SUPPORT FOR RECREATIONAL TRAIL DEVELOPMENT AND COMMUNITY ATTACHMENT: A CASE OF THE SOUCOOK RIVER WATERSHED

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Abstract: This study was conducted as part of a larger multi-community needs assessment. Data from this study allows for the determination of support for a multiple-use trail system linking communities within the Soucook River Watershed Region in New Hampshire. This study also examines the relationship between support for trail development and community attachment. The results provide evidence that the level and direction of support for trail development depends on the measures that are used to determine such support, highlighting the need for continued research regarding appropriate measures of trail support and community attachment. This study will also provide practical information to land-use and recreation planners that will help them to more effectively communicate with local residents and community leaders regarding trail development.

Introduction

Support for Trail Development

Trails serve as an important connection between people and the land and between conservation and economic development (Flink & Searns, 1993). As more open space and rural land is lost to development, there is an increased interest and need to protect lands for recreational opportunities. Trails are often created in order to enhance or protect a community's natural and cultural resources. The benefits of trails are numerous and have been well documented. Some of the environmental benefits associated with trails include protecting plant and animal habitat, air and water quality, native plant restoration and environmental education and awareness. In terms of economic benefits, trails offer the potential for positive economic impacts by providing many desired amenities (recreation, open space, attractive views) which have been shown to increase the value of property in close proximity to trails (Correll, Lillydahl & Singell, 1978).

While there have been many studies quantifying the benefits of recreational trails, there is a lack of research that seeks to understand the factors that influence support for recreational trail development. Recent studies regarding trails have focused on landowner attitudes and satisfaction with existing trails (Moore, Graefe & Gitelson, 1994; Parker & Moore, 1998). A notable research implication from the 1998 study suggested further research regarding what factors affect landowner attitudes toward proposed trails, citing that landowners surveyed for the study may have been influenced by attachment to community, among other factors. Understanding support for trail development is crucial in the planning process and to the overall success of trail development. Gaining support and approval from the public—regardless of whether or not every supporter intends to use the trail—is necessary in order to secure funding required for trail development and maintenance. A better understanding of what factors tend to influence support will allow planners to more effectively communicate trail proposals. This study seeks to determine factors that may influence support for trail development using various measures of support and attachment, and whether there is a relationship between trail support and community attachment.

Community Attachment

Attachment to community has been deemed important in terms of the overall wellbeing of a community. Stronger attachment encourages people to be more involved in their communities and to work toward common goals; i.e., safe neighborhoods, good schools, viable town centers (Fischer, et al., 1977). Attachment to community is best viewed as a complex construct that refers to an individual's commitment to one's place of residence. It can be in the form of social ties and subjective feelings toward place of residence, which is often referred to as "sense of community" (Liu, Ryan, Aurbach & Besser, 1998). Attachment can occur in different ways and depends on a variety of factors including personal needs, opportunities and resources, and on the characteristics of people and places.

Community attachment has been used as a measure of support on various issues, although the results of such research have proved inconsistent. Some research suggests that stronger community attachment leads to stronger support for a variety of community improvement initiatives. In terms of economic activity, people with stronger community attachment tend to purchase goods and services locally (Cowell and Green, 1994). Other research suggests that, with specific types of recreation and tourism development, the stronger the community attachment, the more likely they are to oppose change. This study allows us to empirically examine whether people with stronger attachment to their communities tend to be more supportive of trails.

Study Objectives

There are three main objectives of this study. The first objective is to measure support for trail development using a scale variable and a direct question of support. Second, this study will measure community attachment of residents who live within the communities surrounding the proposed trail using eight common measures and four alternative measures of attachment. And, third, the study examines the relationship between the various common and alternative

measures of attachment and support and whether the direction of these relationships is consistent.

Methods

The Research Setting

The Soucook River Watershed is located in the Upper Merrimac River Basin in New Hampshire. The area has a rural character with urban development present but confined to the immediate area surrounding the major roadway, Route 106. The Watershed includes approximately 97 square miles in eight communities. Town populations range from 1,771 in Canterbury to 37,850 in Concord. Total population of all the communities that include at least one square mile of the watershed is about 48,845. The towns in the watershed employ between 12 and 15 percent of the total population within each community, with the exception of Concord, which employs 68 percent of its residents.

Data Collection

The research instrument was a mail questionnaire sent to a sample of New Hampshire residents in the Greater Soucook Watershed Region during the summer of 1998. The sample was purchased from Survey Sampling, Inc., of Fairfield, CT. The survey was distributed to a stratified random sample of households within each of the communities that had over one square mile of land within the watershed. The number of households from each community included in the sample was determined by the proportion of square miles of land in the watershed and the total population of the town. A conservative formula was used to establish the number of completed surveys needed to allow for representation of watershed communities. It was calculated that 372 completed questionnaires were required to achieve a 95 percent confidence level.

Response Rates

The questionnaire was distributed to 1,700 households within the watershed. Problems associated with the mailing list and sample selection resulted in 214 questionnaires being returned as undeliverable, resulting in a revised sample size of 1,486. The utilization of a modified version of Dillman's (1985) Total Design Method (i.e., postage paid return envelope, postcard reminder, replacement questionnaire with letter, and second postcard reminder) resulted in the completion of 536 mail questionnaires for a total response rate of 36 percent.

Measurement

Support for Trail Development

Support for trail development can be measured in different ways, including monetary, social, time, and quality of life dimensions. The first measure of support consisted of a direct question about whether or not the respondent would support a multiple-use trail system. Another measure of trail support was accomplished with a series of eight statements that focused on various aspects of and potential benefits from trail development (See Table 1). The respondents were asked to respond to the eight statements designed to measure support on a five-point scale from strongly disagree to strongly agree.

Community Attachment

There are various measures of community attachment. Historically, community attachment has been measured in terms of social bonds and local sentiment (Kasarda & Janowitz, 1974). Statements designed to measure community attachment include whether someone "feels at home" in their community, and whether one would "be sorry to leave" their community (Kasarda & Janowitz, 1974). The extent of social and kinship networks within the community has been shown to have a significant influence on community attachment, and that length of residence is a key factor in the development of these social bonds (Kasarda & Janowitz, 1974). Apart from casual interactions, social bonds arise out of employment, consumption and recreation (Fischer, et al., 1977). Having school-aged children has been shown to encourage the introduction and maintenance of relationships within the community, so that people with children tend to be more strongly attached to their community (Fischer, et al., 1977).

This study uses a cross-section of different measures, including measures of peer networks, having school-aged children and leadership positions. The watershed residents were provided eight specific statements that have been shown to measure the extent to which individuals are attached to their community (See Table 2). Another section of the questionnaire had a general question dealing with attachment using a strongly disagree to strongly agree scale.

One-way analysis of variance was used to assess the relationship between trail support and community attachment. The various statements of support listed in Table 1 were combined to create an index variable with an alpha coefficient of .92.

Findings

Measures of Trail Support

Using a direct question to measure support, given the statement "I support building a multiple use trail system near the Soucook River", 74 percent of the sample supported trail development by responding "yes". Only 8 percent of the sample indicated that they would not support development of the trail, and nearly 18 percent were unsure if they would support or oppose trail development. This would suggest that an overwhelming majority of residents within the watershed support trail development.

Table 1 illustrates the responses to a series of eight statements designed to measure trail support. The responses were measured on a five-point Likert scale, ranging from strongly disagree to strongly agree. The mean scores on the right-hand side of the table represent the overall mean score for all responses combined for each statement, weighted 1 through 5. The highest mean scores correspond with the statements that a trail system "would improve the quality of life for residents" (mean = 3.77) and that building a trail is a "good use of money" (mean =

3.75). These results suggest that respondents make the connection between trail development and improved quality of life. The lowest mean scores correspond with statements regarding funding through support of a bond issue for trail development (mean = 3.15) and a donation of time for trail maintenance (mean = 2.92). These results indicate that while there is a majority of support for trail development, residents are unsure about how to pay for trail development and maintenance.

Measures of Community Attachment

Table 2 provides a summary of percentages for responses to statements that were selected on the basis of the literature review as common measures of community attachment. Eighty-five percent of the sample indicated that they "definitely feel at home in the community", and 69 percent said they "would be very sorry to have to move away from the community". Nine percent indicated that they had "held an elected position in the community" and 15 percent indicated that they had "held an appointed position".

Regarding the general question of attachment, residents were asked to respond on a five-point scale to the community attachment statement of "I feel very attached to my local community". This attachment statement elicited a 15 percent response to strongly agree, 43 percent agreed, and 30 percent neither agreed nor disagreed with the statement. The results would suggest that residents of the watershed are somewhat attached to their local communities.

Trail Support and Community Attachment

This section provides the results for a series of one-way analyses of variance that seek to determine the relationship between trail support and community attachment using the various measures of support and attachment. Table 3 illustrates the relationship between the eight statements that make up the specific measures of community attachment and an index variable of support for trail development. The columns represent the results for two groups, those who responded no and those who responded yes to the listed attachment statements. The mean scores reflect a value associated with the index variable of support, weighted 1 through 5 from strongly disagree to strongly agree. The overall F test revealed the significant factors to be whether the respondent had held an elected position in the community (*sig.* = *.001*) or had held an appointed position in the community (*sig.* = *.006*). These findings suggest that persons who had held such leadership positions within the community were less supportive of trail development than those who had not held such a position within the community. Also notable was whether or not the respondent had school-aged children, revealing that respondents with children of school age were more likely to support trail development (*sig.* = *.071*).

When measuring support using the same direct measure of support, "I support building a multiple-use trail system near the Soucook River", and the general measure of attachment to community (*sig.* = *.019*), this measure proved significant. Responses to the attachment statements corresponded to a five-point scale ranging from strongly disagree to strongly agree. Regarding attachment to the local community, those who support trail development had a mean score of 3.6 while those who did not support development had a mean score of 3.3. This suggests that those who feel more strongly attached to their community are more likely to support trail development.

Discussion

This study reveals that, overall, there is considerable support for trail development. When measured in terms of community attachment, the level and direction of support depends on how attachment is measured. Determining support using specific measures of attachment indicated that persons who had held an elected or appointed position in the community were less likely to support trail development. Financial considerations may be an important factor among local officials in determining support for recreational trails. Local officials may think of recreational trails as a financial burden on their community (development and maintenance costs) rather than a desired amenity that has the potential to create positive economic impacts for the community. In efforts to establish support, trail planners may want to present their local officials with economic impact studies that highlight the benefits of trails on communities. This study also revealed that those persons who have school-aged children tended to have stronger levels of community attachment and were also more likely to support trail development. Knowing this will help planners to establish an initial support base among this group as they work toward garnering a broader base of support from the overall community.

Table 1

Frequency counts, (percentages), and central tendency statistics for responses to statement of trail support

Statement*	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard Deviation
I think building a multiple-use trail system within the SRWR is a good use of money. (n=502)	33 (7)	24 (5)	108 (22)	206 (41)	131 (26)	3.75	1.1
I think a trail system would facilitate collaboration between the communities within the SRWR. (n=501)	28 (6)	40 (8)	138 (28)	213 (42)	82 (16)	3.56	1.0
I would make a small donation for the maintenance and upkeep of a trail system. (n=497)	50 (10)	57 (11)	135 (27)	193 (39)	62 (12)	3.32	1.1
I would support a multi-community bond issue to develop a trail system. (n=495)	69 (14)	61 (12)	144 (29)	167 (34)	54 (11)	3.15	1.2
Trail maintenance expenses should be shared by each of the communities in the SRWR. (n=494)	39 (8)	23 (5)	73 (15)	248 (50)	111 (22)	3.75	1.1
I would donate my time to the operation and maintenance of a trail system. (n=490)	78 (16)	73 (15)	173 (35)	141 (29)	25 (5)	2.92	1.1
A trail system in the SRWR would improve the quality of life for residents. (n=496)	32 (6)	22 (4)	107 (22)	205 (41)	130 (26)	3.77	1.1
Building a biking or walking trail should be a priority for my community. (n=506)	21 (4)	55 (11)	171 (34)	160 (32)	99 (20)	3.5	1.0

*Responses weighted 1 through 5 from strongly disagree to strongly agree

Table 2. Summary of Percentages for Responses to Statements of Community Attachment

Statement	n	Answered *No* Percent	Answered *Yes* Percent
• I definitely feel at home in the community.	520	15	85
• I would be very sorry to have to move away from the community.	521	31	69
• I have school-aged children who live in the community.	525	62	38
• Most or all of my close personal adult friends live in the community.	523	79	21
• I know most or all of the adults in the community.	520	84	16
• I have held an appointed position in the community.	418	85	15
• Most or all of my relatives live in the community.	524	89	11
• I have held an elected position in the community.	525	91	9

Table 3
ANOVA Results for the Relationship Between Measures of Community Attachment and a Scale Variable of Support

Statement	Answered No				Answered Yes			
	n	Percent	Mean	Standard Error	Percent	Mean	Standard Error	F Value
• I definitely feel at home in the community.	520	15	3.55	.118	85	3.60	.046	.196
• I would be very sorry to have to move away from the community.	521	31	3.54	.08	69	3.63	.051	.943
• I have school-aged children who live in the community.	525	62	3.53	.056	38	3.69	.064	3.29
• Most or all of my close personal adult friends live in the community.	523	79	3.61	.047	21	3.52	.101	.741
• I know most or all of the adults in the community.	520	84	3.61	.045	16	3.52	.123	.533
• I have held an appointed position in the community.	418	85	3.64	.05	15	3.24	.152	7.55*
• Most or all of my relatives live in the community.	524	89	3.61	.044	11	3.45	.145	1.33
• I have held an elected position in the community.	525	91	3.64	.043	9	3.13	.182	11.2**

* Significant at the .05 level ** Significant at the .001 level
Mean scores reflect value on an index variable of trail support, weighted 1 through 5 from strongly disagree to strongly agree.

Implications

This study has important implications for recreation planners and trail advocates. The results indicate that there is considerable support for trail development, which follows the current trend of the increasing need and demand for recreational opportunities. This study provides a better understanding of support for trail development that will help planners and trail advocates more effectively communicate trail proposals as a way to help encourage public participation in the planning process. Such public participation will allow for further exploration into what may be influencing opposition to trail development, providing an opportunity to address the needs and concerns of community residents to better ensure that trail development reflects the needs of the community.

Also, trail designers and developers should consider the importance of trails as conduits for social interaction. In our current shift to a more "global" society, there is a new focus on the "local" society and the importance of attachment to place. Earlier research has suggested creating opportunities for residents to meet as a way to strengthen attachment (Liu, Ryan, Aurbach & Besser, 1998). Recreational trails would be one way to increase opportunities for social interaction while reinforcing existing social networks.

This study shows that while there is considerable support for trail development, that level of support depends on how we measure community attachment. How we choose to measure attachment makes a difference in the strength and direction of support for trail development. Further analysis should be conducted to investigate the relationship between support for trail development and community attachment.

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