by the DNR as "Outstanding and Exceptional Resource Waters". Threats to the stream from non point pollution including agricultural and urban runoff could be a subject of interpretive signage on the trail. Trout Unlimited named Black Earth Creek as one of the best 100 trout streams in the United States.[1]

Wetlands were created within the Black Earth Creek corridor as underlying clays and sands deposited by the glacier perched water close to the surface. Sedge meadow (an open wetland dominated by tussock forming sedges) and marshes would have dominated those valleys that received intermittent fires. After settlement, many wetlands were drained for agricultural use. Some recent wetland restoration projects within the area have reclaimed former wetlands from agriculture. These wetland restoration projects are important for the long term ecological health of the Black Earth Creek watershed as well as supporting a rich assemblage of wildlife including waterfowl, migratory birds, grassland birds and amphibians.

[1] http://www.tu.org/

Complementing the recreational potential of the corridor, the GNT also creates educational opportunities in this ecologically rich landscape. Interpretive trail signage could be used to highlight ecological and geological features on the route, as well as highlight other adjacent trails and parks (Pheasant Branch trail, Ice Age Trail, etc). A dynamic story of glacial advance and retreat could be explained and interpreted from the glacial landscapes surrounding Middleton to the "driftless" ridges and valleys from Cross Plains west. A story of ice and water, and the resulting landscape as well as the important ecological features of the present day landscape could be dramatically demonstrated by the route.



Kiosk panel from the N. Fork Trail

The Built Landscape

Population and Settlement Patterns

The first non-native peoples began to arrive in the area in the early 1800s attracted by the region's abundant natural resources and fertile farmland. By the mid 1800s there were four settlements in the planning corridor: Middleton, Cross Plains, Black Earth and Mazomanie. Each had a prosperous vibrant economy supported by agricultural production from the surrounding farmland. Cross Plains, Black Earth and Mazomanie each had flour/grist mills and mill ponds on Black Earth Creek. Also by the mid 1800 each community was linked by the rail road (connecting west to Prairie du Chien and east to Madison, Janesville and Milwaukee) and an important roadway, now designated as US Highway 14.

According to the State Historical Society, there are 25 archeological and cultural sites along Black Earth Creek. Within the Village and Towns in the corridor there are over 30 sites and buildings listed on the State's register of Historic Places.

Today, all four communities continue to be attractive desirable places to live, due in large part to their attractive character, the convenient access to the Madison Metropolitan area, and the unique and appealing landscape of the surrounding countryside. The high quality of life enjoyed by residents in this area is further evidenced by the City of Middleton's acclaim as one of the best places to live in America in 2007.

The 2010 population of the towns and communities along the planning corridor totaled 34,054 which represented approximately 7% of Dane County's populace.

As noted, historically settlement concentrated in the four villages because they were commercial centers supporting surrounding farmlands. This development pattern was driven in large part by

geography, available resources, and railroad technology of the day. The resulting settlement pattern not only created the quiet village places that attract today's residents and visitors but also preserved many areas of unique and sensitive habitat and productive farmland. For the most part, local land use policy has been successful in maintaining this landscape west of the City of Middleton.

Individually, each of the four communities has been able to maintain a strong sense of place with a "downtown" business core, civic areas, neighborhood parks, and schools. Though each community has been able to sustain a limited local business economy, the vast majority of employment and consumer retail businesses are located in Middleton and Madison. Middleton imports more jobs than Madison and has a thriving technical business area, and will soon house a major medical facility.

Transportation System

The predominant vehicle travel pattern in the trail corridor follows the east/west orientation of US Hwy 14 created by the geography of Black Earth Creek. The key transportation infrastructure in the corridor includes:

- US Highway 14 which carried and average of 19,000 vehicles per day in 2010
- The Wisconsin Southern Railroad

From Cross Plains to Mazomanie, County Highway KP is the secondary east west travel route next to US Hwy 14.

The geography of the corridor, the BEC, and the Railroad have also limited the opportunities for north/south pedestrian and vehicle circulation. Key north south roads include:

- Twin Valley Road
- Timer Lane/Cleveland Road
- CTH P
- CTH KP
- Scherbel Road
- South Valley Road

Washington Department of Transportation (WisDOT) 2011 highway improvement planning studies have focused on resurfacing Highway 14. In the Village of Cross Plains this highway improvement will be coordinated with reconstructing the County Highway P bridge to accommodate wider travel lanes and pedestrian and bike travel.

As part of US Highway 14 access planning, preliminary concept plans were prepared to improve the Rocky Dell Road- Cleveland Road intersection. A component of this improvement was the construction of a new road segment linking Cleveland Road and Stagecoach Road, which would greatly improve opportunity for east/west travel.

Community Health

According to the National Alliance for Nutrition and Activity, obesity is the nation's fastest rising public health issue:

- Obesity rates among US adults increased by 75% during the 1990s.
- Obesity rates doubled in children and tripled in teens between 1983 and 2003.

According to the Center for Disease Control, 66.3% of US adults aged 20 and older were obese or overweight in 2003.

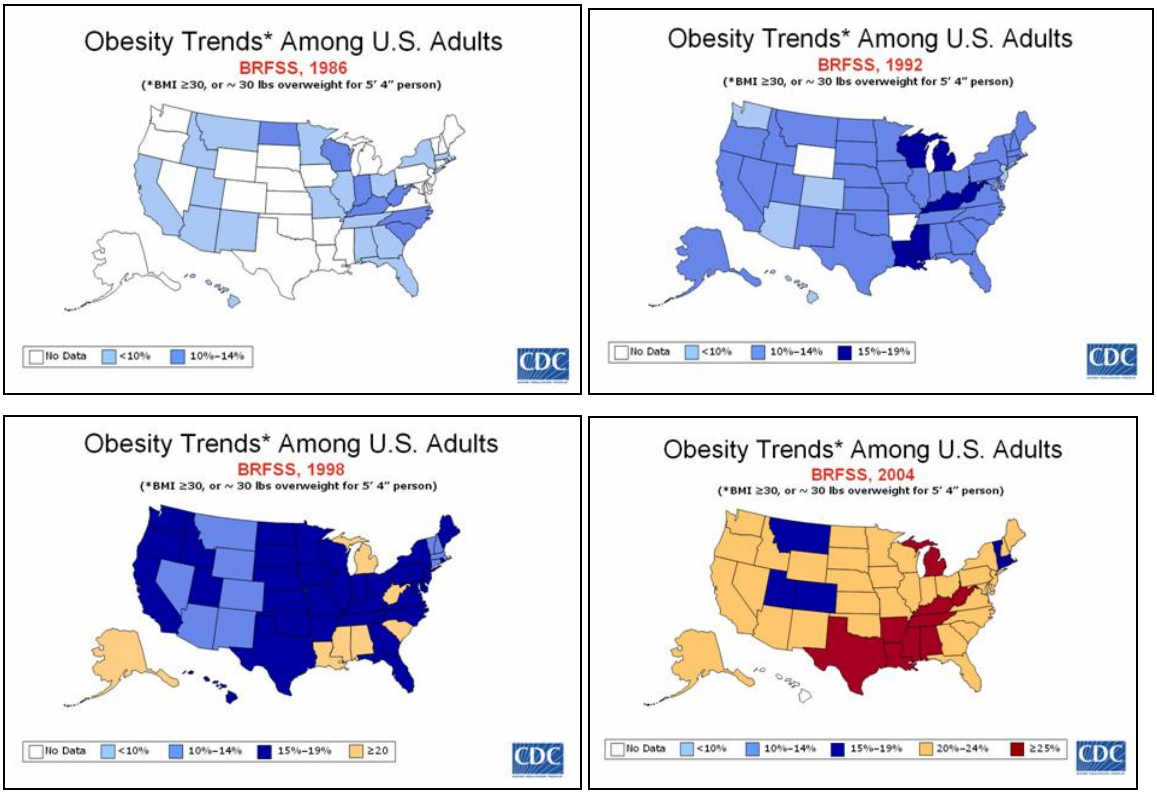


Figure 1. Obesity Trends Among U.S. Adults

Health

In less than a generation, the percentage of children age six to nineteen that are considered severely overweight has tripled, according to the National Health and Nutritional Examination Survey (NHANES). Likewise, even among the youngest children, ages two to six, the rate of severely overweight children has doubled in the last thirty years (see Figure 2).

Obese children are at a higher risk of Type II diabetes, aggravated existing asthma, sleep apnea, and decreased physical functioning. Obesity may damage students in other intangible ways as well. Many obese children experience social stigmas and discrimination, which are believed to lead to low self-

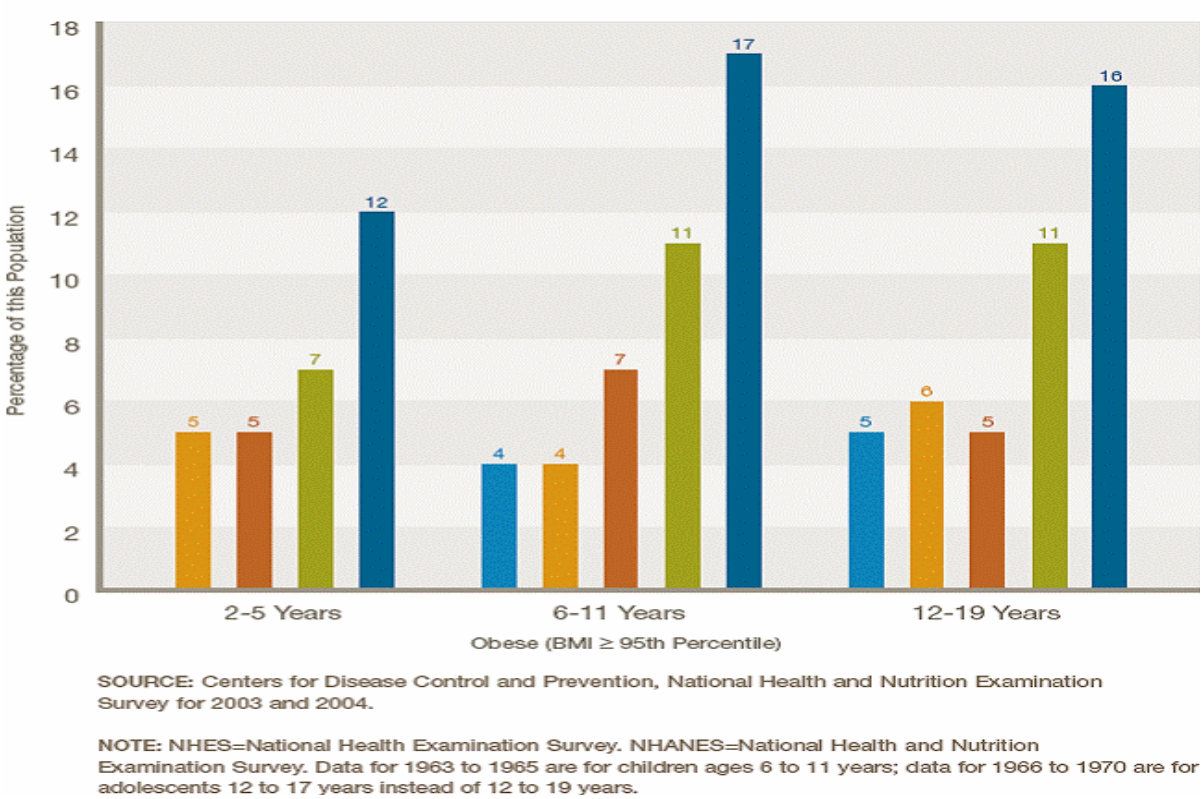


Figure 2. Obesity prevalence among U.S. children and adolescents by Age and Time Frame, 1963-2004
(Source: Centers for Disease Control)

esteem and symptoms of depression. In addition, poor health and fitness impacts army recruits, and the Army has noted "a downward trend in physical capability of our [new] soldiers," attributed to obesity and inactivity.

Contributing to the obesity epidemic, recent studies have demonstrated that most children are not getting the exercise they need. Among 9 to 13 year-olds, 61.5% do not engage in organized physical activity during non-school hours; 22.6% do not participate in any free-time physical activity at all. These statistics become even more dismal as children get older. As age increases, physical activity participation drastically declines.

The US Department of Health and Human Services estimated that health related expenses resulting from obesity exceeded $117 billion in 2000.

In order to reduce these trends and costs, it is essential for communities to Increase the number of opportunities to participate in healthy and active lifestyles. There is convincing evidence that people are more physically active if there are parks and trails to use near their homes or communities. The chart below from the 2010 Outdoor Recreation Participation Report from the Outdoor Foundation illustrates this point.

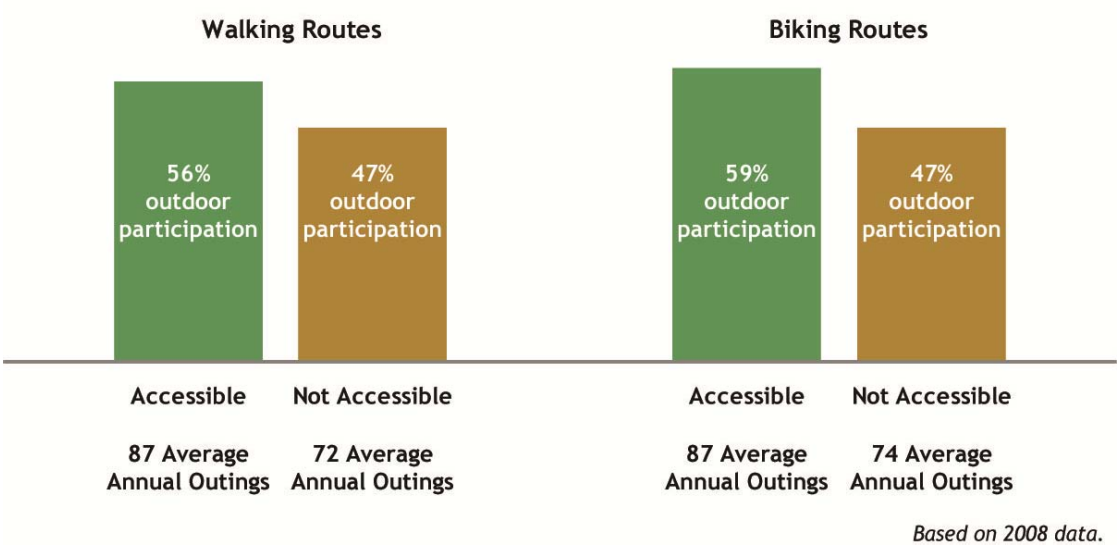


Figure 3. Participation Rate in Outdoor Recreation With and Without Nearby, Accessible Walking and Biking Routes
All Americans, Ages 6 and Older

Economic Opportunities

Recent research studies regarding the economic impact of trails and outdoor recreation opportunities are validating what many people have intuitively believed – outdoor recreation has have a positive impact on local businesses and the tax base. Some examples include:

- The Wisconsin Bicycle Federation indicates that bicycling contributes $1.5 billion annually and 13,200 jobs to the Wisconsin economy.
- Tourists from outside the state are estimated to spend $535 million annually on bicycling in Wisconsin.
- According to the Wisconsin Statewide Comprehensive Outdoor Recreation Plan, outdoor recreation contributes over $9.7 billion annually to the Wisconsin economy by supporting 129,000 jobs and providing nearly 4% of the gross state product.
- Fishing in the Driftless Area's coldwater streams brings in $647 million each year.
- Studies in Brown County, relating to the Fox River Trail and the Mountain Bay Trail, concluded that: 1) residential real estate adjacent to the trail sold for an average of 9% more than similar property that was not located next to the trail, and 2) 39% of responding businesses reported increased business as a result of trail ridership.
- A study commissioned by the National Fish and Wildlife Foundation in 2011 indicates that homeowners near parks and protected areas are repeatedly seen to have property values that are more than 20% higher than similar homes located elsewhere.
- A study by the Outdoor Industry Foundation in 2006 determined that nationally, outdoor sports (bicycling, camping, fishing, hunting, paddling, snow based, trail based, and wildlife viewing)

generated economic activity totaling nearly $821 billion a year. (Camping was the largest sector at $306 billion, and bicycling and trail based sports were second and third, respectively, with a combined impact of $243.3 billion).

- There were 236,566 Snowmobile registrations in Wisconsin in 2010; this is the third highest number of registrations in the nation.
- Nationally, the economic impact of snowmobiling is estimated to be $2.2 billion.

Evidence in Dane County regarding economic impacts on the local economy indicates that many dining and tavern businesses depend upon local snowmobile trails for their revenue. During summer months there are several biking and equestrian events in Dane County that draw a large number of participants who add revenue to the local economy by spending money on lodging, food, fuel, entertainment, and equipment. In several locations in Wisconsin, local food and entertainment business have installed corrals and hitching posts to accommodate equestrians using nearby trails.

Snowmobilers in Dane County

The presence of attractive, interesting, safe and convenient trail facilities and routes will generate more trail use by residents and visitors who spend money during events or their weekend recreational rides. Additionally, when shared use trails are conveniently located, people will be more likely to use them for daily trips that they might normally have used their cars, thus reducing dependence on motor vehicles and reducing local road congestion.

Transportation Opportunities

Commuter Travel

In 2009, Average Annual Daily Traffic (AADT) on US Hwy 14 ranged from 11,200 in Mazomanie to 16,700 in Middleton. Traffic is currently estimated at 14,000 vehicles per day and is projected to increase to 22,000 by 2020. US Hwy 14 has a capacity of 25,000 vehicles per day.

According to the Business Survey Report for US Hwy 14 Corridor Study “tourists and visitors accounted for fewer than 15% of customers” indicating that most business based traffic was local traffic between the communities of Madison and Mazomanie. Since rural areas and outlying communities lack public transit, there are few options to access local businesses other than by driving. Seventy-three percent of the businesses in the planning area are either located on or within 1 block of US Hwy 14. Providing a shared use trail for alternative transportation choices could help reduce local traffic issues and conserve resources.

In 2010, Wisconsin DOT conducted a corridor study to formulate strategies and recommendations to improve the function of the highway and extend the useful life of the existing HWY 14 infrastructure for as long as possible. Providing multimodal transportation options (bike paths, park and ride lots, and

equine, snowmobile and mass transit services) to relieve HWY 14 congestion is considered a viable method to reduce the need for and/or postpone public expenditures for expanding highway capacity with additional lanes and new alignments.

The east end of the GNT Corridor connects with the planned Western Inter-modal Transportation Center (WITC) – a new multi-modal transportation hub (park and ride transit stop) at the intersection of Hwy 14, Hwy 12, and University Avenue. This location provides efficient, safe, and convenient transportation options for the GNT as a commuter corridor for bikes/pedestrians serving western Dane County, the City of Middleton, and the City of Madison.

Recent surveys within the metropolitan area have indicated a strong interest by employees working in downtown Madison to commute by bike. Park and Ride lots strategically located along the GNT would facilitate more bike commuting. The GNT Corridor could function as a primary route connecting Middleton, the Villages of Cross Plains, Black Earth, and Mazomanie. There will be additional opportunities for future intermodal facilities in each of these population and local business centers.

This trail corridor is vital to maintaining and growing the metropolitan area's potential to create and sustain employment opportunities and increased economic competitiveness.

Safe Routes to School

Safe Routes to School (SRTS) began as a European phenomenon thirty years ago and migrated through Canada to New York City in 1997, spurred by high pedestrian crash rates. In the 1970s, Denmark had Europe's highest child pedestrian crash rate. Implementing the first Safe Routes to School program, planners in Denmark identified specific road dangers leading to the country's schools and took steps to remedy these hazards. Today, the child pedestrian crash rate has dropped by 80% in Denmark since 1970.

Based on the initial success of U.S. pilot programs in New York, Marin and Florida, Safe Routes to School became a nationwide effort in 2005, when Congress included a national SRTS program in the reauthorization of Federal highway legislation. The 2005 passage of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) institutionalized Safe Routes to School programs by allocating $612 million among the fifty states. These funds have been distributed to states based on student enrollment, with no state receiving less than $1 million per year. SRTS funds can be used for both infrastructure projects and non-infrastructure activities.

In Wisconsin, this funding has amounted to almost $12 million for program years 2005 through 2009, including projects in Middleton, Madison and Cross Plains.

National Trends

Safe Routes to School programming is gaining popularity across the country largely as a result of national trends in health, safety, the environment, and land use.

According to the U.S. Centers for Disease Control and Prevention (CDC), in 1969, 42% of children 5 to 18 years of age walked or bicycled to school. By 2001, this dropped to 16%—two and a half times less than the percentage of students who walked or biked to school in 1969.

Even when the distance to school remained constant, fewer kids were walking and biking to school. In 1969, 87% of children 5 to 18 years of age who lived within one mile of school walked or bicycled to school. By 2001, only 63% of children who lived within one mile of school walked or bicycled to school.

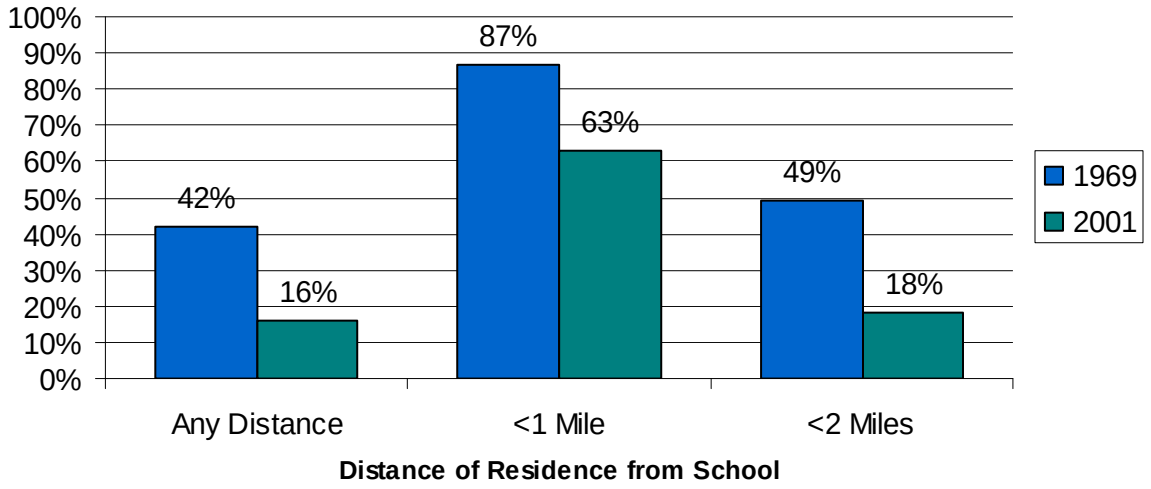


Figure 4. Active transportation to school among youth 5 to 8 years of age
(Source: Centers for Disease Control)

Experts recommend that children get at least 60 minutes of physical activity or movement on most, preferably all, days of the week. Convincing or allowing students to walk or bicycle to school is one method to increase physical activity among young people and help reverse the detrimental childhood health trends of the last thirty years.

Safety

Americans are driving more than ever before. According to the National Household Transportation Survey (NHTSA), over the past twenty years, the number of miles Americans travel on highways has nearly doubled. This includes increased automobile trips to school. In fact, as part of the Marin County, California SRTS pilot program, the county's congestion management agency determined parents driving their children to school accounted for 20-25 percent of all morning rush-hour traffic. Paradoxically, as motor vehicle traffic increases, parents often become more convinced that it is unsafe for their children to walk or bike to school so more parents drive their children to school, thereby increasing the amount of traffic experienced and justifying their perception.

Additional safety concerns about walking or biking to school were identified in a 2004 CDC nationwide survey. The survey revealed the most commonly reported barrier was distance to school (62%), followed by traffic-related concerns (30%), and weather (19%).

Air Quality

Children are particularly vulnerable to air pollution because they breathe faster than adults and inhale more air per pound of body weight (up to 50% more). Exposure to fine particulates, from fossil fuel combustion, is associated with increased frequency of childhood illnesses including asthma. Stand outside almost any elementary school at arrival and dismissal times and you are likely to witness parents and caregivers converging in their vehicles around the school and many parked with their engines running, increasing the amount of fine particulates within the school zone.

The U.S. Environmental Protection Agency's "Clean School Bus USA" program identified idling school buses as contributing to air pollution outside and inside of schools. Automobile emissions can enter school buildings through air intakes, doors, and open windows. Instructing bus drivers to shut off their buses also saves money. A typical school bus engine burns approximately half a gallon of fuel per hour. School districts that eliminate unnecessary idling can also save significant dollars in fuel costs each year, but a greater benefit to reducing vehicle emissions in the school zone is increased school attendance.

Asthma is the most common chronic illness in children and the cause of most school absences. It is also the third leading cause of hospitalization among children under the age of 15.

Land Use Patterns

Parents who drive their children to school are reacting, in part, to decades of auto-oriented land use planning that has neglected pedestrians, bicyclists and other users of alternative transportation modes as users of the transportation system. In many areas, auto-oriented development has hindered the creation of walkable communities. These new developments lack sidewalks or bicycle facilities and may be located too far away to make bicycling or walking practical.

Traditionally, schools were located in the center of communities, and this close proximity to residential areas contributed to high rates of walking and bicycling to school. Beginning in the 1970s, rather than renovating existing schools or building schools within existing residential communities, most new schools were built on the edges of communities where the land costs were lower. School siting policies may also dictate a certain acreage minimum that precludes many inner-community locations. Peripheral school siting means fewer kids live close enough to these facilities to make walking or biking to school practical.

School consolidation that closes small centrally-located schools in lieu of one newer and larger facility has also meant that these small walkable schools are abandoned in neighborhoods where they were ideally situated for walking and biking.

Learning and Behavior

SRTS plans can help improve students' attention and behavior by increasing physical activity levels. Studies have found a significant positive relationship between physical activity and cognitive functioning in children. An examination of students who had the highest scores on standardized academic achievement tests found that the students who had the highest average scores were physically fit at both the start and the end of the study. Other studies have indicated that overweight and obese students tend to struggle in school, which can be alleviated with regular exercise. Other negative

behaviors such as higher rates of school absences, detentions, violence and drug use are also more closely associated with obese and overweight students.

This connection between physical activity and academic achievement may be both physical and psychological. The physical basis of the connection is related to how exercise increases oxygen and the amount of blood flowing to the brain, which has been shown to have "positive effects on concentration, planning, abstract thinking, self control and verbal and mathematical competencies." Psychologically, physical activity is associated with mental health and good relationships. By providing the opportunity to walk or bike to school, SRTS programs are able to increase the physical activity levels of students and thereby offset some of the negative effects of inactivity on the learning environment.

Comprehensive Safe Routes to School programs are developed using five complementary strategies, referred to as the "Five E's":

- **Engineering** – Design, implementation and maintenance of signage, striping, and infrastructure improvements designed to improve the safety of pedestrians, bicyclists, and motorists along school commute routes.
- **Enforcement** – Strategies to deter the unsafe behavior of drivers, bicyclists and pedestrians, and encourage all road users to obey traffic laws and share the road. One example of this are the Park Rangers employed by the town of Middleton.
- **Education** – Educational programs that teach students bicycle, pedestrian, and traffic safety skills, and teach drivers how to share the road safely. Examples include the DNR Horse brochures, the GNT brochure, PBC trail maps and kiosks providing trail etiquette information.
- **Encouragement** – Special events, clubs, contests, and ongoing activities that encourage more walking, bicycling, or carpooling through fun activities and incentives. Local events include:
    - Dairyland Driving Events
    - GDHTA local horse trail rides
    - WSHC – Midwest Horse Fair
    - Madison Fishing Expo at the Alliant Energy Center
    - Snowmobile events that benefit local charities
    - City of Middleton "Big Event" and National Trails Day events
- **Evaluation** – Evaluating the projects and programs is fundamental to assessing successes of each of the "E's" above and helps to determine which programs were most effective and helps to identify ways to improve programs.

Good Neighbor Trail Planning Area

The Good Neighbor Trail corridor encompasses several local school districts with a combined enrollment estimated to exceed 6,700 students. Within and near the GNT corridor are eight elementary schools, three middle schools, two high schools, and one parochial K-8 school.

While most of these schools are within urbanized areas with adequate sidewalks, the lack of pedestrian and bike friendly routes from rural locations to these schools leaves little choice for school districts and parents other than to provide door to door car or bus transportation.

- While the Good Neighbor Trail cannot completely eliminate bus and vehicular traffic to school, a dedicated paved off-street 10' paved bike path, along with a comprehensive shared use trail system, can increase the viability of alternative transportation opportunities for students and faculty.
- An off-street 12-foot gravel shared use trail serving the Wisconsin Heights School campus would appear to be a very effective alternate transportation route for snowmobilers, equine and other uses.

Recreation Opportunities

As evident from the discussions at the GNT meetings, the enthusiasm for this regional trail lies in its opportunity to provide a shared use trail that addresses a broad spectrum of regional "route-based" outdoor recreational activities including: hiking, cross-country skiing, running, snowmobiling, biking, equestrian riding and driving.

Conceptually, the GNT could also provide route-based outdoor recreation opportunities and resolve limitations for ADA qualified individuals needing to use motorized and non-motorized POVs for access to various public recreation areas as well as schools. This bike/friendly route must be a 10-foot minimum paved facility for year round use and ADA accessibility.

The rural locale and variety of features within the Good Neighbor Trail corridor create opportunities to address demands for underserved groups and provides a unique trail experience with linkages between the four business districts in the corridor and accessibility to a wide range of outdoor recreation sites and unique natural resource areas.

The following trail user groups and stakeholders have been identified.

Horse Enthusiasts

Two categories of horse enthusiast groups have expressed interest in the GNT planning efforts: saddle horse/trail riders and drivers (carriages and carts). Each group has distinct trail planning considerations that range from trailhead improvements that can accommodate trailers to specific trail design and surface requirements.

The 2008 Survey Research Center at the University of Wisconsin -River Falls estimated that the number of households in the state that own horses is currently between 103,432 and 113,078 and that there are between

Equestrian Trails are a popular amenity

299,341 and 351,208 horses in the state. The Wisconsin State Horse Council estimates that there are roughly 20,500 to 26,695 households owning horses in southern Wisconsin.

The equine industry is a significant economic sector in the state. Total impact to the state, including indirect and induced impacts, is estimated to be over $1.3 billion in sales; over 33,260 jobs; and over $106 million in local, state, and federal tax revenues.

Fifty percent of the responding horse owners stated that lack of trails was an issue facing horse ownership.

Despite their significant numbers and presence in Dane County, Horse Enthusiasts (trail riders and pleasure drivers) have relatively few opportunities in western Dane County in terms of public trails or facilities. Within or near the GNT planning corridor there are four public horse trail sites:

- Walking Iron County Park, located in the Village of Mazomanie at the western end of the Good Neighbor Trail Corridor, features 5.8 miles of natural surface equestrian trails and a grass parking lot. There are no restrooms or water available and a trail permit is required.
- The Town of Middleton's Pope Farm Conservancy, near GNT Corridor on Old Sauk Road.
- Donald Park located in the Town of Springdale, 11 miles south of the GNT corridor, has 6 miles of equestrian trails.
- Blackhawk Ridge, located 4 miles north of the GNT corridor on Hwy 78with over 10 miles of equestrian trails.

The Good Neighbor Trail could provide additional permanent or seasonal linkages to these areas that would be attractive to this user group and conveniently accessible. Wisconsin DNR State Trail design standards recommend a minimum of 7 miles or more of equestrian trails to ensure an adequate user experience.

Route planning and facility considerations include trail surfacing, parking, water and natural resource protection, and appropriate design for shared use facilities such as bridges and road crossings.

There is a strong commitment to cooperation and self regulation by horse enthusiasts. They are continuing to expand their working relationships with landowners and local communities to develop and maintain equine trail locations.

The GNT is also an opportunity to:

- Provide off street routes/alternative shared use trails to minimize motor vehicle vs. horse conflicts
- Facilitate equestrian travel to Wisconsin Heights High School – an alternate SRTS mode
- Horse enthusiasts and equine related businesses in the area to expand their sport with public outreach efforts and promotional events/activities.
- Increase local economies and revenues from this new user group.

Snowmobilers

Snowmobiling is a high demand outdoor recreation sport for Wisconsin with almost 20% of the state's population (~773,000 people) participating. Dane County has a significantly large snowmobiling population with an estimated 5,500 registered snowmobiles and 500 miles of snowmobile trails.

Two State Snowmobile Trails cross portions of the GNT planning corridor and there is an extensive network of "Club" trails connecting the Village of Mazomanie to the City of Middleton. All of the snowmobile trails within the GNT planning corridor are maintained by the CP Drifters Snowmobile Club.

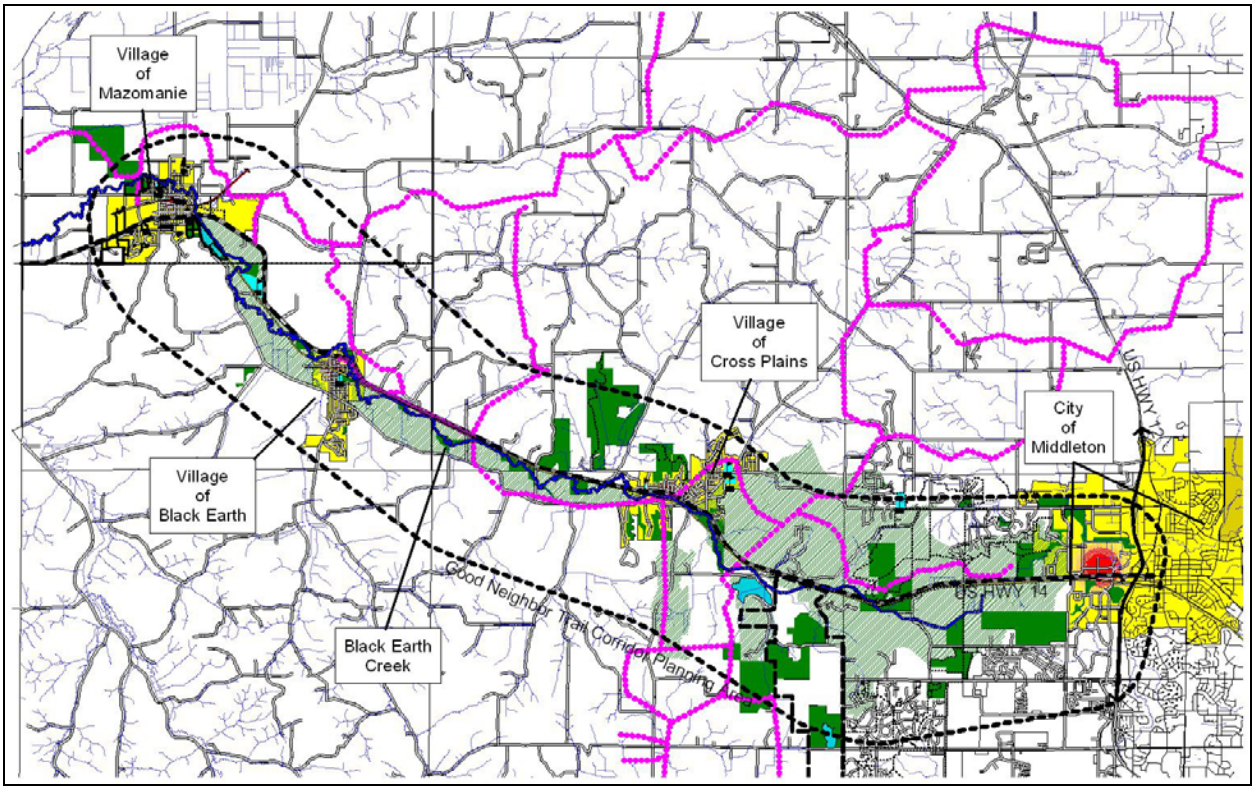


Figure 5. Snowmobile Trails in the Corridor

Snowmobiling has become an alternative means of winter travel for many people within the trail corridor. Many businesses lie along snowmobile trails including gas stations, restaurants, and bars. Some of these businesses rely almost entirely on profits made during the winter snowmobile season.

Snowmobiling is also an accepted routine alternative mode of transportation during winter months. Wisconsin Heights High School, located between Mazomanie and Black Earth, has sanctioned limited use of snowmobiles by students to commute to school, thus reducing motor vehicle congestion on US Hwy 14.

Snowmobiling and cross-county skiing can be accommodated on the same trail

There is a strong commitment to cooperation and self regulation in the snowmobile community with a great deal of attention paid to respecting and maintaining good working relationships with landowners and communities. Snowmobile clubs develop and maintain the trail network and also help to groom and maintain local cross-country ski trails.

Connectivity of trails to points of interest, businesses and service facilities is a primary consideration for snowmobilers. The Dane County Council of Snowmobiles has invested significant efforts regarding the planning and development of the Good Neighbor Trail, and is optimistic that a segment of this trail could complete the much needed link from the Village Cross Plains to the City of Middleton businesses and services needed.

Bicyclists

The League of American Bicyclists ranked Wisconsin as #2 in the nation and #1 in the Midwest for bicycling. The Madison Area was the fourth best "Bicycling City in the United States." Bicycling provides significant economic, health, transportation and enjoyment benefits to area residents.

Running and biking in Pheasant Branch Conservancy

Bicycling is an iconic symbol of the recreational community in Dane County. Cycling participation (and participants) ranges from the occasional weekend afternoon ride, to commuters, to organized recreational events, to serious athletic training rides and competitions. Western Dane County, with its varied terrain, attractive landscapes, well maintained roads, and convenience to the Madison metropolitan area, is a very heavily utilized bicycling venue and many popular rides traverse the GNT corridor and use community or county parks within the corridor as starting and destination locations for organized rides.

Shared use trail

The 2012-2017 Dane County Parks and Open Space Plan notes an overall long term County-wide vision is to create a regional bicycle pedestrian trail system that connects the majority of the major population centers to the County park system and other regional trails. Within the GNT corridor there are five county parks – Old Lake Middleton, Sunnyseed Farm, Festge Park, Salmo Pond and Walking Iron.

In the “bigger picture,” there are discussions of a regional bike trail network linking the Mazomanie area via Hwy 78 to Sauk City to with Devil’s Lake State Park. WisDOT is investigating a “Bicycle Interstate” concept that would provide a combination of off and on-road linkages between LaCrosse, Madison and Milwaukee. The GNT could become a significant “off-road” segment of this regional DOT network.

The GNT trail will provide a platform to:

- Resolve user/community conflicts by finding common ground, supporting outreach and educational efforts to cooperate on mutually acceptable routes.
- Provide off street routes to reduce motorized vehicle traffic conflicts on US Hwy 14 and other roadways.
- Provide off street routes that are recreational in character. Provide off street routes for race events, fundraising drives/rides, triathlon events, local races, fundraising walks/runs, national trails events and sleigh rallies

Pedestrians

This user type includes everyone from dog walker and nature enthusiasts to parents with strollers. The GNT will provide an opportunity for recreation and education walking experiences.

Roller Bladers, Roller Skiers

These user types desire flat, smoothed surface trails with few crossings for the best experience. The Good Neighbor Trail will provide such a facility.

Roller skiing is a popular summer activity in Wisconsin

Cross-Country Skiers

There are significant public areas within the GNT Planning with over 10 miles of cross country ski trails. The GNT presents the opportunity to provide a ski trail route in and of itself and become a main artery linking the extensive trail facilities in Pleasant View Golf Course, Pope Farm Conservancy, the future trails in the BECWA (Sunnyside Seed), Festge Park, Wolf Run Conservancy, and Walking Iron County Park. This will create one of southern Wisconsin’s largest network of cross-country ski trails.

Additionally the GNT provides year-round linkages between parks and outdoor recreation activities beginning and ending at local businesses along the corridor.

The GNT will also provide a Safe Route to School for student/staff commuting to Wisconsin Heights High School and for other employment locations in this area.

Reconciling inevitable conflicts between motorized and non-motorized uses is an important planning consideration for shared-use aspect of the GNT. The exceptional outreach and cooperative efforts

between the local snowmobile clubs and ski trail users is an effective model for maintaining and using shared facilities that have applications to all users of the GNT.

Fishing

Accessible fishing pier

Black Earth Creek is the key surface water resource in the GNT planning corridor and is ranked as one of the best trout streams in the United States. Black Earth Creek is considered Class 1 trout water for the entire length of the corridor.

A 2008 study on recreational angling in Driftless Area (including portions of Wisconsin, Minnesota and Iowa) prepared by Trout Unlimited, reported that men and women of all ages and income levels fish various Driftless area streams. Trout angling as a sport is dominated by men over 40 years old who have college degrees, and median household incomes of $60,000 to $80,000 (2006) – much higher than the US median income of $48,200. The study reported that average spending by anglers in the Driftless area as between $209 and $391 per outing. This is important since any activity which draws a substantial number of high income people to regularly visit or reside in an area, contributes substantially to the local economy.

The Good Neighbor Trail, with its design as a shared use path, will provide greater access to the stream for anglers. The trail will also facilitate more efficient maintenance and stream restoration efforts conducted by the Wisconsin DNR.

Natural Area and Cultural Resource Enthusiasts

Historic Societies

There are a number of historical societies located in the trail corridor communities.

Black Earth Historical Society - In August 1992, The Black Earth Historical Society was organized. Affiliated with the State Historical Society of Wisconsin, it has two charges: to preserve and to educate the history and inhabitants of the Black Earth valley, respectively. Since its inception, and with the help of local government, businesses, and citizens, this Society has restored and refurbished the Black Earth Depot into a local museum.

Cross Plains – Berry Historical Society - The Cross Plains-Berry Historical Museum is housed in the St. Martin's EV. Lutheran Church, built in 1886.

Mazomanie Historical Society - The Mazomanie Historical Society was organized in 1966 and currently has over 100 members. It operates a museum, a research center, and a document and artifact storage annex. The purpose of the Mazomanie Historical Society is exclusively educational and was organized to

preserve, advance, and disseminate the knowledge of the history of the Village of Mazomanie and the surrounding area.

Middleton Area Historical Society - It was established in 1972. With the hope of providing a real and lasting contribution to the Middleton community, the following objectives were created:

1. To collect and preserve artifacts reflective of the daily lives of our pioneers in the home, on the farm and in places of business.
2. To record the story of the lives and struggles of the unsung members of our early days, who changed a wilderness into a forward-looking, energetic, productive and beautiful community that we enjoy today.
3. To honor the foresight, sacrifices, and the services of the many who have gone before, while still serving the living of today and tomorrow.
4. To bring about the realization of the dream of having a local historical museum building of our own.

All Terrain Vehicles (ATV's)

There are no organized ATV ridership groups in Dane County, nor are there any trail facilities for ATV's in the area. In Northern Wisconsin, recreational ATV trails occupy the same or similar routes as snowmobiles/equestrians with consideration and respect for agricultural lands agreements.

One of the issues identified earlier in the GNT Trail process related to potential conflicts between different user groups. Sometimes, the use and enjoyment of different trail type users can be conflicting. Non-motorized trail users seeking quiet, solitude or wildlife viewing experiences can have a difficult time meeting these goals in areas where motorized use is prevalent. Some examples of user conflicts between motorized and non-motorized trail users included hikers, horses, bikers and runners vs. ATV use in the summer and skiers and hikers vs. snowmobiles in the winter. Similarly, safety issues can arise when non-motorized and/or motorized users meet on trails where visibility is limited. A sustainable trails system will address methods to deal with user conflicts including education, enforcement and design standards.

While most motorized trail users act in a responsible, thoughtful manner, it takes just a few users or overuse of a specific area to cause damage to the natural environment, particularly in stream corridors, wetlands, or other wet areas, those where the topsoil is relatively thin and where steep grades may exacerbate the potential for erosion. Proper trail design and use, and ongoing management of trails are needed to reduce negative impacts now and in the future.

Current and Future Trail Maintenance and Stewardship

ATV users note that they often assist in maintaining and improving ATV trails, although the majority of these efforts appear to be conducted primarily by individuals. They also note that many ATV users use trails in a responsible and courteous manner, recognizing that the bad behavior of a smaller number of individuals can result in environmental damage and user conflicts. In coordination with other user groups, ATV users can participate in more organized trail maintenance and improvement efforts. ATV users should be encouraged to distribute information about proper stewardship of trails and

surrounding areas. Such information could be distributed by ATV dealers, guides who use ATVs to access fishing and hunting areas and lodges, any organized ATV user groups and others. It should also be noted that most ATV users are also members of the other trail user groups – such as equestrians, snowmobilers and pedestrians.

Strategies to Address ATV Use Issues

A variety of strategies related to trail access, management, use, improvement and education include:

- Continue to update trail maps as information about the location and condition of publicly accessible trails is provided, highlighting information about land ownership associated with trails and surrounding areas and any restrictions for specific types of trail users.
- Provide information about permitting processes and use restrictions by providing Web site links or contact information for local, state and federal agencies and others.
- Continue to work with partnering agencies and groups to prepare and provide educational materials related to trail access, private property owner rights and responsible stewardship of trails and surrounding areas.
- Develop a set of procedures for managing or permitting trail access or use on the Good Neighbor Trail.

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Related State, Regional and Local Planning Efforts

The concept of a regional trail through the northwesterly part of Dane County has been "on the books" of various local, county, state and federal plans for over 20 years.

State of Wisconsin

The Wisconsin Department of Natural Resources (DNR) has also identified a proposed regional trail connecting Madison with western Dane County as part of the 2001 Wisconsin State Trails Network Plan (WSTNP). The proposed Good Neighbor Trail (GNT)would be a part of "Trail Network Segment 22 - Prairie du Chien to Madison" shown in the WSTNP potential network for South Central Region. "Segment 22" would be a major east-west route along the Wisconsin River corridor that creates a long-distance trail linking the Madison/Middleton metropolitan area with the Mississippi River Valley corridor – Cross Plains, Black Earth, Mazomanie, and Spring Green.

Dane County

The 2006 -2011 Dane County Park & Open Space Plan (POSP) lists "Develop[ing] a County-wide regional bicycle-pedestrian system that connects communities and large population centers with other public parks and regional trail systems" as a top priority. The plan suggests development of a regional trail linking the communities of Mazomanie (from Walking Iron County Park) to the City of Middleton. Dane County proposes this trail to be roughly located along HWY 14/Black Earth Creek with north-south linkages connecting Town, Village and County parks along the way.

The current version of the Dane County POSP - Draft 2012-2017 Parks and Open Space Plan includes these regional trail initiatives as well. The following italicized text is directly excerpted from the Draft Plan.

Trails are perhaps the most frequently used recreation facility in the park system. Development of additional trails is also consistent with providing future recreation opportunities for the forecasted aging population of Dane County. This plan will make County-wide recommendations for regionally significant hiking, water, bicycle-pedestrian, equestrian and snowmobile trails. Recommendations of the 2010 BikeDane initiative are also included in this plan.

BICYCLE PEDESTRIAN FACILITIES

Strong public support was again evident throughout the planning process for development of bicycle pedestrian trails that are identified in the plan.

Since 2001, Dane County has included the concept of an off road trail between the City of Middleton and Village of Mazomanie. In 2007, local unit of government elected officials and interested parties formed the Good Neighbor Committee (GNC) to promote intergovernmental cooperation on matters of mutual interest through communication and information sharing along the corridor. A GNC Trail Subcommittee formed out of the GNC as a forum for the discussion and decision making process for the development of

a regional multi-use trail to connect the City of Middleton to the Village of Mazomanie. Dane County will continue to explore planning, funding and development partnerships with this organization.

The overall long term Countywide vision is for a regional bicycle pedestrian trail system that connects the majority of the major population centers to County park facilities and other regional trails.

Recommendations:

- *The County's role is to develop off road regional trails within project areas identified in the Parks and Open Space Plan. Regional trails that extend outside of these project areas would be developed by the local unit of government. In some circumstances, the County may consider partnering with local units of government to utilize its own staff and equipment to develop off road regional trails identified in this plan by formal agreement.*
- *For regional trails identified in this plan that extend outside of County project area boundaries and are funded or developed with assistance by Dane County Parks, the County may have the option to eventually transfer ownership to the State or charge user fees to offset maintenance costs. These trails would also be identified by signage as County trails with other partner logos as apply.*
- *For regional trails identified in this plan that extend outside of County project area boundaries, the County's primary role is to provide eligibility to apply for Conservation Fund grant dollars for local units of government to acquire lands necessary for trail construction.*
- *Some of the regional bicycle pedestrian trails identified on this plan may be on road bike routes or bike lanes. These would be implemented by the local unit of government and possibly coordinated with the Dane County Highway Department. The intent of including them in this plan is for grant eligibility purposes only.*
- *Investigate feasibility of implementing a seamless, shared Countywide bike trail pass via an advisory panel consisting of local units of government, the Bike Federation, Capital Off Road Pathfinders, Wisconsin DNR and the Greater Madison Bicycling Advocacy Committee.*
- *Investigate creation of bicycle advocate Friends groups to assist with operation and maintenance of trails.*
- *Continue and expand on BikeDane initiatives.*
- *Continue working with the Bike Federation, rural townships, Dane County Highway and Sheriff, and bicycle clubs to improve coordination of bicycle events that effect County highways or parks.*
- *Coordinate semi annual meetings with Dane County Highway.*

EQUESTRIAN TRAILS

Dane County Parks has been working with equestrian riders to develop an "outside the park" regional trail system. These trails are made possible by volunteers securing formal access agreements to construct equestrian trails on lands adjacent to and beyond County park lands. Donald County Park has recently developed such a trail and additional loops have been added. The equestrian community hopes to further

this concept from other public riding areas in the County with the eventual goal of forming a continuous loop through rural areas around the entire metropolitan area.

Recommendations:

- *It is envisioned that Dane County equestrian clubs would form a committee that would carry out landowner negotiations, development and maintenance of this regional trail system.*

Equestrian trails provide nature based opportunities for riding

SNOWMOBILE TRAILS

Dane County has a long snowmobiling history. Several of the oldest snowmobile clubs within the State originate from the County. Dane County Parks manages over 350 miles of State funded snowmobile trails and assists with the coordination of another 150 miles of club trails. The Parks Director is the Snowmobile Trail Coordinator for the program and works closely with the Dane County Council of Snowmobile Clubs. Administration of the funded trails is handled through the parks office; staff inspects the funded seasonal trails once a year for proper signing, layout and safety issues.

Dane County has been one of the fastest growing counties for the last 20 years. As the County's urban centers continue to expand, the snowmobile trail system has had to move into increasingly narrower corridors. Snowmobiling is an important winter recreation activity for residents and provides an economic benefit for both Dane County and the State of Wisconsin. To maintain the integrity of the trail system, more needs to be done to protect and preserve lands where these seasonal trails (and other trails) can be maintained for future generations of users. A comprehensive study of the present snowmobile trail system in Dane County should be done in conjunction with the Dane County Snowmobile Council. This study should identify snowmobile trail needs for the future and designate permanent trail corridor goals.

Recommendations:

- *Utilize summer intern, university students or volunteer help to complete a comprehensive study of the existing and future snowmobile trail system.*

The Dane County Board of Supervisors expressed their strongly support of the concept of the Good Neighbor Trail with the adoption of Resolution 72, 08-09 on September 18, 2008.

Local Trail Municipalities

Five of the eight communities in the Good Neighbor Trail corridor have approved and signed a Memorandum of Understanding for GNT. Many of the Good Neighbor communities have adopted Comprehensive and Park planning goals and policies which support GNT development. All of the eight communities recognize contributions that trails have on the “quality of life” characteristics and economic development opportunities.

Each of the eight communities in the GNT corridor has adopted comprehensive plans and development policies which strongly support trail development and trail interconnection between communities. Mazomanie, Cross Plains and the City of Middleton are currently implementing projects. Excerpts from the comprehensive plans are included in the appendix.

Trail Design Considerations

Shared Use Trails

Need/Intent

The shared-use dual purpose is the main component of the Good Neighbor Trail Plan and serves as both an extension of the surrounding communities' alternative transportation network and as a outdoor recreation trail. As such, this trail type will provide the framework for connecting communities, schools, parks, downtowns, civic facilities, and workplaces for all levels of users. The Good Neighbor Trail (GNT) shall be in line with American Association of State Highway and Transportation Officials (AASHTO), *Americans with Disabilities Act* (ADA), Manual on Uniform Traffic Control Devices (MUTCD) and City of Middleton Conservancy Lands Committee (CLC) trail standards.

Design Guidelines

The following specifications are for a dual purpose shared use trail.

- Materials: Unless otherwise specified, surface shall be comprised of porous asphalt and should be structurally suitable for emergency vehicles. The surface should be smooth and free of tread obstacles. Typical construction should include a 3-inch porous asphalt surface over an 4-6 inch minimum compacted aggregate base.
- Width: Trail width shall be 10 feet minimum. In cases of limited right-of-way, an 8-foot wide trail may be used if properly marked and signed according to the standards identified in this manual. Aggregate base shall extend 12 inches beyond the edge of asphalt on both sides of the trail in order to reduce edge deterioration.
- Clear Zone: A clear zone should occur on both sides of the shared-use path at a minimum of 1-2 feet wide. Area should be graded at a maximum slope of 3:1. Additionally, a minimum 1-foot buffer zone between the edge of the graded clear zone and any fixed objects such as signs, mile markers, lighting, or plantings should occur. On bridges this guideline does not apply.
- Vertical Clearance: Clear height zone should be a minimum of 17 feet.
- Drainage: For drainage, slope should not exceed a uniform cross slope of 2%. Where a shared-use path is benched into a slope, a swale on the uphill side should be considered to catch water before it crosses the shared-use path. Culverts may be necessary to move water under the shared-use path. Disturbed areas should be seeded with native species and mulched to prevent erosion.
- Design Criteria: Shared-use path shall comply with all AASHTO requirements for design speed, surface type, sight lines, stopping distances, and grades, unless variances are needed for natural resource feature preservation.
- Minimum Curve Radius: 95 feet as per AASHTO guidelines, where possible.

- Profile Grades: maximum recommended grade for shared-use paths is 5 percent. Grades steeper than 5% are possible, but should be restricted to distances as indicate in the AASHTO and ADA Guidelines.

Shared Use Paths and Natural Corridors

Intent

When passing through natural and environmentally significant areas, such as the environment in which most of the Good Neighbor Trail is located, the shared use path system should respect natural conditions, minimize disturbance to existing conditions, protect cultural resources, and minimize disturbance of biodiversity.

Boardwalks are used to protect sensitive natural areas

Design Guidelines

- The shared-use path and associated amenities should be designed to blend in with the natural context of the environment, and should not create a visual obstruction on the landscape.
- When designing the shared-use path, the path location should take advantage of significant scenic views.
- In natural areas, native plants and grasses should be used in landscaping along the shared-use path.
- On sloped areas, uphill drainage as well as other standard drainage should be incorporated into the design to prevent trail damage.

Regulatory Standards: Crossing Standards

Intent

Shared-use paths need to be specially designed at all roadway intersections to create the safest solution for all users and vehicles.

Design

- The greatest potential safety hazard to users is when a shared-use path crosses a roadway, driveway, railroad, watercourse, or another sidewalk or shared-use path. The best way to increase safety is to increase visibility. It is important that crossings are visible both to trail users and to motorized vehicles. There are two types of crossings: at-grade and grade-separated. Of these, grade-separated crossings are necessary for watercourses, and strongly recommended

for high-volume roadways. At-grade crossings are appropriate where motorized traffic volumes are low or local conditions prohibit grade separation.

- At-grade crossings should be used when roadway traffic volumes are low, where shared-use paths cross roadways at existing traffic signals, or when local conditions restrict the ability to implement a grade-separated crossing.
- Mid-block crossings may be used with special design consideration that would include pavement markings or striping, and signage.
- Shared-use paths should cross roadways at right angles when possible.
- Signage, striping and other pavement markings, and signals are the three basic components of at-grade crossings. All regulatory signage shall comply with MUTCD's *Traffic Controls for Bicycle Facilities*. For more detail refer to Operation Standard O1. Regulatory markings shall comply with MUTCD's *Traffic Controls for Bicycle Facilities*. For more detail refer to Operation Standards O2 and O3.
- Where practical, curb radii of street intersections should be minimal to reduce the length of pedestrian and trail crossings. Determination of exact radii shall be dependent on design vehicle, width of the approach and receiving lanes, and the curb radius itself. City of Middleton Conservancy Lands standards use a 10' curb cut at trail crossings.

Shared-use Path & Natural Feature Crossing

Intent

Shared-use paths need to be specially designed at all natural features to provide access across waterways, wetlands and steep terrain.

Design

- All crossings of environmentally sensitive areas should be designed to minimize impacts due to trail construction.
- All construction should minimize the amount of fill material used in sensitive areas, especially floodways, floodplains, and wetlands.
- Where possible, shared-use path placement should avoid sensitive environments such as wetlands or endangered flora and fauna. In areas where the shared-use path will impact sensitive areas, trail construction should be done in a manner to minimize disturbance and use sustainable methods for construction of shared-use path. For example, if the shared-use path passes through a designated wetland, boardwalks should be used to minimize the trail's effect on the wetland.
- For bridges over streams and water courses, use above ground footings and Custom- type bridges. See http://www.custommfginc.com/index.html

- In forested areas, shared-use path alignment should be designed to minimize impact to the forest.
- In natural areas, native plants and grasses should be used in landscaping along the shared-use trail.

Equestrian Needs Summary

Pleasure Drivers, Courtesy of Peter Mischka

Intent

To provide equestrians with the facilities necessary for an enjoyable experience, the following standards should be followed:

- Trailheads with parking for horse trailers
- 17 feet of vertical clearance
- Areas to tie horses
- Mounting blocks

Design

Trail design standards refer to the characteristics of the trail to provide varying levels of access, traffic loads, maintenance requirements, and costs. In order to select the appropriate trail standards for a particular trail or trail system, a number of factors should be considered. These include:

- Trail grades/slopes
- Anticipated trail traffic volumes and seasonal demands
- Trail user types
- Drainage needs
- Maintenance needs
- Maintenance costs and schedules

The needs of equestrian trail users are unique due to the natural flight instinct of horses when startled. Multi-use trails can easily serve both pedestrians and equestrians, as they both travel easily on unpaved surfaces and move at relatively slow speeds. However, equestrians and bicyclists are not typically compatible on the same tread. For instance, a quiet, fast-moving cyclist can startle a horse. In areas where trail user conflicts seem likely, efforts should be made to physically separate non-compatible user groups. The GNT is designed to employ a dual use trail design with a 10-foot porous paved trail for bikers, runners and faster users and a 12-foot gravel trail for horse carts/buggies, horse and riders and dog walkers. Bikers and runners prefer to use year-round porous paved surfaces, while the horse group would use the adjacent gravel trail, along with pedestrians.

Equestrians include youth, adults, seniors, leisure riders, professional endurance riders, organized groups, and people with disabilities. Riders may recreate individually or in groups for pleasure, exercise or challenge. Safety concerns for equestrian riders in rural settings involve:

- Visibility
- Trail user conflicts
- Stream crossings
- Bridges and boardwalks

As with any trail design, the design of an equestrian trail facility should respond to the setting, needs of the trail users, level of use, and safety issues. Equestrian trail facilities should provide enough space for a horse and rider to feel at ease. Horses prefer to travel away from walls or barriers that they cannot see through or over, and they are most comfortable traveling in the tread that other horses have traveled. Width of the trail depends on whether the corridor is intended to be used as a single-track (6-foot) or double-track (12-foot) trail.

Physical Forces on the Trail Surface – Trail Design Standards

There are three main forces that act upon natural or soft surface trails:

- Compaction – downward force caused by trail users
- Displacement – horizontal movement of tread material caused by the impact of hooves, feet or wheels
- Erosion – natural process of trail tread being worn away by wind or water

Each of these forces acts alone or in tandem with another force to break down trail tread. Designing sustainable trails is an act of effectively managing each of these forces.

Compaction and Displacement of the Trail Surface

The forces of compaction and displacement combine to lower the level of the tread over time. Different trail users will generate varying degrees of each force.

Equestrians generate high degrees of compaction and generate medium degrees of displacement. As horses walk, the flipping of their hooves deposits tread material on each side of the trail. A typical equestrian trail will develop an 18-inch wide tread with flat bottoms and vertical sides. Over time, compaction causes soils, (particularly soils with higher clay contents), to become more resistant to displacement. The GNT will be a 12-foot wide gravel trial for all summer users such as equine, pedestrians, dog walkers etc. In the winter, this surface will be used by both snowmobilers and cross-country skiers.

However, displacement will continue to occur for the life of the trail. The degree of each force is a factor of the tread material and tread slope. On level tread, downward force is straight down. On tread with a steeper side slope, much of the compaction force is deflected into downhill displacement force because of gravity. Tread material that is loose or muddy is less resistant to compaction and is more susceptible to displacement.

Erosion

Some erosion will occur on all trails. Erosion is not a force that can be avoided or prevented. However, trails can be designed to minimize the amount of erosion that will occur over time. Small amounts of erosion are at least a nuisance to trail users, and will clog natural trail drainages and deposit organic materials in low-lying areas. At worse, erosion will scour the tread surface and erode large quantities of tread material leaving the tread uneven.

While images of steep trails that are severely eroded come to mind, even slightly graded trails are subject to erosion. Material loosened as a result of displacement is the first to be eroded, while compacted soils can withstand higher amounts of runoff. The forces of compaction and displacement can also act to hide signs of erosion by filling in the ruts caused by water flowing down the trail tread. Compaction and Displacement combine to lower the tread level over time and create berms along the trail edges.

Tread Watershed

Over time, compaction, displacement, and erosion will re-shape the trail tread. To manage these changes, natural surface trails are designed with series of dips and crests. These dips and crests divide the trail tread into a series of watersheds. This creates a system of redundancy in the design of the trail. If water does begin to flow along the trail tread, it will only do so until it reaches the next dip. Dividing the trail tread into smaller watersheds minimizes erosion caused by water flowing along the tread. Small scale erosion will remain a problem within each watershed, but the problems will be more manageable.

Rolling Grade/Grade Reversal

The preferred design pattern for designing and building sustainable trails is to incorporate a pattern of rolling grades or grade reversal. Rolling grade is defined as “a series of dips, crests, climbs, drainage crossings, and edge buffers that are intrinsically linked and purposefully designed to form a sustainable trail” (Trail Planning, Design, and Development Guidelines [MN DNR, 2006], 6.13). Trails built with a rolling grade automatically incorporate the concept of tread watersheds described above. Rolling grade trails climb slopes using a series of climbs and subtle drops. The change in grade allows water to drain off the trail tread. Depending on soil type and annual rainfall, a low point should occur every 20 to 50 linear feet. Trails climb by traversing a slope. Typically, a trail should rise by no more than one-third to one-half the grade of the side slope. Trails steeper than this will intercept water flow and be prone to serious erosion problems. Tread watersheds use a series of crests and dips to direct runoff off of the tread surface and minimize erosion.

Rolling grade is the preferred design-pattern for sustainable trails. The series of curves and dips makes the trail more interesting for users, and provide short periods of downhill during long climbs. The curves also provide visual separation between groups of trail users, and offer an experience of solitude even on high-use days.

Trail Etiquette

Simple signs reminding hikers and cyclists to yield the right-of-way to equestrians should be posted at trail access points. The trail etiquette sign to the right is recommended for portions of the trail that will be multi-use.

Strategies for Limiting Access

One effective method for preventing unwanted motorized users from accessing the trails is to install a "step up" gate as shown to the right. The gate shown at right allows equestrians and hikers to pass through, but prevents motorized users from easily accessing the trails. In the winter, these gates can either be opened to allow snowmobiles to pass, or trails would be closed to motorized users until snow levels cover the step up.

Trail User Safety

Creating a safe trail environment goes beyond design and law enforcement. It should involve the entire community. The most effective and most visible deterrent to illegal activity on trails and at trailheads will be the presence of legitimate users. Getting as many "eyes on the corridor" as possible is a key deterrent to undesirable activity. User diversity ensures active use and more "eyes on the trail".

Equestrian Support Facilities

Suggested facilities are:

- Signage
- Trailer Parking lot
- Hitch or Tie rail
- Interpretative programs/Trail education area
- Mounting blocks/box

Trailer Parking

Equestrians require parking spaces with additional length and width in trailhead parking areas to accommodate their vehicles, the loading and unloading of horses, and tacking up. A typical truck and trailer "rig" is between 44 and 78 feet long; 15 additional feet is needed to safely unload horses from the back of the trailer without stepping into the vehicle circulation area. Rigs are usually eight feet wide, 12 feet of clearance should be provided for horses to be tied to the side of a trailer, and four feet of clearance should be provided for a person to walk or lead another animal behind a tied horse. To accommodate these needs, parking stalls should be 55-78 feet by 24-28 feet wide.

Mounting Blocks/Box

Mounting blocks typically resemble a short staircase that ends in midair to assist riders in mounting their horses and can be made from fiberglass, wood, metal, concrete or plastic. Mounting blocks can also be rocks, hay bales, stumps, etc. It is important to note that riders usually mount horses from the left, thus adequate clearance (typically 8 to 10 feet) of any obstructions should be provided around mounting

blocks. Many riders provide their own mounting blocks, but some permanent fixtures throughout the trailhead are recommended as well as ADA mounting blocks.

Hitching or Tethering

Hitching and tethering are interchangeable terms that describe a means to secure horses to a fixed object. Both are commonly used amenities at trailhead facilities.

Hitching rails are used to secure horses for short periods of time. Hitching rails can be made of wood, metal or other sturdy material and should have "stops" along the rail to prevent reins from sliding. Hitching rails should be placed near information points and rest areas and at midway points on trails over 8 miles long to increase rider ease and comfort.

Hitch rails are typically:

- 4 feet long to accommodates two horses, one on each side
- 10 feet long to accommodate three horses, two on one side and one on the opposite side
- 42 inches tall
- Rounded at the ends, with no sharp corners or protrusions
- Equipped with "stops" where the horizontal rail meets the support posts to prevent leads from sliding off the rail

A horse highline tie is a length of rope or cable tightly stretched between two secure upright fixtures. Highlines have "stops" that consist of tie loops, Montana Cinches, in-line swivels, or similar devices, to connect the horse's lead rope. The "stops" on the rope or cable lock the lead rope into place greatly reducing the risk of horses becoming entangled. Highlines allow horses to move around in a circle and are suitable for longer periods of restraint.

Equestrian Trail / Roadway Crossings

It is highly desirable to minimize the number of potential vehicle-trail user conflicts. As a general rule, when roadway crossings are required, they should occur at established pedestrian crossings, or at locations completely away from the influence of intersections.

Typical City of Middleton shared use trail crossing

When considering an off-street equestrian or multi-use trail and required at-grade crossings of roadways, it is important to remember two items: 1) trail users will be enjoying an auto-free experience and may enter into an intersection unexpectedly; and 2) motorists may not anticipate trail users riding out from a perpendicular trail into the roadway. However, in most cases, an at-grade

trail can be properly designed to a reasonable degree of safety and meet existing traffic engineering standards.

Evaluation of equestrian and multi-use trail crossings should involve an analysis of vehicular traffic patterns, as well as the behavior of trail users. This includes traffic speeds, street width, traffic volumes (average daily traffic and peak hour traffic), line of sight, and trail user profiles (age distribution, range of mobility, destinations). Traffic safety studies should be consulted as part of the actual design of the proposed crossings to determine the most appropriate design features.

Like many trails, the Good Neighbor trail will most likely have to cross roadways at certain points. These roadway crossings may be designed at-, below-, or above-grade. At-grade crossings create potential conflicts between trail users and motorists. However, well-designed crossings have not historically posed a safety problem, as evidenced by the thousands of successful trails around the United States with at-grade crossings. Designing safe at-grade crossings is a key to safe implementation of any trail plan. Trail roadway crossings should comply with the AASHTO, MUTCD, and any local standards that may apply.

Asphalt and concrete are considered a dangerous surface material for equine. The smooth finish of asphalt and concrete does not provide a gripping surface for hooves. It is recommended that equine exposure to asphalt and concrete be minimized. Equestrian crossings of roadways may require appropriate tread surfaces, such as slip-resistant slurry, rough-textured concrete or traction friendly pavers to increase traction. Trail approaches at roadways should always have 'STOP' or 'YIELD' signs to minimize conflicts with automobiles. The preferred equine surface would be a typical gravel/limestone screenings trail surface.

Accessibility – Equestrian Use

Projects funded with community or State money are subject to the *Americans with Disabilities Act* (ADA). Projects funded with Federal dollars, or operating under a permit issued by a Federal agency, fall under the Architectural Barriers Act (ABA) and Section 504 of the ADA, and must abide by the Architectural Barriers Act Accessibility Guidelines (ABAAG). ADA/ABAAG focuses on facilities in highly developed areas such as cities, towns, and major tourist attractions. With the exception of boating facilities and fishing piers and platforms, ADA/ABAAG does not provide direction for construction or renovation of outdoor developed recreation areas or trails designed for hikers and pedestrians.

In response to the lack of accessibility guidelines for outdoor recreation areas, the Forest Service developed its own guidelines. The Forest Service Outdoor Recreation Accessibility Guidelines (FSORAG) and the Forest Service Trail Accessibility Guidelines (FSTAG) are detailed accessibility guidelines that apply to developed recreation sites and hiker and pedestrian trails within the National Forest System. Both the FSORAG and the FSTAG are based on draft accessibility guidelines for outdoor recreation areas created by a committee of the Architectural and Transportation Barriers Compliance Board (Access Board). The Forest Service guidelines recognize the realities of the outdoors and allow exceptions for certain circumstances. While the FSORAG and FSTAG only have to be followed within National Forest System boundaries, the guidelines are useful for others who are planning and designing outdoor recreation projects.

Facilities at trailheads and campgrounds, including toilet buildings and parking areas, must be accessible. Pathways within such areas and those that lead to trailheads and interpretive sites also must be accessible.

The FSORAG addresses the accessibility of camp and picnic units, picnic tables, grills, and so forth. For more information see Chapter 11-Designing for Riders with Disabilities and Appendix F-Summary of Accessibility Legislation, Standards, and Guidelines at the following website:

http://www.fhwa.dot.gov/environment/Fspubs/07232816/page04.htm#fede

The following trail standards, classifications, and guidelines offer a framework for management and decision making to build an equestrian trail component as part of the Good Neighbor Trail. In addition, this guide establishes standards terms and definitions that can aid communication with planning partners about trail needs, design standards and environmental issues.

Table 2. USDA/FHWA Equestrian Trail Standards
(Source: USDA/FHWA Equestrian Design Guidebook for Trails, Trailheads, and Campgrounds)

Level of Development	Tread Width	Clearance Width	Average Grade*	Maximum Grade	Outslope	Turn Radius
Low	1.5′-2′	5.5′-8′ (w) 10′ (h)	≤ 12%	20% No more than 200′	5-10%	5′-6′
Moderate	3′-6′	9′-12′ (w) 10-12′ (h)	≤ 10%	15% No more than 200′	5%	6′-8′
High	8′-12′	14′-18′ (w) 12′ (h)	≤ 5%	5-8% (800′-1500′) 8-10% (500-800′) 10% (≤500′)	2-5%	8′-10′

**Target range (over at least 90% of trail)*

Trail Management Objectives

Trail Management Objectives (TMO's) help define how an individual trail functions, its level of development, its intended user groups, maintenance, and the range of experiences it provides. The overall goal of the TMOs is to provide a framework that can eventually be applied to existing and future trails.

As an output to the TMO process, the physical characteristics of a trail and the intended user experience must be tied to a trail classification system and maintenance standards. For the Good Neighbor Trail, the United States Forest Service Trail Classification System is applied as a basis. Additional factors unique to this trail and its users have been taken into account and incorporated into the recommended classification system. At the most basic level, any segment of the Good Neighbor Trail (GNT) can be matched to the following:

- Trail Class 1: Minimal/Undeveloped Trail
- Trail Class 2: Simple/Minor Development Trail
- Trail Class 3: Developed/Improved Trail
- Trail Class 4: Highly Developed Trail
- Trail Class 5: Fully Developed Trail such as the GNT trail with 10' wide paved surface adjacent to a 12-foot wide gravel surface

Trail Experience

One of the most important pieces of information to consider when defining a TMO for a particular trail is the intended user experience. A Trail that provides access to public lands will have a much different user group than a more developed trail that links to businesses. A trail's intended purpose can also provide insight into what user groups use the trail. Trails can have multiple purposes that provide a variety of functions and benefits to the community. Example of trail purpose categories can include the following:

Trail amenities enhance the overall experience

- Access to Public Lands
- Access to Hunting
- Recreational/Camping
- Scenic
- Fitness
- Alternative transportation (between rural areas and village centers)

The GNT plan seeks to provide outdoor recreational experiences in conjunction with an alternative transportation trail to increase user types and trail availability to more people.

Trail Activities

The Good Neighbor Trail will be open to multiple user groups. Potential uses include:

- Short Hikes (1-2 hours or less)
- Longer Hikes (1/2-full day)
- Fitness/Running/Walking
- Dog walking
- Horse Riding
- Pleasure horse driving
- Wildlife Viewing/birding/photography
- Hunting Access
- Fishing access
- Birding
- Cross Country Skiing/ Roller skiing
- Snowmobiling
- Snowshoeing
- Rollerblading

AASHTO generally finds that it undesirable to mix stock and bicyclist on paved shared use trails and recommends a separate bridle path. The reasoning is that many bicyclists have little experience sharing a facility with equestrians, and stock can be unpredictable.

The Pedestrian and Bicycle Information Center notes that some rural trails with hard surfaces already include a soft shoulder for runners. The GNT plan recommends providing a two side by side for all users to be accommodated.

Americans with Disabilities Act

In order to conform to the Americans with Disabilities Act (ADA) in regard to programs, services, and facilities a government entity must follow numerous requirements. The Act, as structure, first defines broad mandates followed by prescriptive technical or physical descriptions on recognized methods that best achieve the mandates. Title II of the ADA, relating to requirement of government entities, states that "no qualified disabled individual may be denied the benefits of service, programs, or activities by state or local governments or their agencies, nor be excluded from participation in those benefits."

City of Middleton trails are built using the principles of universal design

This definition dictates that a government entity currently must have some type of established program in place to reasonably accommodate individuals with disabilities for nearly everything activity service or facility that is provided.

With regards to trails, best way to integrate accessibility is to use the principles of universal design. Universal design focuses on building for everyone while conforming to accessibility standards. Simply put, universal design means designing programs and facilities to include all people to greatest extent

possible, without separate or segregated access for people with disabilities. The classic example of universal design is constructing a single at-grade entrance to structure rather than steps and access ramps.

Higher railings are necessary on bike/equestrian bridges than on pedestrian bridges.

Trail Surfaces

Firm and Stable Surfaces

To be accessible, facilities must have a firm and stable surface. In general, if the answer to both of the following questions is yes, the surface is probably firm and stable.

- Could a person ride a narrow tired bicycle across the surface easily without making ruts (bicycle tires are similar to large rear wheels of a wheelchair)?
- Could a folding stroller with small narrow plastic wheels carrying a 3 year old be pushed easily across the surface without making ruts (the stroller's wheels are similar to the front wheels of a wheelchair)?

Trail Design Guidelines and User Groups

Trail design is directly related to the intended trail users. On regional trails, however, trail users and design often vary amongst segments of the trail. This varied use and design often corresponds to changes between rural and urban settings. For example, it might be appropriate to design for a 10' wide asphalt path in a constrained urban area, or where the trail is restricted to walkers and recreational bicycling. In a trail segment that is truly intended and designed as a shared use facility supporting equestrians, cyclists, walkers, skiers and snowmobilers, the design will be much wider with 2 to 3 different surfaces (grass, porous asphalt, and compacted aggregate).

The Good Neighbor Trail proposes the following three trail standards depending upon the planned use for each designated segment.

Good Neighbor Trail Shared Use Design Standard

- 24 to 30 foot wide corridor
- Side by side trail with 10 foot wide porous asphalt surface and a 12 foot wide gravel surface
- 2 to 3 foot wide clear zone on either side

This design accommodates walkers, bicyclists, dog walkers, roller bladders, roller skiers, horses, pleasure horse drivers, and winter use by skiers and snowmobilers.

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Recommended Good Neighbor Trail Design Standard

The Good Neighbor Trail Master Plan provides a brief analysis regarding appropriate trail users as it relates to route alignment. Trail users as part of this planning document includes those identified through the goals and objectives phase including bicyclists, equestrian pleasure drivers and riders, hikers, skiers, snowmobilers. These user groups were defined by the Good Neighbor Trail Subcommittee and approved as such.

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Recommendations for the Good Neighbor Trail Network

Generalized Descriptive Narrative of Trail Segment Maps

Map 1 – City of Middleton to Cross Plains

The easterly end of the Good Neighbor Trail originates in the urbanized area of Middleton. Conceptually, a trailhead facility could be co-located with the proposed Western Intermodal Transportation Center at Deming Way and USH 14. From this junction point there are bike trail connections to:

- Middleton to Madison Bike Path leading to downtown Middleton and toward the UW Campus
- Esser Pond/South Fork Trail leading to Pleasant View Golf Course
- Pheasant Branch-Confluence Pond Trails (via Deming Way) heading northwest towards Firefighters Memorial Park and Old Lake Middleton Park

Ideally, the primary corridor of the Good Neighbor Trail follows the northwesterly route through Old Lake Middleton Park and then westerly to the Black Earth Creek Natural Resource Area – Sunnyside Unit.

An existing trailhead parking area is located in the southeast quadrant of the Black Earth Creek Natural Resource Area (BECNRA-SU) which would provides a way point for connecting trail segments to Twin Valley Road (and looping back to the Blackhawk Ski Club, Pope Farm Conservancy and Pleasant View Golf Course), and for trail experiences within the BECNRA property.

An additional trailhead location could be considered in the southwest quadrant of Old Lake Middleton Park and would be a logical way point for future connecting trail segments south to Pleasant View Golf Course (ski trails and the City's mountain bike pump track), southwesterly to the Black Hawk Ski Club, and easterly along the USH 14 and railroad ROWs back to Pleasant View Road and the South Fork Bike Trail.

At Twin Valley Road, the Good Neighbor Trail is envisioned to cross to the south side of USH 14 and proceed westerly to Cleveland Road and Stagecoach Road. Approximately half of this distance is within the BECNRA property and UW owned lands.

Just east of Stagecoach Road (North Birch Trail), the Good Neighbor Trail joins with the Ice Age Trail from the south and proceeds west along the Stagecoach Road ROW , Black Earth Creek Fishery lands, and the railroad ROW to County Highway P (CTH P) in the Village of Cross Plains.

Development Issues and Constraints

Other than determining the best approach for crossing USH 14, the actual development of the trail along this general corridor alignment is fairly straight forward. Dane County has identified a former cattle pass/culvert within the BECNRA property that may provide an opportunity when USH 14 is reconstructed or upgraded. There also appears to be an alternative corridor alignment possible which keeps the Good Neighbor Trail on the north side of USH 14 though terrain and ROW widths may be an issue.

Map 2 – Village of Cross Plains to the Village of Black Earth

A trailhead site in the vicinity of the CTH P/Bourbon Road/USH 14 intersection appears to be a logical way point for this section of the Good Neighbor Trail; especially considering the planned improvements to the CTH P bridge and USH 14 through the Village. This way point would also support the long range conceptual plan to extend a trail corridor south to link with the Military Ridge Trail.

Westerly from this trailhead the Good Neighbor Trail corridor would proceed along Zander Park and Bourbon Road to Market Street/CTH KP. From Market Street the primary trail corridor would follow along the south side of Black Earth Creek to Scherbel Road and Salmo Pond. The existing parking areas at Salmo Pond and nearby at Festge Park are potentially trailhead sites supporting this segment of the trail.

The trail is envisioned to continue westerly along the south edge of the BEC and the DNR fisheries properties to South Valley Road and on to Park Street in the Village of Black Earth.

Within the Village of Black Earth the trail would be a designated route utilizing village streets and linking the Black Earth Elementary School, Downtown, and the old railroad depot. The depot site appears to be a noteworthy way point for the trail.

There are several opportunities for north-south connections along this corridor segment:

- Railroad grade crossing/fishery parking lot in section in the northwest quarter of section 4 (which could provide a trail opportunity linking to the Table Bluff segment of the Ice Age Trail)
- Sherbel Road linking to Festge Park
- South Valley Road

An alternative trail corridor utilizes the railroad and USH 14 ROWs but this would result in a less than ideal trail experience. Loop route possibilities utilize the described corridor routes and CTH KP.

Development Issues and Constraints

Although not technically challenging, there may be significant cost factors relating to creating new or additional BEC bridge crossings.

Map 3 – Village of Black Earth to the Village of Mazomanie

Westerly from the Depot trailhead, the Good Neighbor Trail follows the railroad ROW, Black Earth Creek and USH 14 ROW to the Wisconsin Heights School property. From the school property the trail corridor combines with the Wolf Run Trail and continues into the Village of Mazomanie and crosses Black Earth Creek at a new trail bridge at Crescent Street. The trail would then continue through the Village on streets and the Village's bike path network to the downtown and west to Walking Iron Park. Loop route possibilities would utilize Olson Road, CTH KP, and the Lake Marion Park Path network.

From the larger, multi-county perspective, Mazomanie is the way point for the Good Neighbor Trail junction with the proposed Sauk County/Devils Lake Trail Corridor.

Potential way points/trail heads along this segment are located at Wisconsin Heights School, Lake Marion Park, downtown Mazomanie, and Walking Iron Park.

Development Issues and Constraints

This segment is relatively straightforward and would utilize the Wolf Run Trail corridor improvements between Wisconsin Heights School and the Village of Mazomanie. The terrain and ROW widths between the school and the Village of Black Earth may pose some minor but not insurmountable design challenges in the segment immediately west of the village of Black Earth.

The maps are located at the end of the document.

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Probable Costs and Construction and Maintenance Considerations

Trail construction costs will depend not only on the width and material of the trail, but will vary depending on what type of land the trail will traverse. Some trail sections may require earthwork and grading work, other sections may require wetland delineations. Trail constructions costs also vary depending upon engineering and design standards, or whether the trail is constructed by municipal crews and labor. Parks staff will attempt to design/layout best trail routes on existing lands/area to save costs. Parks staff will assist with habitat management work to clear routes and save money.

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Potential Trail Funding Sources and Strategies

There are several funding options related to trail construction in local municipalities. Local municipalities may fund trail development through capital funds, grants, donations, or may be developed as part of the land development process. Trails that lie on federal, county, or state land usually do not require municipal funding.

Since the Good Neighbor Trail intends to connect numerous private, federal, and state owned land - a large portion of project funding will come from those agencies. For example, the National Park Service has already incorporated trail parking facilities and possible trail development as part of their master plan for the Ice Age Complex Park Development.

In 2012, the City of Middleton is developing the South Fork link to the Pleasant View Golf Course with DNR/RTP Grant funds. The GNT will also be developed in 2012 from Mazomanie to Wisconsin Heights High School using a Dane County Park grant.

All agencies involved in the trail planning process will primarily seek trail development funding via grants. Grants and donations for trail construction may be directly related to trails, or may provide funding for trails as part of larger projects. For example, local fishing and conservation organizations may fund trail construction as it relates to development of an accessible fishing pier or as it relates to service drives created for creek stabilization activities.

A full list of grants related to trail construction, design, and easement or acquisition is assistance is listed in the Appendix.

Acquiring funding for projects and programs is considerably more likely if it can be leveraged with a variety of local, state, federal and private sources. This section identifies potential matching and major funding sources available for bicycle and pedestrian projects and programs as well as their associated need and criteria.

Federal Funding

Federal funding is primarily distributed through a number of different programs established by the federal transportation act. The latest act, The *Safe, Accountable, Flexible, Efficient Transportation Equity Act – a Legacy for Users* (SAFETEA-LU) was enacted in August 2005 as Public Law 109-59. SAFETEA-LU authorizes the federal surface transportation programs for highways, highway safety, and transit for the five-year period 2005-2009.

This legislation has been extended through several Continuing Resolutions, in anticipation of new transportation legislation. In Wisconsin, federal funding is administered through state (WisDOT) and regional planning agencies such as SWRPC. Most, but not all, of these funding programs are oriented toward transportation versus recreation, with an emphasis on reducing auto trips and providing inter-modal connections. Federal funding is intended for capital improvements and safety and education programs, and projects must relate to the surface transportation system.

There are a number of programs identified within SAFETEA-LU that provide for the funding of bicycle and pedestrian projects. Every six years, Congress sets the country's transportation and infrastructure priorities — allocating hundreds of billions of dollars for projects that shape communities for generations. The re-authorization the current bill (SAFETEA-LU) is expected to provide high-level transportation funding policy changes.

Surface Transportation Program (STP)

Currently, the Surface Transportation Program (STP) provides states with flexible funds which may be used for a wide variety of projects on any Federal-Aid Highway System including the National Highway System, bridges on any public road, and transit facilities.

The new transportation bill may create an Office of Livability within the Federal Highway Administration. The office would administer bicycle and pedestrian programs, including Safe Routes to School and transportation enhancements. The office would be charged with increasing modal choice, advancing livable communities, and promoting integrated land use and planning. Also under the office's jurisdiction would be compilation and dissemination of best practices on active transportation, developing better data collection and analysis on active transportation, and requiring that all federal-aid projects consider comprehensive street design principles, policies, and standards. The office would also oversee the creation of the U.S. Bicycle Route System.

Bicycle and pedestrian improvements are eligible activities under the current STP. This covers a wide variety of projects such as on-street facilities, off-road trails, sidewalks, crosswalks, bicycle and pedestrian signals, parking, and other ancillary facilities. SAFETEA-LU also specifically clarifies that the modification of sidewalks to comply with the requirements of the Americans with Disabilities Act is an eligible activity.

As an exception to the general rule described above, STP-funded bicycle and pedestrian facilities may be located on local and collector roads which are not part of the Federal-aid Highway System. In addition, bicycle-related non-construction projects, such as maps, coordinator positions, and encouragement programs, are eligible for STP funds.

Transportation Enhancements

Administered by WisDOT, this program is funded by a set-aside of STP funds. Projects must serve a transportation need. These funds can be used to build a variety of pedestrian, bicycle, streetscape, and other improvements that enhance the cultural, aesthetic, or environmental value of transportation systems. The statewide grant process is competitive.

WisDOT's Transportation Enhancement Program can be used for a feasibility study for a greenway, however the greenway must serve primarily as a transportation facility, rather than a recreational one. The requirement is an 80/20 match and must be pursued by a government entity. The required match can be in-kind.

Congestion Mitigation/Air Quality Improvement Program (CMAQ)

The Congestion Mitigation/Air Quality Improvement Program (CMAQ) provides funding for projects and programs in air quality, non-attainment, and maintenance areas for ozone, carbon monoxide, and particulate matter which reduce transportation-related emissions.

These federal funds can be used to build bicycle and pedestrian facilities that reduce travel by automobile. Recreational facilities generally are not funded.

Recreational Trails Program

The Recreational Trails Program of the Federal Transportation Bill provides funding to states to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. Examples of trail uses include hiking, bicycling, in-line skating, equestrian use, and other non-motorized and motorized uses. These funds are available for both paved and unpaved trails, but may not be used to improve roads for general passenger vehicle use or to provide shoulders or sidewalks along roads.

Recreational Trails Program funds may be used for:

- Maintenance and restoration of existing trails
- Purchase and lease of trail construction and maintenance equipment
- Construction of new trails, including unpaved trails
- Acquisition or easements of property for trails
- State administrative costs related to this program (limited to seven percent of a state's funds)
- Operation of educational programs to promote safety and environmental protection related to trails (limited to five percent of a state's funds)

The Wisconsin Recreational Trails Program is a Federal-aid assistance program with an annual grant cycle requiring a 50/50 match (match can be in-kind services). The program is for motorized and non-motorized recreational use. Applications are due in June and the award date varies. Maximum grant amount is $45,000. Applicants can be municipal, state, or federal government, or for- or non-profit organizations.

Rivers, Trails, and Conservation Assistance Program (RTCA)

The Rivers, Trails, and Conservation Assistance Program (RTCA) is a National Parks Service program which provides technical assistance via direct staff involvement, to establish and restore greenways, rivers, trails, watersheds and open space. The RTCA program provides only for planning assistance—there are no implementation monies available. Projects are prioritized for assistance based on criteria that include conserving significant community resources, fostering cooperation between agencies, serving a large number of users, encouraging public involvement in planning and implementation, and focusing on lasting accomplishments. These generally are not grant funds available to agencies, rather,

this program provides NPS staff to assist communities or agencies with technical issues, such as planning efforts.

Land and Water Conservation Fund (LWCF)

The Land and Water Conservation Fund (LWCF) is a federally-funded program that provides grants for planning and acquiring outdoor recreation areas and facilities, including trails. Funds can be used for right-of-way acquisition and construction. These funds are administered by the Wisconsin Department of Natural Resources.

State Resources

Wisconsin DNR funding options include the Acquisition and Development of Local Parks (ADLP) with a 50/50 match, the Clean Water Fund (CLWF) for trails/streambank stabilization with a 50/50 match and the Wisconsin DNR Wetland Initiative grants for habitat work in wetlands which are funded at 100 percent.

Funding for Acquisition

If acquisition or easements are required, several grants through the Wisconsin DNR give priority to acquisition for regional trails. If acquisition funding is needed for trail development, then the Good Neighbor Trail should seek status as a state trail with the Wisconsin DNR. Acknowledgement as a state trail will aid in ensuring county and state partnerships that can assist in necessary acquisition or land easements.

Local Partnerships

Several local non-profit organizations donate funds that can provide the matching funds required for grants, or stand alone as project funding. A list of these organizations includes the Madison Community Foundation, Bass Masters, the Dane County Conservation League, and the International Mountain Bike Association. In particular, the Madison Community Foundation has a strong reputation for assisting in park and trail development, recently providing over $100,000 to the Wisconsin DNR for trail construction for the Badger State Trail.

Local partnership options include the following:

- Madison Fish Expo Inc (MFE) who can assist with onshore ADA fishing piers and projects
- Yahara Fishing Club
- Dairyland Driving Club (DDC)
- Wisconsin State Horse Council (WSHC)
- Glacial Drumlin Horse Trails Association (GDHTA)
- Black Earth Creek Watershed Association (BECWA)
- The Nature Conservancy (TNC)
- Wisconsin Ducks Unlimited (DU)
- Trout Unlimited (TU)

Implementation Efforts and Strategy

GNT Plan in the Context of Local Planning Decisions

On its own, the regional Good Neighbor Trail network, a main route following the USH 14 and Black Earth Creek corridors together and connecting local trails, holds the promise of being a compelling regional trail asset. There is every expectation would be that it will be very successful in linking together – and thereby expanding the public's accessibility to -- many public parks and open spaces. It will also become a destination in and of itself.

The Good Neighbor Trail will likely utilize both private and public lands and public street rights of way in order to be completed. The planning approach will continue to be a joint effort between all five communities.

In the final implementation phase, all appropriate measures, within local fiscal and regulatory capabilities, should be considered to protect the property owner's interests, including: agreements for market rate payments or leases, improvements, seasonal use restrictions and appropriate maintenance agreements whenever trail segments traverse private property.

Strategies and tools to establish, protect, improve, and maintain trail corridors, include:

- Parkland Dedications
- Direct Purchase/Fee Simple Acquisition
- Acquisition of Easements
- Zoning standards to permit trail use
- Conservation or Cluster development
- Land trusts
- Deed Restrictions and covenants
- Voluntary Stewardship

Wolf Run

The Wolf Run Trail is the first segment of the Good Neighbor Trail to be implemented and is the result of cooperative and collaborative efforts by the Wolf Family, the Wolf Run Association, the Village of Mazomanie, Wisconsin DNR, NRCS, and Trout Unlimited.

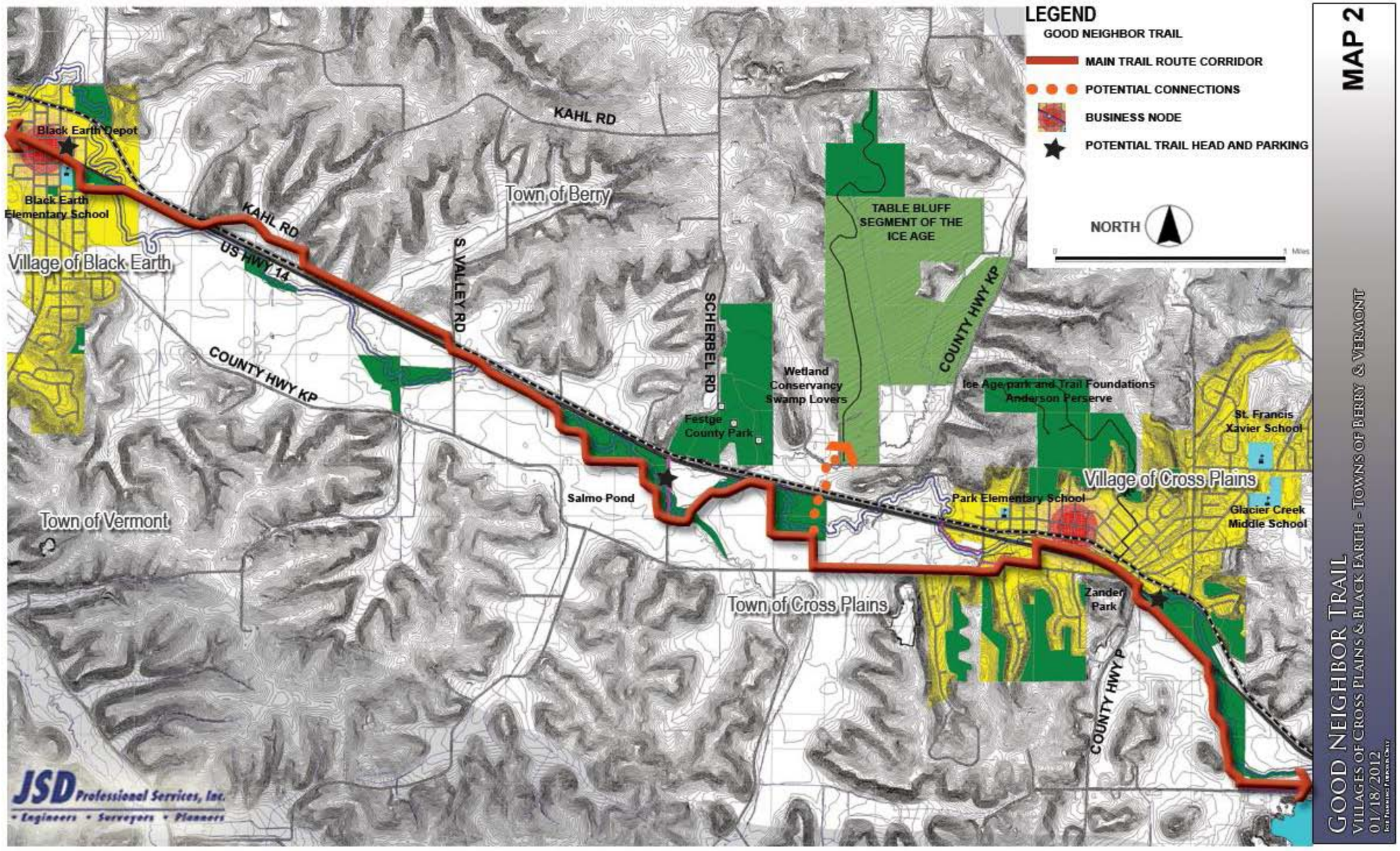
The trail will be a 1.4 mile long shared use trail extending from Crescent Street in the Village of Mazomanie to the Wisconsin Heights School campus. The trail will be a benefit to the community as it

- Provides a safe non-vehicular route to Wisconsin Heights School for Village residents including snowmobiles in the winter months,
- Creates convenient and safe access to Gradma's Park – a new park in the Village,
- Enhances environment education and cultural enrichment opportunities with interpretive signage throughout the trail corridor explaining environmental and historical information about the area and community, and
- Expands accessible fishing facilities along the nationally recognized Black Earth Creek.

The trail corridor is 22 to 24 feet wide and will have a 10 foot wide porous asphalt lane side-by-side with 12 foot wide crushed limestone surface, and 1 foot wide vegetated shoulders. A variance to the GNT standard will be made where the trail corridor traverses the WDNR property north of the Wisconsin Heights School campus. In this segment, the crushed limestone lane will be replaced with a turf surface (or maintained as undisturbed native vegetation if possible) in order to minimize impacts to the natural habitats in the WDNR parcel.

The 10 foot wide porous asphalt trail cross-section consists of a base of geotextile fabric covered by 6 inches of ¾-inch diameter crushed aggregate and top dressed with a 3-inch layer of porous asphalt. Planted vegetation in the trail corridor will consist of native short grass seed mix blends, with sedges and little blue stem.

The Wolf Run Trail follows upland soil types and vegetative communities adjacent to, and paralleling the east bank of Black Earth Creek. Boardwalks will be constructed to cross two 30 foot long sections where the trail alignment crosses over wetland habitats. At the northern end, the trail will span Black Earth Creek and connect to Crescent Street in the Village of Mazomanie.


LEGEND
GOOD NEIGHBOR TRAIL
MAIN TRAIL ROUTE CORRIDOR
POTENTIAL CONNECTIONS
BUSINESS NODE
POTENTIAL TRAIL HEAD AND PARKING
NORTH
MAP 2
GOOD NEIGHBOR TRAIL
VILLAGES OF CROSS PLAINS & BLACK EARTH - TOWNS OF BERRY & VERMONT
01/18/2012
Black Earth Depot
Black Earth Elementary School
Village of Black Earth
KAHL RD
KAHL RD
US HWY 14
S. VALLEY RD
Town of Berry
SCHERBEL RD
TABLE BLUFF SEGMENT OF THE ICE AGE
COUNTY HWY KP
COUNTY HWY KP
Wetland Conservancy Swamp Lovers
Festge County Park
Ice Age park and Trail Foundations Anderson Perserve
St. Francis Xavier School
Village of Cross Plains
Park Elementary School
Glacier Creek Middle School
Salmo Pond
Town of Vermont
Town of Cross Plains
Zander Park
COUNTY HWY P
JSD Professional Services, Inc.
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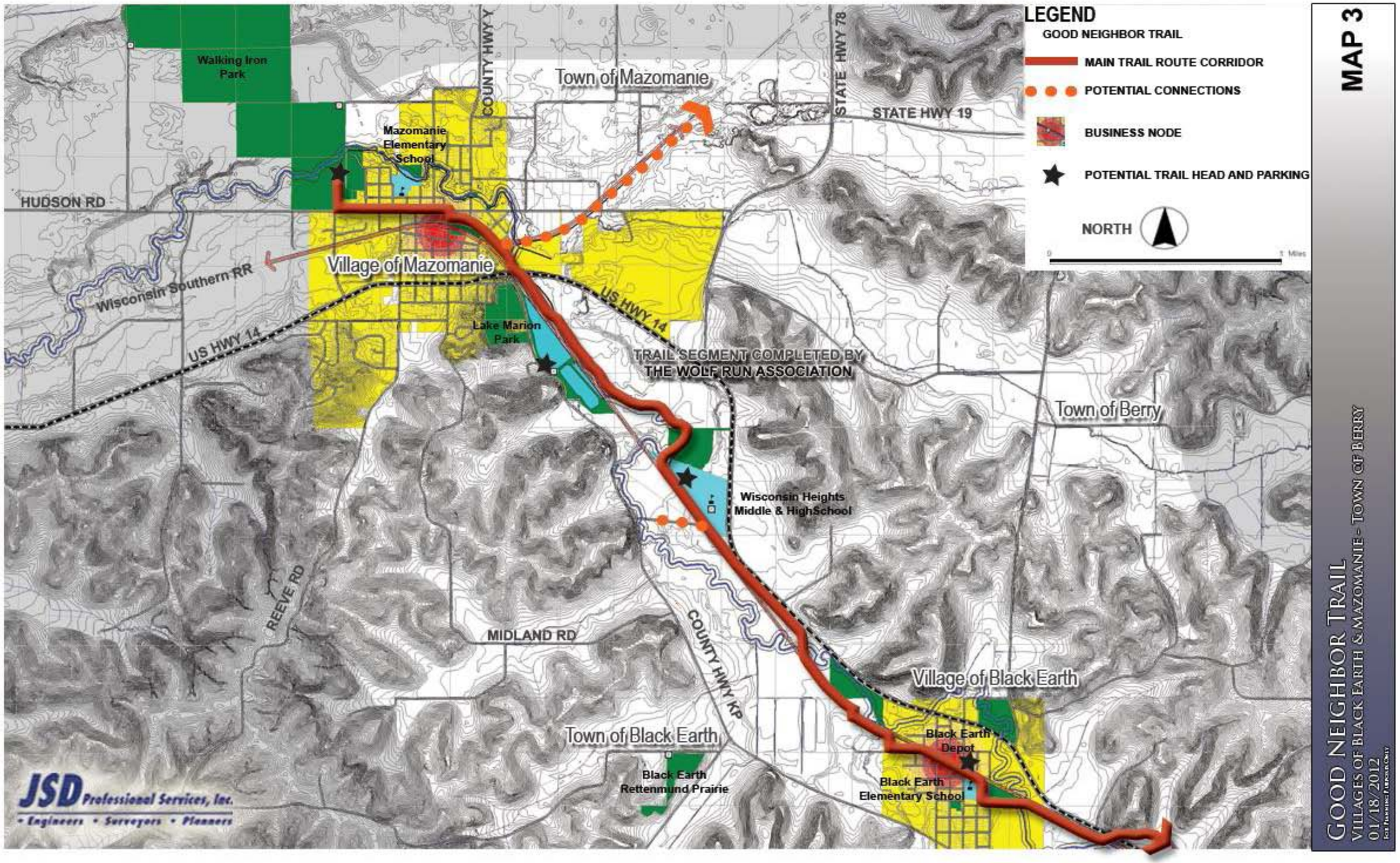
LEGEND
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MAIN TRAIL ROUTE CORRIDOR
POTENTIAL CONNECTIONS
BUSINESS NODE
POTENTIAL TRAIL HEAD AND PARKING
NORTH
MAP 3
Walking Iron Park
Mazomanie Elementary School
Town of Mazomanie
COUNTY HWY Y
STATE HWY 78
STATE HWY 19
HUDSON RD
Village of Mazomanie
Wisconsin Southern RR
US HWY 14
Lake Marion Park
TRAIL SEGMENT COMPLETED BY THE WOLF RUN ASSOCIATION
Town of Berry
Wisconsin Heights Middle & HighSchool
REEVE RD
MIDLAND RD
COUNTY HWY KP
Village of Black Earth
Town of Black Earth
Black Earth Depot
Black Earth Elementary School
Black Earth Rettenmund Prairie
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GOOD NEIGHBOR TRAIL
VILLAGES OF BLACK EARTH & MAZOMANIE - TOWN OF BERRY
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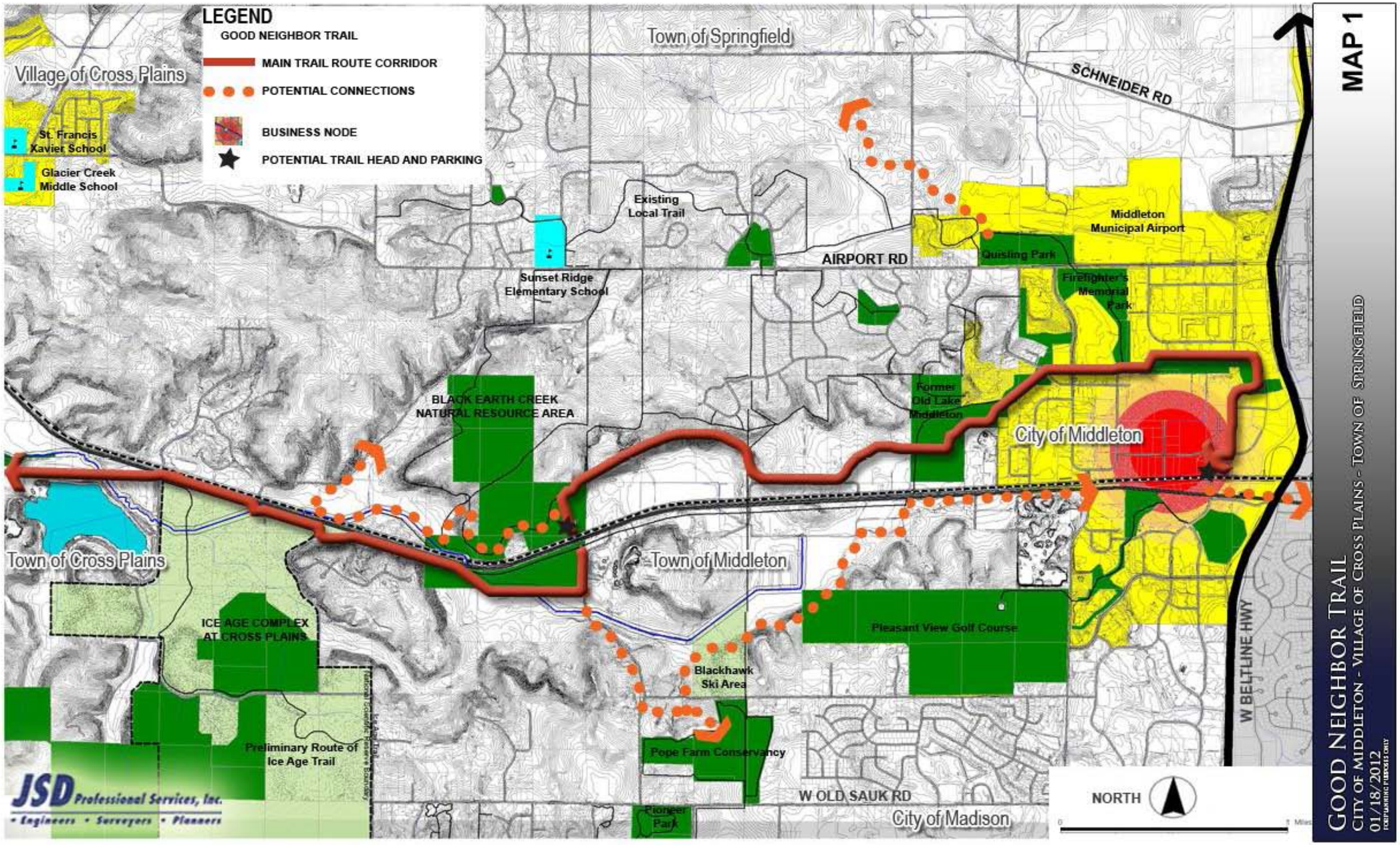
LEGEND
GOOD NEIGHBOR TRAIL
MAIN TRAIL ROUTE CORRIDOR
POTENTIAL CONNECTIONS
BUSINESS NODE
POTENTIAL TRAIL HEAD AND PARKING
Village of Cross Plains
Town of Springfield
SCHNEIDER RD
St. Francis Xavier School
Glacier Creek Middle School
Existing Local Trail
Middleton Municipal Airport
AIRPORT RD
Quisling Park
Firefighter's Memorial Park
Sunset Ridge Elementary School
BLACK EARTH CREEK NATURAL RESOURCE AREA
Former Old Lake Middleton
City of Middleton
Town of Cross Plains
Town of Middleton
ICE AGE COMPLEX AT CROSS PLAINS
Pleasant View Golf Course
Blackhawk Ski Area
Preliminary Route of Ice Age Trail
Pope Farm Conservancy
W BELTLINE HWY
W OLD SAUK RD
Pioneer Park
City of Madison
NORTH
JSD Professional Services, Inc.
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MAP 1
GOOD NEIGHBOR TRAIL
CITY OF MIDDLETON - VILLAGE OF CROSS PLAINS - TOWN OF SPRINGFIELD
01/18/2012
FOR PLANNING PURPOSES ONLY

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