

Bicycle tourism: on the trail to economic development

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Abstract: Bicycle tourism has remained on the fringes of the North American tourism industry while it has been in the European mainstream. A recent increase in bicycle tourism in Canada and the United States, however, has brought this phenomenon to the attention of many jurisdictions, and they are viewing cyclists as a potentially lucrative clientele.

Minnesota began developing a system of bikeways in the 1970s and several trails in their system have developed into popular tourist draws and bicycle tourism has been seen as a great success. This paper discusses the essential ingredients of bicycle tourism and examines the role of trails in tourism development using Minnesota as a case study.

Introduction

A long-time tourism staple in many European countries, bicycle tourism is emerging in North America as a popular and economically viable market. This growth has been restricted to a few geographical areas, and in many cases has been focused around trail networks. According to Lumsdon (2000) there is an increasing latent demand in North America for bicycle tourism, although it has only been successfully developed in a few North American jurisdictions, including Minnesota

Traditionally the mainstream has consumed a mass tourism product based on regeneration and relaxation that has often focused on “sun, sand and sex” tourism or a commercialized version of an area’s history and culture. These forms of tourism are generally associated with high costs to host communities, either of a social or environmental nature. In recent decades, however, there has been a change in the market as a public that is better traveled and more discerning is demanding more variety in tourist needs, types and patterns. The “special interest tourism” that has risen

from such demands places an emphasis on the environmental and social aspects of travel and effectively has given rise to the “humanization of travel” (Weiler and Hall, 1992, 2).

Bicycle tourism is increasing in popularity because of its appeal to aging populations and the manner in which it can straddle the boundaries between heritage, adventure and sustainable tourism. Cycling also provides a tourism experience that allows for the participant to enjoy the journey as much as the destination, thus addressing the manner in which modern travel in airplanes and on uniformly designed highways “provides little pleasure or substance” (Siddall, 1987).

This paper will briefly discuss the phenomenon of bicycle tourism and will examine the role trails play in its development. Minnesota, which is home to the largest network of paved trails in the United States, will be used as a case study to further understand what makes trails successful tourism generators and will identify the shortcomings of that state’s bicycle network.

Bicycle Tourism: What is it?

Bicycle tourism can be defined as “recreational visits, either overnight or day visits away from home, which involve leisure cycling as a fundamental and significant part of the visit” (Sustrans 1999,1). This definition encompasses various forms of cycle tourism including mountain biking and daytrip cycling.

Mountain biking arguably accounts for most bicycle tourism activity in North America. The sport entered the mainstream relatively recently and over the last two decades has experienced immense growth. Between 1990 and 1992 mountain bike ownership in the United States increased 66 per cent. Over a ten-year period the Slickrock Trail in Utah, one of the premier mountain biking destinations in the world, saw its annual ridership increase from 1000 riders in 1983 to 90,000 in 1993 (Morey *et al.* 2002). By 1996 the number of riders increased further to over 113,000 per year (Chakraborty and Keith, 2000).

This paper will focus on the burgeoning phenomenon of bicycle touring, which can be defined as traveling between points by bicycle for recreational purposes and involving at least one night away from home. Tours can range from weekend trips around a scenic area to months long rides across a country or continent. Such rides may be self-organized or booked through a commercial tour operator and may involve camping, staying at hotels or hostels or combinations of lodging choices.

Bicycle Tourism: Who does it?

Various market-segment studies have painted a portrait of the typical cycle tourist as a middle-aged Caucasian, approaching or at retirement, who is well educated and well paid (Velo Quebec 2000; Maine DOT 2001). This age range encompasses the “baby-boomer” and “grey market” demographics and represents a potential goldmine for many industries. Boomers are the largest age segment in North America and the slightly older “greys” are generally interested in physical well-being and plan on retaining the spending patterns of their younger days (Tuckwell 2004).

Despite the overwhelming influence of the boomer set, it is important to note that cycling appeals to all ages and many different demographics. According to Bangel (1995) “cycle-tourists do not form a homogenous group” (1). They represent all age groups and cycle touring is even carried out by families with children accompanying their parents. Furthermore, cyclists use a full range of accommodations, ranging from campgrounds and hostels to bed and breakfasts and five-star accommodations (Bangel 1995).

Bicycle tourism has traditionally been more popular in Europe than North America, and has been a staple in some countries’ tourism economies for decades. For example, some European countries see approximately 4 per cent of their total visitation accounted for by touring cyclists. It is expected that cycling could soon account for upwards of 12 per cent of all European holidays. Britain has developed a large bicycle network already consisting of 5600 kilometers which is planned to top out at 16,000 kilometers. The British cycle tourism industry is already estimated to be worth \$1.4 billion (CAD) (Sustrans 1999).

France is home to the worlds largest and most influential touring club, the *Federation Francaise de Cyclotourism*, which boasts over 115,000 members and an annual budget in excess of 4.5 million Euros (Widing *et al.* 2001). In France the popularity of bicycle touring has been developed over more than a century; in North America, on the other hand, most jurisdictions are starting from scratch.

Developing Bicycle Tourism

Bicycle tourism can offer a sustainable, and potentially lucrative industry for communities in North America, just as it has done in Europe. In order to develop cycling as a tourist activity there are certain route-specific and supplementary needs that must be fulfilled. Route-specific needs include safe, convenient, and attractive routes involving either quiet, low-traffic roads or off-road trails available for only non-motorized

use (Sustrans 1999). It is generally accepted that such routes should be interconnected and offer cyclists the opportunity for circular routes to allow seamless movement throughout the network and minimizing the need for backtracking (Lane 1999).

Supplementary needs would include good scenery, guidebooks, maps and services such as food outlets and bicycle-friendly accommodations (Downward and Lumsdon 2001). There should also be other tourist attractions and activities in the vicinity that the trail can connect, thus offering cyclists an opportunity for other pursuits and diversifying the tourism economy.

Another key to developing bicycle tourism is that cycling should be popular in the area (Cycle Victoria 2001). One of the primary reasons for this is to make motorists comfortable sharing the road with cyclists. A strong presence of bicycle advocacy can also go a long way in helping to create a healthy, bicycle-friendly environment. Also, if the area in question is popular with local cyclists, or already attracting bicycle tourists without widespread promotion, it stands to reason that, with a concerted effort, bicycle tourism could become a viable industry for the area. Minnesota serves as an example of this.

Commercial tours often serve as an introduction to bicycle tourism for many people, and give them the confidence to pursue it further (Weiler and Hall 1992). Market research, however, indicates that there is a general preference towards self-guided trips among bicycle tourists (Fraietta 2004). Thus, commercial trips often act as a springboard for independent touring, and in the U.K the majority of cycling excursions are self-guided (Sustrans1999).

When attempting to attract bicycle tourists the importance of alliances cannot be ignored (Cycle Victoria 2001). Cooperation between tourism advocates, cycling enthusiasts, tour operators, hoteliers, government officials and other concerned parties is a must, whether concerning advertising, lobbying for the construction of bicycle paths, or setting standards for cyclist-friendly accommodation. Promotion and marketing are also vital elements for developing tourism and are used throughout the industry, for attractions ranging from eco-tourism to casinos. In North America there is a void in effectively marketing bicycle tourism.

The question that presents itself is what the role of physical infrastructure, mainly bicycle trails, plays in tourism development. Generally there is a divergence concerning the preferred infrastructure depending on a cyclists' skill level, with more experienced riders using roads, while less experienced cyclists prefer to use trails (Maine DOT 2001). Moreover, when looking to develop bicycle tourism, a system of trails is an invaluable resource because they appeal to a variety of skill levels. Such a system

would offer an attraction for leisure cyclists as well as providing a safe, traffic-free route for more experienced long-distance cyclists. Therefore a system of trails or bikeways, which are roads or paths with bike friendly features, should be considered by jurisdictions looking to cater to bicycle tourists (Barsotti 2002).

It is a long-established fact that successful tourism requires more than first-rate attractions. There must also be services and infrastructure (Roehl 1993). The tourism industry is intrinsically linked to the availability of physical infrastructure such as airports, roads, water networks and many other such services (Mistilis 1999). In the case of bicycle tourism, however, there is a fine line between what is the infrastructure and what is the attraction. The presence of physical cycling infrastructure is not merely present to serve cyclists, it is often the reason why the cyclists are there in the first place. This has traditionally caused an emphasis on physical infrastructure in the bicycle tourism industry resulting in the belief that the construction of a cycling trail without accompanying infrastructure and promotion will attract cycling tourists.

Trails

Bicycle trails are nothing new to North America, although their utilization as generators of a tourism economy is a more recent development. Many municipalities have trails that are used for recreation and commuting. Such trails, however, cannot be expected to generate bicycle tourism. Tourism trails are generally located in rural areas, and travel for long distances. They may pass through towns and villages, and may even travel through major urban areas, but there must be a draw that attracts tourists, and provide something they could not get at home. What features endow a trail to make it a tourism draw? Necessary elements would include natural scenery, cultural or historical landmarks or a quaint rural setting. Trails suitable for tourism may include, but are not limited to rail trails, heritage trails, nature trails, winery trails and river trails (Lane 1999).

Trail networks should be comprised of circular and interconnected routes, and when possible, should be located away from roads and highways with heavy vehicular traffic. This reduces noise and helps create a more enjoyable aesthetic experience (Forester 1994).

Lumsdon (2000) and Forester (1994) both discuss the importance of multi-modal options for bicycle tourism. The option of being able to incorporate different forms of transportation into bicycle tourism is important from economic, environmental and convenience standpoints.

When possible, trailheads should be made accessible by public transportation to help reduce the number of people driving and parking in order to ride their bicycles.

There are numerous examples of successful bicycle trails in Europe. Some notable examples include the Coast-to-Coast Trail in the United Kingdom and the Danube Trail in Germany and Austria. There are also North American cycling trails that have successfully generated tourism, and research suggests that cyclists will travel long distances to use shared-use pathways (Maine DOT 2001) Some notable examples of North American jurisdictions with popular bicycle trails include Minnesota, Wisconsin and Missouri. Minnesota and Wisconsin both have extensive trail networks and see significant numbers of tourists visiting each year to cycle on them. Minnesota boasts over 900 kilometers of paved bicycle trail while Wisconsin is home to over 1600 kilometers of trail, much of which is surfaced with crushed limestone (Wisconsin DNR). The Katy Trail in Missouri has also been a success.

Despite the fact that in many areas, especially in Europe, trails have become important aspects of the tourism landscape, many mistakes have been made in trail planning. Lane (1999) explains,

Traditionally, trails were planned by trail enthusiasts, keen walkers and cyclists, often with powerful political ideas and skills. They were inspired people, inspired by the finite nature of the trail idea, coupled with its sense of movement and freedom of nature. The route, and the achievement of that route, dominated the trail making process. But to make trails work for tourism new skills are required (3).

The new skills Lane discusses include design skills, market assessment, marketing, private sector involvement, product development and partnership approaches.

In the past there has been a “product led” development of bicycle infrastructure which has, according to Downward and Lumsdon (2001), followed three stages: a search for funding, land acquisition and route engineering, and finally, an onslaught of post-launch publicity. This haphazard approach has been largely ineffective and there must be a balance found between infrastructure provision and market-based research. Database information is a vital tool in the development of bicycle tourism. Through the incorporation of physical infrastructure coupled with strong alliances, market research, quality bicycle-friendly accommodations and well-executed promotion and marketing campaigns bicycle tourism has

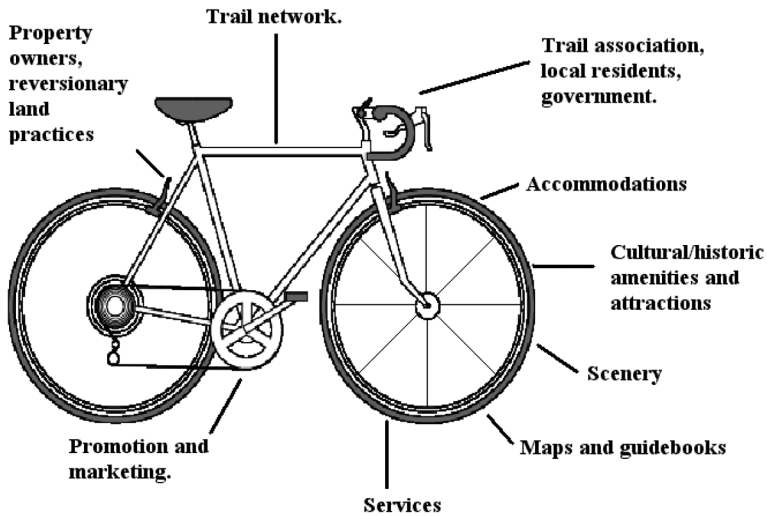


Figure 1: The essential elements of bicycle tourism development.

the potential to take hold. Such findings are consistent with the development of tourism in rural areas. According to Wilson et al. (2001) providing a complete package is necessary as opposed to just a primary attraction, in this case, a bicycle trail.

Perhaps the best way to view the necessary ingredients for successful development of bicycle tourism is to use the imagery of a bicycle (see Figure 1). The trail network serves as the basis of the physical infrastructure and can be seen as the bicycle's frame. Trail associations, government agencies responsible for funding and development, local residents and public-private alliances steer the direction of tourism development and can thus be thought of as the handle bars. Supplementary services, cultural and historic amenities, secondary attractions and other factors are vital to the process and can be seen as the wheels. Promotion and marketing efforts drive the development and can be visualized as the drive train of the bicycle. Finally, the negative momentum of reversionary land practices, uncooperative landowners and forms of government "red tape" can be seen as the brakes.

Core Elements Of Bicycle Infrastructure Development

It appears that safe, attractive routes, whether part of the road network or a system of off-road trails, are key to developing bicycle tourism

(Sustrans 1999). Lumsdon (2000) also argues that three core elements of bicycle infrastructure development should be followed, specifically to incorporate sustainability into the development of bicycle tourism. The first element is that “planning and design techniques should make best use of existing resources whilst having regard to minimal impact on the environment” (370). Re-use can include the incorporation of existing transportation infrastructure, such as old railways or lightly traveled highways. Using trails to preserve green space and protect areas from development would also fulfill the criteria of minimizing environmental impact.

Lumsdon’s second core element is that “the network should generate positive economic and social impacts for the communities through which it passes” (370). Studies suggest that bicycle tourists prefer to patronize locally owned establishments and can contribute to the economies of small communities (Cope and Doxford 1998). However, it is important to remember that the tourism economy can be a fragile one. The tourism industry goes through periods of prosperity and recession and is susceptible to numerous natural and economic forces.

The third core element is that “the system should have the capability to decrease the number of car-based recreational trips, hence reducing pollution and energy consumption” (Lumsdon 2000, 371). Bicycle tourism only gives environmental gains when bicycle trips are taken instead of motorized trips. Lumsdon points out that cyclists driving cars to trailheads may actually increase automobile trips. On the other hand, these rides may also be used to replace car-borne sightseeing trips. Mozer (2000) also discusses the potential environmental issues surrounding fully supported bicycle tours. Such tours involve vans ferrying riders’ equipment between accommodations and support vans combing the route for cyclists who are tired or in need of repairs. This can negate any environmental gains.

Minnesota’s State Trails: A Case Study

The state of Minnesota is home to over 900 kilometers of paved bicycle trails; this is the most in the United States of America (Minnesota Trails 2005)¹. Despite the fact that there has been very little promotion of Minnesota’s cycling infrastructure, the state has developed into something

¹This was compiled by adding the distances of the sixteen state trails with paved surfaces. There are also several trails that feature other surfaces such as limestone. Paved municipal trails are also not included.



Figure 2: Minnesota's State Trail Network. Minnesota has the most mileage of paved trails in the United States. Notice the lack of circular routes. Large gaps are also evident, especially on the Mesabi, Gitchi Gami and Paul Bunyan trails.

of a cycling Mecca and is beginning to develop a strong cycle tourism economy. The growth of bicycle tourism due to trail development has been credited with the revival of tourism in Southeast Minnesota and the revival of some of the small towns in the region (Gundersen 2001). Thus, Minnesota can serve as a case study to showcase the importance of physical infrastructure, such as trails, in the development of bicycle tourism.

Although the state contains over 1900 kilometers of rail trails, it is the over 900 kilometers of paved state trails that are the backbone of the bicycle tourism system (see Figure 2). The trails are multi-use trails open to cyclists, walkers and in-line skaters, and in some cases there are parallel tracks for horseback riding. Several of the trails are groomed for cross-country skiing in the winter.

Cycling, however, is by far the most popular activity on the trails and accounts for 72 per cent of summer use (MnDNR 2000). Cycling is also the most important activity on the trails in terms of tourism, accounting for 88 per cent of tourist use. In fact, while locals tend to view the trails as multi-use trails, in the minds of most tourists they are simply thought of as cycling trails (MnDNR 2000).

Minnesota's trails were developed initially for the use of residents. Their appeal to tourists was seen as a bonus (*Rochester Post-Bulletin* 1994b). Thus, many bikeway plans are designed to link civic amenities. For example, the bikeway in Baxter, Minnesota links all of the town's schools and parks (Meyer 2000). According to the Parks and Trails Council of Minnesota (2005), however, there has increasingly been a focus on tourism and economic development as well as an emphasis on trails' health benefits.

As discussed earlier, one of the cornerstones of successful bicycle tourism development is to have a strong base of popularity to work from. Minnesota is no exception to this rule. Historically, cycling has been popular in Minnesota since the heyday of the late 1800s when the state was considered a "wheelman's paradise." In 1896 Minneapolis constructed its first bike path around Lake Harriet, and by 1902, 57 miles of path existed (Arey 1995).

Through the 1990s, cycling was a pastime for 66 per cent of the state's residents, which is twice the national average, making it the most popular activity in the state (MnDOT 1992). Minneapolis also has the third highest rate of bicycle commuting in the United States (MnDOT 2005). These facts manifest themselves in the fact that bicycle trails are the most requested facilities in government surveys (MnDOT 1992).

One of the factors that has allowed Minnesota to develop bicycle infrastructure is the state's numerous bike-friendly statutes that give local authorities power to designate and create bikeways and paths. These include allowing the prohibition of vehicular traffic on highways and restricting speed limits for motorized vehicles. The state also provides assistance to local units of government for bikeway planning and development (Minnesota Statutes 2004). Thus, small jurisdictions like Stearns County have comprehensive bikeway plans that are designed to provide a coordinated bikeway system linking communities and community assets. Such a plan, when carried out, consists of a mixture of on-road facilities and rail trails (Stearns County 2005).

Three trails have emerged in the Minnesota network as "tourist" trails while the others serve as "local market" trails. The three tourist trails are the Root River Trail, The Paul Bunyan Trail and The Heartland Trail, with the latter two bisecting each other. These three trails comprise over 320 kilometers traversing some of Minnesota's finest scenery as well as

cultural and historic resources. The Paul Bunyan Trail is still incomplete and will only increase in length (Minnesota Trails, 2005). The Root River Trail was first paved in 1988 and since then has steadily increased in length and tourism importance (*Rochester Post-Bulletin* 1994a).

Tourism along Minnesota's State Trails is almost exclusively due to cycling, while locals enjoy a variety of activities including walking and in-line skating (MnDNR 2000). And whether tourists come from within the state or from elsewhere in North America, bicycle touring accounts for 12 per cent of all bike miles traveled in Minnesota (MnDOT 2005).

Development of Minnesota Trails

A unique relationship exists between Minnesota's Department of Transportation (MnDOT) and the bicycle. In the 1970s the Minnesota Department of Natural Resources (DNR) was given the task of developing a system of State multi-use trails, while MnDOT was charged with the task of planning statewide bicycle travel. By 1976 MnDOT was developing its own standards for bicycle infrastructure design. They have now published three editions of statewide cycling maps and two editions of comprehensive design guidelines (MnDOT, 2005). The state bicycle maps color-code the state's highways according to traffic volumes and other factors that affect cyclists. They also indicate the presence and width of paved shoulders. When a department of transportation "embraces" the bicycle as Minnesota's has, the development of bicycle infrastructure is made less difficult than in other jurisdictions (MnDOT, 73).

The state trail system in Minnesota is continually growing, but this is occurring slowly due to a lack of funds. The funding structure for Minnesota trails began in the 1970s and 1980s through the sale of state bonds by the State Legislature. This was supplemented with use of a 2 per cent cigarette tax, which began in 1960s as a "future resource fund" (Parks and Trails Council 2005).

Minnesota's state trails are popular and supported by residents and generally by politicians as well, but the availability of funding has been a restraint on trail projects. For instance, in 1992 state lawmakers passed a bill to create the Blufflands Trail System in the southeast portion of the state. This system would build off the Root River Trail and eventually form a network of trails seamlessly traveling to the Douglas Trail near Rochester (see Figure 2). Unfortunately the bill contained no funding for the project, it was merely a vision, and over a decade later such a plan is far from completion, although some progress has been made. The Root River and Harmony-Preston trails have been expanded and developed over the

last decade, and a hotel was established at the Preston trailhead in anticipation of the town becoming a hub for the trail network (Kiger 2001).

Minnesota's trail network is set apart from cycling trails in most other jurisdictions, including the Missouri's Katy Trail (a nationally recognized success) and Wisconsin's extensive network, because planners in Minnesota have opted to construct paved trails where possible. Although some research indicates that the surface of a trail does not play a major role in user satisfaction or tourism potential (Fraietta 2004; MnDNR 2000), asphalt surface provide a smoother ride and can accommodate slender tire widths, not to mention the fact that after a day of riding on crushed limestone trails a cyclist is coated in dust. The decision to pave the state trails was made because of concerns over rutting that can occur on gravel or limestone trails. Also, unlike its neighbour Wisconsin, Minnesota has no native limestone with which they could economically construct trails (Lundquist 2004).

Minnesota's state trails draw a wide range of users comprising various income levels and age demographics (MnDNR 2000). The three tourist trails see the highest usage intensity of the system, and although several of the trails are heavily used, overcrowding has not yet been a problem on Minnesota trails (MnDNR 2000).

The tourist trails are important tourism draws for their respective regions, and even when there is not enough money to expand them, they must constantly be improved. In a series of surveys carried out by MnDNR (2000) it was determined that the most important priorities for trail improvement, according to trail users, were the availability of fresh drinking water, more public toilets, and pay telephones.

Land Ownership, Rail Banking and Politics

In the United States recreational trails are often constructed on abandoned rail rights-of-way. This is usually made possible under the pretense of rail banking, meaning that the trail is a long-term, but temporary, use that will keep the right of way clear from other forms of development so it can be redeveloped as a rail corridor if future needs require. When trails are constructed using rail banking, however, they can be susceptible to questions of land ownership claims from owners of nearby property. Trails can also face opposition from nearby property owners who feel their rights are threatened by trail users (*Rochester Post-Bulletin* 2000).

Trail development in Minnesota has not been immune to such problems. One such case evolved along the Paul Bunyan Trail, which was developed on a former Burlington Northern rail right-of-way that was

purchased by the Minnesota DNR in 1988. Two families who own property adjacent to the trail have contested the nature of the sale, arguing that when the railway discontinued service in 1985 they abandoned the right-of-way thus losing the property rights (Findlaw 2004). The families erected barricades to block the trail while court battles against the Department of Natural Resources ensued (Burke 2003). Such battles have occurred across the continent and have been fuelled by such groups as the National Association of Reversionary Property Owners. Property owners along a rail right-of-way successfully thwarted an attempt to extend the Root River Trail east to the Mississippi River. Minnesota courts have consistently ruled in favor of the state in cases where property owners protest an existing trail (Parks and Trails Council 2005).

In Minnesota there has also been a constant threat of development encroaching near the trails, which will only increase the number of conflicts between trail users and property owners, as well as damage the aesthetic value of the trails. This could potentially have a negative impact on tourism (*Rochester Post-Bulletin* 1994c).

A scarcity of public funding and the realities of politics can sometimes converge with issues of land tenure resulting in the inability to secure rights of way and fill key gaps in the trail network. The problems being encountered with the completion of the Paul Bunyan Trail through the city of Bemidji serve as an example of this (see Figure 2). Land acquisition has been complicated by the fact that the land needed to complete the trail does not follow a former rail bed and also because it lies on the city's urban fringe, where it faces the risk of being developed (Ruckdaschel 2005b). Currently, cyclists using the trail must navigate their way through the city. Completing the trail is high on Bemidji's list of priorities, but the completion will cost in the neighbourhood of \$6.1 million (U.S) (Minke 2005).

To facilitate the construction of this trail segment the city of Bemidji has requested that the state float a bond for funding (Ruckdaschel 2005a). The city also proposed a half-cent sales tax for parks and trail improvements, specifically the Paul Bunyan Trail extension, which was approved by city voters but stalled at the state level (Miron 2004). This occurred, it has been argued, because the Republican House Chairman's predisposition against sales taxes led to the proposal's rejection (*Bemidji Pioneer* 2004). These events have frustrated city politicians, residents and trail planners alike because the trail segment in question is the State's biggest, and perhaps most critical missing link. Unfortunately, this link is also the most expensive to complete (Ruckdaschel 2004).

Ongoing Costs

Whenever infrastructure, such as a trail system, is constructed it must be maintained or else it risks falling to ruin. Maintenance funding from the state is currently less than \$1 million (U.S.) from the general fund and this is not enough to cover the ongoing costs of repair and maintenance of the system (Parks and Trails Council 2005). Thus, there is a dependence on volunteers' help in maintaining the system. Some trail associations have also implemented modest user fees to help cover costs (Mesabi Trail 2001).

Planning Issues

Trail development in Minnesota has generally followed Downward and Lumsdon's (2001) model of haphazard trail development as the DNR and MnDOT have scrambled to secure railroad rights of way and sometimes fought adjacent property owners to maintain the functioning of trails. Thus, there are several trails in the Minnesota system with severe shortcomings, such as being straight and featureless or simply not connecting any points of particular interest. Examples would include the Central Lakes and Lake Wobegon Trails that closely follow, and are often in sight of, the busy Interstate 94 (Minnesota Trails 2005). Such trails have little tourism potential and serve simply as transportation corridors. They could be useful in the future if Minnesota worked to connect all trails into a cohesive network. Minnesota's trail system has suffered the disadvantage of being developed in stages, thus leaving gaps, bypassing important attractions, and not servicing all desirable areas (MnDOT 2005).

The emphasis on physical infrastructure in Minnesota is also made evident by the lack of marketing and promotion of the trail system. The trails are viewed as an extra amenity for residents and visitors, not a main tourist draw, despite the fact that they have developed into one. Thus there is no widespread promotion of the state's trail system for tourists (Gunderson 2001). Trail organizations and individual jurisdictions are left to do their own promotion, which is often hindered by limited budgets.

Economic Impacts

Despite a lack of promotion, Minnesota's trails have become a considerable tourist draw, especially on the Root River, The Paul Bunyan and The Heartland Trails (see Figure 2). Despite some shortcomings elsewhere in the Minnesota trail system, these trails have managed to

develop the traits of successful tourism generators. According to Lumsdon (2000) successful trails “enhance the overall appreciation of the tourist offering of a destination,” while also serving as “an additional visitor attraction in [their] own right” (367).

Minnesota’s state trails are one of the only public works that gives positive returns on investment (MnDOT 1992). Out-of-state users spend an average of \$25-39 a day along the trails, which is above the national average for trail users (MnDNR 2000; Beeton 2005). It has been argued that snowmobilers spend more money than cyclists on Minnesota trails. This has been refuted, but more importantly, a higher proportion of cyclists come from out of state than snowmobile users (Lundquist 2004). Some small towns along trails have even shifted their focus to the trail as opposed to the highways. For example, the town of Pine River, located along the Paul Bunyan Trail, opened its new tourism office and chamber of commerce in a new building that includes a rest stop and washroom facilities for trail users (Lundquist 2000).

Lanesboro and the Root River Trail

Perhaps the most striking example of the success of bicycle tourism in Minnesota can be found along the Root River Trail (see Figure 2). Lanesboro, a small town of 788 residents in southeast Minnesota, now carries the nickname “The Magical Hamlet,” a far cry from its former moniker of “Sewer City.” Lanesboro has emerged from its ghost town status of the 1980s to become a popular tourist attraction, and up to 75 per cent of summer business comes from cyclists (Kiger 2002). In the 1980s the town had one motel and one restaurant and “you wouldn’t want to patronize either” (Parks and Trails Council 2005). It is now a different story with over 144 lodging rooms and 12 bed and breakfast inns (Kiger 2002). Credit for this resurgence lies solely with the development of the Root River Trail, which according to the Parks and Trails Council of Minnesota (2005), was the only public investment that occurred in that time period. As of 1997, the trail was seeing over 100,000 users per year, up from 16,000 in 1988 (*Rochester Post-Bulletin* 1997a). Long stagnant, the southeast was the fastest growing tourism region in Minnesota by the mid 1990s, thus accounting for one third of the State’s tourism (*Rochester Post-Bulletin* 1996b).

Although the aforementioned Blufflands Trail System has not fully come to fruition there have been some important trail extensions and development in the vicinity of the Root River Trail. After the success of the trail in the early 1990s town leaders in nearby Harmony and Preston

became interested in the prospect of a trail connecting their towns to the Root River Trail in hopes of developing tourism economies of their own. The city of Harmony formed a trail commission to acquire land for the trail in 1990 and later handed it over to the DNR for trail construction (*Rochester Post-Bulletin* 1990). In the first decade of its existence the Harmony Preston Trail has generated tourism for the small towns it connects resulting in new businesses and economic opportunities (*Rochester Post-Bulletin* 1998c).

The tourism success in Lanesboro and other communities along the Root River Trail has occurred in an environment of modest expectations with the realization that a bicycle trail cannot be a silver bullet for the problems of a small town's economy (*Rochester Post-Bulletin* 2000). Lanesboro has the appeal of historical tourism because its downtown was very well preserved over decades of rural decline. In essence, the town was lucky because in the 1970s and 1980s it was too poor to demolish its dilapidated core (Wolfe 2001). The town of Preston, for example, demolished a railway turn house due to lack of foresight. In retrospect, townspeople feel that it would have made an excellent trailhead and heritage resource for the community (*Rochester Post-Bulletin* 1998a).

One desirable aspect of bicycle tourism is that bicycle tourists prefer to patronize local establishments as opposed to national chains (Sustrans 1999). Lanesboro has seen impressive growth in the tourism industry for a town of its size, and as this has happened the town has made a concerted effort to steer development in a balanced direction. The town has acknowledged that it cannot sacrifice character for kitsch if it is to remain a popular tourist draw (*Rochester Post-Bulletin* 1997a). Thus the town has worked to incubate local businesses as opposed to attracting national chain outlets. This has been occurring under the constant fear of the town becoming a bedroom community to the nearby city of Rochester, Minnesota. (*Rochester Post-Bulletin* 1994a).

Southeast Minnesota is now in its second decade of trail tourism and some people fear that the area may have become dependant on tourism. Thus, town officials have had to look at ways to diversify the economy of the area, while development pressures have also made it necessary to fight to preserve the town's character. Land values have also doubled in this period causing some residents to fear the town may lose some of the character that made it attractive in the first place (Wolfe, 2001).

The Role of the Minnesota Department of Transportation (MnDOT)

MnDOT has not only embraced bicycles as a mode of transportation, but they have also played a major role in the development of the state's trails as a tourist industry. MnDOT's mission statement makes no mention of tourism or economic development, except for the connection between traffic congestion and economic loss (MnDOT 1992; MnDOT 2000). DOT literature does mention cycling's relation to "economic vitality," however MnDOT's official relationship with cycling does not extend beyond utilitarian travel. Nevertheless, MnDOT has a history of skirting along the edges of tourism development. As early as 1992 the Department was making recommendations for recreational and tourism facilities, including the development of paved trails and shoulders to "maximize the strength of the state's tourism economy." They also propose that "bicycle touring routes continue to be established, improved, mapped and signed in areas of the state that have significant tourism potential" (MnDOT 1992, 41). In 1987 the Department of Transportation (DOT) rated Minnesota highways according to their bicycle suitability; this was a very progressive move at the time. The DOT released a trunk highway study in 1987 that identified over 6000 kilometers of highway suitable for shoulder paving (MnDOT 1987). By 2002 the shouldering project was 80 per cent complete (MnDOT 2005).

This interesting relationship between the MnDOT, essentially the state's highway department, and bicycle tourism culminated in the 2005 Scenic Byways Program. This initiative sets out to identify, maintain, map and mark with signage a premiere system of bikeways that connect existing low-traffic and shouldered roads with off-road trails. The aim of this project is to attract cyclists to the safest and best statewide routes. Scheduled to begin implementation in 2007, the program will utilize some of the trunk highway paved shoulders outlined in the aforementioned 1987 plan (MnDOT 1987; MnDOT 2005). Priority will be placed on safe and scenic routes that connect historic and cultural resources as well as the state's three distinct biomes. The program will be based on the concepts of destinations, connection and continuity (MnDOT, 2005).

What makes this program unique is that it is being carried out by the Department of Transportation but is focused on tourism development. This plan also adheres to the elements of successful bicycle tourism development as laid out by Lumsdon (2000), Sustrans (1999) and others. Also of great importance, the program recognizes the importance of partnerships and alliances between public and private entities (MnDOT 2005). MnDOT recognizes that the state has existing infrastructure for

touring and is seeking to work from what is already there. In order to effectively improve safety and economic impacts, they must fill gaps in the network, improve signage and other route amenities as well as develop effective marketing. MnDOT's Scenic Byways Program addresses two of these three issues.

Where To Go from Here

The Scenic Byway program, an initiative of the MnDOT, is a bold step forward in the development of Minnesota's bicycle infrastructure and presents immense opportunity for tourism development. The movement towards integrating the state's secondary highways into a comprehensive statewide bicycle network both removes cyclists from the constraints and limitations of former rail beds while simultaneously making use of existing infrastructure in a new and creative manner. MnDOT has paved shoulder sections with the intention of encouraging cycling in the past (MnDOT 1987; *Brainerd Post-Dispatch* 2002), however this project will aim to make strategic connections needed for a comprehensive bicycle network while including signage and route marking.

To maximize tourism potential, trails need to form a cohesive network and there has always been the intention of doing so in Minnesota (*Rochester Post-Bulletin* 1992a). The incorporation of paved shoulders into the network, however, affords the state the opportunity to do so without having to secure rail rights of way and/or clearing new ones.

Marketing

Minnesota's tourist trails have shown resilience and have remained viable despite flooding, bad weather and devastating fires, including one that destroyed several historic buildings in downtown Lanesboro (Weiss 2002; Weiss 2001a). At the end of the day, however, the future of Minnesota's success in developing bicycle tourism lies with effective marketing. As mentioned, statewide marketing has been virtually nonexistent and there has only been piecemeal promotion of specific trails or regions by individual trail organizations. A statewide approach to marketing and "branding" Minnesota as a cycling destination would be a step in the right direction, as destination branding can serve as a vessel to attracting visitors and expenditures to specific destinations (Snepenger *et al.* 2004).

Missouri's Katy Trail, a 643 kilometer rail trail that traverses the length of the state, developed a cooperative marketing project named Katy Central.

The project was developed by eight communities along the trail to provide better information to trail users as well as attract new users to the trail. Katy Central “allows the partners to pass visitors from one community to the next and encourage longer stays in the Central Missouri area” (Graham 2003).

The formation of Katy Central has allowed the printing of promotional materials such as a full-colour brochure, the purchase of advertising space in selected publications, the development of a survey form as well as a 1-800 number with an answering service and a mail service to process visitor requests. From these resources a database of information requests and usership is maintained (Graham 2003). Such a system could serve as a template for a similar venture in Minnesota.

Conclusions

The three core elements of bicycle infrastructure development, as put forward by Lumsdon (2000), are addressed quite well in the Minnesota system. Existing resources such as abandoned rail lines and underused highways are integral parts of the system. The system has also generated positive economic impacts in the communities as well as social impacts due to its function as a link between communities. The third element of reducing automobile trips is also addressed by the community-focused nature of the trails. The strong relation to MnDOT is also of importance to the third element because of their additional focus on the more practical and utilitarian issues of bicycle transportation.

Minnesota has much of the physical infrastructure in place to generate bicycle tourism, and serves as an example that physical infrastructure can be sufficient to attract users. This example also demonstrates that physical infrastructure in itself can only produce limited results. If the state wishes to fully capitalize on the growing potential presented by touring cyclists, however, it must undertake a concerted effort to improve infrastructure, services and promotion.

The development of bicycle tourism in Quebec may serve as an example for officials in Minnesota. That province has invested in the *Route Verte*, a 4300km bicycle network that encompasses paved trails as well as quiet roads and paved shoulders. Even before it was completed the network was a success and cyclist spending totaled over \$93 million CAD in 2003 (Velo Quebec 2003).

There are several aspects of bicycle tourism in need of further research, including bicycle tourists’ preference between trails and paved shoulders. The effectiveness of programs such as Katy Central could also be studied in greater detail. Also, assuming Minnesota’s Scenic Byway Program is

fully implemented, follow-up research would be of great importance. The effects of any statewide of marketing campaigns in Minnesota would be relevant as well.

MnDOT's Scenic Byway Program is an excellent first step in the process of further developing their bicycle network as a tourism generator and with a concerted marketing effort, perhaps based on the framework of Katy Central, the bicycle network that began with the modest conversion of an abandoned railroad corridor several decades ago could become one of the state's most promising amenities, for both residents and tourists.

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