



Potential Economic Effects of The Gateway to The Driftless Trail System

A Case Study Including the Great Sauk, Walking Iron, Wolf Run, and Black Earth Creek Trails in South Central Wisconsin

January 2021



University of Wisconsin – Madison/Cooperative Extension
Department of Planning and Landscape Architecture

Potential Economic Effects of The Gateway to The Driftless Trail System

**A Case Study Including the Great Sauk, Walking Iron, Wolf
Run, and Black Earth Creek Trails in South Central Wisconsin**

Jenny Erickson, Mindy Habecker, Christopher James, Marty Krueger, Matt Kures,
Christopher Long, Dave Marcouiller, and Jared Pinkus *

Applied Research Report 21.1
January 2021

*Cover illustration: Wisconsin River Recreation Bridge Design Concept, December 2019
Westbrook Engineering/MSA Professional Services*

* Jenny Erickson and Mindy Habecker are University of Wisconsin – Madison County Extension Educators. Christopher James is Senior Landscape Architect for the Dane County Parks Department. Marty Krueger is a Sauk County Supervisor and chairperson of the Great Sauk State Trail Commission. Christopher Long is chairperson of Gateway to The Driftless, a nonprofit community organization. Jared Pinkus is Sauk County Community Development Coordinator. Matt Kures and Dave Marcouiller are state specialists with the University of Wisconsin – Madison Division of Extension. Authors are listed in alphabetical order with lead authorship shared equally.

Executive Summary

Publicly available recreational trails provide recreational amenities that connect communities. Maintaining and improving these corridors provide an example of amenity-based development that is increasingly evident across the Midwest and throughout the nation.

The potential of trails-based development to provide more vibrant and diversified community economies provides the focus of this project. In this report, we outline recent efforts to estimate the potential of one such trail system in South Central Wisconsin and combine it with elements that will be useful in stimulating recreational use, connections between communities, and the subsequent local economic impacts that could result.

This was done using previous research, drive-time assessment of markets, semi-structured interviews, and input-output analysis. Results suggest several important marketing and public policy initiatives.

Key findings of this study include:

- ❖ Trails stimulate local quality of life and business activity and are increasingly seen as a central component of a sustainable future.
- ❖ Current use of trails in South Central Wisconsin, while significant, would benefit from a key linchpin connection of a recreational bridge crossing the Wisconsin River at Sauk City, Wisconsin, connecting the Dane County and Sauk County parts of the trail.
- ❖ By connecting Madison, Devil's Lake State Park, the Black Earth Creek recreational corridor, Lower Wisconsin State Riverway, Ice Age Trail, and other major state trails, the 60-mile Gateway to The Driftless Trail System, once completed, is expected to be the busiest trail in the state.
- ❖ The Gateway to The Driftless Trail System will enhance local quality of life for area residents and is expected to increasingly attract non-local users from longer distances and the estimated population of more than 15 million residing within a three-hour drive time.
- ❖ Within fifteen minutes' drive time to recognized trail access locations, there exists an active recreational base in excess of 700,000 bicycling participant-days and over 200,000 snowmobiling participant-days. At 180 minutes' drive time, the estimated participation rates increase to in excess of 45 million and 15 million, respectively.

- ❖ Recent studies suggest that trail bicyclists, on average, spend just over \$41 per individual participant-day while snowmobilers spend almost \$44 per individual participant-day.
- ❖ For every 100,000 non-local participant-days, local stimulus creates 50 local jobs and over \$3,000,000 in local income.
- ❖ Local restaurants, hotels, and retail shops are primary sectors of trails-based stimulus with indirect effects felt in local real estate, construction, and service sectors; output multipliers resulting from this stimulus in the Sauk and Dane County region range from 1.6 to 1.8.
- ❖ An effective regional branding and promotion program will be needed to develop this trail system as a destination and fully realize its potential economic stimulus effects to local communities and the state.

Projections in this study are based on historical data and do not reflect the unprecedented high usage of state and county outdoor recreation facilities in 2020 as a social effect of the COVID-19 pandemic and the greater preference Americans have recently expressed for car-based trips, outdoor recreation, and travel to nearby destinations. If current trends become permanent factors driving usage of public outdoor recreation facilities, including the regional trail, its potential economic benefit could exceed present expectations.

This study has adopted the “Gateway to The Driftless” designation given to the project geography by the late Philip H. Lewis, nationally known University of Wisconsin-Madison professor of landscape architecture, in recognition of his far-sighted vision for regional sustainable planning.

Potential Economic Stimulus of the Gateway to The Driftless Trail System:

**A Case Study Including the Great Sauk, Walking Iron, Wolf Run, and Black Earth Creek Trails in
South Central Wisconsin**

Table of Contents

Section	Page
Executive Summary	2
Table of Contents	4
1. Introduction	6
2. Approach Used to Estimate Potential Economic Impacts	12
3. South Central Wisconsin and the Market for a Trail System	15
4. The Potential Economic Impacts of Trip-Related Expenditures	17
5. Perceptions of Business and Community Leaders	21
6. Summary, Conclusion, and Policy Implications	23
Acknowledgments	
References	
Appendix A	
Appendix B	

Lists of Tables & Figures	Page
Table 1. Overview of studies used in this assessment	14
Table 2. Recognized participation rates combined with demographic profiles for potential users of the Gateway to The Driftless (GTDD) Trail System within short-term and long-term drive times	16
Table 3. Average expenditure pattern of relevant users of proposed system	17
Table 4. Economic impacts of 100,000 non-local bicyclist participant-days	19
Table 5. Top 10 sectors affected by 100,000 non-local bicyclist participant-days	20
Table 6. Economic impacts* of 100,000 non-local snowmobiler participant-days	20
Table 7. Top 10 sectors affected by 100,000 snowmobiler participant-days	21
 Figure 1. The Gateway to The Driftless Trail System relative to major market centers	 8
Figure 2. Great Sauk State Trail & The Protector of the River, Sauk City	9
Figure 3. Wolf Run Trail & Black Earth Creek, Mazomanie	10
Figure 4. The Gateway to The Driftless Trail System project-level view	11
Figure 5. Visitation of the Wisconsin State Trail System during the recent past	13
Figure 6. Short-term and long-term drive times to recognized trail access locations	15
Figure 7. Wisconsin River Recreation Bridge Design Concept, December 2019	25

Potential Economic Stimulus of the Gateway to The Driftless Trail System

A Case Study Including the Great Sauk, Walking Iron, Wolf Run, and Black Earth Creek Trails in South Central Wisconsin

1. Introduction

Trails serve as an important venue for outdoor recreation. They connect communities and provide user experiences that are physically active, family-friendly, and connected to the natural world. As part of the built environment, trail systems possess several attributes that stimulate local quality of life. In addition to their recreational attraction, they serve as transportation corridors for commuting, open space and greenways, and enhancement of local property values (Crompton 2010). Indeed, trails are increasingly seen as a central component of a sustainable future.

The increased use of trail systems provide stimulus to local business activity. This is particularly true for those activities catering to the needs of trail users. These include restaurants, convenience stores, souvenir shops, and snack vendors. They also extend to recreational equipment retailers, repair shops, and amusements. These direct recipients of trail user spending have connections throughout communities and are increasingly seen as key drivers to local economic vibrancy (Headwaters Economics 2020) and serve as the basis for amenity-based development (Cherry and Rickman 2010; Green et al. 2005).

The potential of trails-based development to stimulate local economic activity and provide more vibrant and diversified community economies provides the focus of efforts described in this report. In this case study research, we develop estimates for the potential economic effects of trails-based development for a system of trails that span South Central Wisconsin. A key linchpin connection resulting from the reconstruction of the railroad bridge over the Wisconsin River in Sauk City, Wisconsin is currently being planned. Once complete, this trail will provide a seamless connection between Madison and Devil's Lake State Park. This bridge combined with development of new trail segments and a concerted marketing effort to stimulate and coordinate increased multi-purpose recreational use of this trail system provides the basis for our estimates.

Trails-based development and related recreational amenities suggest that the potential economic benefits also include the ability of communities to retain and attract permanent residents as well as new employers and employees, both important contributing factors to a sustainable local economy that merit additional study (Manton et al. 2016; Southwick et al. 2009). Long-term planning for economic development and sustainable growth by local governments in the corridor has identified the potential of the trail to be a multi-dimensional regional economic asset (Brown 2020; Iowa DoT 2001).

Studies of regional trails suggest broad-based economic benefits (Crompton 2010; Hass et al. 2006; Prey et al. 2013). These involve the economic benefit of the Gateway to The Driftless Trail System that extends to towns by boosting a wide range of local businesses and positive premiums that lead to higher property values (Lindsey et al. 2004; Krizek 2006; Mogush et al. 2004). Potential benefits typically found in these unincorporated areas include:

- Increased property values based on the hedonic premiums associated with trails as an amenity resource
- Increased bookings for bed & breakfasts and guest homes
- Increased demand for rural restaurants and taverns, roadside farm stands, and convenience stores
- Growth of special events including driving tours of restored prairies, conservancies and natural areas, and local artist studios
- Increased demand for agritourism and outdoor recreation enterprises (fishing, hunting, wildlife study, horseback riding)
- Increased support for “local food” and Community Supported Agriculture (CSA) enterprises
- Increased attendance at rural festivals and other family outdoor events year-round.

By providing local residents of all ages with safe places to exercise, relax, and enjoy nature, the regional trail will enhance quality of life and help retain and attract businesses, workers, and residents to the towns. The associated growth in property values would benefit town government and school district finances.

The Gateway to The Driftless Trail System

The Gateway to The Driftless Trail System could be the most prominent investment in outdoor recreation in South Central Wisconsin. In 2007, the Sauk County Board of Supervisors first pledged their support of a multi-use trail through the Villages of Sauk City and Prairie du Sac. It took another seven years before the next resolution passed, this time authorizing an intergovernmental agreement creating a trail development commission. The expansion of the trail has progressed at a rapid pace but still cannot keep up with the demand to see the Great Sauk State Trail bisect the entirety of Sauk County. To date, over \$3.25 million has been allocated for the trail. Funding has been provided from traditional State and local agencies along with over \$650,000 from the Friends of the Great Sauk State Trail and another \$560,000 from proceeds of the sales of salvaged trail material. The current trail system in Sauk County is comprised of two segments. On October 19, 2017, the first segment of the Great Sauk State Trail was officially opened. The Prairie du Sac/Sauk City Segment (5.17 miles) begins at the southern boundary of the former Badger Army Ammunition Plant, traverses downtown Prairie du Sac, continues through Sauk City and terminates at the Wisconsin

River Rail Bridge. This segment represents an urban section of trail that can coincide with downtown placemaking and economic development initiatives. The Great Sauk State Trail location is found in Figure 4.

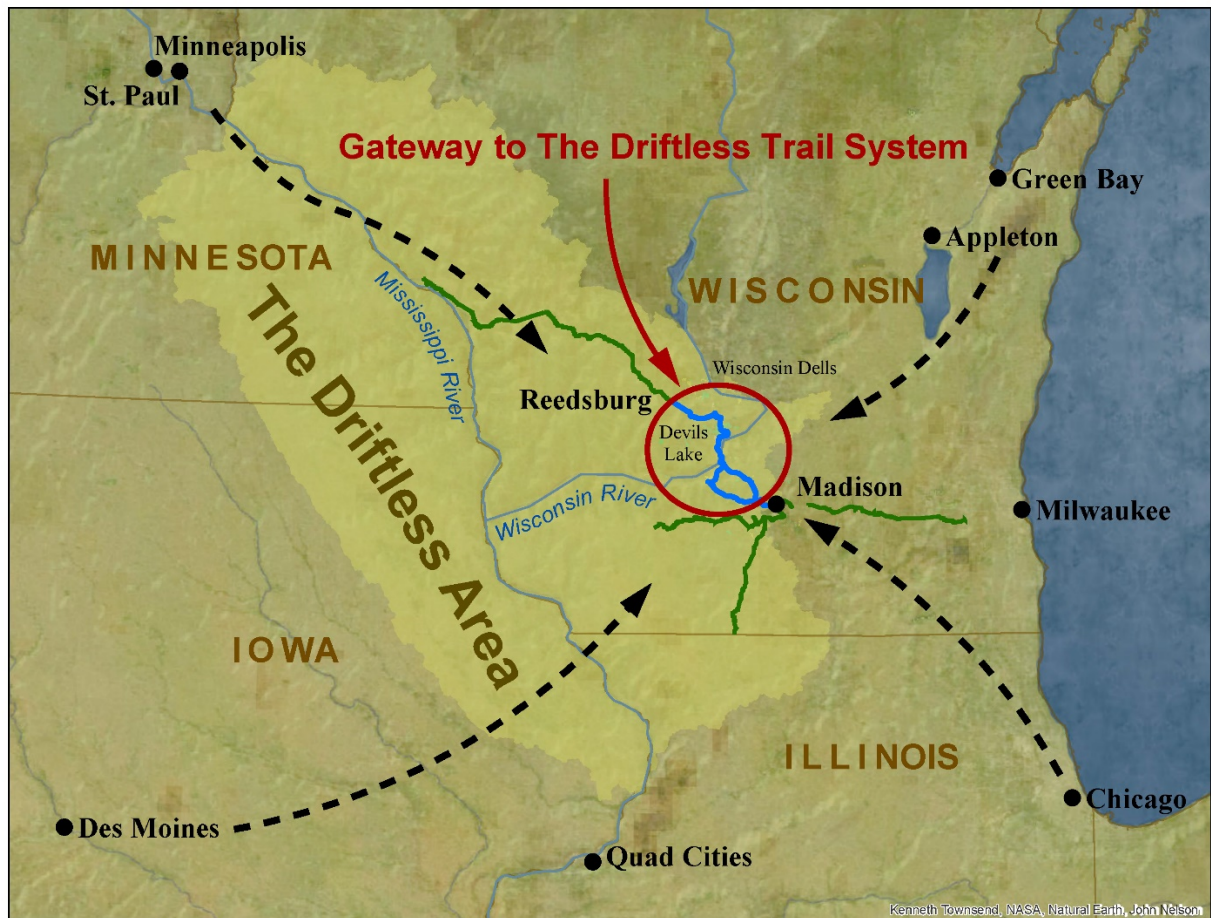


Figure 1. The Gateway to The Driftless Trail System relative to major market centers (source: Kenneth Townsend, NASA, Natural Earth, John Nelson)

Just over one year later, on October 26, 2018, the second segment of the Great Sauk State Trail, the Badger Segment, was opened. The Badger Segment (6.75 miles) begins just south of Devil's Lake State Park and concludes at the southern boundary of the former Badger Army Ammunition Plant. Construction will begin on the expansion of this segment through what is known as the Wye, a portion of rail line that was used to transfer loads moving from north to south. Once complete through the Wye, the Great Sauk State Trail will be adjacent to Devil's Lake State Park, ensuring a significant increase in utilization.



Figure 2. Great Sauk State Trail & The Protector of the River, Sauk City *Photo by Jonathan Cody*

In Dane County, the concept of an off-road, multi-use, year-round recreational trail extending from Madison/Middleton to Mazomanie and from Mazomanie to a Wisconsin River bridge crossing to Sauk County has long enjoyed area governmental and community support. Since 2001, the Dane County Parks and Open Space Plan (POSP) has included the concept of a Northwest Dane County regional trail that interconnects people to neighborhoods, businesses, parks, schools, public facilities, and environmental features. The trail is also included on the Wisconsin Department of Natural Resources (WDNR) State Trail Map. This trail intends to be both recreational and transportation-based and connects to the complex of high-traffic, multi-use public trails serving Madison and southern Wisconsin. The first constructed segment in the Middleton to Mazomanie part of the corridor, Wolf Run Trail, was completed in 2014 as a two-mile, year-round, multi-use trail between downtown Mazomanie and Wisconsin Heights Middle/High School campus, supported by funding from Dane County Parks and the WDNR.



Figure 3. Wolf Run Trail & Black Earth Creek, Mazomanie *Photo by Gateway to The Driftless*

The Dane County trail comprises two corridors, with the Village of Mazomanie serving as the trail hub:

- The proposed “Black Earth Creek Trail” in Northwest Dane County is envisioned to generally follow the creek and trail corridor, including the existing Wolf Run Trail, and provide connections between the City of Middleton and Villages of Cross Plains, Black Earth, and Mazomanie.
- The Mazomanie to Sauk City proposed “Walking Iron Trail” is envisioned to generally follow the existing rail corridor through the WDNR Lower Wisconsin State Riverway to a future multi-use recreational bridge crossing over the Wisconsin River, providing a connection to the Great Sauk Trail in Sauk County.



Figure 4. The Gateway to The Driftless Trail System project-level view (source: Joe Fleischmann, GIS Coordinator, Sauk County Land Information/GIS)

Following this introduction, this report is organized into five subsequent sections. First, we describe the methods used to estimate potential economic stimulus resulting from completion and marketing of this trail system. The next section outlines the current and potential market for a trail system of this nature. We follow with results that outline potential economic stimulus estimates. The next section provides context from business and community leaders based on semi-structured interviews. The report concludes with a general discussion that summarizes our work, identifies limitations and further research needs, and policy implications of our findings.

2. Approach Used to Estimate Potential Economic Stimulus

It must be stated up-front that the Gateway to The Driftless Trail System currently exists as unconnected strands. While current usage is significant, it is sporadic and limited by a lack of connections and marketing. Concerted effort over the next few years will work to complete, connect, and correct these limitations. Thus, our use and impact estimates should be considered educated guesses, at best.

We can use the last 15 years of statewide trails usage as a benchmark upon which to gauge relative potential usage. A summary of State Trail System usage is contained in Figure 2. Note that the current system of state trails annually experiences roughly one million participant-days (meaning the number of participants multiplied by the number of days) and has shown modest change over time. While visitation increases were witnessed between 2008 and 2011, little significant growth has taken place during the assessment period.

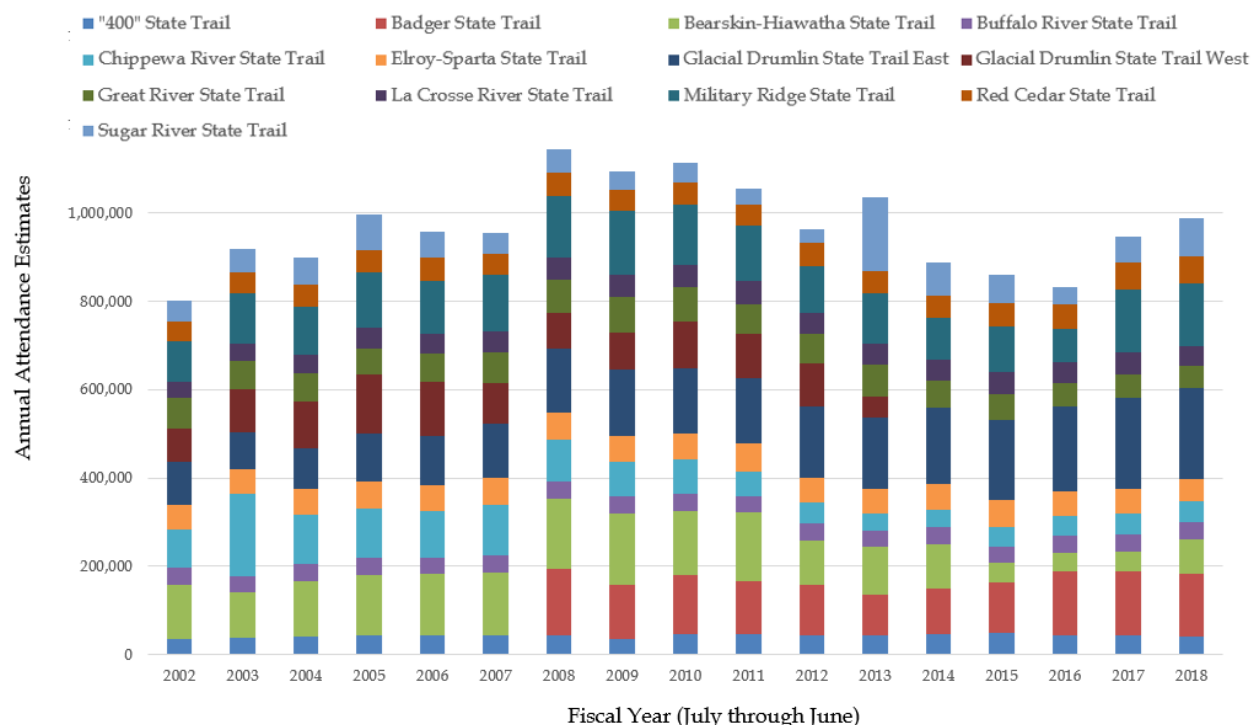


Figure 5. Visitation of the Wisconsin State Trail System during the recent past (in participant-days by fiscal year from 2002 through 2018; source: Wisconsin, State of 2020)

Characteristics of trail users and potential markets

Previous studies of trail user characteristics assisted in providing estimates used in this work. Our estimates of trail user expenditures were based on a meta-analysis of previous studies; these were collected, examined for relevance, and analyzed to place bounds on our estimates. This summary of extant knowledge with respect to trail systems was comprehensive. While most of the studies we encountered were from the Midwest, several focused on other parts of the United States and elsewhere. Given the contemporary nature of amenity-based development, we were most interested in recent studies from the past 20 or so years. It is important to note that we were primarily interested in the peer-reviewed literature but found this limiting with respect to specific results required by our estimation procedures. Namely, many of the articles in the peer-reviewed literature lacked usable expenditure patterns that allowed us to assess the extent of local influence. This said, much of the usable information needed in this assessment was obtained from technical reports; many of which originated from Cooperative Extension sources. The most relevant studies are listed and partially summarized in Table 1.

Table 1. Overview of studies used in this assessment

Study	Expenditure type and brief notes	Year
Kazmierski et al. 2009	Usable expenditure patterns for multi-use trail system	2009
Carper et al. 2013	Motorized by season for Cheese Country Trail	2011
Venegas 2009	Usable expenditure patterns for various trail uses (MN)	2008
Berard et al. 2014	Usable expenditure patterns for competitive trail users	2013
Stynes and White 2005	Biking, hiking, and driving for pleasure	2003
White et al. 2016	Expenditure by broad site types and visitor characteristics	varied
Ermagun and Lindsey 2016	Central Ohio Greenway users (NUEP)	2014
Tuck and Linscheid 2016	Mesabi MN trail users (mainly bicyclists)	2014
Bicycle Federation of WI	Statewide Wisconsin; (NUEP)	
Smith and Tisdale 2014	Vasa Pathway participants	2013
Nau 2015	Winnebago Co trail users (NUEP)	2015
Bowker et al. 2007	Virginia Creeper Trail SW VA; usable expenditure pattern	2004
Grabow et al. 2010	Wisconsin statewide (NUEP)	2009
Oswald-Beiler et al. 2015	Counts of trail users over time (NUEP)	2012
Monz and Kulmatiski 2016	Fat tire bikers (NUEP)	
Southwick et al. 2009	Nationwide by region (NUEP)	
Mogush et al. 2004	Hedonic study of trail impact on real estate (NUEP)	
Manton and Clifford 2016	Greenway users; Europe	varied
Beeton 2010	Usable expenditure pattern but in Australian Dollars	2006

Notes: NUEP = no usable expenditure pattern

Further, our market assessment utilized drive-time estimates obtained from ESRI (ESRI 2020). These drive times were based on average traffic patterns during 2019 to recognized trail access points identified from parking lot locations. For consideration, we specified 15, 30, 60, 90, and 180-minute drive time estimates. This was done to identify potential future markets for the Gateway to The Driftless Trail System and are graphically presented in Figure 6.

Note from Figure 6 that short-term drive times (up to 60 minutes) extend the market reach of this trail system from Tomah to Janesville, Wisconsin (NW to SE) and nearly Dubuque, Iowa to the western suburbs of Milwaukee (SW to NE). If we extend the market reach to longer-term drive times (up to 180 minutes or 3 hours), we now include most of Chicago, Illinois and Rochester, Minnesota plus the eastern suburbs of the Twin Cities, an area with a total population of more than 15 million (ESRI 2020).

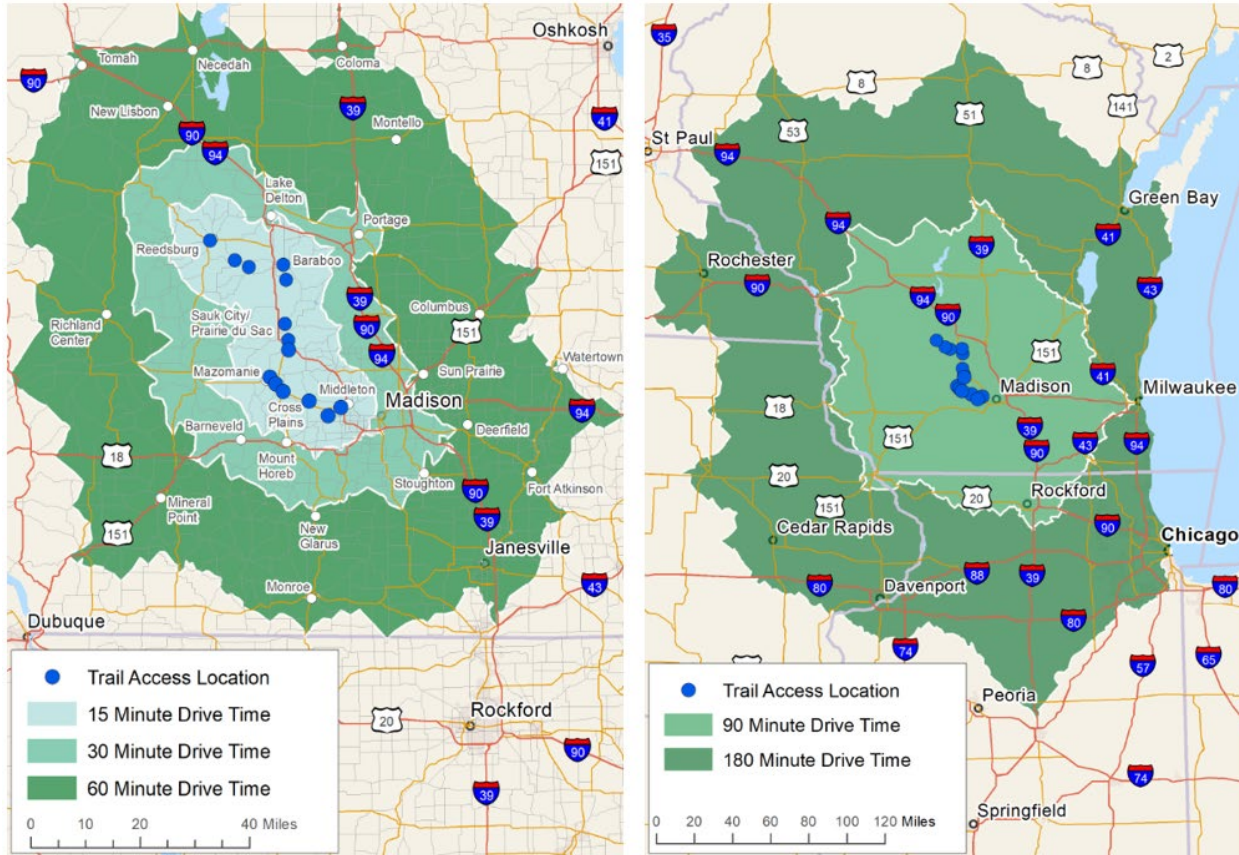


Figure 6. Short-term (left) and long-term (right) drive times to recognized trail access locations (source ESRI 2020)

Demographic profiles of populations within each drive time were obtained and analyzed (results of which are found in the next section). Further, our analysis focused on various types of trail users and their participation rates. Specific estimates of participation in bicycling of rail trails/developed trails and snowmobiling were obtained from the recently released Wisconsin Statewide Comprehensive Plan (WDNR BPR 2019). Specific participation rate data for various demographic groups that reflect statewide estimates are summarized in Appendix A.

3. South Central Wisconsin and the Market for a Trail System

Trails provide amenities that serve as recreational attractants for outdoor recreationists. The region surrounding the proposed trail system near Madison, Wisconsin contains a wide variety of transportation infrastructure and amenity-based destinations. Chief among these are the bucolic landscapes of western Dane County, Devil's Lake State Park, the remnants of the vast acreage contained by the historic Badger Army

Ammunition Plant, and the Wisconsin Dells. Certainly, the Baraboo Bluffs and adjacent driftless region provides natural beauty and topographical variety.

The market for recreational use of the Gateway to The Driftless Trail System is potentially quite extensive. It is important to note that short-term drive times are expected to provide most of the initial trail usage assuming the completion of the recreation bridge at Sauk City combined with an effective marketing strategy to entice participation. Nevertheless, our estimates relate specifically to the demographics of known participants and exist as potential target user groups.

Table 2. Recognized participation rates combined with demographic profiles for potential users of the Gateway to The Driftless (GTTD) Trail System within short-term and long-term drive times (source ESRI combined with data found in the 2019-2023 Wisconsin Statewide Comprehensive Outdoor Recreation Plan; WDNR 2019).

Drive time (in minutes) to nearest GTTD Trailhead ¹	Participant-days ²	
	Trail Bicyclists	Snowmobilers
0-15	722,000	252,000
0-30	1,789,000	624,000
0-60	3,188,000	1,113,000
0-90	7,409,000	2,586,000
0-180	45,153,000	15,757,000

1. as specified in Figure 2 for short-term (15, 30, 60-minute) and long-term (90 and 180-minute) drive times assuming normal average traffic patterns in 2019; inclusive from zero-minute.

2. based on survey data of Wisconsin residents and accounting for multiple numbers of participant-days; for adult participants labeled as (1) bikers of rail trails/ developed trails and (2) snowmobiling; rounded to nearest thousand.

As stated, we look to potential markets to assess the opportunity for increasingly larger user numbers. As noted in Table 2, local user groups that exist as likely initial trail system users exist in numbers that exceed 700,000 participant-days. Certainly, as the trail extends and connects to an increasing regional trail system, user groups beyond the local 15-minute drive time are possible. For estimates of potential use beyond a 15-minute drive time estimate, we summarize these populations in Table 1. These relate to short-term (30 and 60-minute drive times from Figure 6) and longer-term users (90 and 180-minute drive times in Figure 6).

The attraction of the trail system is expected to draw an increasing number of non-local visitors (or people who are not residents of Dane and Sauk Counties). This is a key element associated with economic stimulus due to the “export” nature associated with tourism benefits. Non-local visitors bring new currency into local communities that

would not exist without these visits. As the Trail System becomes increasingly well-known to potential non-local visitors, a travel destination develops. The destination life-cycle literature has long identified such phenomena and points to the differing levels of visitor travel distance as regions develop around a specific destination (Butler 1989; Marcouiller 2013). A graphic of this distinction between local attraction, early-stage destination, and mature stage destination that reflects increasing visitor travel distance is summarized in Appendix B.

Current usage is only partially relevant to our assessment as much of the potential trail use will result from an expanded trail (bridge across the Wisconsin River Bridge at Sauk City) and concerted marketing and information dissemination once completed. It is important to note that usage of the trail in the future remains unknown and exists as an opportunity for those responsible for expansion and marketing.

4. The Potential Economic Stimulus of Trip-Related Expenditures

One approach to estimating the potential economic stimulus resulting from trail systems rests on survey-based estimates of trip-related spending. Wide variation exists in these estimates and is dependent on user type, user origin, travel distance, and other attributes of an attraction. Reasonable estimates of spending can be benchmarked from a variety of studies (Venegas 2009; and others listed in Table 1). These previous studies allow us insights into the extent of economic stimulus. On average amounts of trip spending for user types relevant to this trail system are provided in Table 3 for trail bicyclists and snowmobilers.

Table 3. Average expenditure pattern of relevant users of the proposed Gateway to The Driftless Trail System

Type of Spending	Average Expenditure Pattern*	
	Trail Bicyclists	Snowmobilers
Groceries/Liquor	\$3.23	\$3.43
Restaurants/Drinks	\$6.37	\$8.14
Gas, Auto Service	\$8.30	\$6.68
Recreational Equipment	\$0.31	\$0.26
Other Retail/Shopping	\$5.75	\$1.27
Casino/Gambling	\$1.98	\$2.54
Overnight Accommodations	\$13.63	\$17.96
Rental & Repair	\$0.48	\$1.40
Payments to Public Agencies	\$1.27	\$2.28
Total individual Spending	\$41.32	\$43.97

* per person per day based on evaluation and adaptation of various previous expenditure pattern studies; normalized, inflated, and adjusted to represent 2020 spending.

Note from this table that, across studies, there is a strong tendency for these to reflect non-local visitors. This statement is justified given the simple fact that the primary category of spending in these expenditure patterns is for “Overnight Accommodations” combined with the notion that local residents are far less likely to spend in this category. This tendency for expenditure patterns to reflect non-local visitors is likely due to the nature of trails as a travel destination. Thus, we anticipate these types of expenditure patterns to become increasingly apparent as the trail system develops over time.

This said, broader economic impact assessment based on trail system usage can be gleaned from the use of input-output analysis. Input-output analysis (sometimes referred to as “interindustry analysis”) is a well-recognized tool for assessment of economic impact (Shaffer et al. 2005). A full description of this tool is beyond the scope of this report. Suffice it to say that input-output analysis rests on regional economic structure and relationships (or linkages) that exist between firms and households. It is specific to regional type and characteristics. Certainly, more urban regions have broader sets of linkages as compared to rural regions due to issues associated with agglomeration, economic diversity, presence of forward- and backward-linked firms, export and import balances, and household income differences. Input-output analysis and related tools rest on an export-based approach to economic growth. This is well-suited to our assessment of non-local visitor attraction and serves as the basis for our assessment of potential economic stimulus resulting for the development of the Gateway to The Driftless Trail System.

One readily available input-output modeling system (and the one used for this assessment) is IMPLAN. This software and accompanying dataset have been in continuous use for the past 40 years and are regularly updated.¹ This system and the accompanying 2016 data for Sauk and Dane Counties in Wisconsin were used for the following economic impact scenarios. These scenarios relate to the ability of the Trail system to attract non-local visitors. For simplification, we limit our assessment to the ability to attract two types of non-local visitors to the region delineated by Dane and Sauk Counties for purposes of leisure travel. Both bicyclists and snowmobilers provide the focus and we are specific to estimates based on attracting 100,000 non-local visitors in each category.

Economic impacts of non-local spending

Assessing trail bicyclists uses the average expenditure pattern from previous studies as summarized in Table 3. This expenditure pattern is matched with appropriate IMPLAN sectors and is injected using producer prices (net of margins). These reflect the fact that trip-related spending by non-local visitors represents consumer spending

¹ The interested reader is referred to instructional use materials found at <https://www.implan.com/>.

on a variety of items; some of which are localized using retail margins. In essence, only a portion of the spending (net of retail margins) ends up contributing to local economic impact.² The scenario for 100,000 non-local bicyclists is summarized in Tables 4 and 5.

Note from these tables that impact estimates are presented for four economic characteristics. These include employment (in total number of jobs), labor income (e.g., employee compensation), total value added (a combination of all types of income including proprietor's income), and output (or the total amount of economic activity affected by non-local visitor spending). Further, the analysis reflects four types of effects. These include the direct effects (stimulus related only to non-local trip spending), indirect effect (or the stimulus resulting from increased demands by firms directly affected by non-local trip spending), induced effect (or that stimulus resulting from demand of increased local household incomes), and total effect. Readers interested in further discussion of economic characteristics, regional type, or input-output effects are referred to the textbook entitled *Community Economics* (Shaffer et al. 2004)

Table 4. Economic impacts of 100,000 non-local bicyclist participant-days (2020 IMPLAN results)

Impact Type	Employment**	Labor Income	Total Value Added	Output
Direct Effect	34.6	\$965,000	\$1,518,000	\$2,756,000
Indirect Effect	6.4	\$341,000	\$626,000	\$1,051,000
Induced Effect	6.5	\$281,000	\$542,000	\$899,000
Total Effect*	47.6	\$1,588,000	\$2,687,000	\$4,705,000

* may not sum to total due to rounding

** in total jobs

Note from this Table that attracting 100,000 non-local bicyclists would generate roughly \$4.7 million in total output. Included within this value is total income of \$2.7 million (total value added) and roughly \$1.6 million in employee compensation. The remaining income (\$2.7 million - \$1.6 million = \$1.1 million) includes proprietor's income, property-type income, and indirect business taxes.

Direct and indirect impacts fall within a variety of local business sectors. The top 10 sectors of direct and indirect impacts are listed in Table 5. Induced effects reflect local housing income change and the increases in consumption driven by increased income.

² A good example of this can be found with convenience stores that sell gasoline. In Wisconsin, average retail margins for gasoline relate to the minimum markup (law) of six percent. Since the Sauk/Dane County regional economy does not include the production of petroleum, much of what is purchased at the pump as gasoline must be imported from outside this region and exists regionally as a leakage. Thus, only the markup (or retail margin) remains for stimulating local economic activity.

Table 5. Top 10 sectors affected by 100,000 non-local bicyclist participant-days (2020 IMPLAN results)

IMPLAN Sector	Sector Description	Employment*	Labor Income	Total Value Added	Output
501	Full-service restaurants	14.0	\$292,000	\$325,000	\$664,000
499	Hotels and motels	13.1	\$402,000	\$787,000	\$1,367,000
405	General merchandise stores	2.5	\$77,000	\$112,000	\$172,000
402	Gasoline stores	1.9	\$65,000	\$79,000	\$127,000
400	Food and beverage stores	1.6	\$48,000	\$67,000	\$105,000
495	Gambling industries	1.6	\$45,000	\$83,000	\$203,000
440	Real estate	0.9	\$18,000	\$211,000	\$264,000
503	Other food and drinking places	0.7	\$18,000	\$14,000	\$28,000
443	Consumer goods rental	0.6	\$25,000	\$32,000	\$50,000
468	Services to buildings	0.5	\$10,000	\$12,000	\$20,000

* in total jobs

Assessing snowmobilers again uses the average expenditure pattern from previous studies as summarized in Table 3. Like the previous user group, this expenditure pattern is matched with appropriate IMPLAN sectors and is injected using producer prices (net of margins). Once again, these reflect the fact that trip-related spending by non-local visitors represents consumer spending on a variety of items; some of which are localized using retail margins. In essence, only a portion of the spending (net of retail margins) ends up contributing to local economic impact. The scenario for 100,000 non-local snowmobilers is summarized in Tables 6 and 7.

Table 6. Economic impacts of 100,000 non-local snowmobiler participant-days (2020 IMPLAN results)

Impact Type	Employment*	Labor Income	Total Value Added	Output
Direct Effect	42.2	\$1,193,000	\$1,897,000	\$3,471,000
Indirect Effect	8.1	\$430,000	\$786,000	\$1,322,000
Induced Effect	8.1	\$350,000	\$673,000	\$1,117,000
Total Effect	58.4	\$1,973,000	\$3,356,000	\$5,909,000

*in total jobs

Note from these tables that economic impacts of the same amount of snowmobiler participant-days is larger than bicyclists and reflects higher levels of trip-related expenditure patterns. Interpretation of results in both Tables 6 and 7 are analogous to the above discussion.

Table 7. Top 10 sectors affected by 100,000 snowmobiler participant-days (2020 IMPLAN results)

IMPLAN Sector	Sector Description	Employment*	Labor Income	Total Value Added	Output
501	Full-service restaurants	17.9	\$373,000	\$415,000	\$848,000
499	Hotels and motels	17.3	\$529,000	\$1,036,000	\$1,798,000
495	Gambling industries	2.0	\$58,000	\$106,000	\$260,000
400	Food and beverage stores	1.8	\$52,000	\$73,000	\$114,000
443	Consumer goods rental	1.6	\$72,000	\$92,000	\$142,000
402	Gasoline stores	1.6	\$54,000	\$65,000	\$105,000
440	Real estate	1.1	\$22,000	\$260,000	\$325,000
503	Other food and drinking places	0.9	\$23,000	\$19,000	\$36,000
405	General merchandise stores	0.8	\$24,000	\$35,000	\$54,000
468	Services to buildings	0.7	\$13,000	\$15,000	\$25,000

* in total jobs

5. Context from Business and Community Leaders

For context, effort was made to solicit perceptions of business and community leaders within the region affected by the trail system. A series of semi-structured interviews with selected leaders was conducted via face-to-face, telephone, and email communication. The purpose of the interviews was to learn more about the impacts of the current portions of The Great Sauk State Trail and Wolf Run Trail and the potential that exists with further development of a formal trail system. Specifically, two county-based University of Wisconsin Extension Educators each conducted 12-15 interviews in their respective counties with local businesses and community leaders during the summer of 2020. The businesses were selected either because they likely benefited from the trail or they were similar to the types of businesses highlighted in marketing materials from other trail systems. The interviewees were asked a series of questions that included the following:

- How does the trail currently benefit your business? How does the trail benefit your community?
- Have you adjusted your business or made investments to take advantage of the trail? If so, how? If not, why not?
- What effect does the seasonality of the trail ridership affect your planning or business?
- What could be done to further develop or refine the trail to benefit your business and the community (i.e., coordination of events, parking, marketing, etc.)?
- Do you think businesses 20 miles further along the trail should be excited about the trail coming to their community? If so, why? If not, why not?

- What percent of your business is associated with trail ridership? How did you estimate this?
- Ideally, what percentage of your business do you hope would be attributed to the trail?

Content analysis of responses to these questions was used to provide context for the numerical estimates of trail user impacts and the developmental attributes specific to business and community leaders. Results of these semi-structure interviews suggest the following:

- Nearly all respondents commented that trail ridership exceeded expectations. This sentiment was underscored by Alan Wildman, Administrator for the Village of Prairie du Sac, "There are an amazing number of daily users - walkers, bikers, and runners. I can't get over how much it is used." Many also commented that ridership increased due to the COVID-19 pandemic. The trail was seen as a safe place.
- Respondents felt that the trail had become a destination, and they included comments about how the bike racks and parks were full on the weekends.
- Respondents shared a number of suggestions to further develop the trail to benefit local businesses including: better signage for businesses along the trail, public restrooms, water fountains, art installations, increased marketing, more parking and access points, trailhead kiosks, special events, and a map that includes local businesses as well as trail highlights.
- Over half the respondents had made modifications to encourage trail traffic such as installing bike racks, selling bike-related merchandise including a repair shop, adding outdoor seating, and additional signage.
- As the regional trail is developed and traffic continues to increase, businesses were more willing to make modifications to make their business more accessible to bikers, hikers, and other recreational tourists. A number of businesses also indicated they had additional plans to attract trail users but had not implemented them yet.
- All the businesses were in favor of having the trail bring in year-round users. In Dane County there was some disagreement on winter use. Some wanted silent sports only and others already benefited from snowmobile use and encouraged them. There are no motorized vehicles on this portion of the trail in Sauk County.
- There was modest economic benefit from businesses that pull in bikers, hikers, snowmobilers, and kayakers such as restaurants, bed and breakfasts, and convenience stores. None of the businesses expected more than 5-15% of their business to come from trail users. However, a representative of Vintage Brewery in Sauk City representative stated, "People should not underestimate the traffic bicyclists can bring. It is a great thing - it really is."

- There was no direct economic benefit from businesses that do not cater to recreational users such as manufacturing firms, distribution centers. However, many commented that the trail was an opportunity to showcase the community and was viewed as an asset for their workforce.
- Nearly every respondent underscored the need to expand the trail throughout both Sauk and Dane Counties. They viewed the future regional trail system as a significant opportunity to attract additional tourists to their communities.
- All respondents thought that people 20 miles or further would like to come to their community as the area has lovely unique rural character and charming small communities with interesting downtowns.
- All respondents agreed that there is general community benefit in multiple ways.

This was well described by a local real estate agent's response.

"Trails are a great asset for communities. They help to create bonds among the residents of all ages and lead people to take more pride in their community. So, the community benefits and it may also help me sell homes there. Trails provide opportunities to exercise, explore and meet people. A win for communities and their businesses."

Kathy Good, Realtor

6. Summary, Conclusion, and Policy Implications

The potential of trails-based development to provide more vibrant and diversified community economies provides the focus of this report. Here, we outline recent efforts to estimate the potential of the Gateway to The Driftless Trail System in Dane and Sauk Counties in South Central Wisconsin and combine it with elements that will be useful in stimulating recreational use, connections between communities, and the subsequent local economic impacts that could result. This was done using previous research, drive-time assessment of markets, semi-structured interviews, and input-output analysis.

Results suggest that the trail system will enhance local quality of life for area residents and is expected to increasingly attract non-local users from longer distances and the estimated population of more than 15 million residing within a three-hour drive time. Within fifteen minutes' drive time to recognized trail access locations, there exists an active recreational base in excess of 700,000 bicycling participant-days and over 200,000 snowmobiling participant-days. At 180 minutes' drive time, the estimated participation rates increase to in excess of 45 million and 15 million, respectively. Recent studies suggest that trail bicyclists, on average, spend just over \$41 per individual participant-day while snowmobilers spend almost \$44 per individual participant-day.

With respect to potential economic impacts, for every 100,000 non-local participant-days, local stimulus creates roughly 50 local jobs and over \$3,000,000 in local income. Local restaurants, hotels, and retail shops are primary sectors of trails-based stimulus with indirect effects felt in local real estate, construction, and service sectors; output multipliers resulting from this stimulus in the Sauk and Dane County region range from 1.6 to 1.8. An effective regional branding and promotion program will be needed to develop this trail system as a destination and fully realize its potential economic stimulus effects to local communities and the state.

A long-term vision supported by Dane and Sauk counties and WDNR for sustainable growth and downtown revitalization in area communities has long included a regional multi-use trail system. The envisioned Gateway to The Driftless Trail System would connect major population centers to county and state park facilities and other trails and the Lower Wisconsin State Riverway and allow winter snowmobile use where appropriate. With the historic floods of August 2018 that devastated local communities in the trail corridor, the need for economic stimulus and downtown revitalization grew more urgent. The still unfolding impact of the current COVID-19 pandemic has only increased the need in these communities for an achievable vision and viable path to robust economic recovery and a future of sustainable growth. Recent events have only strengthened the case for strong public and private support to make the regional trail a reality.

The Great Sauk State Trail already has been a catalyst for development in the Villages of Sauk City and Prairie du Sac. Along the trail, these communities have spent millions of dollars redeveloping and expanding parks and public space, property owners have invested private funds to rehabilitate their buildings, shops have expanded, and new businesses have moved in. This type of development is a clear sign the Great Sauk State Trail has far exceeded initial expectations of local communities. It is now time to see this level of economic development expand through the rest of the county, from Devil's Lake through the City of Baraboo, to the 400 State Trail in the City of Reedsburg and all the communities between.

In Dane County, the two-mile Wolf Run Trail, completed in 2014 between the Village of Mazomanie and Wisconsin Heights High School, was the first segment of the Black Earth Creek Trail to be implemented and was the result of cooperative and collaborative efforts by the Wolf Family, the Wolf Run Association, the Village of Mazomanie, Dane County, Wisconsin Department of Natural Resources, NRCS, and Trout Unlimited. The trail now attracts a regional, year-round user base and is seen by local government as a significant contributor to the community's quality of life and potential for sustainable economic development. In 2016 Dane County Executive Joe Parisi established a \$1 million matching fund available to local units of government and non-profit organizations for the purpose of acquiring land from willing sellers needed

for Black Earth Creek Trail connections between the City of Middleton and the Village of Mazomanie.

In 2019, Sauk and Dane counties co-funded an \$80,000 engineering feasibility study of a new recreational bridge to replace the former rail bridge at Sauk City, dismantled in 2018, in order to connect Great Sauk State Trail and Walking Iron Trail in Dane County for bike, pedestrian and snowmobile use. The study completed in December 2019 found the 500-foot span feasible from an engineering standpoint and estimated the total cost of construction at \$8 million.



Figure 7. Wisconsin River Recreation Bridge Design Concept, December 2019

The Sauk and Dane 2021 county budgets include funds toward the shared cost for a \$146,000 geotechnical study of the Wisconsin River channel at the bridge site as part of continuing design and engineering activities. Work was expected to begin in September 2020 and the final report is due in January 2021. The proposed Dane County budget also included funds for analysis of additional railroad bridge crossings in the Walking Iron Trail corridor. The Sauk County budget proposal also included carry-forward funds for removal of railroad ties and construction of the Great Sauk State Trail "Wye" connection to Devil's Lake State Park and \$25,000 for the development of a parking area and trail connection on property near the State Highway 78 trail crossing.

Dane County, Wisconsin & Southern Railroad Company, WDNR, WisDOT and the Wisconsin River Rail Transit Commission have been discussing the potential of a future multi-use trail along the existing rail corridor that could also accommodate railroad car storage.

The Village of Mazomanie's "Mazo 2020" Economic Positioning Strategy, adopted in 2016, recommended the Village take action to become a recreational hub to the region, with the goal of drawing visitors, new employers and employees, and new residents by creating additional trails and regional trail connections to Middleton as well as Great Sauk State Trail and Devil's Lake State Park. The Village study recommended a regional branding effort for Northwest Dane County and the Black Earth Creek valley communities. The Village of Mazomanie's updates of its Community Outdoor Recreation Plan (CORP) and Comprehensive "Smart Growth" Plan in 2020 both make intergovernmental cooperation in development of the regional trail a matter of policy toward the goal of enhancing quality of life and supporting economic development.

The Villages of Black Earth and Cross Plains have also developed comparable marketing and economic opportunity studies that endorsed continued development of the regional trail and called for a joint marketing effort around outdoor recreation, abundant natural beauty, and quality of life. Gateway to The Driftless Inc., a nonprofit regional economic development initiative established in partnership with the three villages, local chambers of commerce, schools, and other nonprofit organizations and civic groups, launched an interactive website (gatewaytothedriftless.com) in 2018 to brand and promote the area around outdoor recreation and quality of life.

The Village of Black Earth's current reconstruction of its eight-acre community park includes construction of a segment of the regional trail. The Village of Cross Plains, headquarters of the Ice Age National Scenic Trail, has completed construction of a new NW Dane regional trail segment within the Village and is now working with the developer of a planned housing subdivision and other stakeholders to extend the trail west to Dane County's Salmo Pond Park. A recent community survey by the Village of Cross Plains Sustainability Committee (ad hoc) found a majority of 53 percent of respondents would use a bike path to commute to Middleton or Madison.

This study shows strong potential for significant regional economic benefit from the Trail System. The findings offer solid support for public and private investment in the trail system's continued development in order to achieve a long-held vision for future growth and quality of life shared by local communities and government in Sauk and Dane counties.

The Importance of a Regional Marketing Program

Given the highly competitive nature of the visitor industry, we believe an effective regional marketing effort will be needed to achieve the potential participation rates and visitor expenditure impact projected in this study. Regional branding and promotion of the Gateway to The Driftless Trail System needs to be part of a cooperative economic development strategy among local communities in support of downtown revitalization and long-term, sustainable growth of the project area.

We envision a marketing scheme that would highlight the natural beauty of the trail system and its environs, the small-town character and quality of life of the trail communities, the abundance of family outdoor recreation opportunities, and the area's proximity to urban centers. It would complement outreach efforts around existing parts of the system (Great Sauk State Trail, Wolf Run Trail) while being designed to reach a larger audience with a comprehensive view of area attractions.

This messaging would be directed to a broad demographic across the seven-state upper Midwest area and beyond with the goal of attracting visitors to the trail system and nearby outdoor recreation opportunities. It would seek to attract visitors as well as potential new residents, businesses, and workers to area communities and would thus be actively supported year-round across electronic, digital, print, and person to person (e.g., trade shows) platforms.

The regional branding and promotion effort should support marketing and branding activities by local and state government and business stakeholders. It should also be part of community planning and development of related infrastructure facilities and amenities. As such, the regional marketing program would serve to implement local and regional economic development strategy and investment. Support by a combination of public and private resources is vital to future success.

Acknowledgments

The authors wish to thank the following for their valuable contributions to this study: Root River (MN) Trail Towns; Gabby Kinneberg, Preston (MN) Area Chamber of Commerce; Jen Hengel, Rushford Peterson Valley (MN) Chamber of Commerce; Jess Althoff, Minnesota DNR; Dane County Supervisor Dave Ripp; Town of Mazomanie Chairman Fred Wolf, and Town of Cross Plains Chairman Greg Hyer. Finally, we'd like to acknowledge the sage advice and time-series data for trails usage provided by the Wisconsin Department of Natural Resources, Bureau of Parks and Recreation and retired WDNR Senior Planner Jeffrey Prey.

References

- BBC Research and Consulting. 2014. *Community and Economic Benefits of Bicycling in Michigan*. Phase I Final Report prepared for Michigan Department of Transportation.
- BBC Research and Consulting. 2014. *Traverse City Case Study: Community and Economic Benefits of Bicycling*. Final Report prepared for Michigan Department of Transportation.
- Beeton, S. 2010. Regional community entrepreneurship through tourism: The case of Victoria's rail trails. *International Journal of Innovation and Regional Development* 2(1/2): 128-148.
- Berard, DS, S Chapin, A Hoogasian, T Kane, DW Marcouiller, and T Wojciechowski. 2014. *Understanding Active Silent Sports Enthusiasts: A Case Study of Gateway Community Impacts from Northern Wisconsin*. Extension Report 14-01, Department of Urban and Regional Planning, University of Wisconsin - Madison/Extension.
- Bicycle Federation of Wisconsin. *The Economic Impact of Bicycling in Wisconsin*. Madison, WI
- Bowker, JM, JC Bergstrom, and J Gill. 2007. Estimating the economic value and impacts of recreational trails: A case study of the Virginia Creeper Rail Trail. *Tourism Economics* 13(2): 241-260.
- Brown, L. 2020. *Trails and Economic Development Resources: An Annotated Bibliography*. University of Connecticut – Extension.
- Budris, A, J Walsh, and L Brown. 2018. *Downtowns as Community and Economic Development Engines*. Project report; Naugatuck Valley Council of Governments and the.
- Butler, RW 1989. The concept of a tourist area cycle of evolution: Implications for management of resources. *Canadian Geographer* 26: 5-12.
- Carper, C, J Guth, E Kakde, DW Marcouiller, P Ohlrogge, and L Wolfe. 2013. *Motorized Outdoor Recreation and Tourism Development within Trailside Communities*. Monograph G3569. Madison, WI: Board of Regents of the University of Wisconsin System.

- Cherry, T and D Rickman (eds). 2010. *Environmental Amenities and Regional Economic Development*. New York, NY: Routledge.
- Crompton, JL. 2010. *Measuring the Economic Impact of Park and Recreation Services*. Research Series 2010. Ashburn, VA: National Recreation and Park Association.
- Dixon, N and B Ryan. 2006. How local businesses can serve trail users. *Let's Talk Business* Issue 121. Center for Community Economic Development: Madison, WI.
- Ermugun, A and G Lindsey. 2016. Differences in spending by local trail users. *Transportation Research Record* Number 2598: 58-66.
- ESRI. 2020. ArcGIS output available from authors.
- Fosher, H. 2018. *Understanding the Marketing and Management of Trails Using Pestel Analysis*. Unpublished MS Thesis. University of New Hampshire: Durham, NH.
- Glynn, D, T-L Hsu*, DW Marcouiller, and B. Ryan. 2018. *Potential Economic Impacts of a Proposed Whitewater Park: A Market-based Case Study from Stoughton, Wisconsin*. Extension Report 18-01, Department of Planning and Landscape Architecture, University of Wisconsin – Madison/Extension.
- Grabow, M, M Hahn, and M Whited. 2010. *Valuing Bicycling's Economic and Health Impacts in Wisconsin*. Nelson Institute for Environmental Studies, University of Wisconsin – Madison: Madison, WI.
- Green, GP, SC Deller, and DW Marcouiller (eds.). 2005. *Amenities and Rural Development: Theory, Methods, and Public Policy*. New York, NY: Edward Elgar Publishing.
- Hass, E, N Dixon, B Ryan, and DW Marcouiller. 2006. *A Proposed Bicycle and Horse Trail from Spring Valley to Elmwood, WI: The Extent and Impact of Visitor Expenditures*. Extension Report 06-01, Department of Urban and Regional Planning, University of Wisconsin – Madison/Extension.
- Headwaters Economics 2020. Outdoor Recreation: A Top Driver of Wisconsin's Economy. <https://headwaterseconomics.org>.
- Iowa Department of Transportation. 2001. *Implementing Trail-based Economic Development Programs: A Handbook for Iowa Communities*. Iowa DoT: Des Moines, IA.
- Kazmierski, B, M Kornmann, DW Marcouiller, and J Prey. 2009. *Trails and Their Gateway Communities: A Case Study of Recreational Use Compatibility and Economic*

Impacts. Extension Monograph 3880. Madison, WI: Board of Regents of the University of Wisconsin System.

Krizek, KJ. 2006. Two approaches to valuing some of bicycle facilities' presumed benefits. 72(3): 309-320.

Lindsey, G, J Man, S Payton, and K Dickson. 2004. Property values, recreation values, and urban greenways. *Journal of Park and Recreation Administration* 22(3): 69-90.

Manton, R, S Hynes, and E Clifford. 2016. Greenways as a tourism resource: A study of user spending and value. *Tourism Planning and Development* 13(4): 427-448.

Marcouiller, DW 2013. The rural development attributes of tourism. In: Green, GP (ed.). *Handbook of Rural Development*. New York: Edward Elgar Publishing. Chapter 9: 158-178.

Mogush, P, KJ Krizek, and D Levinson. 2004. The value of bicycle trail access on home purchases. 23-page unpublished paper.

Monz, C and A Kulmatiski. 2016. The emergence of "fat bikes" in the USA: Trends, potential consequences and management implications. *Journal of Outdoor Recreation and Tourism* 15: 20-25.

Nau, T 2015. 2015. Winnebago County Economic Impact Study – Parks and Trails. East Central Wisconsin Regional Planning Commission: Menasha, WI.

Oswald-Beiler, M, K Burkhart, and M Nicholson. 2015. Evaluating the impact of rail-trails: A methodology for assessing travel demand and economic impacts. *International Journal of Sustainable Transportation* 9: 509-519.

Prey, J, DW Marcouiller, and D Kim. 2013. *Economic Impacts of the Wisconsin State Park System: Connections to Gateway Communities*. PR-487-2013. Madison, WI: Wisc. Dept. of Natural Resources.

Rails to Trails Conservancy. *Economic Benefits of Trails and Greenways*. Rails to Trails Conservancy: Washington, DC.

Shaffer, R, S Deller, & D Marcouiller. 2004. *Community Economics: Linking Theory and Practice* 2nd Edition. Hoboken, NJ USA: John Wiley and Sons - Blackwell Press.

Smith, SB and A Tisdale. 2014. Non-motorized use of the Vasa Pathway: A case study of economic impacts. Avenue ISR: Traverse City, MI.

- Southwick, R, J Bergstrom, and C Wall. 2009. The economic contributions of human-powered outdoor recreation to the US economy. *Tourism Economics* 15(4): 709-733.
- Stynes, DJ and EM White. 2005. Spending Profiles of National Forest Visitors, NVUM Four Year Report. JVA 01-JV-11130149-203. East Lansing, MI: Michigan State University.
- Tuck, B, N Linscheid, and J Bennett. 2016. *Profile of Mesabi Trail Visitors: People Traveling More than 50-miles or Staying Overnight to Use the Trail: A Report of the Economic Impact Analysis Program*. University of Minnesota-Extension: St. Paul, MN.
- Venegas, EC. 2009. Economic impact of recreational trail use in different regions of Minnesota. University of Minnesota Tourism Center: St. Paul, MN.
- White, EM, JM Bowker, AE Askew, LL Langner, JR Arnold, and DBK English. 2016. Federal Outdoor Recreation Trends: Effects on Economic Opportunities. USDA Forest Service General Technical Report PNW-GTR-945: Pacific Northwest Research Station.
- Wisconsin, State of 2020. Database of Wisconsin State DNR Property usage estimates (from Jeff Prey; November 2020).
- Wisconsin, State of. 2019. *Wisconsin Statewide Comprehensive Outdoor Recreation Plan 2019-2023*. LF-114.2 Madison, WI: Wisconsin Department of Natural Resources.
- Wisconsin, State of. 2012. *Wisconsin Statewide Comprehensive Outdoor Recreation Plan 2011-2016*. Chapter 2. PR-027-2012. Madison, WI: Wisconsin Department of Natural Resources.

Appendix A.

Demographics of Wisconsin Recreationists Partaking in Relevant Activities (Source: Wisconsin SCORP 2019-2023 Appendix 6, pages 54-58.)

Table C20. Demographics of hiking/walking/running on trails.

	% Participation rate within demographic category	% composition of demographic category as part of activity group population (sums to 100%)
Age		
18-29	80	25
30-39	81	22
40-49	77	17
50-59	66	18
60-69	52	13
70 and older	38	6
	--	100
Gender		
female	67	50
male	69	50
Residence		
rural	65	47
urban	70	53
	--	100

Table C23. Demographics of biking on rail trails/developed trails.

	% Participation rate within demographic category	% composition of demographic category as part of activity group population (sums to 100%)
Age		
18-29	41	25
30-39	43	23
40-49	44	19
50-59	36	19
60-69	23	11
70 and older	11	4
	--	100
Gender		
female	32	47
male	37	53
	--	100
Residence		
rural	31	44
urban	37	56
	--	100

Table C28. Demographics of snowmobiling.

	% Participation rate within demographic category	% composition of demographic category as part of activity group population (sums to 100%)
Age		
18-29	24	34
30-39	18	22
40-49	19	19
50-59	13	18
60-69	7	6
70 and older	3	2
	--	100
Gender		
female	12	41
male	18	59
	--	100
Residence		
rural	20	64
urban	10	36
	--	100

Appendix B

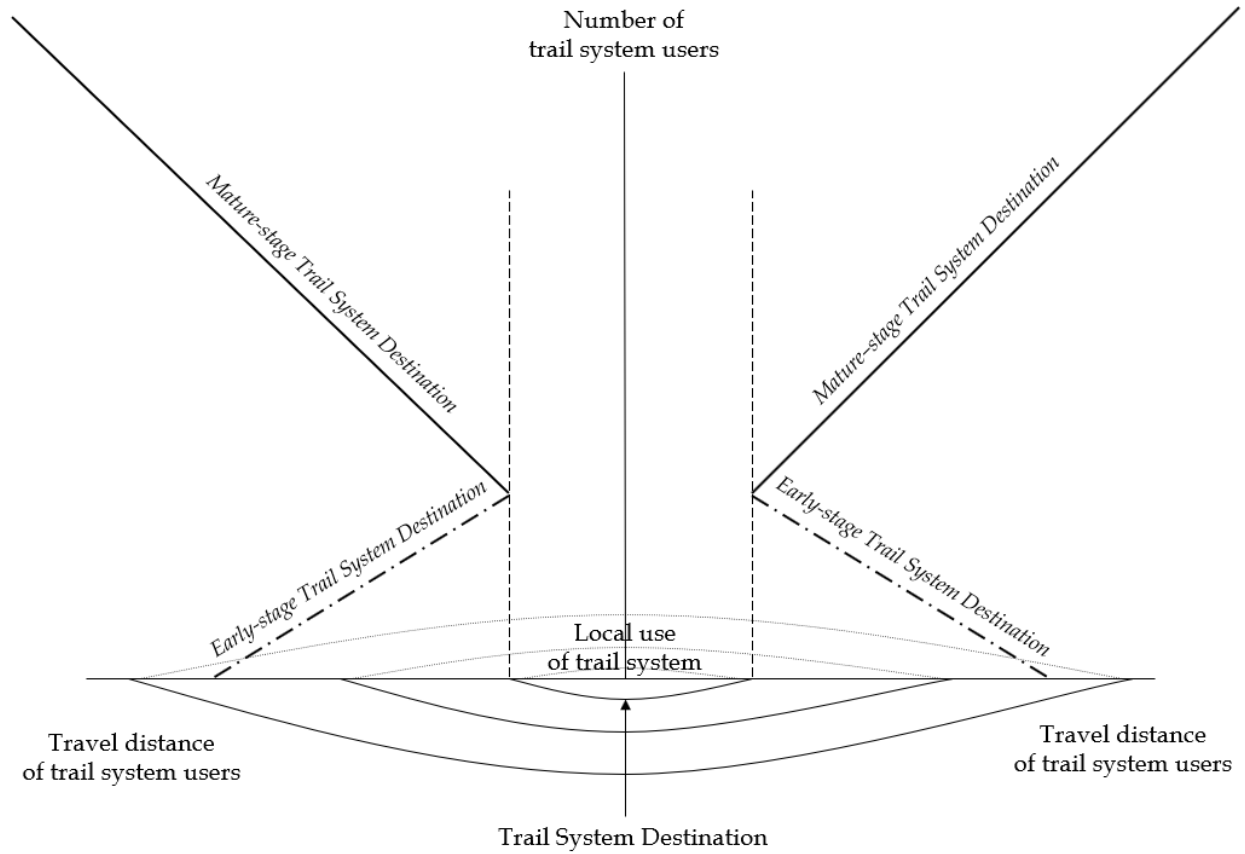


Figure B1. Origin of trail users relative to trail system with various levels of destination maturity (adapted from Marcouiller 2013).

Note: As the trail system becomes more widely known, this figure outlines the change in use patterns and the increasing travel distance of trail system users.