Trails and their Local Community Context:

A case study of user compatibility and economic impacts in Northwestern Wisconsin

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Executive Summary

Increasingly, natural and built amenities that provide local quality of life are considered a central strategy for community development. This takes place as demands for outdoor recreation increase while the supply of locations in which these demands can be accommodated continue to be constrained. Thus, interactions and conflicts among recreational users are becoming increasingly pronounced. Recreation compatibility, or the manner in which alternative recreational uses interact, has recently been understood as a critical element in recreation management. This is particularly true given increased emphasis on multiple-use of recreational sites.

In this report, we provide an extension to the 2005-2010 Wisconsin Statewide Comprehensive Outdoor Recreation Plan (SCORP) and describe an approach to examine recreation use compatibility. This approach emphasizes the spectrum of interaction outcomes (complementary, supplemental, competitive, and antagonistic) with respect to multiple-use recreational trail systems.

This report is written for a variety of audiences. In addition to Extension professionals, planners, recreation managers, and development practitioners, we have taken care to tie discussion to policy decisions appropriate for public and private decision-makers and interested stakeholder groups. For those interested in an overview of our work, this Executive Summary can be readily matched with a quick perusal of key graphics, photos with captions, and highlighted text to gain an understanding of key takeaway messages.

The applied research uses a year-long stratified sample of trail users on the Gandy Dancer Trail as it traverses the rural landscapes of Northwestern Wisconsin. The methods used to gather data included trail intercepts and a subsequent mail survey designed to elicit user perceptions, characteristics, and activities. The context for survey results are further matched with evidence gleaned from a series of focus group interviews conducted with a variety of local stakeholder groups.

Specifically, the following highlights showcase key findings of our work:

- The current literature identifies several aspects that lead to the need for this applied research. These include a general lack of empirical evidence that focuses on trail impacts and a comprehensive approach to recreation compatibility.
- Trails in the Lake States vary widely in both design and allowable uses. This said, a common trail type in Wisconsin consists of a crushed limestone surface on a flat, converted railbed with primary allowable uses including non-motorized recreation (hikers and bikers) with limited snowmobile use in the winter. The Gandy Dancer Trail represents this common type of trail in Wisconsin.
- Most users of the Gandy Dancer Trail reside locally or come from the nearby Twin Cities (Minnesota) metropolitan area.
- Average age of trail users encountered in this study was 47 years

- Trail users represented an average household income of $78,000; just slightly higher than the average household income in Wisconsin.
- Recreational use pressures were highest in the summer and were dominated by hikers and bikers while winter use was weather-dependent and dominated by snowmobilers. Our estimates place total annual use of the Gandy Dancer Trail in Wisconsin at almost 50,000 individual user visits between October 2006 and September of 2007.
- In general, hikers and bikers visited the trail for exercise, peace and quiet, and nature-related reasons while snowmobilers were motivated by the presence of enough snow (and an available trail).
- Hikers and bikers tended to affiliate with and also take part in other non-motorized recreational activities while snowmobilers were more apt to hunt and partake in other motorized recreational activities.
- Hiking and biking appeared to be generally compatible uses with a level of asymmetrical competition with ATV use and hunting. Snowmobiling, on the other hand, appeared to be relatively more compatible with ATV use and hunting.
- Crowding was not perceived as an issue on the Gandy-Dancer Trail and, in general, users were satisfied with the trail as it currently exists.
- In general, trail users exhibited higher importance-performance scores with trail and community services than local tourism amenities. In other words, characteristics of the trail itself and its corresponding gateway communities were both more important, and existed with generally better performance than the local tourism amenities studied.
- Many trail, community, and tourism attributes deemed important by trail users were performing well on the Gandy Dancer. Scenery, environmental quality, clean public spaces, clean and available drinking water, and good, local sit-down restaurants were identified as both important and well-performed.
- This said, results suggest priority areas that could be improved:
    - enforcement of rules, trail signage, and restrooms were items perceived as important but seen as performing relatively less well as compared to other trail characteristics.
    - cell phone service and local business hours were relatively important services but were performed relatively less well.
    - local tourism businesses that were perceived as relatively important but less well performed included bicycle repair shops, sporting goods stores, and take-out restaurants.
- On average, trail users of the Gandy Dancer spent roughly $117 per visit in Polk and Burnett Counties. When expanded to annual estimates, this translates into roughly $3.3 million dollars in the local area as a result of trail user spending.
- When combined with local business effects (inter-industry spending), this translates into a total economic impact of just shy of $4.4 million (local multipliers of roughly 1.33) as a result of trail user spending.

In summary, results of this work have developed a usable trail profile. Important elements of this profile included use characteristics, compatibility, marketing, and economic impact data. This profile helps us understand key elements necessary for making sound public and private decisions. This improved understanding is intended to lead improved management and better future development of trails and their surrounding gateway communities. While specific to the Gandy Dancer Trail and its communities, there is ample ability to extend many of the findings to the broader trails and gateway communities throughout the Lake States and beyond.

Results of this work further extend a more comprehensive approach to understanding recreational interactions. While increased demands within the context of limited budgets necessitate multiple uses of trail systems, understanding recreation compatibility can allow for progressive and adaptive site planning that acts to maximize complementarily and ameliorate antagonism and competition. Results of this study suggest that interactions among recreational uses can be estimated but remain complex and subject to change. Certainly, further research and monitoring appear as prudent suggestions to capture both local uniqueness and changing recreational uses over time.

Acknowledgements

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Of course, these results could not be presented without the time and care of all of those that were intercepted along the trail, who participated in the survey, and/or contributed insights during focus group interviews. Thanks to all involved!

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1. An Introduction and Review of the Literature

Recreation managers, open-space advocates, and local elected officials have become sensitized to the need for parks with linkage corridors that provide access, green space, and quality-of-life continuity within and between communities. Indeed, since the 1980s, a significant nationwide effort has created a system of rails-to-trails that today exists as a network of connecting corridors acting to build places that enhance the health of America's environment, economy, neighborhoods and people (Rails to Trails Conservancy 1996, 2008). This report is written to focus attention on recreational trails and their local community context. Further, it is intended to contribute to the growing literature on the use and development of recreational amenities.

1.1 A review of the literature

Contemporary planning practice relies on a wide variety of information and data to make decisions about how best to implement sustainable community development.[1] Increasingly, natural and built amenities that provide locally available recreational opportunities have been thought to be a central component of this implementation challenge (Powers 1988; 1996; Green et al. 2005). This is particularly true in amenity-rich regions such as those found across the Lake States of Minnesota, Wisconsin, and Michigan (WDNR 2006; MNDNR 2008;

[1] Sustainable community development has different meanings to different people. For this context, the term is perhaps best summarized by the Brundland Commission to involve

MDNR 2003). Recreational trails are important local amenities that provide local community economic stimulus as well as recreational opportunities for local residents. Carefully planned, recreational trails can utilize local land resources to provide additional income for current residents without jeopardizing the possibility of future income streams in a generally environmental benign fashion.

There is a continual need to test, interpret, and more fully understand the social and economic consequences of amenity-based activities that affect local communities within which these resources reside. During the past quarter century, there has been significant progress to more fully understand how recreational resources are integrated within community economies with a particular interest in parks, trails, and related publicly provided open spaces (Howe, et al. 1997; Garvin 2001; Marcouiller et al. 2002).

In Wisconsin, there has been a continual effort to address issues associated with economic impacts of recreation and tourism at the community level, examples of which can be found in an initially compiled annotated bibliography by Haines et al. (1998) and updated in a searchable on-line database by Scott and Marcouiller (2005). These studies have addressed the variety of specific tourism types that include festivals, events, and attractions and the various types of relevant outdoor recreation pursuits including camping, fishing/hunting, park visitation, and trail use (c.f. Cooper et al. 1979; Marcouiller et al. 2002; Olson et al. 1999).

With specific reference to linear trail systems, local economic impacts have taken on increased importance given intensified demands for the development of public open-space corridors and general tendencies for increased community dependence on tourism as a source of income (ibid; Keith, et al. 1996; English et al. 2000). Park and trail systems have been shown to provide tangible economic benefits to the gateway communities in which they exist (Mules 2005). These

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development that "meets the needs of the present without compromising the ability of future generations to meet their own needs."

tangible economic benefits are wide-ranging and include the positive influence on property values (Crompton 2001, 2004) and the stimulation of local retail and service sector activity driven by the inflow of dollars spent by visitors (Tribe 2005; Vanhove 2005). This second element involves the stimulating effect of visitor expenditures on local retail and service sector activity; often referred to as "tourism". Estimating this expenditure-driven local economic effect was the focus of a recent workshop compilation on trail expenditure studies (Carleyolsen et al 2005) and several recent and closely related reports (Olson et al. 1999; Marcouiller et al. 2002) and provides one aspect of the work reported here.

Another important aspect associated with trails relates to assessing recreational use interactions and the relative compatibility that exists among alternative uses. This is brought forward because of increased demands and conflict associated with alternative recreational uses. Conflict in recreational uses has been defined as "goal interference attributed to another's behavior" and is caused by four basic factors: activity style, resource specificity, modes of experience, and lifestyle tolerance (Jacob and Schreyer 1980). Additionally, previous research has also placed environmental dominance and technological dependency on this list (Vitterso, et al 2004). This conflict can exist between different user groups, between different members of the same user group, and as a result of factors that have nothing to do with trail activity at all (Moore 1991).

One interesting aspect associated with recreational use interaction involves the significant amount of conflict that tends to be asymmetrical, or one-way. This is particularly acute between different user groups: that is one group dislikes the primary recreational activities of the other group without reciprocation. For example, while hikers may dislike the activity of ATV use, ATV users do not dislike the activity of hiking (Watson 1994). Additionally, there is often a "status hierarchy" that exists which is based on equipment and expertise. For example, within the snowmobiling community, fast machines with larger engines and/or certain brand names are seen as "above" others. This

"status hierarchy" also exists between different user groups; for example, hikers having to move aside for horse groups often perceived the activity of horseback riding as connoting a higher status (Watson 1994). This "status hierarchy" is based upon the four reasons for conflict, previously noted.

While some activities are perceived as causing conflict, other activities are complementary or supplementary. More specifically, there are activities which do not cause conflict, and indeed may even enhance the user groups' enjoyment of their recreational experience.

Based on a modified Delphi process with recreation management professionals, the most recent Wisconsin Statewide Comprehensive Outdoor Recreation Planning (SCORP) process (WDNR 2006) initiated an overview reflective of recreational use interactions as they take place in Wisconsin. The empirical results are summarized in Figure 1.1 and represent an extension of earlier work that addresses land use compatibility (Clawson 1974). Note from this figure that, according to recreation managers, recreational uses interact with outcomes that reflect positive (complementary), neutral (supplementary), and negative (from competitive to antagonistic interactions) relationships. In a manner that generally confirms previous work (c.f. Knopp and Tyler 1973; Watson 1994, Watson and Williams 1991) note from this figure that there exists a general tendency for asymmetrical interactions; most notably generalized along motorized and non-motorized lines.

PRIMARY USE:	INTERACTS:										
	ATV Riding	Hunting	Snow-mobiling	Horseback Riding	Mountain Biking	Cross-Country Skiing	Linear Trail Biking	Hiking	Wildlife Watching	Camping	Average Compatibility
ATV Riding	X	5.3	6.5	5.1	5.5	4.9	5.5	6.1	6.9	7.5	6.0
Hunting	3.3	X	3.7	4.7	4.3	5.3	5.7	5.4	6.0	6.3	5.0
Snowmobiling	4.3	4.0	X	4.0	4.8	4.3	5.8	5.3	6.3	7.2	5.1
Horseback Riding	2.2	3.5	3.0	X	3.8	4.9	4.5	6.3	7.3	7.7	4.8
Mountain Biking	3.1	3.6	4.7	4.8	X	5.7	8.1	6.1	7.4	8.0	5.7
Cross-Country Skiing	1.8	3.6	2.6	3.3	4.2	X	5.6	4.9	8.1	8.5	4.7
Linear Trail Biking	2.6	3.9	5.5	5.3	8.2	7.1	X	7.4	8.0	8.7	6.3
Hiking	2.4	3.5	3.5	5.7	4.7	6.1	6.5	X	8.9	9.2	5.6
Wildlife Watching	2.2	3.2	2.9	6.4	5.2	7.6	6.8	8.6	X	8.3	5.7
Camping	3.9	4.1	5.0	7.5	7.8	8.2	8.2	8.9	8.5	X	6.9
Average Compatibility	2.9	3.9	4.2	5.2	5.4	6	6.3	6.6	7.5	7.9	

a. Compatibility ratings are for how column activity interacts with the row activity. Ratings should therefore be read horizontally across rows.

b. Ratings below 4.0 (highly competitive or antagonistic) are highlighted in red, ratings between 4.0 and below 7.0 are highlighted in yellow (moderately to mildly competitive), and ratings 7.0 (supplementary or complementary) and above are highlighted in green. Results are based on responses from 23 Wisconsin recreation professionals.

Figure 1.1. Average land-based recreation activity compatibility ratings (from WDNR 2006, p. 4-6).

While the most recent Wisconsin SCORP assessed recreational use interactions from the perspective of recreational managers (seen as "experts"), there is a continuing need to extend this comprehensive assessment of use interaction to recreational users themselves. Indeed, many studies have been done on the conflict between various user groups: between cross-country skiers and snowmobilers (Knopp and Tyler 1973); between floaters and motorized boaters (Shelby 1975); between canoe paddlers and motorcraft users (Adelman, et. al. 1982); between mountain bikers and hikers (Watson and Williams 1991); between water-skiers and anglers (Gramann and Burdge 1981); and between offroad vehicle and non-off road vehicle users (Noe et al. 1982). The bulk of the studies which have been completed have been purely descriptive and focused on limited alternative uses. These issues of multiple-uses, however, have broad implications for recreational management, and the future enjoyment of recreational areas.

1.2 A case study of recreational trail use

The demands for trails have grown significantly in Wisconsin (WDNR 2006, Chapter 2) and across the Lake States while alternative uses that are potentially competitive have become a key public policy issue (ibid, Chapter 4). In Wisconsin, the State Trail network involves a system of linear trails that have widely varying use characteristics (see Figure 1.2 for a map of the State Trail network). A summary of state-owned trails in Wisconsin is found in Table 1.1. Note from this Table that most state trails are designated to support multiple use; in other words, most trails are open for uses that combine differing activities. Of the 1,800 miles of trails owned by the state, over 90 percent are open to both motorized and non-motorized uses. To be sure, much trail mileage is segregated seasonally; given sufficient snow, snowmobiles use is allowed on about 70 percent of the mileage and only occurs in the winter months. Importantly, just over 3 percent of state trail mileage is designated as strictly non-motorized. These figures are important because of an increasing interest in recreational use interaction and the potential for competitive and antagonistic use interactions between motorized and non-motorized users.

[Please use the attached data set and screen for trails]

Figure 1.2. The State Trail network in Wisconsin

Another interesting aspect of the State Trails data relates to average miles per trail by designated use. Note that trails allowing motorized use are typically three to four times longer than trails that are designated as strictly non-motorized. State Trails in Wisconsin also vary significantly in the amount of use. For instance, popular bicycle trails such as the Elroy-Sparta in West-Central Wisconsin are well-known while many trails exist as relatively hidden from

much use. Unfortunately, comprehensive statistics on State Trail usage system-wide are not widely collected but State efforts are underway to supplement these figures.

Table 1.1 State linear trails in Wisconsin [a], allowable uses, and mileage (as of September, 2007, Source: WDNR 2007).

Use [b]	Metric	Total	Average miles per trail
Strictly Non-motorized:			
	Number	5	
	Mileage	58	11.6
Non-motorized and open to both ATV and Snowmobile:			
	Number	10	
	Mileage	411	41.1
Non-motorized and open to Snowmobiles (no ATV):			
	Number	22	
	Mileage	1,259	57.2
Undecided and/or closed			
	Number	5	
	Mileage	92	18.4
Total - ALL Linear State Trails:			
	Number	42	
	Mileage	1,820	43.3

a. Drawn from a complete list of designated state trails comprising the State Trail System (includes all linear trails owned by the WDNR), designated as such under the authority of Administrative Code NR 51.73. Trails not owned by the state may become designated state trails under the terms of NR 51.73

b. Non-motorized allowable uses include walking, biking, rollerblading, and cross country skiing. Horseback riding is also included but often found as a limited use Motorized uses include ATVs and snowmobiles and are often found as limited allowable uses. Undecided includes trail uses which are yet to be determined through the Master Plan process. Any one use may be limited (allowed for only a portion of the entire length of the trail).

In an effort to gain a better understanding of trails, their usage, and their ability to contribute to community economic vitality, a multi-year project to assess a State Trail in Western Wisconsin was initiated in late 2005. The Gandy Dancer Trail was selected for study given its use characteristics and proximity to the large Twin Cities recreational market. The trail extends a total of ninety-eight miles following an old railroad grade from St. Croix Falls north to Superior and serves as a representative case study of recreational trails. Indeed, we forward the proposition that the Gandy Dancer Trail is representative of a large majority of the Wisconsin State Trail System; its evaluation allows generalizations to be made of trail use, recreational interaction, and community integration.[2] It exists as a multiple use trail falling into the third category of Table 1.1; namely that it is open to mostly non-motorized uses with snowmobile use allowed during winter months with sufficient snowfall. This use type is representative of almost 70 percent of the State Trail System mileage.

Historically, the Gandy-Dancer Trail was used commercially as a railroad for more than one-hundred years. The name—the Gandy Dancer—draws from its rich, railroad heritage. More than a century ago, when the railroad was being built, the builders used tools that were from the Gandy Tool Company, out of Chicago. As the workers toiled away, they often synchronized the swings of their tools and the movement of their feet with vocal cadences, earning them the name "gandy dancers."

The Gandy Dancer trail along its entire length currently hosts a variety of recreational opportunities including hiking, biking, wildlife viewing, and all terrain vehicle use in the summer; and snowmobiling in the winter. The trail is separated into a northern section, the fifty-one miles which run through eastern Minnesota and northward to Superior (ATV use allowed); and a southern section, the forty-seven miles in Wisconsin from St. Croix Falls to Danbury (ATV

[2] This said, there are a host of caveats to this statement that lead us to interject an obvious recommendation for further research on alternative trail types including various allowable uses,

use is NOT allowed). The southern section which traverses Polk and Burnett Counties in Wisconsin serves as the focus of the case study; a map of which is found as Figure 1.3. This section was selected because of its common type of allowable uses, local interest, proximity to a large metropolitan area, and its rural location. The land for this portion of the trail is owned by the Wisconsin Department of Natural Resources and managed by county land and forestry departments. Due to the trail's proximity to many local amenities such as lodging, restaurants, and gas, it has been cited as "the most user-friendly trail in the Midwest" (Polk County 2006).

visitation levels, and locations throughout the State.

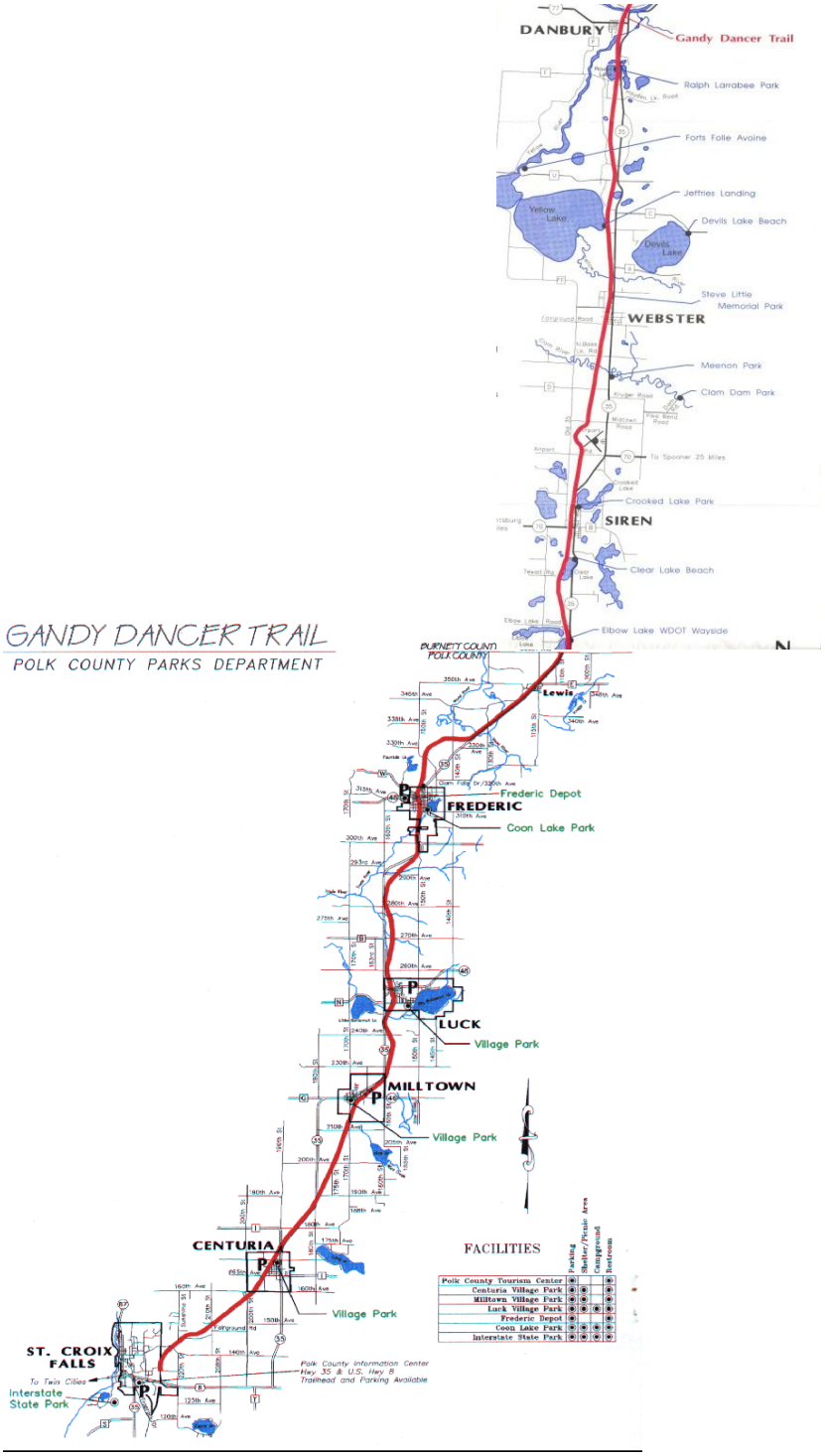

Figure 1.3. The southern portion of the Gandy Dancer Trail System that represents the study region.

As recreational patterns change, and more and more people use the Gandy Dancer Trail, there has been a growing sense of conflict among uses, most

specifically the competition that exists between motorized and non-motorized uses of the trail.[3] In this study, data was collected from users of the Gandy-Dancer Trail in order to establish an understanding of the range of interactions; a spectrum that includes both positive (complementary) and negative (competitive and antagonistic) use outcomes. This information will then be used to assess what action could be taken on the part of trail management in order to make using the Gandy Dancer trail enjoyable to all its users. Additionally, the information collected will be used to assess the perceptions of economic benefits by the local towns from the users of the Gandy Dancer Trail, again enabling a better understanding of how the trail ought to be managed.

1.3 Objectives & Problem Statement

This research was undertaken to provide better understanding of trail usage, recreational interactions, and community development. Specifically, our objectives included the (1) development of a trail user profile for general marketing efforts, (2) application of a comprehensive use spectrum approach to understanding recreational interactions, (3) integration of user perceptions regarding locally available amenities and services for improved local public decision-making, and (4) estimation of economic linkages and local community development effects associated with trail usage.

The problems that we are attempting to address are broadly related to recreation management, leisure science, and amenity-driven rural development. Who visits recreational trails? What aspects of the local trail motivate visitation and how do differing uses interact? When during the year do visits occur and how is this related to receipts that flow to local business owners? Where should communities and recreation managers focus decision-making to maximize benefits and ameliorate potential problems? How can use of a recreational trail

[3] Examples of this growing conflict on the Gandy Dancer Trail regularly arise. For instance, recent discussions and/or petitions have been filed for horseback riding and wintertime ATV

be better integrated into local economic development efforts? These are the generic questions being asked with specific reference to the Gandy-Dancer Trail and the citizens found within the communities of Polk and Burnett Counties affected by recreational trail use.

1.4 Outline of Report

This report is organized into two subsequent sections with several related appendices. The next section provides an overview of key findings obtained from the applied research effort. The final section provides a summary and draws out key policy implications that are generated by the research findings. The first appendix (A) provides specific detail regarding methods used to evaluate the case study recreational trail including both data collection and analysis. Following this appendix, two further appendices (B and C) are included that contain the intercept stratification and a copy of the instruments used (intercept and mail surveys).

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use.

2. Results

This section outlines the descriptive results of the intercept, written survey, and focus group interviews. These results provide an overview of the data we collected and serve as a basis for further analysis (more fully discussed in the final section on further research needs.) We have made an attempt at comprehensively describing each element of the data collected. Further detail can be obtained from the authors. To be sure, it is important to point out that the results reflect the quality of our sampling. We have made every attempt to minimize bias where appropriate. Our interpretations of this data attempt to remain objective and allow generalizations to the broader phenomena of trail use interactions and gateway community issues where applicable.

2.1 Trail Use

The estimate of total trail usage combines data collected by intercept surveyors with the manner in which samples were stratified. The results suggest that just over 28,000 parties or roughly 46,460 individual trail users utilized the southern portion of the Gandy-Dancer Trail between October, 2006 and September, 2007. This is further broken down with estimated number of parties by month and day reported in Figure 2.1. Note from this Figure that obvious usage peaks existed during the study period. The most notable peak season for visits corresponded to the early and middle parts of the summer. The months of June and July accounted for roughly 37 percent of all usage of the trail that occurred during the 12 month study period. Late summer and early fall (September/October) also corresponded to a peak with an August drop, most probably, due to high temperature and humidity levels.

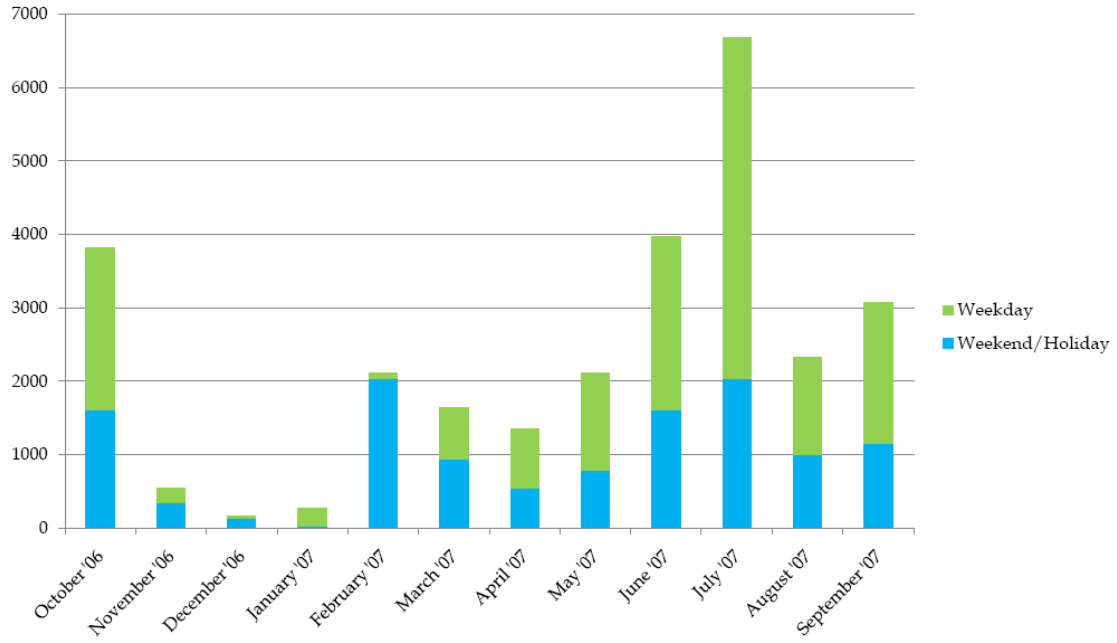

Figure 2.1. Gandy-Dancer Trail usage (number of parties) during study period

Winter usage, particularly during periods of good snow, is predominantly snowmobilers. Without snow, there are small numbers of winter hikers and day users (joggers) who frequent the trail. It is important to note that the Gandy Dancer trail exists in a zone that is often hampered by low snow levels. The specific winter season covered by this study period (December 2006 through March 2007) was a particularly poor snow year with the trail designated "Open" to snowmobiles for a total of only 10 (ten) days in late February and early March. As noted in the Figure, this also corresponded to a peak of usage. Troughs in usage occurred in mid-late fall (November – December) and again during the snowmelt (April) and prior to more pleasant spring weather in May.

Trail users were motivated to visit the trail for a variety of reasons. Eight specific motivating factors, chosen for their appropriateness for visitors who use trail, were posed to users who participated in the mail survey. Response results for motivating factor are summarized in Figure 2.2. For interpretation, the scale of importance ranged from not important to very important (from zero to ten).

Average values for all respondents are shown using the green triangle with variation in responses represented by one standard deviation above and below denoted by the whiskers (lines).[4] Note from this Figure that of the eight factors presented as important to the visit, the key motivating factors for trail users included trail quality and the need for peace and quiet (quiet, rural atmosphere).

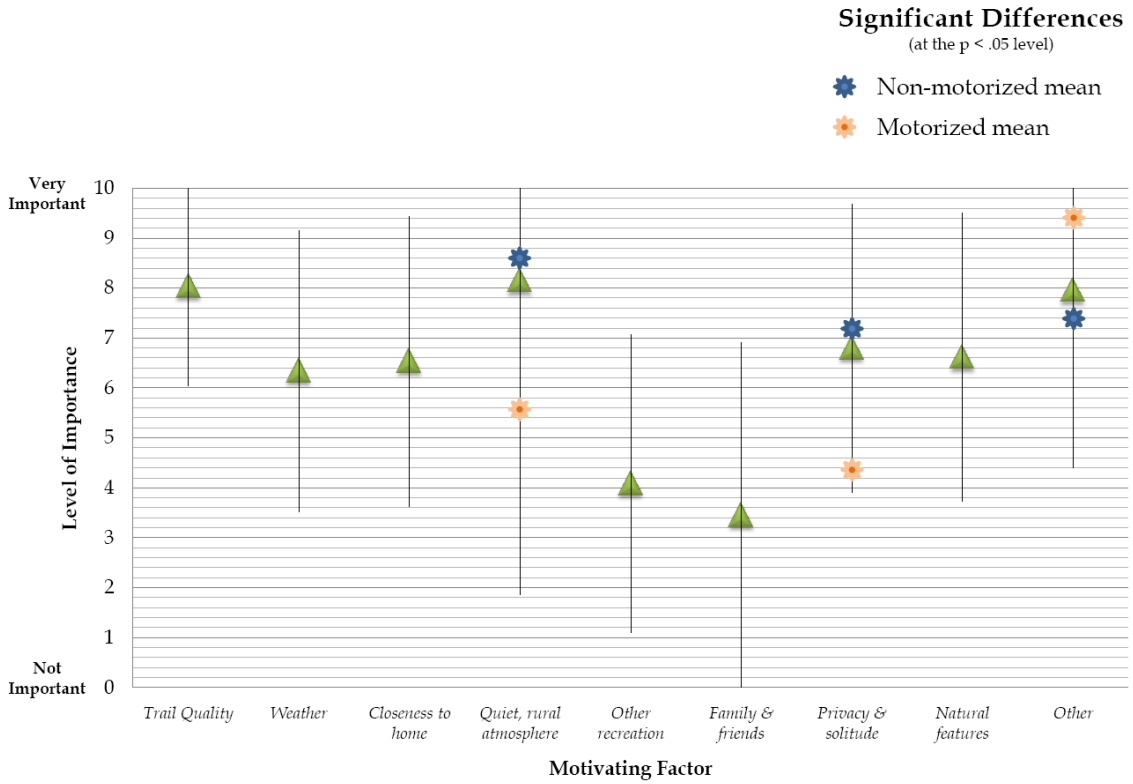

Figure 2.2. Recreational motivation of Gandy-Dancer Trail users

Further analysis of the responses to this question suggested that there were two sub-groups that appeared to be distinct in their responses to the question of recreational motivation. The two unique trail use groups can be generally differentiated by their mode of travel – motorized and non-motorized. The motorized group represents snowmobilers and the non-motorized group

[4] This is done to provide the reader some understanding of the variation in responses. For simplification, this presentation assumes a normally distributed response.

primarily includes bicyclists, hikers, and wildlife watchers. In assessing each sub-group's response to motivations for trail use, three significantly different factors were evident and are shown in the Figure by colored stars. Non-motorized use respondents had significantly higher importance scores for "quiet, rural atmosphere" and "privacy and solitude" when compared to the responses of the motorized group. Motorized use respondents had significantly higher importance scores for the "other" category which most often reflected the presence of snow.[5]

Trail use by recreationists is but one recreational activity among many engaged in by trail users. Different user groups often engage in different additional activities. To better understand the involvement patterns of trail users, we asked our sample to rank a variety of different activities. Survey responses for recreational involvement by activity on a scale from "not involved" to "very involved" (in the associated activity) is summarized in Figure 2.3. Again, average scores for all respondents are shown as green triangles, one standard deviation above and below is represented by the whiskers, and significant difference between motorized and non-motorized user is identified by respective star.

[5] Snow was distinguished as such on the cold-winter survey instrument but is identified in this Figure as "Other" since the warm weather instrument did not mention "snow" (see Appendix C).

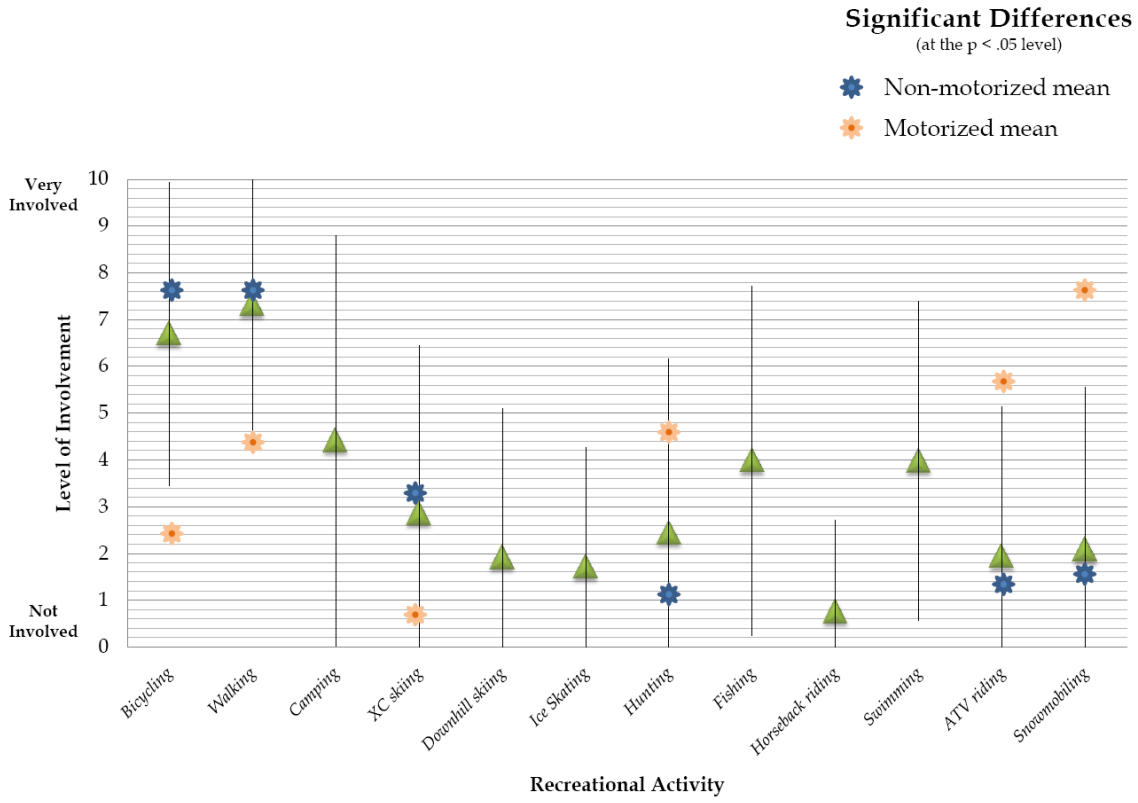

Figure 2.3. Recreational involvement of Gandy-Dancer Trail users

Again, while the overall involvement patterns appear to suggest that trail users on the southern section of the Gandy-Dancer Trail also participated in biking, hiking, camping, fishing, and swimming, there were significant differences among sub-groups of trail users. Motorized use respondents had significantly higher involvement scores for hunting, ATV riding, and snowmobiling while non-motorized use respondents had higher scores for biking, hiking, cross-country skiing, and ice skating. This underscores the notion that different user groups undertake different associated recreational activities. Interestingly, there were no significant differences in responses for camping, fishing, and swimming among motorized and non-motorized users.

These results generally confirm findings from previous studies that used similar procedures. They underscore the complexity of recreational use, differing user groups interests, and the differing patterns of involvement in

associated recreational activities pursued by different user groups. Further, and more to our set of recreation management issues, these characteristics set the stage for how recreational users interact and helps explain the expectations presented in the previously mentioned use interaction display generated by Delphi in the most recent SCORP document (see Figure 1.1).

2.2 User Compatibility

To reiterate, an important contribution of this study involves the extension of the SCORP work on use compatibility that develops empirical evidence from the perspective of trail users (versus the perspective of recreation managers). To address these issues surrounding use interaction, a portion of the survey instrument dealt with eliciting responses from users of the southern portion of the Gandy Dancer Trail for their perceptions of how use interaction plays itself out. The scale used for response was first described in text and has a range of zero to ten with representative terms including "antagonistic", "competitive", "neutral", and "complementary". Specifically, the following lead was provided to respondents to the written survey:

> "The compatibility of different recreational uses is a primary interest that drives this research. Compatibility among recreational users varies from antagonism (one use completely conflicts with another use) to complementary (one use enhances another use). In between antagonism and complementary lie competition (one use is traded off for another use) and supplementary or neutral (one use has no impact on the other use).
>
> Using this spectrum of compatibility from fully antagonistic to fully complementary, please fill out the following chart of recreational use interactions asking yourself ... From the perspective of my primary recreational activity, how compatible are the following other uses?"

Results for this portion of the survey instrument are summarized in Figure 2.4. Again, for interpretation, the triangle represents average response from all respondents, whiskers denote one standard deviation above and below, and

stars denote significant differences between responses of motorized and non-motorized user groups.

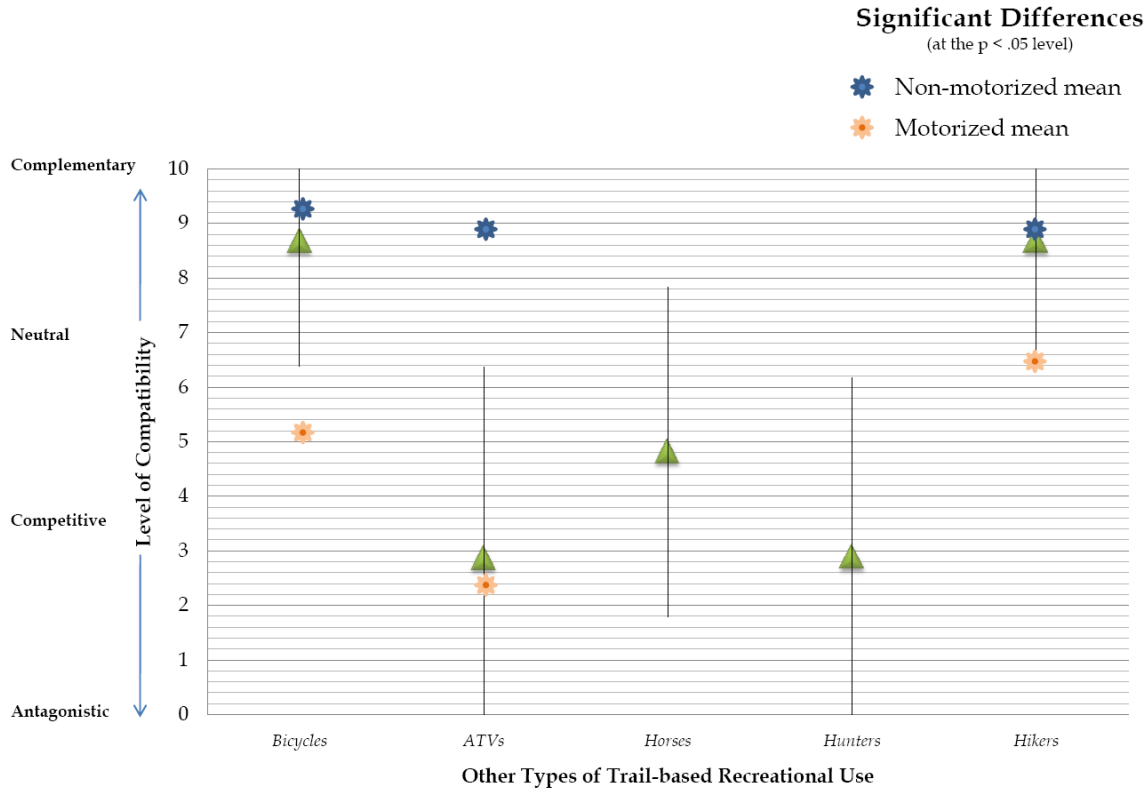

Figure 2.4. Recreational use interaction of Gandy-Dancer Trail users

Note from this Figure that while bicycling and hiking were deemed generally compatible with primary uses of this section of the Gandy Dancer Trail (and indeed exist as reflective of the majority of users surveyed), there were interesting and significant differences by the previously described user group splits. Notably, motorized users responded with higher compatibility scores for ATV use and hunting when compared to non-motorized users. Interestingly, as compared to previous Delphi results found in the SCORP, our results for non-motorized users were somewhat symmetrical with motorized users. With significantly lower compatibility scores for bicycling and hiking, motorized users perceived non-motorized uses as slightly competitive. While certainly not as strongly competitive, our results suggest that to be neutral or slightly

competitive interactions when assessing how well motorized users perceive their use interacting with wholly dissimilar modes of travel (non-motorized use).

[Text Box A about here]

In addition to the direct assessment of use compatibility, several issue statements with Likert scale responses (strongly agree to strongly disagree) were posed to respondents that provided further evidence of recreational interaction. These additional issue statements and their reaction by respondents are summarized in Figure 2.5. For interpretation, verbatim statements from the survey instrument are shown on the horizontal axis with mean responses among all respondents denoted by the corresponding triangle; whiskers again indicate one standard deviation above and below the mean. Note from this Figure that trail users were fairly adamant in agreement that their own use did not impact the enjoyment of others. Wider variation and more neutral tendencies existed for responses to a statement that the Gandy Dancer Trail has exceeded its ability to produce high quality recreational opportunities. The caveat to this particular response pattern included an inability to discern any explanation as to why. As for an ability of management to affect recreational interaction, wide variation (with both agreement and disagreement) with neutral tendencies was suggested for the strict enforcement of rules but general agreement was evident in the responses to the statement relating to the ability of proper trail design to minimize conflicts. Interestingly, there was not general agreement with the statement regarding support for single uses which may suggest that people may actually appreciate and expect multiple uses on trails if done appropriately.

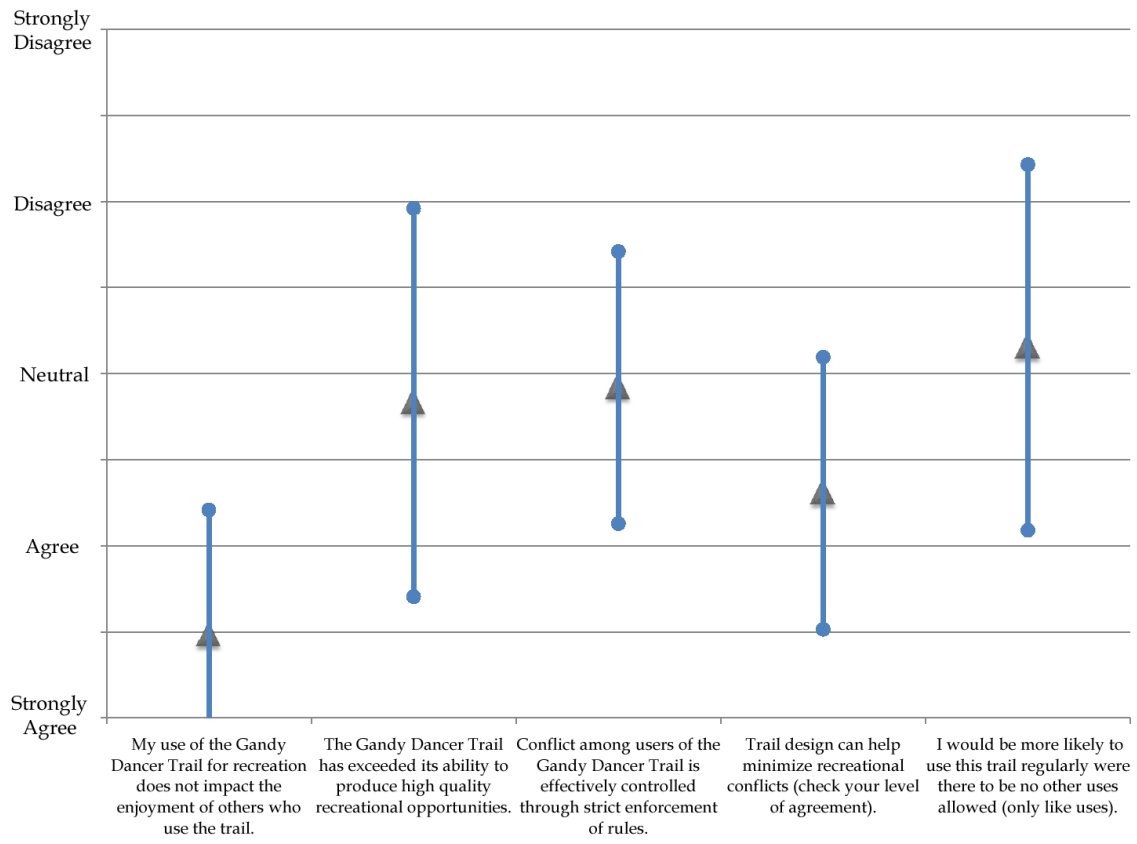

Figure 2.5. Responses to various user compatibility statements (responses measured on Likert scale as indicated in axis label)

This latter point of expectations of having others use the trail was further probed using issue statements and Likert scale responses that focused on the issue of crowding. These verbatim statements and their responses are summarized in Figure 2.6. Note from the Figure that respondents perceived little issue with crowding on this portion of the Gandy Dancer Trail and generally are not bothered by their encounters with others along the trail (the first and last issue statements in Figure 2.6). Wide variation with neutral tendency was evident in the responses to the statement "I prefer to be alone while recreating on the Gandy Dancer". Finally, general disagreement was voiced over the notion that increased popularity of the Gandy Dancer Trail has compromised the enjoyment of using the trail.

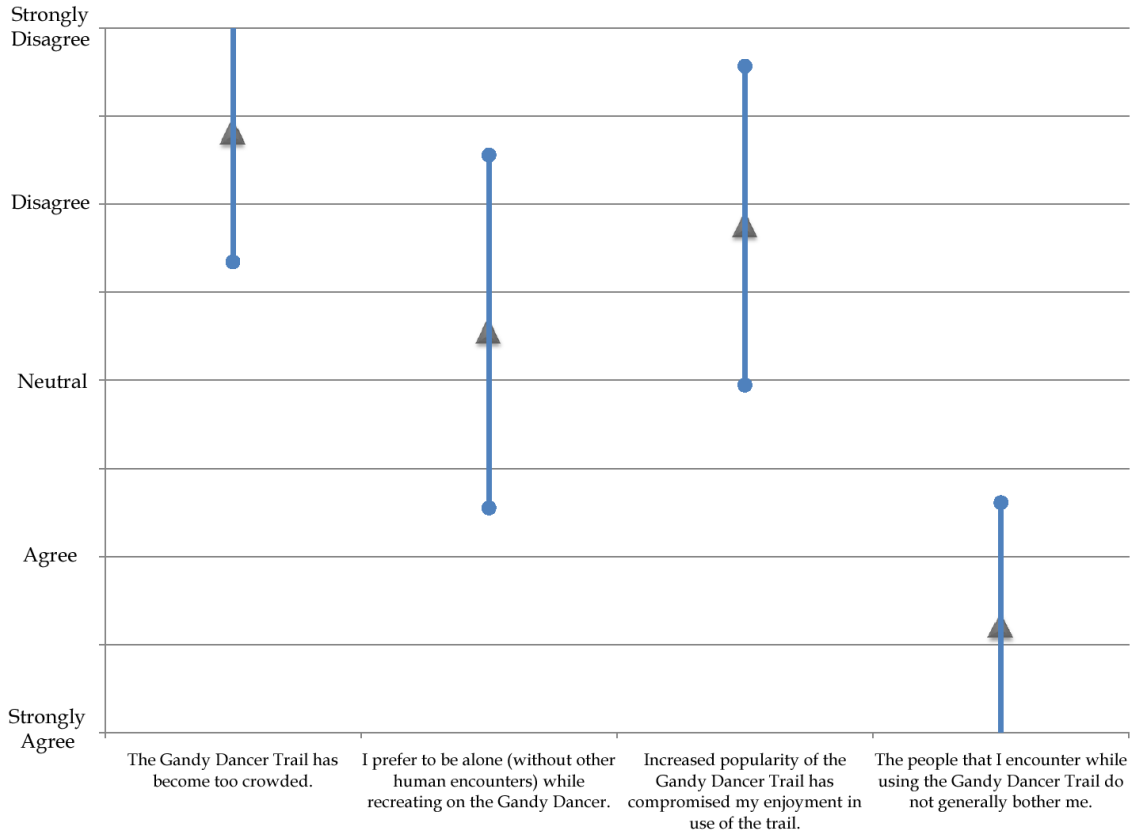

Figure 2.6. Responses to various crowding statements (responses measured on Likert scale as indicated in axis label)

Crowding was further examined using statements that posed hypothetical increases in the use of the trial and requested respondents to provide an answer as to how this increase would affect their own enjoyment of the trail. Specifically, these hypothetical increases were posed in the following fashion:

> Evaluate the impact of each situation on your enjoyment of the Gandy Dancer Trail. … Were I to have encountered _____, my enjoyment of the trail experience would be (response).

Responses to these hypothetical increases along a "much better" to "much worse" Likert scale response are summarized in Figure 2.7. Again, the mean value for all respondents is shown using a triangle with the whiskers denoting one standard deviation above and below the mean.

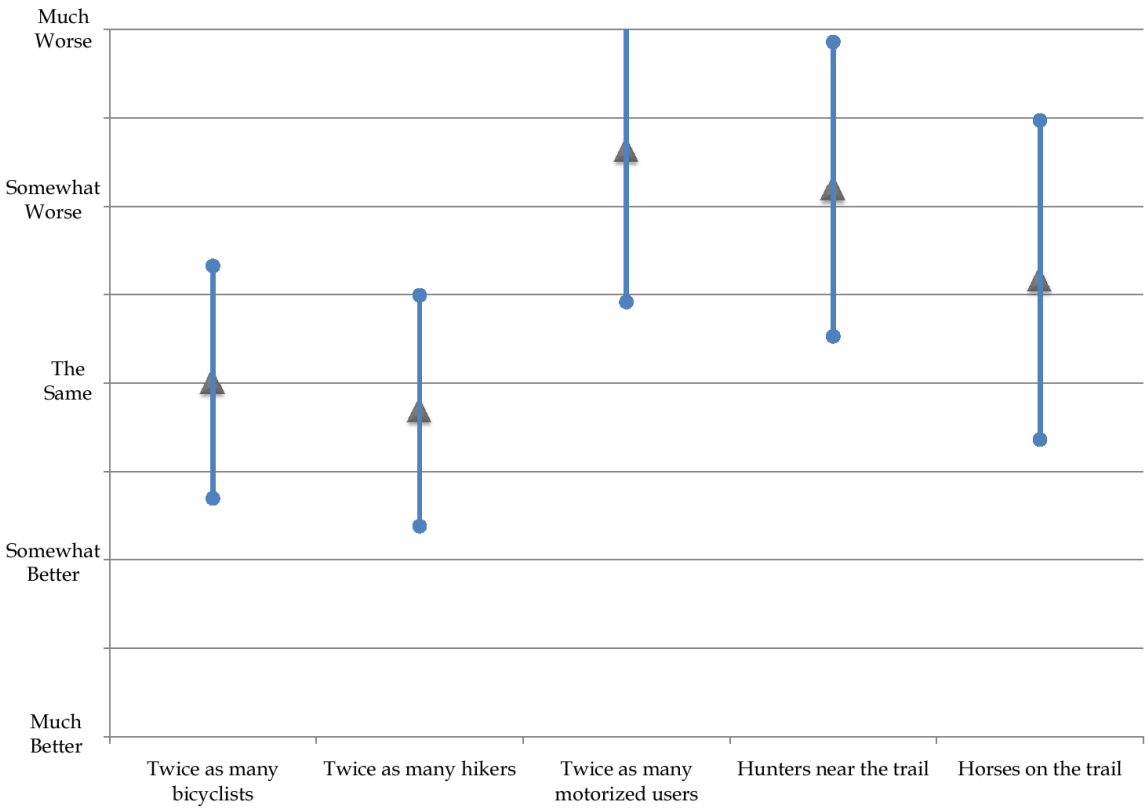

Figure 2.7. Responses to the effect of increased trail use on trail experience by type and extent of extra use (responses measured on Likert scale as indicated in axis label)

Note from this figure that twice as many bicyclists or hikers is perceived to have little impact on respondents' own enjoyment … interestingly, many of those surveyed suggest that encountering more of these types of recreationists would actually improve (or make somewhat better) their own enjoyment of the trail suggesting generally low levels of usage. A general worsening of their own experience, however is generally suggested for motorized use and hunting. More neutral yet still generally worse results are suggested for horses on the trail. It is important to note that these results reflect survey responses of current users and that current allowed uses restrict motorized use to snowmobiles during the winter months (December 1 through March 1) with adequate snowfall

while horses are not allowed at all. Certainly, different user groups can be expected to have different interaction relationships.

[Text Box B about here]

This descriptive set of results begins to address the complex aspects associated with alternative recreation activities, motivations, and interactions. To be sure, more analysis is warranted. In particular, our further analysis will focus on the development of explanatory models that can help in understanding the spectrum of use interaction outcomes. Certainly, further analysis of these results will continue to provide insight into how to best develop strategies that allow for maximum benefit while ameliorating potential competition, conflict, and antagonistic inter-relationships among user groups and users themselves.

2.3 Assessing Current Trail-related Amenities

In an attempt to better understand how trail users of this portion of the Gandy Dancer Trail viewed individual recreation-related amenities, we collected response data within the mail survey that dealt with how important certain aspects of the recreational surroundings were to their trail use. The intent of this section of the survey was to elicit user perceptions on the trail and its surrounding set of communities and their respective tourism activities. This section of the survey was multi-dimensional in the sense that each characteristic required a response with respect to its "importance" and then a follow-up response with respect to how satisfied users were with the local provision (also known as "performance") of each characteristic. Within the literature, this is known as Importance-Performance Analysis (or IPA). At its core, IPA identifies salient qualitative features and asks respondents to rate product attributes in terms of how important they were to the overall experience and how well they were performed to attain their intended outcome (Fletcher, et al. 1992; Hammitt,

et al. 1996). This type of analysis allows us to array, in a relative fashion, the importance of various recreational attributes while simultaneously assessing the relative performance, or effectiveness, with which attributes are provided by recreation managers or the local community within which the trail is located.

Our assessment of trail-based recreation was done for three unique amenity service groups: trail-related, local community, and tourism.[6] Overall, these three sets of IPA results from trail use surveys are summarized in Figure 2.8. Interpretation of IPA results is simplified by differentiating the four quadrants constructed using grand means for importance and performance (denoted by the solid blue lines). Of particular interest are the patterns of response that place characteristics in the upper right quadrant (high importance and high performance). These are clearly items that are both important and well performed and can be noted as relative "success" characteristics. The other interesting quadrant to note is the lower right-hand quadrant (high importance and low performance). With respect to trail users, these could be noted as relative "failures" as they represent characteristics that are more important but generally less well-performed. Note from this Figure that, overall, results suggest that trail services were more apt to be important followed by community services. Tourism services were, in general, found to be less important. Less clarity existed in generalizing about how respondents viewed the performance of these characteristic groups.

[6] While these specific amenity service groupings are similar to previous studies (c.f. Fletcher et al. 1992; Hammitt et al. 1996; Marcouiller 1998; Marcouiller et al. 2002), these categories were developed specifically for this project and were included in a prioritization process that was largely based on local informational needs.

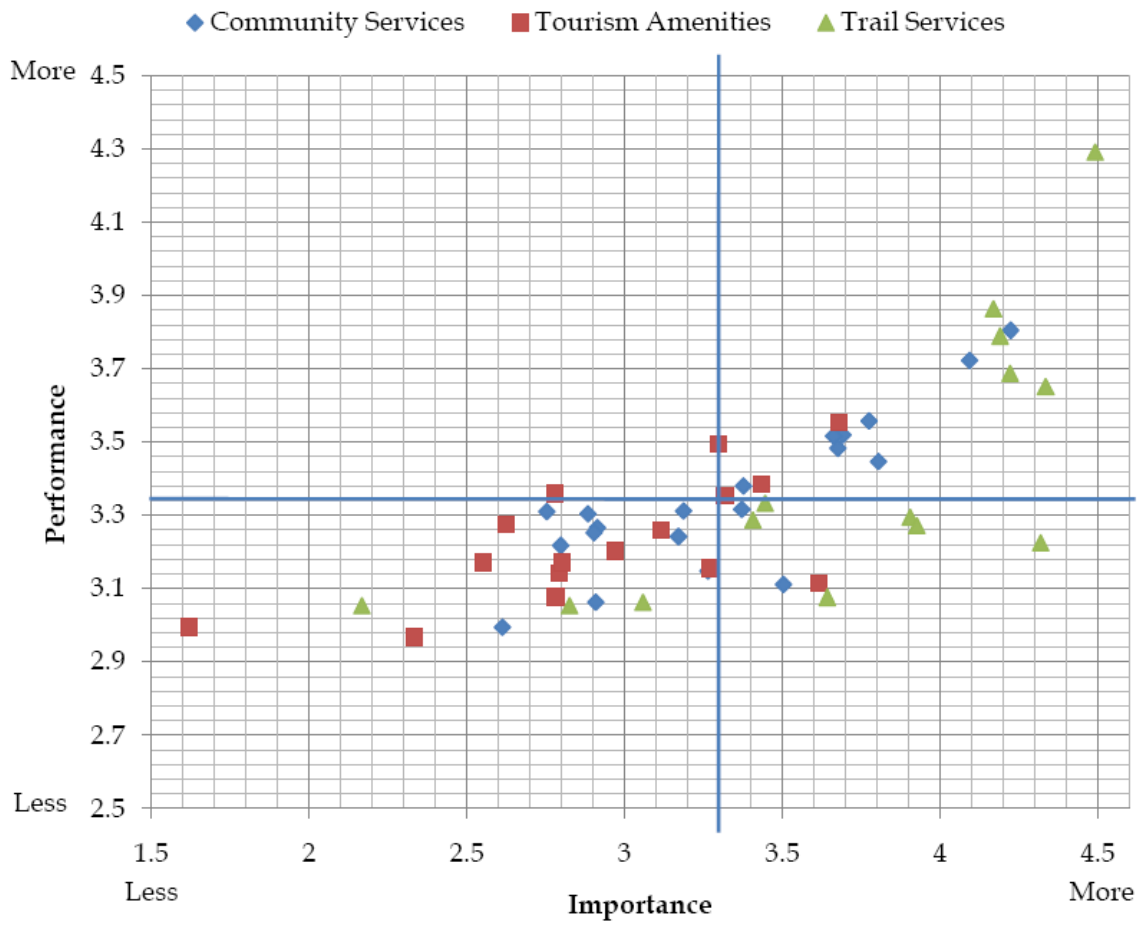

Figure 2.8. Overall importance-performance results of Gandy-Dancer Trail users by amenity type (shapes and colors represent general amenity service type – see legend above).

To gain understanding of this relative importance-performance simultaneity, separate assessments of each amenity service group allows distinctions to be made among the specific characteristics. Trail services include those aspects most directly under the purview of trail managers and include characteristic amenities found and used by trail users along the trail itself. The IPA results for trail service amenities are summarized in Figure 2.9. Note from this Figure that specific items that were found in the upper right-hand quadrant ("successes") include motivating issues such as "scenery", "cleanliness of public areas", "trail safety", "trail surface", and "grooming of trail surface". Conversely, trail

services that fell into the lower right quadrant (relative "failures") included the characteristics "trail signage", "enforcement of trail rules", and "accessible restrooms". These items provide clear priority activities for which trail managers could emphasize to generate to improved performance.

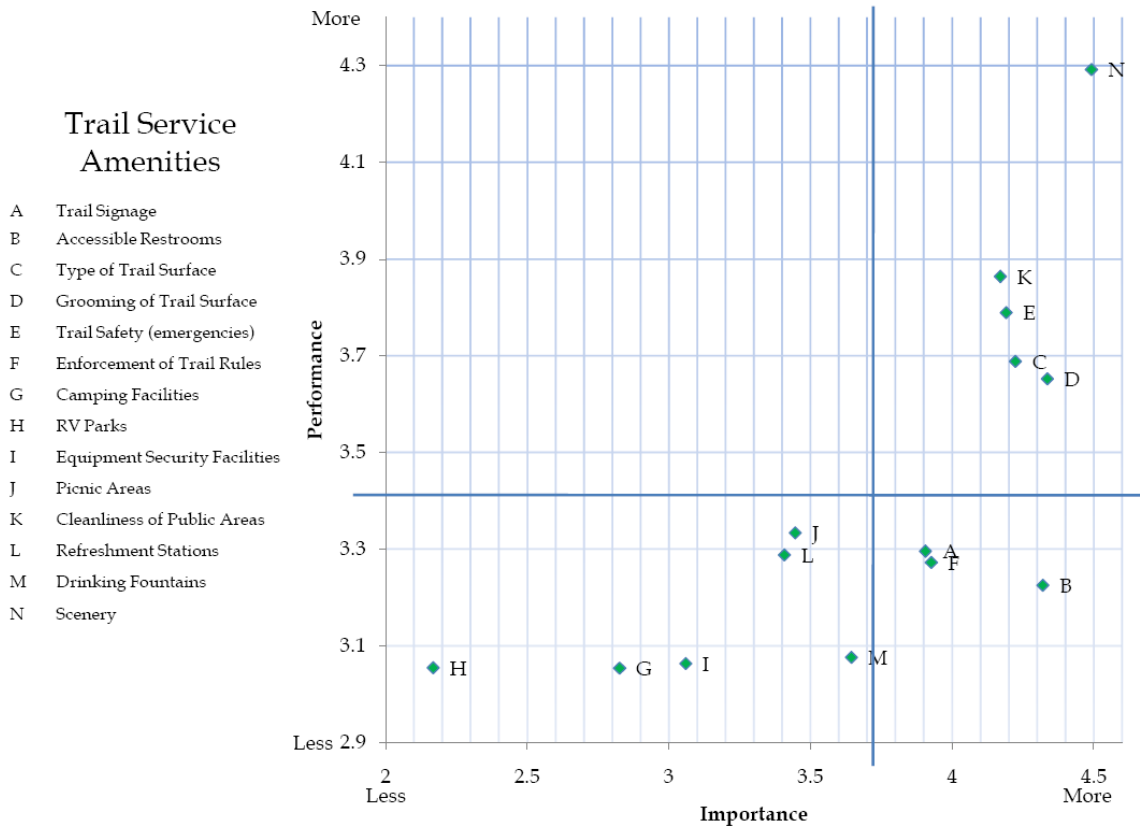

Figure 2.9. Importance-performance results of Gandy-Dancer Trail users for trail service amenities.

[Text Box C about here]

Local community services include those elements found in the communities that lie along the trail; specific elements and the IPA results of which are summarized in Figure 2.10. Note from this Figure that community service "successes" (those found in the upper right hand quadrant) include "clean

drinking water", "environmental quality", "streets and roads", "medical facilities", "bridges", "fire protection", and "law enforcement". Clear issues that could provide priority for communities and local business interests were they to be interested in accommodating trail users included "cell phone connections", and "local business hours".

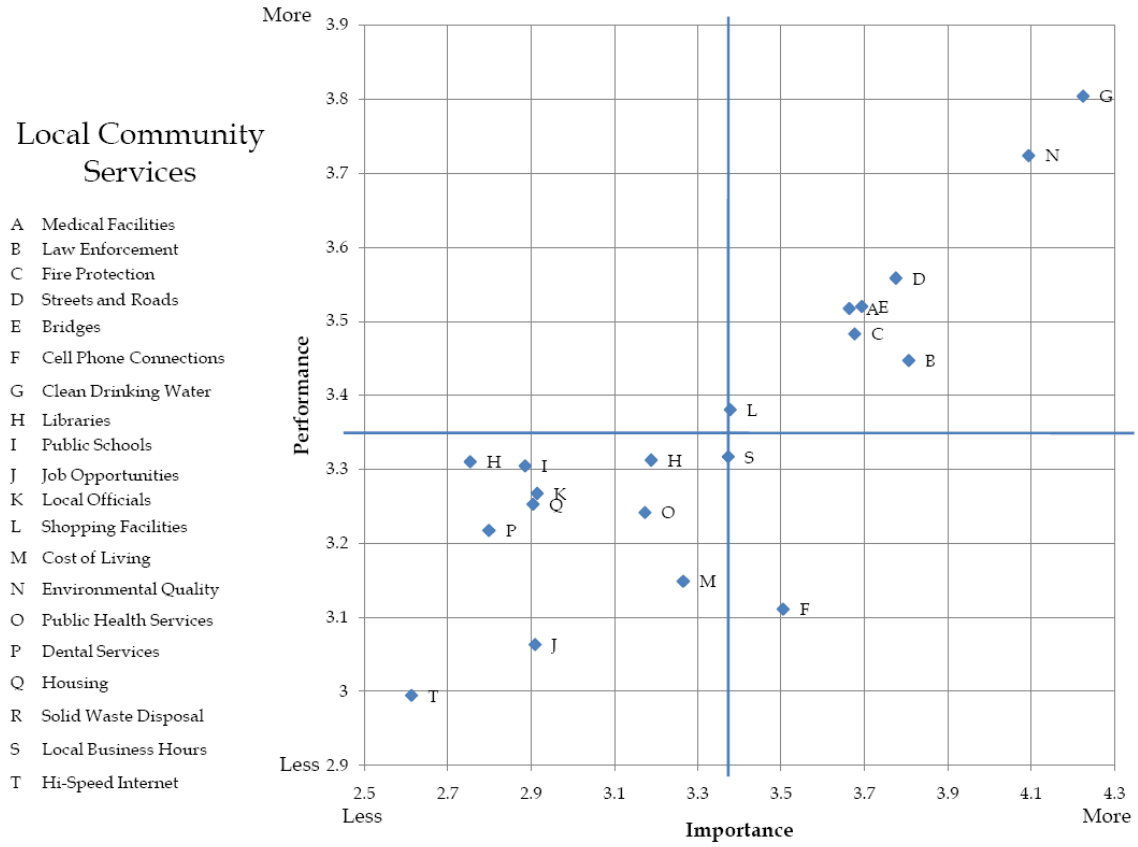

Figure 2.10. Importance-performance results of Gandy-Dancer Trail users for local community services

Finally, local tourism amenities include those aspects of the local business community that cater to tourists, among which include users of the Gandy Dancer Trail. IPA results for local tourism amenities are summarized in Figure 2.11 and suggest the success of several business sectors in addressing the unique needs of Gandy-Dancer Trail users. These included both "sit-down" and "fast-

food" restaurants, "hardware stores", "historical sites", and "festivals and events". Those sectors identified as less well performing but still relatively important included "bicycle shops and repair", "sporting goods stores", and "take-out restaurants". Clearly, these results suggest the opportunity for new and existing businesses to more closely cater to the demands of bicyclists within local communities adjacent to the trail. This descriptive analysis begins to address general service needs from the perspective of trail users overall. Certainly, further analysis can be done to examine how service need priorities differ among various trail user groups.

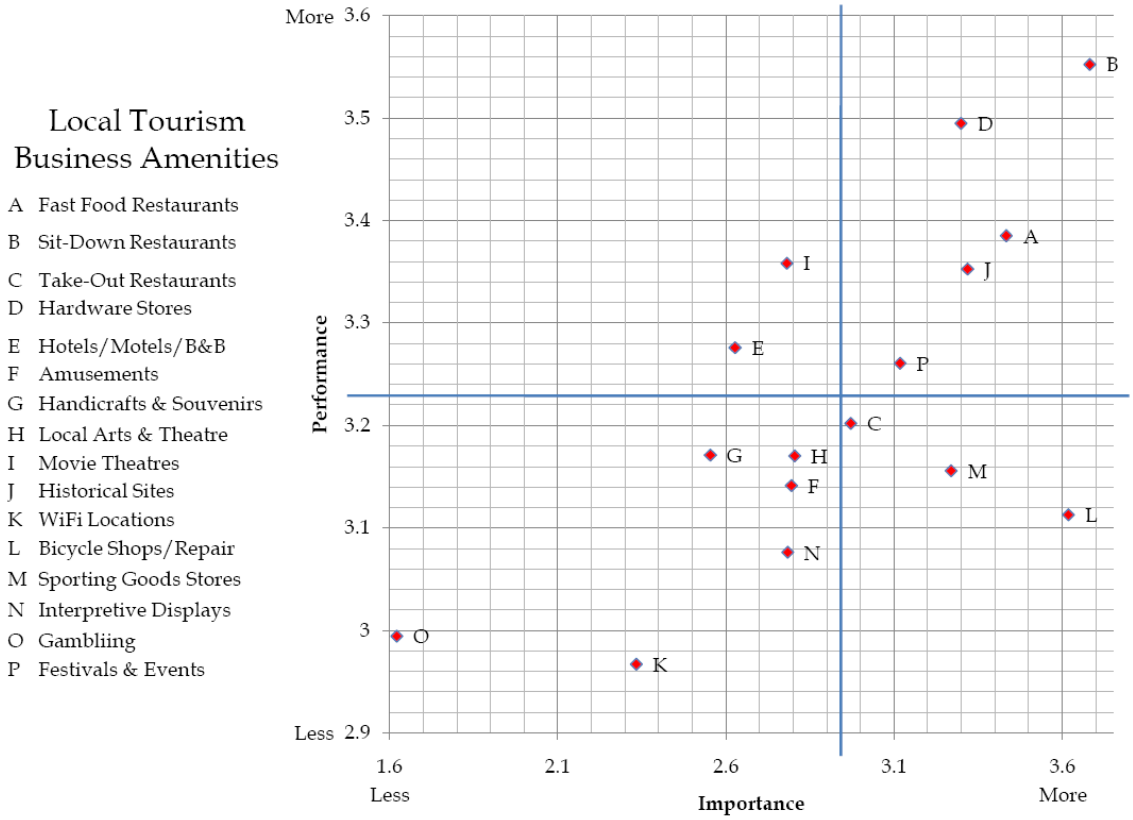

Figure 2.11. Importance-performance results of Gandy-Dancer Trail users for local tourism business amenities.

In addition to the importance-performance analysis, further understanding of trail user perceptions of amenities found along the trail and within surrounding

"gateway" communities was obtained using statements and user responses along a Likert scale (from strongly agree to strongly disagree). These verbatim issue statements and their response results are summarized in Figure 2.12. Note from this Figure that trail users felt generally welcome in the local communities surrounding the Gandy Dancer Trail. Further, they apparently felt as though their satisfaction as consumers was deemed important to the local business owners they encountered during their trail experience. Wider variation and more neutral tendencies were suggested by responses to the statement "I believe my views about recreational opportunities available on the Gandy Dancer Trail System are considered fairly by those who manage the trail." Interestingly generally positive results are suggested to the issue statement about support for user fees to help pay for maintenance and improvements along the trail system.

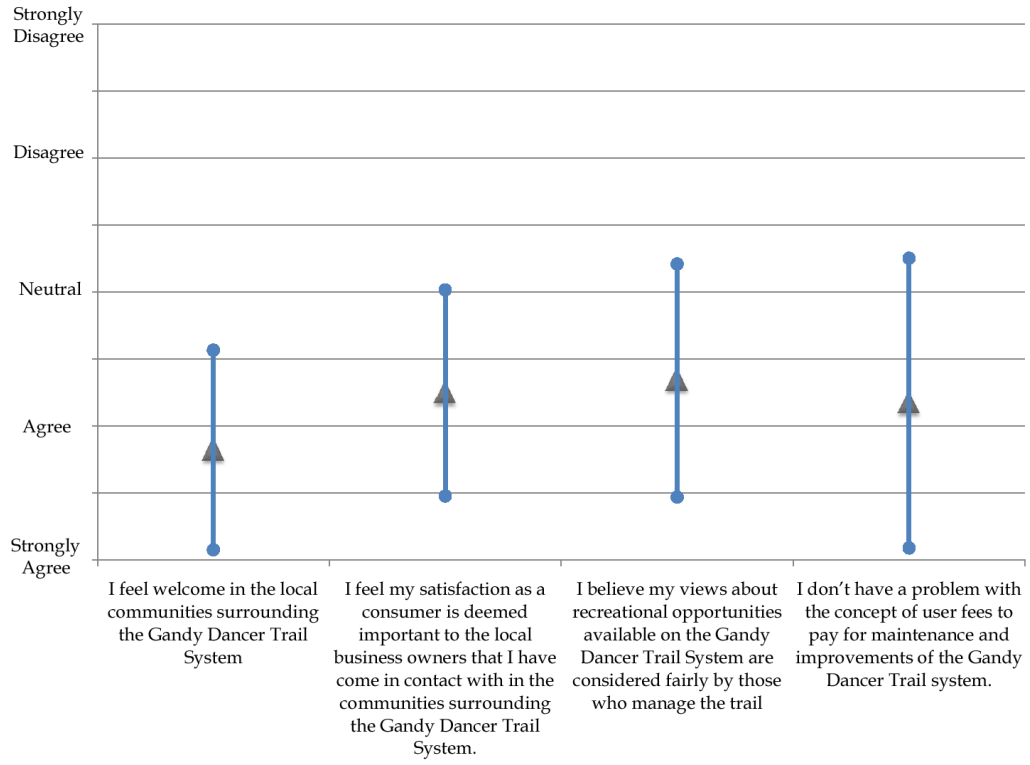

Figure 2.12. Responses to issues of local interaction and involvement of trail users (responses measured on Likert scale as indicated in axis label)

[Text Box D about here]

The IPA analysis and summary of user perceptions with respect to the surrounding "gateway" communities reported here suggests several priority issues for local trail managers, adjacent communities, and local business entrepreneurs. While this initial descriptive assessment of Gandy-Dancer Trail user responses was kept at the aggregate level, it would seem logical for additional analysis to focus on specific user groups were these groups to be deemed of interest. Different recreational user groups would, no doubt, have different importance-performance results and remain as topics for further analysis.

2.4 Local Fiscal Ability

Certainly, funds for maintenance and improvement of trail amenities and local service provision are tightly constrained by the local revenue and expense situation of the counties, municipalities, and towns. Further, federal and state support mechanisms for trail maintenance and improvement are limited and increasingly constrained. These public fiscal constraints limit the ability to affect change along the trail to continued direct trail maintenance and marginal improvements and/or upgrades to the existing facilities. In an effort to better understand the perceptions of trail users to the set of local fiscal constraints, a section of the survey instrument was designed to elicit responses to hypothetical scenarios in which choices by local decision-makers are made within the context of local fiscal improvement or degradation. This section of the instrument allowed the trail user to put him or herself in the position of a local public decision-maker for purposes of allocating budget surpluses or shortfalls.

A summary of responses to these questions of how trail users, if placed in a decision making framework, would allocate resources under conditions of local fiscal improvement (an increase in local revenues) and local fiscal decline (a drop

in revenues) is forwarded in Table 2.1. Note from this Table that clearly interpretable results appear elusive as the pattern of response is close to equal distribution across all allocation categories. This is particularly true for the hypothetical situation of local fiscal improvement. Perhaps the two most obvious aspects of these results are that (1) spending for maintenance of the Gandy Dancer Trail was clearly viewed as part of the local fiscal situation and (2) when faced with a decline in revenues, increased taxation was clearly viewed as part of the solution. Certainly, further analysis of the responses to this question is warranted and remains for future work.

Table 2.1. Summary of responses to the allocation of local fiscal improvement (increase) and fiscal decline (decrease).

Question and Response Category	Mean Response	Standard Deviation
Suppose you were a local official and revenues increased by $100 this year. How would you distribute this additional $100 given the following choices?		
Reduce taxes	$17.81	25.74
Increase spending for services (i.e., fire/police)	$14.49	12.73
Increase spending for education	$18.77	17.22
Increase spending for roads	$16.19	15.69
Increase spending for social services	$12.27	12.96
Increase spending for maintenance of the Gandy Dancer	$20.21	24.31
	$99.74	
Suppose that local revenues decreased by $100 this year. If forced to balance the budget, how would you make up for the lost revenue?		
Increase taxes	$30.20	37.05
Decrease spending for services (i.e., fire/police)	$9.29	13.01
Decrease spending for education	$9.50	15.92
Decrease spending for roads	$12.01	16.39
Decrease spending for social services	$19.63	24.65
Decrease spending for maintenance of the Gandy Dancer	$19.23	28.07
	$99.86	

This descriptive set of results begins to scratch the surface in understanding user perceptions of local fiscal ability. Again, to be sure, there exists a need for further analysis of this section of the survey responses.

2.5 Patterns of trail user spending

To reiterate, a key element of informational focus behind the applied research reported here is to understand the local economic linkages between the trail and its usage with local communities. The specific aspect of economic impact addressed in the survey dealt with how users of the trail spend money in local businesses while using the trail. In this way, we can begin to develop an understanding of how trail use impacts local businesses and the underlying regional economic structure.

A section of the survey instrument queried users to recall their expenditures for both the most recent trip to this section of the Gandy Dancer Trail and for a broader estimate of total recreational equipment spending during the previous year. Certainly, important caveats to this questioning involve an ability to recall how much was spent. While trip spending recall was done much closer in time to when respondents completed the written survey (mailed surveys were received within 3 to 10 days from the time of intercept, or trip), their spending patterns during the past year should be considered as "ball-park" estimates given the length of time needed to recall annual expenditures. This said, descriptive analysis of responses to this section of the survey instrument is summarized in Tables 2.2 and 2.3.

Table 2.2. Average individual trip spending of Gandy-Dancer Trail users on recreational items used during the trip.

	Trip Spending:	
Item:	Total	Local
Groceries/Liquor	$21.08	$16.09
Restaurants/Drinks	$27.19	$19.90
Gas, Auto Service	$22.76	$14.99
Recreation (golf, amusements, etc.)	$3.68	$3.29
Recreational Equipment	$60.39	$57.03
Other Retail	$6.59	$3.77
Casinos/Gambling	$1.33	$1.32
Overnight Accommodations	$2.73	$1.14
TOTAL	**$145.74**	**$117.54**

Note: "Total" reflects spending regardless of place while "Local" reflects spending in Polk and Burnett Counties and is included within "Total"

As will be discussed in the next section on economic impacts, our interest in collecting expenditure pattern data requires some additional dissection. Specifically, understanding local economic impacts necessitates matching data on spending patterns with the secondary data supporting regional economic models used to estimate impact; namely, regions are based on county borders. Thus, a separation of spending between total spending during the trip and that spending which occurred within the confines of Polk and Burnett Counties was necessary.

Average individual spending patterns of the trail users studied, as summarized in Table 2.2, suggest that spending is heavily focused on retail items. In particular, relatively larger shares of spending are done for recreational equipment, restaurants/drinks, groceries/liquor, and gas. The local businesses catering to these demands include hardware and general merchandise stores, restaurants and drinking establishments, grocery stores, and gas service stations and convenience stores. Note from this Table that average levels of individual spending are roughly $146 per trip with roughly $118 of this spent locally within Polk and Burnett Counties.

[Text Box E about here]

Annual spending of trail users on recreational goods pertinent to trail use is summarized in Table 2.3. Note from this Table that significant amounts of money were spent on campers and motorized recreational equipment but that the percentage of annual spending that occurs within Polk and Burnett Counties is much lower than trip spending.

Table 2.3. Annual spending of Gandy-Dancer Trail users on recreational goods.

	Annual Spending:	
Equipment Type	Total	Local
Campers (trailers, RVs, etc.)	$1,991.62	$865.92
Motorized Recreational Equipment (motorboats, ATVs, etc.)	$805.78	$328.13
Non-motorized Recreational Equipment (bicycles, canoes, etc.)	$277.68	$56.54
Tents and Other Camping Gear	$66.09	$41.98
Other Recreational Items	$160.22	$118.98
TOTAL	$3,301.39	$1,411.55

Note: "Total" reflects spending regardless of place while "Local" reflects spending in Polk and Burnett Counties and is included within "Total"

Expansion of individual spending patterns to total regional estimates of spending was done using the expansion techniques discussed in Appendix A (Methods). Namely, expansion was done based upon total trips made to this section of the Gandy Dancer Trail (refer to Figure 2.1). When expanded, an estimate of total trip spending by Gandy Dancer Trail users during the 12 months of study is summarized in Table 2.4. In a similar fashion to individual spending patterns, total annualized spending was focused within local retail and service sector businesses; namely hardware and general merchandise stores, restaurants and taverns, grocery stores, and gas stations. In total, results suggest that trail users spent almost $3.3 million in the Polk and Burnett County region between October 2006 and September 2007.

Table 2.4. Annualized trip spending of Gandy-Dancer Trail users on recreational items used during the trip.

	Trip Spending:	
Item:	Total	Local
Groceries/Liquor	$591,455	$451,679
Restaurants/Drinks	$763,193	$558,464
Gas, Auto Service	$638,618	$420,613
Recreation (golf, amusements, etc.)	$103,264	$92,256
Recreational Equipment	$1,694,711	$1,600,517
Other Retail	$185,005	$105,784
Casinos/Gambling	$37,367	$37,162
Overnight Accommodations	$76,491	$32,095
TOTAL	**$4,090,104**	**$3,298,570**

Note: "Total" reflects spending regardless of place while "Local" reflects spending in Polk and Burnett Counties and is included within "Total"

A summary of expanded levels of total annual spending on recreational goods by trail users is shown in Table 2.5. Like the individual patterns, a majority of this type of spending was done for campers and motorized recreational equipment with a total estimate of almost $40 million spent annually in Polk and Burnett Counties. Again, the percentage of this spending that occurred in Polk and Burnett Counties was generally lower than trip spending; in simple terms, larger ticket recreational items are less apt to be purchased locally. These are items that are often subject to greater selection and more price competition from retailers located in larger metropolitan regions.

Table 2.5. Annual spending of Gandy-Dancer Trail users on recreational goods.

	Annual Spending:	
Equipment Type	Total	Local
Campers (trailers, RVs, etc.)	$55,893,394	$24,301,476
Motorized Recreational Equipment (motorboats, ATVs, etc.)	$22,613,699	$9,208,691
Non-motorized Recreational Equipment (bicycles, canoes, etc.)	$7,792,934	$1,586,651
Tents and Other Camping Gear	$1,854,751	$1,178,230
Other Recreational Items	$4,496,434	$3,339,177
TOTAL	$92,651,213	$39,614,225

Note: "Total" reflects spending regardless of place while "Local" reflects spending in Polk and Burnett Counties and is included within "Total"

This descriptive presentation provides initial understanding about spending patterns of trail users. The collection process, use of average (and aggregate) values, and the manner in which expansions were accomplished requires assumptions that provide context to their point accuracy. Simply stated, these should best be viewed as "ball park" estimates. Certainly, further analysis of spending patterns can readily dissect aggregate patterns into different user groups and/or seasonal analyses to more clearly understand how different recreation types contribute to local business activity. For our purposes in this presentation, aggregate and annualized estimates of spending by trail users is sufficient to provide a starting point of direct spending related to trail use for application to regional impact models.

2.6 Translating spending into estimates of local economic impact

The economic structure of a region is a key determinant in the extent to which impacts are felt locally. The communities directly adjacent to the Gandy Dancer trail vary widely in economic structure. Rural communities such as Centuria, Milltown and Webster tend to have relatively fewer local retail and service businesses in which trail users can spend their money when compared to St. Croix Falls, Siren, and Danbury. While specific community impacts and their relative differences are important, the ability to estimate regional impacts remains at the county-level (for our purposes a combined Polk and Burnett County region). It is important to further point out that Polk and Burnett Counties, when compared throughout the Lake States, exist as fairly rural in their economic characteristics. Rural counties tend to have fewer local linkages for intermediate purchased inputs, or those items needed to produce the items that are sold locally. Micropolitan and metropolitan regions such as Eau Claire and the Chippewa Valley or the Twin Cities of Minneapolis and St. Paul, Minnesota tend to be relatively more robust and diverse economies with a much

broader array of local retail and service businesses and a commensurately higher amount of locally available intermediate purchased inputs. In general, smaller and less diverse regional economies are relatively more dependent on the outside for the items sold by local retail and service businesses. Conversely, larger, more diverse regional economies tend to be more self-contained. Hence, multiplier impacts tend to be larger as the economic structure of a regional economy grows.

The economic stimulus of dollars spent by trail users tends to be quite modest relative to the overall economic structure of Polk and Burnett Counties. For instance, in 2006, these two counties had a combined resident population of just over 61,000 people, with an average household income of almost $60,600, 27,800 total jobs, and a total amount of personal income of about $1,622 million (MicroIMPLAN 2008). The total amount of trail-related trip spending of Gandy Dancer Trail users, for comparison, generated roughly $3.3 million in local business receipts.

[Text Box F about here]

To reiterate, the estimation of economic impacts resulting from trail use focuses on the infusion of dollars into the communities surrounding the trail. Total local expenditures made by trail users are identified by local business sectors sensitive to travel expenditures in the previously described Table 2.4. When we apply these dollars to the input-output model of Polk and Burnett Counties, the multiplier effect of inter-industry purchases generates indirect impacts and the increased income of households drives induced impacts. These impacts are summarized for various economic characteristics in Tables 2.6, 2.7, and 2.8.

Table 2.6. Total output (regional product) impact of trip related spending by Gandy-Dancer Trail users on the Polk and Burnett County region (2007 dollars from model developed using MicroIMPLAN).

Industry	NAICS Code	Direct*	Indirect*	Induced*	Total*
Ag, Forestry, Fish & Hunting	11	$4,088	$15,496	$9,550	$29,135
Mining	21	$0	$973	$672	$1,645
Utilities	22	$0	$37,508	$20,252	$57,760
Construction	23	$0	$22,510	$3,846	$26,356
Manufacturing	31-33	$0	$67,553	$30,622	$98,175
Wholesale Trade	42	$0	$19,499	$20,168	$39,667
Transportation & Warehousing	48-49	$0	$28,787	$13,426	$42,214
Retail trade	44-45	$2,502,378	$26,276	$91,040	$2,619,693
Information	51	$0	$74,372	$18,060	$92,432
Finance & insurance	52	$0	$29,228	$27,602	$56,831
Real estate & rental	53	$0	$87,679	$22,085	$109,765
Professional- scientific & tech svcs	54	$0	$25,636	$10,509	$36,145
Management of companies	55	$0	$3,574	$196	$3,770
Administrative & waste services	56	$0	$43,846	$8,496	$52,342
Educational svcs	61	$0	$22	$701	$723
Health & social services	62	$0	$29	$119,531	$119,560
Arts- entertainment & recreation	71	$117,036	$4,019	$8,800	$129,855
Accomodation & food services	72	$558,162	$20,200	$48,889	$627,251
Other services	81	$0	$10,266	$27,002	$37,268
Government & non NAICs	92	$3,506	$17,921	$131,885	$153,312
Instutitions		$24,497	$0	$0	$24,497
Total		$3,209,667	$535,395	$613,333	$4,358,395

Table 2.7. Total value added (income – all types) impact of trip related spending by Gandy-Dancer Trail users on the Polk and Burnett County region (2007 dollars from model developed using MicroIMPLAN),

Industry	NAICS code	Direct*	Indirect*	Induced*	Total*
Ag, Forestry, Fish & Hunting	11	$849	$3,243	$3,068	$7,160
Mining	21	$0	$646	$447	$1,093
Utilities	22	$0	$29,124	$14,863	$43,987
Construction	23	$0	$8,550	$1,481	$10,030
Manufacturing	31-33	$0	$18,295	$7,525	$25,819
Wholesale Trade	42	$0	$13,454	$13,916	$27,369
Transportation & Warehousing	48-49	$0	$16,448	$6,891	$23,339
Retail trade	44-45	$1,474,352	$16,968	$58,493	$1,549,813
Information	51	$0	$31,909	$6,878	$38,787
Finance & insurance	52	$0	$18,880	$18,133	$37,013
Real estate & rental	53	$0	$62,207	$15,239	$77,446
Professional- scientific & tech svcs	54	$0	$12,682	$5,035	$17,717
Management of companies	55	$0	$1,575	$86	$1,661
Administrative & waste services	56	$0	$26,569	$5,023	$31,592
Educational svcs	61	$0	$6	$200	$207
Health & social services	62	$0	$11	$63,904	$63,915
Arts- entertainment & recreation	71	$58,309	$1,708	$4,306	$64,324
Accomodation & food services	72	$228,432	$9,078	$20,046	$257,555
Other services	81	$0	$4,866	$13,045	$17,911
Government & non NAICs	92	$2,327	$5,675	$112,581	$120,583
Total		$1,764,269	$281,896	$371,159	$2,417,324

Table 2.8. Employment (jobs) impact of trip related spending by Gandy-Dancer Trail users on the Polk and Burnett County region (total # jobs from model developed using MicroIMPLAN).

Industry	NAICS code	Direct*	Indirect*	Induced*	Total*
Ag, Forestry, Fish & Hunting	11	0.1	0.3	0.2	0.5
Mining	21	0	0	0	0
Utilities	22	0	0.1	0	0.1
Construction	23	0	0.2	0	0.3
Manufacturing	31-33	0	0.3	0.1	0.4
Wholesale Trade	42	0	0.2	0.2	0.3
Transportation & Warehousing	48-49	0	0.4	0.2	0.6
Retail trade	44-45	78.6	0.5	1.7	80.8
Information	51	0	0.6	0.1	0.7
Finance & insurance	52	0	0.2	0.2	0.4
Real estate & rental	53	0	1	0.3	1.2
Professional- scientific & tech svcs	54	0	0.3	0.1	0.4
Management of companies	55	0	0	0	0
Administrative & waste services	56	0	1.3	0.2	1.5
Educational svcs	61	0	0	0	0
Health & social services	62	0	0	1.8	1.8
Arts- entertainment & recreation	71	2.8	0.2	0.2	3.2
Accomodation & food services	72	13.7	0.5	1.2	15.4
Other services	81	0	0.2	0.7	0.9
Government & non NAICs	92	0.2	0.1	0.1	0.4
Total		95.3	6.3	7.4	109

A quick note on the difference between output and income (in aggregate, also known as value added). Output is the total result of all economic activity and is analogous to gross regional product, gross state product, and gross national product. In other words, it is the total accounting for all regional production. Income, or value added, is defined as the value of the region's business output minus the value of all inputs purchased from other firms. It is therefore analogous to the "profit" or income generated locally. Value added includes a combination of employee compensation, proprietor's income ("business profit"), other property type income, and indirect business taxes paid to governments.

It is interesting to note from Tables 2.6, 2.7, and 2.8 that the amount of money spent in host communities by trail users had broader impacts on the economic structure of these two counties. This money had the effect of generating a broad amount of business activity within the regions. Results of the spending shock to the input-output models suggests that the direct spending of trail users generated a total direct, indirect and induced impacts that varied based on the amount of local spending.

Overall, multipliers representative of the results reported in Tables 2.6, 2.7, and 2.8 were 1.33 (output), 1.37 (value added), and 1.14 (employment) which are quite modest and reflect the region's more rural economic structure. To reiterate, the extent of multiplier impacts result from the relative diversity of each regions' economic structure. These results are reasonable given the relative size of the regional economy.

3. Summary, Conclusions, and Implications for Public Policy

In this report, we document a recently completed multi-year project to assess a set of problems that address recreational use interaction, the integration of trail corridors within surrounding community development initiatives, and recreation management planning. Specifically, the problems addressed in the work reported here were multi-faceted. Who visits recreational trails? What aspects of the local trail motivate visitation and how do differing uses interact? When during the year do visits occur and how is this related to receipts that flow to local business owners? Where should communities and recreation managers focus decision-making to maximize benefits and ameliorate potential problems? How can use of a recreational trail be better integrated into local economic development efforts? These represent the generic questions being asked with specific reference to users of the Gandy-Dancer Trail and the citizens found within the communities of Polk and Burnett Counties affected by recreational trail use.

A three-phase research approach was used that included a stratified intercept survey, a follow-up mail survey, and focus group interviews. These were conducted during a twelve month period between October 2006 and September of 2007 along the 47 mile portion of the Gandy Dancer Trail in Wisconsin between St. Croix Falls and Danbury. Analysis of the data took the form of descriptive assessment, importance-performance analysis, and expansion of expenditure data to total spending estimates. Economic impact assessment was accomplished through the use of input-output analysis using a regional model constructed using Micro-IMPLAN county level datasets for Polk and Burnett Counties.

3.1 Implications for recreation policy

Results suggest an assortment of public recreational policy issues that can be highlighted using the results from this study. The Gandy Dancer Trail, like many other trails, provides a microcosm for the continued discussions of recreational user interactions, resource protection and the public lands interface to local communities. All of these elements must be balanced in context with the primary purpose of how stewardship of public lands will be achieved.

Sound recreational policy and a set of rational decision making processes provide managers the needed tools to mitigate issues as they arise. This decision process is supplemented by the understanding of local recreational interactions. For the Gandy Dancer and similar trails across the state, an understanding of these local interactions is highlighted in this report. Namely, multiple uses of trails provide a complex set of interactions among and between various user groups. For the most part, non-motorized uses interact among themselves with either neutral (supplemental) or complementary interaction types. Likewise, motorized uses and hunting also appear to be generally compatible uses. However, results of this study suggest that competition and antagonism can be exacerbated when non-motorized uses and motorized uses interact.

The objectives of public recreational policy can be best served by viewing user interaction decisions within a framework of maximizing complementary uses. These positive interactions can be accomplished through niche marketing, segregation of antagonistic uses and strict enforcement of rules. Segregation of users can, and often does, take on both temporal and spatial elements. For instance, snowmobiling and hiking can take place on the same trail and are normally segregated uses by season (temporal segregation). Adaptive site planning can be used to spatially segregate uses. For instance, snowmobiles and cross-country skiing can take place in the same corridor through the implementation of side-by-side trails, maintained for each use and separated by natural or regulatory mechanisms.

Another aspect for consideration is the user characteristic of bundling of recreational activities. This bundling by users who participate in one type of recreation activity often participate in other related or similar activities. Each recreation experience represents a very distinctive pattern of recreation participation. These patterns suggest that users in different segments seek different kinds of experiences. Because different experiences require different marketing approaches, segments may need individualized marketing strategies to attract the maximum number of potential participants. Individuals may, however, be members of more than one segment, indicating that recreation participation is determined by a complex interaction of multiple interests and motivations.

This study also supports the results of the Wisconsin SCORP on recreational barriers. These barriers, such as lack of information and noise from motorized uses are an indication of planning issues that deserve attention not just on the Gandy Dancer Trail, but across many public lands. These barriers are also a subset of the larger recreation conflict element that plays out daily upon public lands. The challenge of removing these barriers also comes at an increased risk of carrying capacity issues that in turn may cause other challenges for public land managers. Careful attention must be given to balancing the needs of the public resource stewardship to the needs of the public good.

Making decisions and developing sound recreational policy exists within a dearth of user data and associated interactions with public lands. This void is usually most pronounced after recreational conflict is underway. Rarely is factual and objective data available to assist decision-making. For a resource manager to make sound professional judgments, data collection of user recreational patterns must be done in a timely and frequent manner. The data collection techniques outlined in this report provides a basis for replication with other linear trails. By utilizing volunteer resources and effectively managing time, the benefits of data collection could potentially exceed costs. Also, data

collection is one of the key elements involved in master planning of public lands and is key to moving beyond an arbitrary and capricious decision making process on recreation uses to one of sound reason.

3.2 Implications for development policy

Results of this study can also help decision makers better understand the implications for local development policy. The economic impact of the Gandy Dancer Trail on the adjacent communities in Burnett and Polk Counties is relatively modest compared to other economic activities within the region. Given the rural nature of the communities along the Gandy Dancer Trail, the $3.3 million economic impact generated is important and plays a role in revenue generation and job creation when compared to the overall local economic engine. Retail, entertainment-recreation, and accommodations-food services, are the three areas most impacted by trail related spending. There is some indication that hotels, motels, and other local overnight accommodations are less impacted by trail users. This is probably due to both the high frequency of local users and the day-tripping nature of non-local trail users. Our estimates suggest that over 100 jobs per year are related to the economic activity stimulated by users of the Gandy Dancer Trail.

Economic development strategies are of growing concern among many citizens, business owners, and elected officials. Strategies can be developed to maximize the economic benefit of the trail. Building upon the "feeling welcome in the community" noted in the survey, a "buy local" campaign could be implemented throughout the two counties and trail communities. With the amount of leakage occurring, opportunities are available to for local businesses to increase business related to the trail. Better customer service is a way to differentiate a business from others that may have cheaper prices in nearby metropolitan areas. Opportunities do exist to develop new businesses or expand existing businesses. Bike equipment/repair stores and take out restaurants were

identified as needed businesses in the communities along the trail. However, more in-depth business planning should be completed to explore the viability and demands for each of these ventures. Also desired by trail users were better business hours.

More specific trail promotion can also be implemented through coordinated efforts with communities along the trail. Trail packages can promote local business and may encourage local populations and secondary home owners to take advantage of the trail and become aware of local businesses. Targeting the Twin Cities metro area is a greater challenge as the majority of current trail users are local residents or visitors tied to secondary homes. Greater use of the trail is likely tied to promotion of all of the amenities in the communities of Burnett and Polk Counties.

Survey and focus group results suggest that increased trail infrastructure is needed within developed communities for biking and hiking. The snowmobiling trail system is quite extensive in both counties with trails connecting to the Gandy Dancer. However, hikers and bikers cited a shortfall of infrastructure calling it "substandard." A survey of trail infrastructure in the communities along the Gandy resulted in little to no sidewalks or designated bike lanes. Comprehensive planning can be used to assess current and plan for future infrastructure. Additional trails should be linked to the Gandy and nearby attractions such as parks.

Cited earlier in this report, focus group participants commented on a perceived increase of property values along the trail. Previous studies (Crompton 2001; 2004) cite similar trends adjacent to parks, public forest, and other public lands. The potential exists for increased parcelization along the trail. Currently, Burnett and Polk Counties have high demand for lakeshore development. However, pressure on off water lands may increase as supply decreases. This may already be occurring. Other amenities, such as trails, may attract development and require management also. Zoning and other tools to

preserve the relatively large lots sizes currently along the trail will be critical in preserving the "natural features, quiet rural atmosphere, and solitude and privacy" trail user's rate highly as their reasons for using the trail.

3.3 Implications for local outreach programming

All universities engage in research and teaching, but the nation's land grant colleges and universities, have a third critical mission—extension. "Extension" means "reaching out," and—along with teaching and research—land-grant institutions "extend" their resources, solving public needs with college or university resources through non-formal, non-credit programs. These programs are largely administered through county and regional extension offices, which bring university expertise to the local level. Over the last century, extension has adapted to changing times and landscapes, and it continues to address a wide range of human, plant, and animal needs in both urban and rural areas. Today, extension works in a number of different programs areas including Community, Natural Resources, and Economic Development (CNRED). This program area helps local governments investigate and create viable options for economic and community development, such as improved job creation and retention, small and medium-sized business development, effective and coordinated emergency response, solid waste disposal, tourism development, workforce education, and land use planning. In fact, many county-based educators have continued to develop and deliver quality tourism programming throughout Wisconsin and beyond. In addition, there continues to be a modest support network of specialists that conduct applied research programs addressing tourism development. Examples of issues addressed in this programming include business development, marketing, outdoor recreation planning, natural resources and amenity-base development, heritage tourism, nature-based tourism, festivals and events, tourism economics, tourism infrastructure, traveler research, and hospitality training. These local, regional, and state-level tourism

efforts can greatly benefit from sanction, guidance, support, and packaging in creating an overarching umbrella for CNRED Tourism Programs.

In particular, this study can assist the UWEX 'Tourism Team' in developing responses to recreational conflict as a component of tourism development. Tourism has been and will continue to be an important component of our social, economic, and environmental heritage. The Tourism Team has an opportunity to engage CNRED educators, tourism professionals, and applied tourism researchers to share expertise and practices that are transferable to communities in the Lake States and beyond. By doing so, this team has an opportunity to rapidly establish a collaborative network to help strengthen community-based tourism education and applied research. Lastly, this study will be part of the 'Recreational Conflict Clearinghouse' in which literature and web-based resources will be captured to provide an organizing component intent on developing a better understanding of recreational conflict.

In addition, this research may be integrated into the conflict resolution processes that have been gathered but UWEX 'Conflict Resolution' Team. This group works on a variety of issues including but not limited to: mediator competencies, mediation styles, "best practices" in public policy disputes and cross-cultural conflict. The research projects undertaken through this study serves a number of purposes that directly fulfill the Conflict Resolution Team's objective to educate people about conflict resolution theory, processes, and programs.

In conclusion, the work reported here represents a contribution to our understanding of the local context of recreation management and economic development planning with respect to parks and trails. Certainly, more work is needed that can extend results to differing venues, situations, and contexts. This additional work can take the form of both future applied research and its outreach to interested individuals and groups. Ultimately, our attempt to better

understand local amenities such as recreational trails intends to provide insight into more informed public policy that acts to assist with addressing problems creatively and objectively.

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Appendix A.

Methods Used in Evaluating Use Compatibility and Impacts

This evaluation of the Gandy Dancer Trail case study relied upon a three phase approach to gathering data. To elicit user characteristics and use pressure, an intercept strategy with a brief oral survey initiated our contact with trail users. This led to a follow-up mail survey that was designed to elicit data on more in-depth issues of recreation motivation, compatibility, spending patterns, and local community integration. In addition, we gathered more qualitative contextual evidence/information from a series of six focus group interviews with unique local stakeholder groups. This approach was chosen to allow triangulation of evidence which allows a contextual understanding of different data sources. Each of these phases will be discussed in turn.

Users of the Gandy Dancer Trail were intercepted along the forty-seven mile route at 10 standard intercept locations, roughly corresponding to the points along the trail where users were required to stop. At these 10 locations, a standardized sampling strategy was applied that used two hour time slots randomly allocated during daylight hours (roughly varying between 6 am and 9 pm) and a brief standardized face-to-face interview. Time slots and locations were selected using a numerical list of times and locations and a random number generator.[7] This was done for the pre-determined number of weekday and weekend days to achieve a pre-specified number of samples per month. Geographically, each intercept location was equally weighted but the number of samples collected was stratified by month of the year with roughly double the number being administered during the late spring through early fall period (corresponding to the height of seasonal use).

The intercepts began in October 2006 and were administered through September 2007. Users were randomly intercepted beginning with the first person that came past the pre-specified intercept location at the beginning of each 2 hour shift (see Appendix A for intercept schedule). Once intercepted, users were interviewed briefly using a survey instrument (see Appendix B) to gain basic information such as address, trail use characteristics, and surveyor observations.

A summary of sample characteristics is shown in Table A.1. Just over 700 two-hour time slots were administered during the year-long intercept period. This yielded a relatively large number of null samples (a time slot completed without seeing a trail user). Note from the table that of the 387 samples with a user encounter (non null), a total of 278 resulted in completed intercepts; a response rate of roughly 72 percent. These valid responses included addresses and a limited number of user characteristics.

[7] This was done using Random.org V2 available at www.random.org/integers/.

Table A.1 Sample Characteristics

Characteristic	Intercept	Mail
Sample Demographics:		
Age (yrs)	43.8	48.7
Education (yrs in school)	na	13.3
Annual Pre-tax HH Income	na	$78,970
Party Size (#)	1.66	na
Percent Female	44.1	39.8
Frequency of Use (per year)	na	39.7
Total Sample Attempts	701	278
Null Samples	314	5
Number of Responses	278	212
Response Rate	71.8%	77.7%

na - not available given the survey instrument used.

These sampled users were then included in the standardized mail survey. Using a modified Dillman approach (Dillman 1976), each sampled user then received a standardized survey instrument in first class mail (see Appendix C). This survey consisted of seven sections: recent use of the Gandy Dancer Trail, perceptions about the encounters you had on the trail, impact on the local economy, attitudes about community issues, perceptions about local tourism and recreational amenities, attitudes about evaluating fiscal tradeoffs, and demographic information. Note from Table A.1 that of the 278 valid intercept responses, five were returned as bad addresses (here noted as null samples). There were a total of 212 completed and returned surveys yielding a mail survey response rate of almost 78 percent. Accounting for the 314 null intercepts (44.7 percent of total), the overall response rate from an intercept encounter (non-null intercept) to the final returned mail survey yielded an overall response rate of 54.9 percent.

2.2 Focus Group Interviews

To assist in understanding the data on trail use and recreational activity compatibility, we also collected information from several stakeholder groups who are locally active and important to decision-making. The information that we sought from these local stakeholder groups was contextual in-nature. Contextual issues included such topics as (1) the role of the Gandy Dancer Trail in local community development initiatives, (2) specific management issues associated with the Trail system, (3) recreational use compatibility and implications for management of the trail, and (4) important aspects of public policy that can affect trail usage and recreational interactions.

Our approach in developing, conducting, and analyzing this contextual data relied heavily on the focus group approach as outlined in Krueger (1994), Stewart and Shamdasani (1990), Morgan (1988), and Templeton (1987). A focus group interview is a carefully planned, informal, small group discussion. It is designed to collect information by getting participants to talk about their ideas and perceptions of a specific topic or issue. Each focus group was comprised of 5 to 10 people. The intent of these focus groups was to obtain a broad contextual basis upon which to assess the validity of secondary data and obtain insights into local trail issues as they relate to activities within communities along the trail and interactions within and between alternative recreational user groups from knowledgeable sources. This approach has been successfully used in previous tourism-related research (Green et al. 1997; Marcouiller, et al. 2002; Marcouiller and Xia 2008).

Focus group interviews were conducted on six occasions between February and November of 2007. These were conducted with individuals from six specific stakeholder groups. These groups included (1) recreation and land managers, (2) local tourism business owners, (3) local public policy makers, (4) landowners adjacent to the trail, (5) non-motorized trail users, and (6) motorized trail users. These were selected to represent the primary interest groups within the local community that exhibit direct involvement with the Gandy Dancer Trail.

An analysis of focus group interviews was conducted based on responses to previously identified questions, statements, and probes. Specifically, all focus group interviews were recorded and content analysis was performed on responses to each question posed during the focus group. Where useful, specific quotations were pulled from focus group sessions to emphasize important issues. A sample thematic agenda for the focus groups is found in Appendix A.

2.3 Data Analysis Techniques

Data collected from the returned surveys was entered into a data analysis template and checked for consistency. Summaries found in the results were generated from standard statistical analysis using an Excel 2007 spreadsheet. Arithmetic means and standard deviations were based on various groupings of the sample data dictated by the specific analysis being conducted. Significant differences, where noted, are assessed using simple tests appropriate to the type of data being analyzed and are noted at the $p < .05$ significance level.[8] Several elements of the results expand sample responses. Most notably, total amounts of user spending needed for economic impact assessment were estimated by applying individual spending patterns to monthly estimates of use. This extends an approach used in previous studies that allows for standardized annual spending levels. Expansion resulted from analysis of data collected by the

[8] In other words, where noted, we have 95 percent confidence that significant response differences exist between groups.

intercept surveyor and matched to the pre-specified stratification strategy. Proportional duration of intercept samples was accomplished using the surveyor notes on time at the intercept location prior to encountering a trail user. Expansion of the sample was then done through accounting for hourly, daily, and monthly stratifications by location.

2.4 Estimating Local Economic Impact

To develop estimates of the local economic impacts associated with trail use, estimates of individual spending (once expanded to represent total visits), were used as initial stimuli for local businesses. Input-output models were constructed for the study region using the most recent 2006 county-level MicroIMPLAN datasets for Polk and Burnett Counties (MIG 2006). In calculating the demand shock, 2007 spending levels were taken into account in the use of a sector-specific deflator to convert to 2006 dollars. All reports reflect results inflated back to a common 2007 reporting year using sector-specific inflation rates. A total multiplier approach was used in running the impact models. The full description of input-output modeling as a standard method used to develop estimates of regional economic impacts is beyond the scope of this report but readily available in standard textbooks on the topic (Shaffer et al. 2004; Chapter 15).

For the assessment of economic impacts resulting from trail user spending, non-local use expenditures were allocated to seven specific industrial sectors. Each sector into which expenditures were allocated is represented by unique 3 to 6 digit NAICS codes and is specific to the sector structure of MicroIMPLAN.[9] Expenditure categories, IMPLAN sectors, and respective NAICS codes are summarized in Table A.2. Estimated total expenditures and the amount spent locally were summarized. Only the local portion of expenditures that occurred within the Polk and Burnett County regional economy were used as the demand shock for input-output modeling.

Table A.2. Respective industrial sectors for expenditure patterns used to estimate regional economic impacts (IMPLAN sectors and respective 3-5 digit NAICS codes in which expenditures were allocated).

Expenditure Category:	IMPLAN Sector	NAICS Code
Grocery/liquor stores	405	445
Restaurants (eating and drinking places)	481	722

[9] While we recognize that this method of expenditure allocation could miss some sectoral groupings and/or overly simplifies the manner in which spending relates to local business receipts, we are confident that these potential problems are minor. The approach represents a valid technique used to estimate the local supply-side shocks associated with visitor spending found in other tourism impact studies (c.f. Smith 1987; Smith 1998; Marcouiller and Xia 2008)

Transportation related (gas, repairs)	407	447
Recreation (golf, amusements)	478	713*
Recreation equipment	409	451
Entertainment (gambling, theatres, bowling)	478	713*
Hotels, motels, bed & breakfasts, camping	479	72111/72112
Other retail	411	453

* except 71394 and 71395

Standard categories of economic impacts included *output* (or the aggregate impact on regional economic activity), *value added* or *income* (that portion of total output that accrues locally), and *employment* (total numbers of jobs created) locally.[10] The county-level input-output model used to calculate total impacts estimated multiplier effects measured as direct, indirect, and induced impacts. These are uniquely calculated and reported for output, income, and employment. Direct effects include respective portions of the amount initially injected into the regional economy (non-local spending in the region). Indirect effects relate to inter-industry transactions resulting from the initial demand shock (direct effects). Induced effects include the increase in local income resulting from the direct and indirect effects and their subsequent effects on local consumption.

The extent of these round-by-round "multiplier" effects will depend on fundamental characteristics of the regional economy. In general, larger and more diverse regional economies will exhibit higher levels of economic multiplier effects. Conversely, smaller and less diverse regional economies will exhibit relatively lower multiplier effects. These economic multiplier generalizations reflect alternative levels of regional economic "leakage" and "capture". They relate to regional export/import balances that differ by region. In general, the Polk and Burnett County region is a relatively small and less diverse exurban economy that lies in close proximity to the Twin Cities, Duluth/Superior, and Chippewa Valley metropolitan areas.

[10] Output includes all economic activity related to visitor spending including intermediate purchased inputs, income or value added, and imported inputs. Income most clearly reflects the impacts felt by local residents and includes four components: (1) employee compensation, (2) proprietor's income, (3) other property income, and (4) indirect business taxes. Employment measures total jobs created and includes full-time, part-time and seasonal jobs.

Text Box A with picture of a trail biker/walker and caption

Non-motorized/Silent Sports Recreationists.

Trails provide different experiences for different groups of people. For this group, the way they experience the trail has more to do with nature, health, and safety. "The solitude is what I enjoy the most," one person stated. Others went further. "It [the trail] just allows my mind to be able to connect with nature more than when I'm out on the road." Everyone supported the health benefits that come from participating in silent sports on a trail. Having a dedicated trail for walking or biking and separated from vehicular traffic was appreciated by everyone in the group. A person commented, "Running on town roads is a little treacherous, especially on weekend nights when the crazies are out in full force. If you want to ride your bike or focus on what you're doing, the trail is the best way to go. We have very few sidewalks, even in town, much less in the country. The shoulders are pretty substandard." The Gandy Dancer Trail seems to be one of the few walking and biking friendly amenities available in close proximity to Burnett and Polk County communities.

Silent sport users became very vocal when the topic of user conflicts came up and it centered specifically on their perception of motorized vehicle use. "We would hate to see it motorized. That would force us ... from hiking the trail. You can't hike and have ATV's coming at you 20 miles per hour down the trail," said one person. One person summed up ATV conflicts this way, "The primary issue with ATV's is the dust, the attitude, and making the trail (unusable for others)." Others focused more on the attitudes of ATVers and how they interact with others on the trail. "They wouldn't realize that what they are doing is hurting somebody else's wishes. They don't care if somebody else is bothered." The group generally sees ATV'ers as being aggressive, having bad attitudes, and causing extensive damage to the environment. Expansion of use on the Gandy to include ATV's was a primary concern to all in the group. "I am really afraid of the day when they try to open up the trail to ATV's, because it is bad right now." Their view of snowmobilers is more positive due to past experiences.

Other concerns by the group included underutilization of the trail, up-to-date signage, enforcement of rules on the trail, and connections to other amenities from the trail.

Text Box B with picture of a snowmobiler and caption

Motor Sports Enthusiasts.

While other groups have the view that different uses tend not to work well together, motorized users think otherwise. "I truly think people can get along one way or another. If there's a problem it's just that everyone has to be courteous, no matter what you do." The group does recognize that there are problems on trails but that these problems result from the actions of a small number of people. "You have the one percent that goes out and screws it up for everybody else on any trail. Walking, horse-back riding, it doesn't make any difference." The motorized users also disagreed with silent sport users in regard to why some users might not work well together. "Noise, dust, and smell… I don't accept the noise and smell (arguments).

ATV challenges were identified by some in the group." I have thought that the snowmobile industry has done a terrific job of educating. (Increasing use of ...) four wheelers just went BOOM. They caught on so fast that the clubs and stuff haven't caught up with the education. They are trying their best to educate them but it is overpowering …" Others in the groups framed the ATV issue this way, "The big issue … ninety percent of the issue with four-wheelers is tearing up people's property … These are bad apples. Every group has its bad apples." Many in the group agreed that the problems tied to ATV's are more of an urban problem than a rural one. They commented it is the urban people that are riding the trails (for recreation) while the farmers are using (ATVs) as farm equipment.

Many in the group felt strongly about using the trail for economic development purposes and that the trail was currently under-utilized. "Our biggest problem ... (is that) there's nobody coming into the bars or restaurants or gas stations (during low snow winters)" said one person. The group sees themselves as being an economic engine and sees other groups as being anti-economic development. "We are trying to help tourism in the state of Wisconsin. They [silent sport groups] are trying to deter it. They are not going to make money if everything went… to the hikers and the bikers… and the non-motorized… Still tourism in Wisconsin is number one. We try to bring people in. They try to keep people out." Further, many in the group agreed that they were not sufficiently recognized or appreciated for their trail maintenance efforts.

Text Box C with picture of a DNR warden and caption

Recreational Trail Managers.

Professional trail managers provided a unique perspective on use compatibility because of their close relationship to trails and the people who use them. A common issue among this group relates to the management of user conflicts. They said their challenge in this regard isn't getting any easier. "One (user) ticks the other one (user) off all the time. I get phone calls. You never hear a bird watcher say, "It's so nice to see ATV's are out there." You never hear the ATVers say "Oh it's great coming around that corner and seeing two people in the trail at however fast I am going." Often user groups were seen as including "... totally opposite type people and they don't know how to share." When asked about tools (or policies) for managing user conflicts, professional trail managers appeared to prefer segregating uses. They specifically preferred to segregate uses by season (time of year).

Related to user conflicts, enforcement was also a key issue for this group. Illegal activities, ethical use, and user conflicts were identified as key enforcement issues. The entire group agreed that a short term and long term approach was needed when dealing with serious problems. One person stated, " If you really want to get rid of an aggressive problem… you really have to enforce it… That's the way to do it…" They also cited the generational aspects tied to recreational enforcement issues. Education is a means to create a culture of compliant recreational users. They see this especially effective with youth. The ATV and snowmobile training programs put on by the Wisconsin Department of Natural Resources are examples of effective educational programs. Participants were far less supportive of education with older adults. "Take an older person who has been doing it (something) for years, they are going to continue to do it that way, unless they start receiving citations for it", stated one person.

Trail managers also identified frustration dealing with funding challenges. Along with the benefits of trails come responsibilities of managing the trails. The group agreed that the most difficult aspect of the trail to fund is enforcement of rules. State grants were identified as becoming increasingly competitive and in general decline. The group further noted that money generated from citations (tickets) is not substantial. A participant agreed with other county and/or state mandates and issues, securing recreation enforcement funding is getting more difficult every year.

Text Box D with picture of a public meeting with caption

Gandy Dancer Trail Commission.

This group was comprised of members of the Gandy Dancer Trail Commission. The Commission is charged with providing coordination of policies between counties and states, identifying upcoming issues and developing strategies for effective management. Commission membership includes representatives from Burnett, Douglas, and Polk Counties in Wisconsin and a representative from Minnesota. The Gandy Dancer Trail Commission, an intergovernmental authority, has coordinated policies pertaining to the Gandy Dancer Trail since its inception.

The group members made a point to emphasize that the trail was currently underutilized and that they would like to see this change. Marketing was identified as a key issue that should focus on the communities; not a strategy of marketing the trail but more of, "…come to the community; they will ride the trails any way." The group perceived its biggest challenges as managing trail conflicts. They noted requests are regularly received for new uses of the trail; these are discussed as per how multiple uses work or do not work well together. The commission supported opening the trail to winter time ATV use, but not beyond that season. They thought the use expansion would increase the utilization of the trail. And, they noted, the frozen ground would protect the surface from damage. This position supported the concept of separating uses as a method of managing user conflict. Other challenges voiced by the group came from unexpected issue sets. "We are getting more and more friends groups … around us. And most of the time friends aren't really your friends. They have an agenda." Providing enforcement, dealing with private crossings and illegal uses were identified as enforcement challenges. Aging infrastructure was identified also as a major concern. Participants communicated maintenance challenges given the current roles and responsibilities between counties and the state. Adequate funding seemed to be part of the challenge as did properly sharing maintenance responsibilities. They also expressed an opportunity as an organization to do more work centered on trail advocacy issues.

Text Box E with picture of farmer or second homeowner and caption

Adjacent Property Owners.

The adjacent property owner group included individuals who live or own land adjacent to the Gandy Dancer Trail including both secondary/seasonal home owners and year-round home owners. Parcel size owned by those included in this group varied from a fraction of an acre to over two hundred acres.

The Gandy Dancer Trail was seen as a local asset by these individuals. In fact some adjacent property owners confessed to moving to the area to live next to the trail. The preconception that trails tend to create avenues for trespass was not confirmed by members of this group. There was some discussion that the trail even reduced trespassing over the years. Increased property values were perceived as a result of proximity to the trail; increased land values resulted from real estate promotions that specifically market properties as adjacent to the Gandy Dancer Trail. Adjacent property owners also expressed a sense of caring for the trail and said that the trail was underutilized and communities don't "embrace it like they should." One person commented that greater trail access should be made at Elbow Lake Road and to Melvin Daniels Park.

However, all things related to the trail were not viewed as positive. Adjacent property owners expressed a concern with communicating concerns to trail managers and law enforcement. "Spraying of herbicides and pesticides along the trail was not communicated very well if at all." They also expressed some difficulty in reporting trail violations and follow-up (finding out if anything had resulted from the report). Many in the group voiced negative attitudes toward the use of ATVs on the trail. As one person stated, "I wouldn't like ATV's [on the trail]. I own an ATV and a snowmobile. I would like to see electric scooters on there." The group was receptive to expanded silent uses on the trail and commented that horses and electric scooters should be a permitted use. Trash was also cited as an issue by members of this focus group.

Text Box F with picture of local business owner and caption

Economic Development and Business Interests

Economic and business interests unanimously identified the trail as a local economic asset. Depending on the type of business interest however, the economic impact was seen differently. While everyone in the group saw the trail as underutilized, the spending habits of different user groups were identified as uniquely different. "When snowmobilers are out snowmobiling they are easily identifiable", said one person. The same isn't necessarily so for silent sport users. Some in the group did not discount that silent sport users spend and cited examples of bikers coming back to their store to buy things. One person summed up the challenge of linking customers to a recreation activity this way, "I can't tell what a person is doing in the area. They don't come in with a bicycle or a tourist tattooed on their forehead (for me) to know what they are doing."

The group discussed the effect of the no snow winters over the last several years. While some business saw declines in businesses, others found success. "Because of the lack of snowmobile groups, other things have taken their place. The women groups come with church retreats. So the void has been filled by these people (and they) are actually more pre-disposed to shopping." The group agreed that snowmobilers tend to spend money on food and drink in the local taverns and restaurants. Others noted that "snowmobilers don't shop." Most people in the group agreed different recreation-stimulated economic activities affect businesses differently.

The current promotion of the trail was perceived as lacking according to everyone in the group. Promotion was not just seen as advertisements in magazines and newspapers. One person commented, "I think our towns haven't taken full advantage of this … not at all … a lot of them have put up signs for Gandy Dancer parking, in Siren and Centuria but that's where it ends." "A lot more money needs to be spent promoting the trail." One member pointed out another key factor, "I think to advertise it well would require cooperation along the whole length of the trail." Cooperative efforts by counties, communities, chambers, and tourism entities were seen as essential to effectively promoting the trail.