

The Vasa Effect

Non-Motorized Use of the Vasa Pathway: A Case Study of Economic Impacts

July 14, 2014



Acknowledgements



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The mission statement of the Michigan DNR is as follows: “The Michigan Department of Natural Resources is committed to the conservation, protection, management, use and enjoyment of the state's natural and cultural resources for current and future generations.”



TART Trails is dedicated to providing non-motorized recreation and transportation opportunities through preserving open space corridors, building trails and advocating for active living and outdoor recreation.

The authors gratefully acknowledge the contributions of the hundreds of trail users and event participants who participated in this study – sharing their experiences, their perspectives and their vision. We also appreciate the help and support of organizers of Bell's Iceman Cometh Challenge; Mud, Sweat & Beers Fat Tire Fest; North American Vasa Race; and The Remembrance Run.

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Photo by Joel Gaff

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Executive Summary

The Vasa Pathway is visited more than 55,000 times a year by daily users and event participants. At least 6,200 unique individuals from the Traverse City area, the State of Michigan and beyond travel there each year for biking, skiing, walking, bird-watching and other non-motorized activities.

The daily user of the Vasa Pathway is typically a local person who lives within 5-10 miles of the trail, although about one in five daily users comes from further away. The Vasa Pathway is a local amenity which is highly valued and by a core group of users who visit frequently for daily use, especially during the winter months. These visitors travel by private car to the Pathway in small groups and enjoy an hour or two on the trails.

Events on the Vasa Pathway play an important role in the region and generate substantial economic benefits. These events attract large numbers of visitors from outside the region – 77% are non-local. These individuals come specifically to participate in events (i.e. would likely not be in the region otherwise) and they contribute \$2.6 million in direct spending to the regional economy on an annual basis. Importantly, a significant amount of this spending comes outside of the peak summer travel season, providing an economic infusion for the regional economy when occupancy rates are relatively lower and seasonal unemployment tends to run higher.

In addition to regional economic impacts, those who use the Vasa Pathway for non-motorized use provide significant economic impact in the State of Michigan. These 6,200 users spend an average of more than \$3,700 per year each on equipment, lodging, clothing and other goods and services, providing \$23.5 million of direct spending annually in Michigan. The statewide economic impact of all non-motorized users of Michigan trails and pathways is likely to be dramatic.

Vasa Pathway event participants are an attractive group of visitors who local business owners and leaders would do well to cultivate. Their median income is more than twice the statewide average and they are very well-educated. When they visit the region and have a positive experience, they indicate they will likely promote the region to friends and family and will likely return, both in the near and long term. Business owners and

regional leaders should support these local events and explore opportunities to establish new events on the Vasa Pathway.

Since daily users of the Vasa Pathway are more likely to be local, it may be that the Vasa Pathway is a bit of a “local secret.” There may be an opportunity for tourism leaders and others to give greater visibility to this tremendous regional asset in communications promoting this region.

Both daily users and event participants give high marks to the Vasa Pathway, appreciating the beautiful natural setting as well as the variety of terrain and trail types. Their priorities for the future are to see some additional investment in improvement of existing trails as well as development of additional trails across a range of difficulty levels and primary uses.



Photo by TART Trails, Inc.

Introduction

Study Intent

The Vasa Pathway is a network of trails on state forest land located approximately nine miles from downtown Traverse City, Michigan, in Grand Traverse County in the Northwest corner of Lower Peninsula Michigan. The Vasa Pathway is maintained and groomed for cross-country skiing by TART Trails under an agreement with the Michigan Department of Natural Resources and Grand Traverse County.

This study used an in-depth investigation of user-supplied data and infrared tracking data to gain insight into the patterns of use and economic value of the Vasa Pathway both to the region of Northwest Lower Michigan and to the state of Michigan. Beyond the immediate details of the Vasa Pathway itself, this analysis was further intended to be used for understanding the current and potential value of non-motorized use of all Michigan trails and pathways. Finally, the study was intended to generate analytical tools and processes that could be used on an ongoing basis to measure the specific use and impacts of individual Michigan Trails and Pathways going forward.

Specific objectives of this study are as follows:

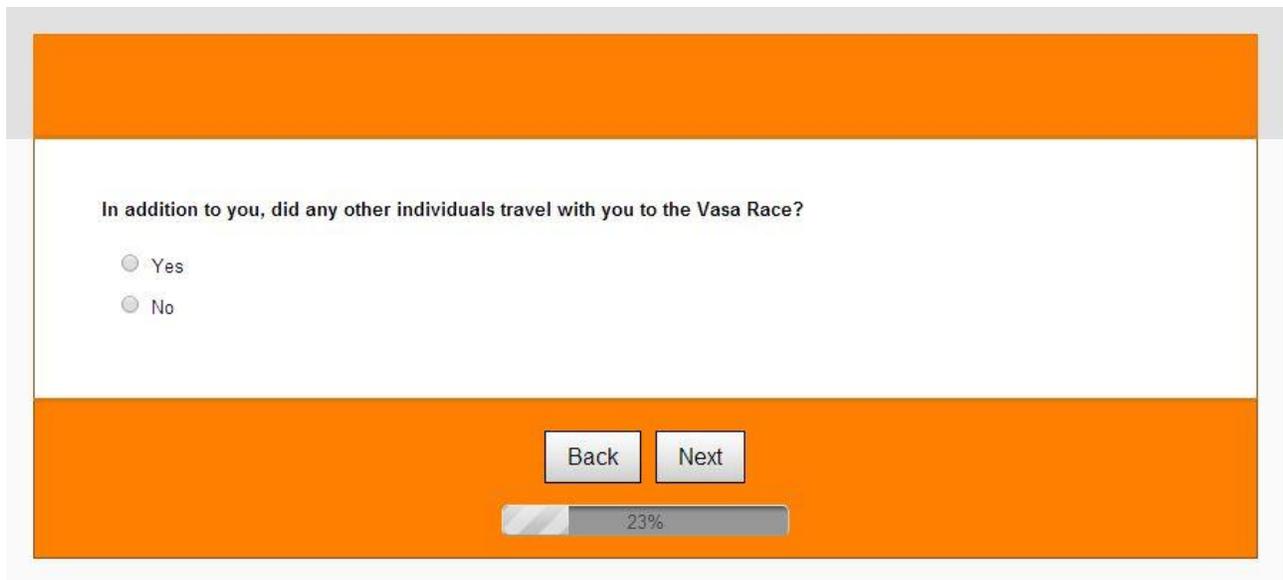
1. Document overall patterns of use among both daily users of the Vasa Pathway and participants in events held entirely or in part on the Vasa Pathway
2. Determine the total economic impact of both daily users and event participants
3. Provide a thorough understanding of the non-motorized trail user
4. Develop an integrated data collection and analysis tool for ongoing use

Study Methodology and Assumptions

Data for this study was collected through three primary data collection methods. The first data source consists of daily count data collected by TART Trails, Inc. using three different infrared sensors positioned at high traffic points of ingress/egress for the Vasa Pathway from July, 2013 to January, 2014.

The second data source consists of survey data collected from 155 daily users of the Vasa Pathway, using a pen and paper survey administered at high traffic areas on the Pathway from July, 2013 through January, 2014 using a sampling plan that approximately replicated patterns of use identified through the infrared sensors. The survey instrument used for daily users is included as **Appendix 2** to this report.

The third data source consists of data collected between June, 2013 and April, 2014 from 1,175 participants in four of the several events conducted on the Vasa Pathway. These events were The Iceman Cometh Challenge (mountain bike race), Mud, Sweat & Beers Fat Tire Fest (mountain bike race), North American Vasa Race (Nordic skiing and fatbike races) and The Remembrance Run (running race to benefit women's health). Event participants were sent an email invitation in the weeks after they completed their respective events. The invitation provided them with a link to an online survey conducted using a third-party online survey tool (Survey Gizmo). An example of the survey instrument used for event participants is included as **Appendix 3** to this report. This instrument was slightly modified to accommodate the different name of each event.



In addition to you, did any other individuals travel with you to the Vasa Race?

Yes

No

Back Next

23%

A screen shot showing one question from the event participant survey

Key assumptions made in this study are as follows:

1. **The daily users sampled are representative of all daily users.** Attention was given to the sampling plan to ensure

that volunteers collected data during various seasons and at various points of entry to the Vasa Pathway.

2. **The survey participants sampled are representative of all event participants.** Participants in four events participated in the study. That left several events which were not sampled. However, three of the four events included in the analysis are the largest events held on the Vasa Pathway. Response rates among those invited to participate was relatively high (10-20 percent per event). Although a convenience sample, this group seems likely to be representative of all participants.

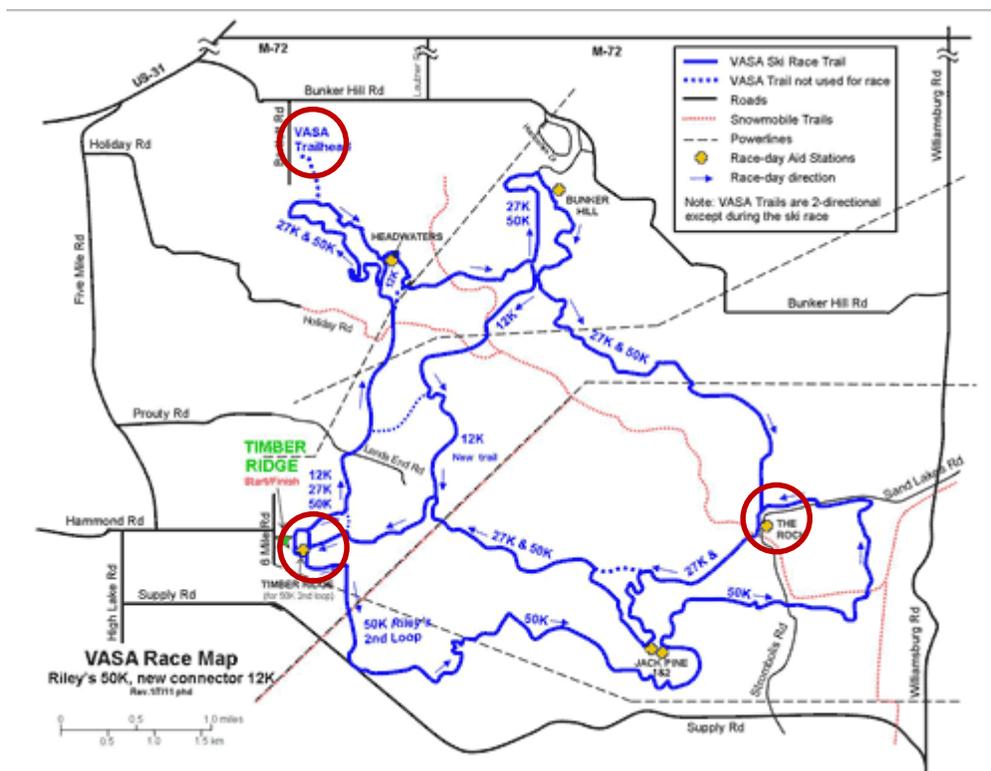


Photo by TART Trails, Inc.

Patterns of Use

Overall Visits and Users

Three principal points of Vasa Pathway ingress/egress were targeted– the Bartlett Road entrance (VASA Trailhead on the map below) near the Northwest section of the Pathway, Timber Ridge (an independently operated campground and outdoor recreation resort with a small trail system) near the Southwest section of the Pathway and The Rock near the Eastern section of the Pathway.



Map of the Vasa Pathway and of the VASA Race course

○ -indicates primary location for ingress/egress

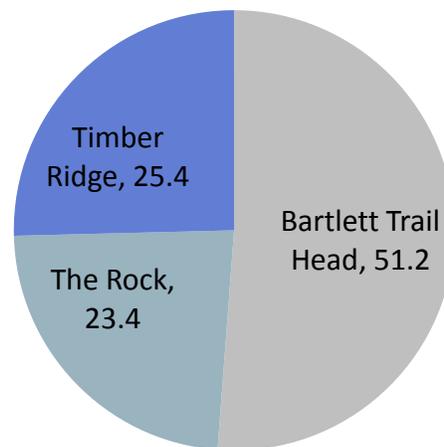
To measure the number of visits to the Vasa Pathway, infrared sensors were positioned at each of these three key points of access. These sensors were calibrated to ensure that each individual visitor to the Pathway was counted only once. From July, 2013 through January, 2014, there were more than 27,000 visits to the Vasa Pathway recorded by the sensors. Based on the number of days measured, an estimated 49,000 visitors would pass by the sensors in a year.

*Note: Detailed calculations for all analysis are included in **Appendix 1**.*

As is described in **Appendix 1**, a number of additional visitors came to the Vasa Pathway as event participants in events that did not pass by any of the three sensors. For this reason, the total number of annual visitors to the Vasa Pathway is 55,000.

As **Chart 1** shows, nearly half of daily traffic to and from the Vasa Pathway went through the Bartlett Road Trailhead.

Chart 1 – Use of ingress/egress points



Respondents were asked to indicate the point of ingress and the point of egress used for any given visit. 98.7 percent of respondents came and left through the same point of entry to the Vasa Pathway (as opposed to travelling through from one side to the other).

Chart 2 shows the total number of visits recorded by sensors during the seven months of the testing period. These data show that even though the Vasa Pathway sees steady usage across multiple seasons, there is a significant spike during the winter months.

Chart 2 – Number of visits by month during testing period

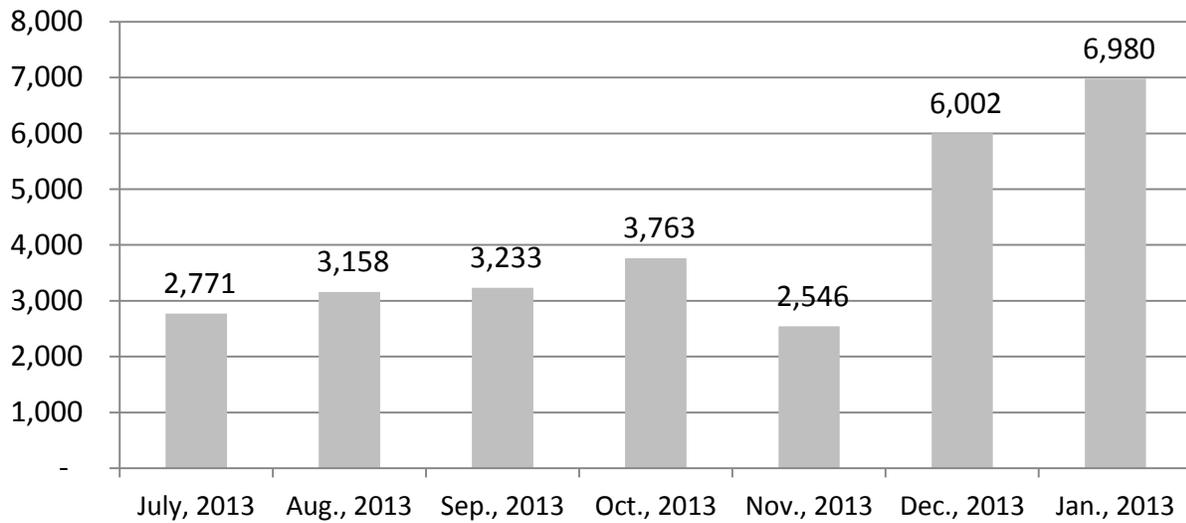
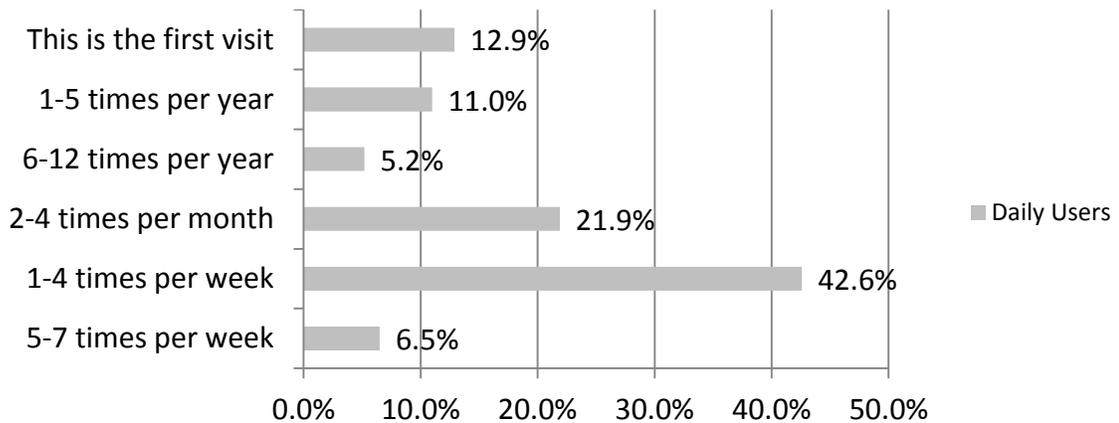


Chart 3 shows the frequency with which daily users visit the Vasa Pathway. These data would indicate that on any given day the majority of visitors to the Vasa Pathway are frequent visitors who are there weekly or more throughout the year.

Chart 3 – Frequency of visits

Over the past 12 months, how often have you visited the Vasa Pathway?



*Note: Upon reflection and examination of the data, it appears likely that the results in **Chart 3** may be somewhat aspirational, i.e. respondents may wish they could visit the Vasa Pathway with this frequency, or this frequency may describe their most intense period of use in a given year rather than true average usage. This is*

important because it suggests that subsequent results about number of unique visitors may be understated.

As shown in **Appendix 1**, it is estimated that at least 6,200 unique visitors visit the Vasa Pathway in a 12 month period.

For the purpose of this study, “local” indicates any person who signified that they live in the Traverse City area and “non-local” consists of all other respondents.

As **Table 1** shows, more than 80 percent of the daily user population consist of individuals who live in the Traverse City area. By contrast, less than 25 percent of event participants consist of individuals who live in the Traverse City area.

Table 1 – Percent of local and non-local daily users and event participants

	Daily User	Event Participant
Local	81.0%	23.0%
Non-Local	19.0%	77.0%

Table 2 shows that more than two-thirds of event participants are from outside the Northern Lower Peninsula of Michigan. The majority of these are from southern Michigan.

Table 2 – Origin of visitors

	Daily User	Event Participant
Upper Peninsula	0.0%	1.0%
Northern Lower Peninsula	83.0%	31.1%
Southern Lower Peninsula	13.1%	54.9%
Other US State	3.9%	12.5%
Other Country	0.0%	0.5%

Daily User Profiles

Table 3 shows the demographics of daily users compared to Grand Traverse County. Daily users of the Vasa Pathway tend to be somewhat older and are more likely to be male, compared to typical residents of Grand Traverse County. In an area of Michigan typified by a majority white population, the Vasa Pathway daily user is even more likely to be white.

Table 3 – Daily user demographics

	Vasa Pathway Daily User	Grand Traverse County, MI*
Median Age	50 years	42 years
% Male	60% male	49.5% male
Race/Ethnicity	98.6% white	94.2% white

Source: 2012 Community Survey – 1 Year Estimate – United States Census Bureau

Daily users typically travel 10 miles or less to visit the Vasa Pathway. As **Table 4** shows, 77 percent of daily users indicate they either travelled 5 miles or 10 miles to reach the pathway. This reinforces the picture of the daily user as a local person who lives in fairly close proximity to the **Vasa Pathway**.

Table 4 – Distance traveled (one way) to pathway

How far did you travel (one-way) to the pathway today from your home/lodging?

	Daily User
0-5 miles	50%
6-10 miles	27%
11-15 miles	6%
More than 15 miles	17%

Chart 4 shows that the overwhelming majority of daily users drive private automobiles to reach the Pathway.

Chart 4 - Transport to the Vasa Pathway

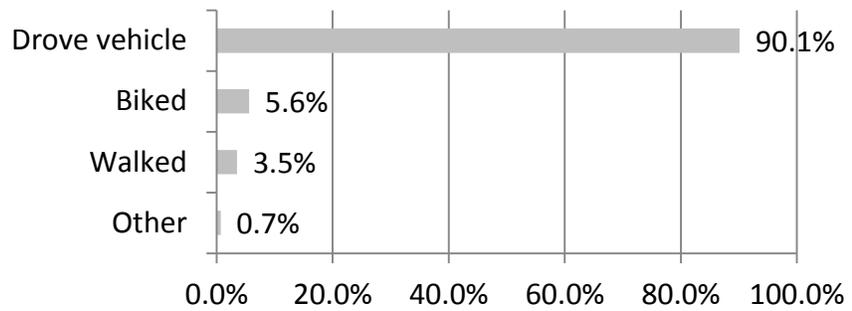
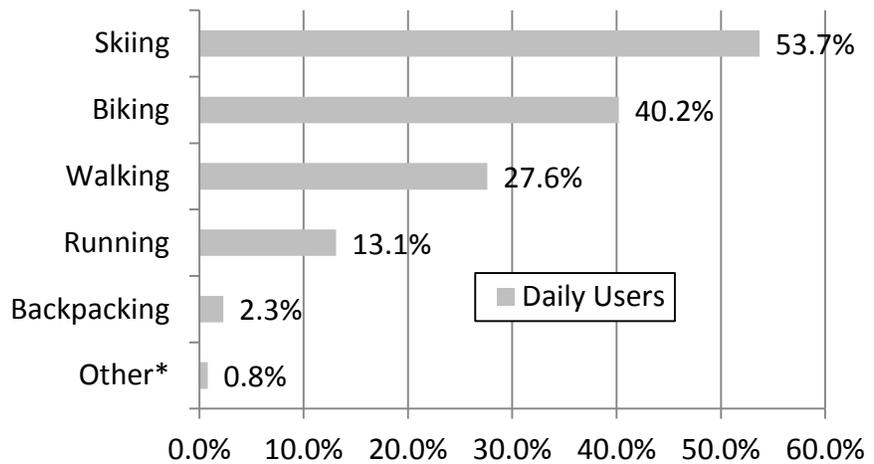


Chart 5 shows the activities being done by daily users on the days they were surveyed, adjusted based on a seasonal weighting factor (see **Appendix 1**). Most common among these activities was skiing, followed by biking and walking. Skiing would include freestyle and classic cross-country skiing. Biking would include mountain biking and fatbiking.

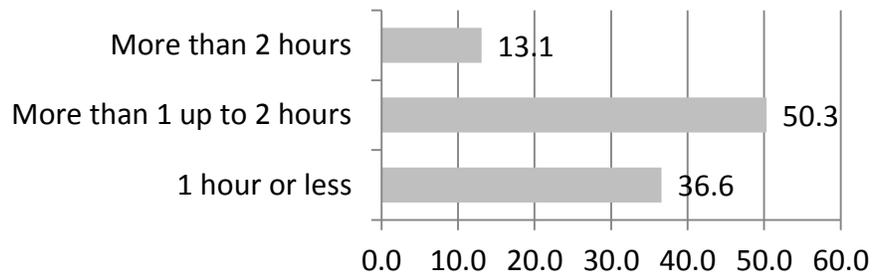
Chart 5 - Daily use activities



* *Other (verbatim) Responses: All of these, birding*

Chart 6 shows that typical daily users stay on the trail between 1 and 2 hours. Roughly 13 percent stay on the trail longer than 2 hours.

Chart 6 – Duration of daily use visit



The majority of users of the Pathway are adults, typically alone or in a pair (see **Table 5**). Visits by those under the age of 18 are relatively less common, either with or without adult accompaniment.

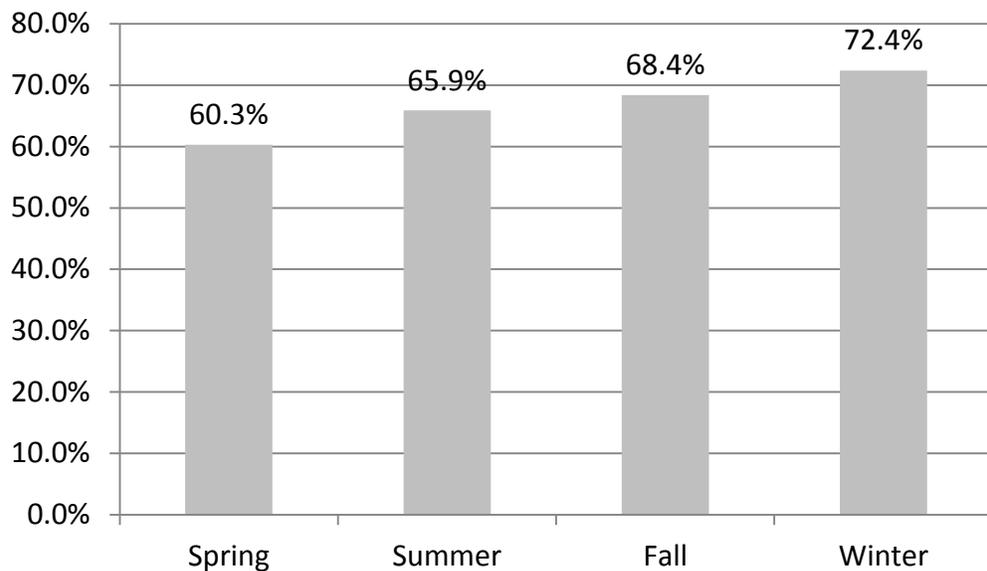
Table 5 – Composition of daily user groups

Including yourself how many people are in your group today? 18 & under: ___ Over 18: ___

	Daily User
Adult alone	42.1%
Adult in pair	32.4%
Adults in group of 3 or more	11.0%
Adult(s) with one or more youths	5.5%
Youths in pair	4.1%
Youth alone	3.4%
Youths in group of 3 or more	1.4%

As **Chart 7** shows, a majority of respondents report visiting the Vasa Pathway in each season of the year. There is significant crossover of seasonal use, indicating that for those who know about it and use it, the Vasa Pathway is a year-round resource.

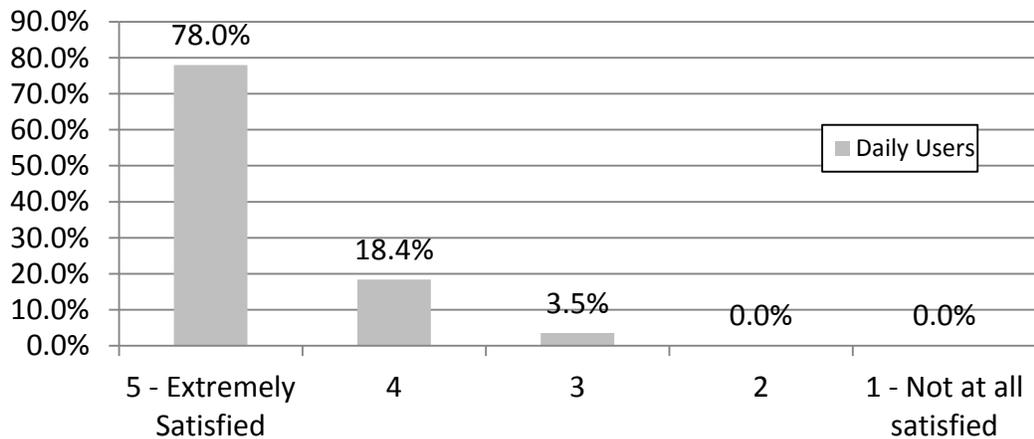
Chart 7 – Seasonal visits to Vasa Pathway by daily users



Daily users give the Pathway high ratings in terms of overall satisfaction. As **Chart 8** indicates, more than 96 percent of daily users would give the Vasa Pathway a “top 2 box” score of 4 or 5 on a 5-point satisfaction scale. In describing why they rated the trail so highly, respondents indicated that the natural beauty, the well maintained/groomed trails, and the variety of difficulty levels all led to their satisfaction. The relatively few negative comments were mostly associated with seasonal trail conditions such as ruts, roots and sandy patches.

Chart 8 – Satisfaction with Vasa Pathway

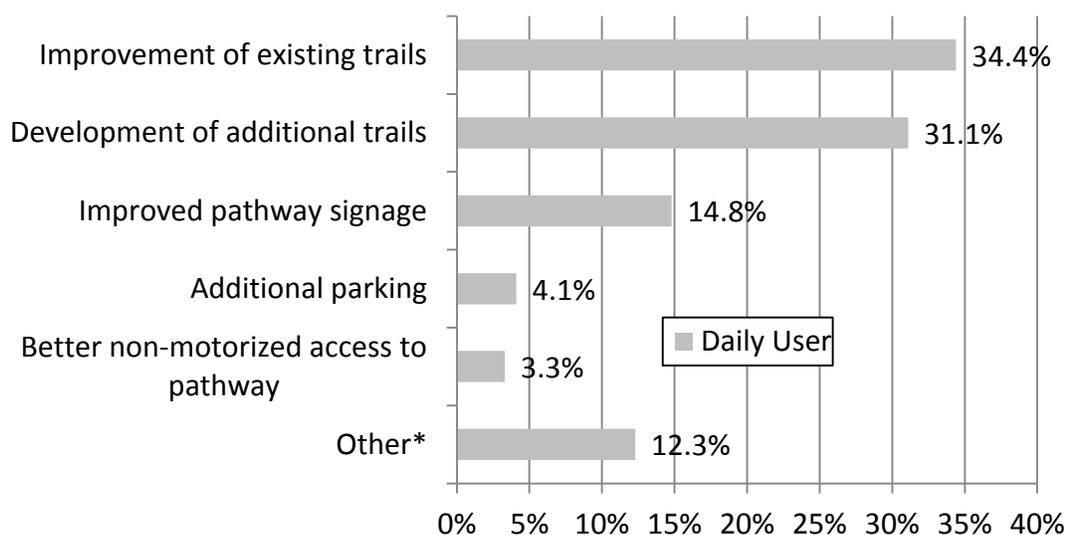
How would you rate your experience on the Pathway today on a scale of 1-5? (5=extremely satisfied 1=not at all satisfied)



As **Chart 9** shows, if making a single suggestion for improvement to the Vasa Pathway, respondents are most likely to request improvements of existing trails or development of additional trails. Improved pathway signage is also favored by a number.

Chart 9 – Trail Improvements

Which of the following improvements would you most like to see on the Vasa Pathway? (select one only)



* Other (verbatim): No bikes in winter (2 mentions), improve sandy trails (2 mentions), no hunting, more trailheads, restrict bikes to roads, a snowshoe only trail map

Event Participant Profiles

Although they share some of the same interests as daily users, event participants are different in several important ways.

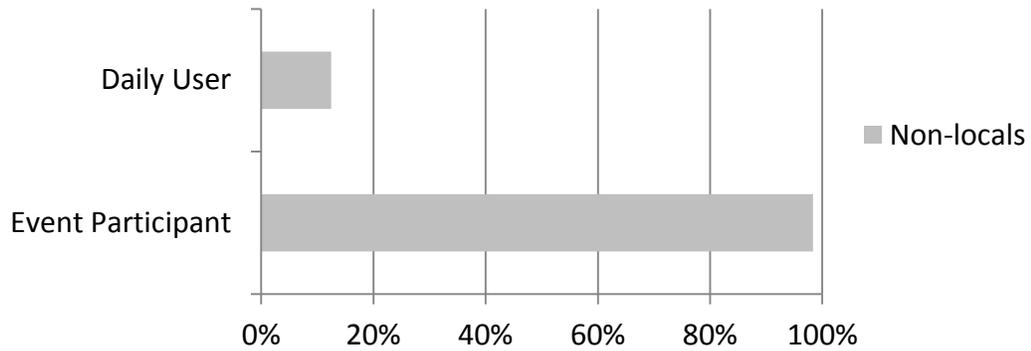
As has already been pointed out, an event participant is much more likely to live somewhere other than the Traverse City area—most likely in Southern Michigan.

When non-locals visit the Vasa Pathway for daily use, the Vasa Pathway is typically not the primary reason for a visit to the Traverse City area; for event participants the Vasa Pathway and its associated events are the draw. **Chart 10** shows the importance of the Vasa Pathway in the decision to visit the

Traverse City area for non-locals. For more than 98 percent of non-local event participants, the trip to the Vasa Pathway was the primary reason for visiting the Traverse City area. By contrast, for only 12.5 percent of non-local daily visitors was the Vasa Pathway the primary reason for the visit to the region. By implication, events build traffic; daily use of the Vasa Pathway is an amenity for visitors but not a primary motivation to come.

Chart 10 – Vasa Pathway as motivation (non-local visitors)

Was your trip to the Vasa Pathway your primary reason for visiting the Traverse City area?



Event participants are also interesting and unique because of their demographic profiles. As **Table 6** shows, event participants tend to be affluent and well-educated. 84 percent of them are male. Their median household income is more than twice that of Grand Traverse County, Michigan. The vast majority of them are college educated and more than one-quarter of them have an advanced degree...at much more than twice the rate than the average person living in Grand Traverse County.

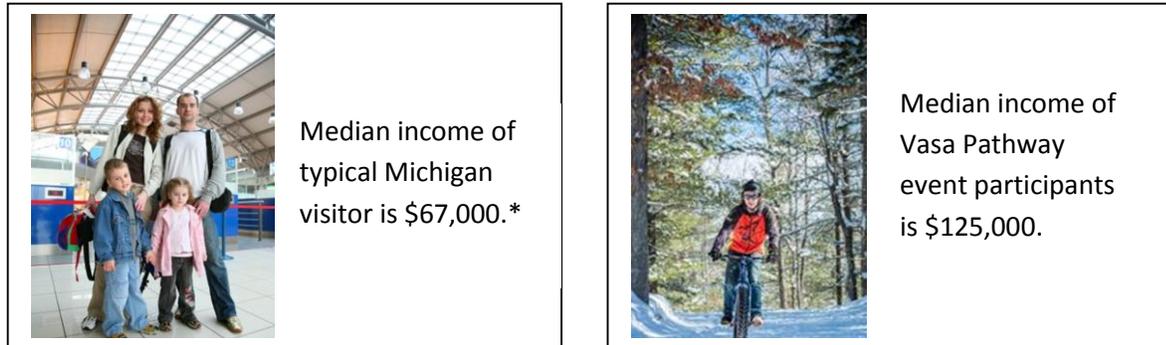
Table 6 – Event participant demographics

	Vasa Pathway Event Participant	Grand Traverse County, MI*
Median Age	50 years	42 years
% Male	84% male	49.5% male
Race/Ethnicity	97.6% white	94.2% white
Median Household Income	\$125,000	\$51,635
College educated	95.7%	66.9%
Graduate degree	29.6%	11.9%

*Source: 2012 Community Survey – 1 Year Estimate – United States Census Bureau

In addition to being more affluent than residents of Grand Traverse County, Vasa Pathway event participants are much more affluent than the typical Michigan visitor (as shown in **Figure 1**). In short, this is an attractive group from the standpoint of both tourism and (potentially) economic development.

Figure 1: Comparison of Vasa Pathway event participants vs. typical Michigan visitor

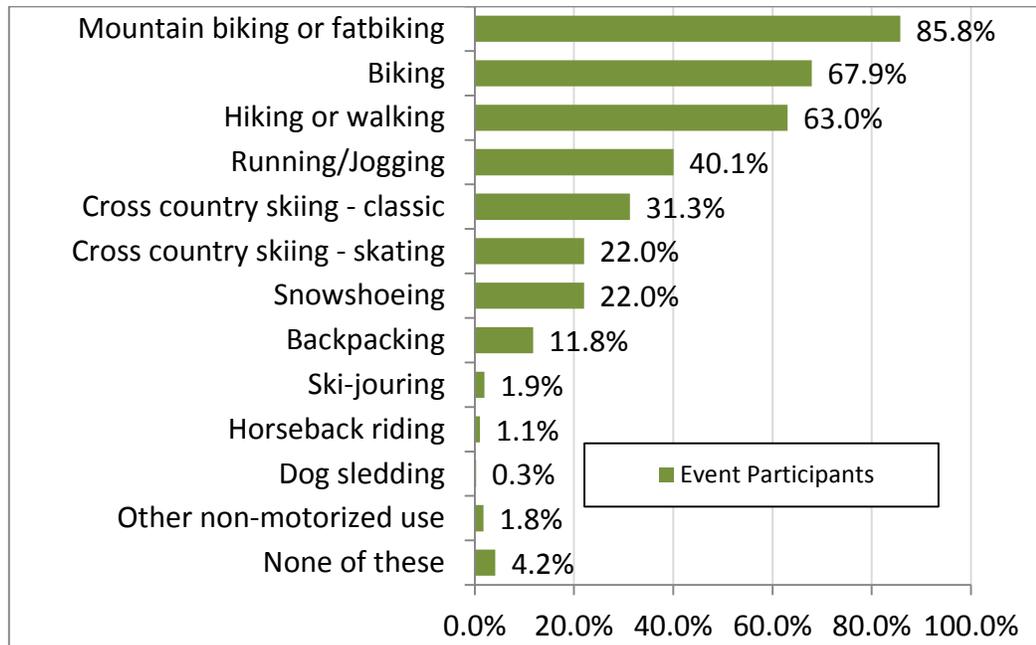


**(Source: D.K. Shifflet & Associates Ltd., 2010 Michigan Visitor Profile)*

As **Chart 11** shows, those who participate in events on the Vasa Pathway participate in a number of non-motorized activities on Michigan trails and pathways. Chief among these activities are mountain biking (and/or fatbiking), biking in general and hiking/walking. Running/Jogging and cross-country skiing on Michigan trails and pathways are also common among these respondents. There is considerable cross-over among types of non-motorized activities.

Chart 11–Activities of event participants

In the past year, in which of the following non-motorized activities have you participated on Michigan trails and pathways?



By contrast, there is relatively little crossover into motorized activities. **Table 7** shows that those who participate in events on the Vasa Pathway are not particularly likely to own a motorcycle, snowmobile or ATV.

Table 7 – Ownership of motorized vehicles

Do you own a snowmobile, ATV or motorcycle? (select all that apply)

	Vasa Pathway Event Participant
Motorcycle	11.3%
Snowmobile	9.4%
ATV	8.5%

As **Chart 12** shows, Vasa Pathway event participants are active on Michigan Trails and Pathways through much of the year. Though participation drops in the winter months, a majority (60%) are still active.

Chart 12–Seasonal visits to Michigan Trails and Pathways by event participants

In which seasons would you participate in one or more of these activities on all Michigan trails and pathways (including the VASA) put together?

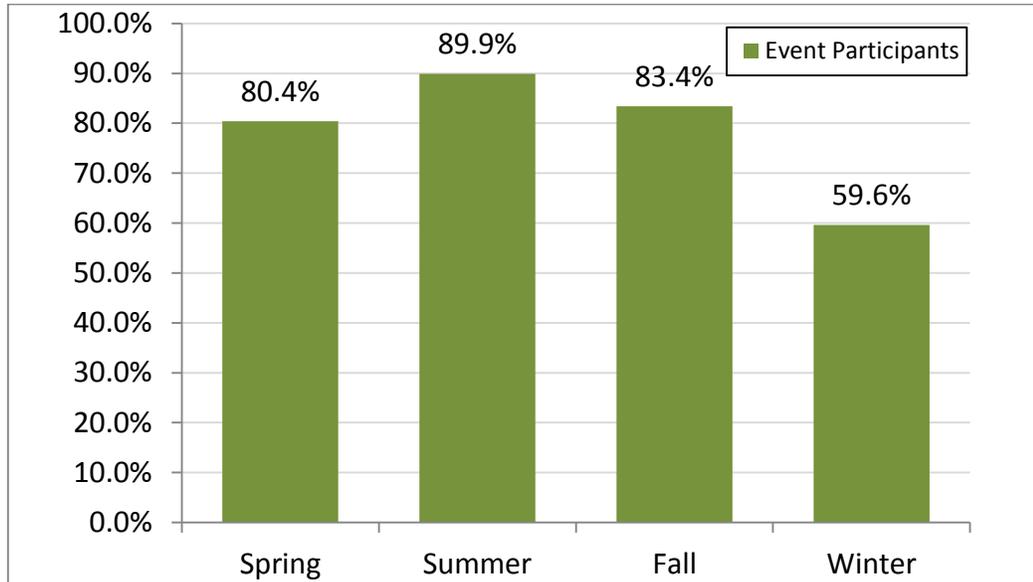


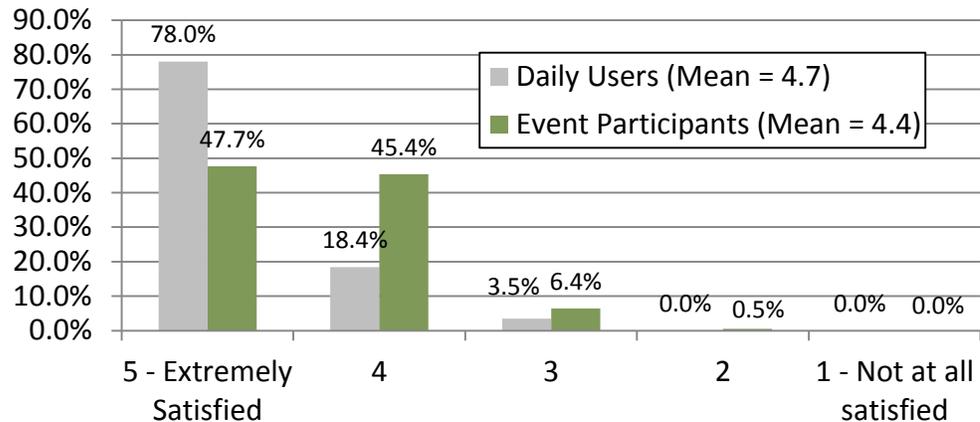
Table 8 indicates that these non-motorized users tend to use the Trails and Pathways that are closest to where they live. Those in Northern Michigan especially tend to use the Trails and Pathways within their part of the State of Michigan. Those living in the more populous Southern Lower Peninsula on average make about 17% of their Trail and Pathway visits to sites in the Northern Lower Peninsula.

Table 8– Trails and Pathways visited (by region) – total adds to 100 percent by row

	Trails and Pathways Visited (annually)		
	Upper Peninsula	Northern Lower Peninsula	Southern Lower Peninsula
Home			
U.P.	82.7%	8.8%	8.5%
Northern Lower Peninsula	6.5%	88.8%	4.7%
Southern Lower Peninsula	3.7%	17.2%	79.1%

Chart 13 contrasts overall satisfaction with the Vasa Pathway between daily users and event participants. Although the average/mean score of event participants is lower, overall “top 2 box” ratings (4 or 5 on a scale of 1 to 5) are above 90 percent for both groups.

Chart 13 – Satisfaction of event users v. daily users



Of the large number of positive comments attributed to the Vasa Pathway, the following are fairly representative of the sentiments of event participants

- *“I bike on the Vasa Pathway all summer and ski all winter, and keep coming back for more. The trails are well marked and maintained and a blast to ride.”*
- *“The Vasa is the best groomed, most scenic trail system I ski all winter. I use 4 different trail systems throughout the winter.”*
- *“Beautiful area. Well-maintained ski conditions in winter. Unique opportunity to be in a state forest with optimal ski conditions.”*
- *“It is pristine, beautiful and well cared for”*

There are some perceived areas for improvement. Illustrative comments are shared below:

1. Forest Management
 - o *“Obviously the new trails forced by logging weren't the greatest.”*
 - o *“The trail is almost always in great condition especially the end. The only bad section is the logging sections.”*
 - o *“The logging really detracts from the value.”*

- *"If you are going to log it- keep a green band so we don't have to look at the logging as we go through"*
- 2. Technical Challenge
 - *"Scenic and fun to ride. I would prefer a bit more technical challenge."*
 - *"I would like some options for a tighter, twisty course with more of a challenge"*
- 3. Summer (and Year-Round) Maintenance
 - *"No maintenance in the summer months."*
 - *"The Vasa is a great ski trail but it was clearly not designed for the amount of year round summer traffic that it gets. There are a lot of sand and erosion problems that need to be addressed in order for the Vasa to be able to continue to hand the higher and higher number of non-winter users."*
 - *"The Vasa is a great resource for the area but lacks in upkeep. Some of the trail is in good shape but there are several areas that need to be taken care of. It shows in our Nordic season as well as the summer biking season. I know there is a strong volunteer group that does a lot of good work, but it needs a long term plan and funding to get the work done."*

Economic Impact

Destination Trip Spending

For the purpose of this analysis, we focus on event participants. This is warranted since the **Patterns of Use** section of this report shows that event participants are much more likely than daily users to be visitors from outside the region, and those non-local visitors are much more likely to have visited the Traverse City area specifically to participate in an activity on the Vasa Pathway.

Event participants do more than just participate in their events and return home. They stay in hotels, eat in restaurants, purchase gas and groceries, shop for souvenirs and pay for entertainment. This is the basic source of the economic impact they have within the Traverse City region while they are travelling – it is “destination trip spending.”

As **Appendix 1** indicates, the events held on the Vasa Pathway during the year of the study period brought 6,985 event participants to the region from outside the Traverse City area.

On average, each of these event participants travelled with 0.8683 additional people (friends, family or others).

Multiplying the non-local visitors by 1.8683 reveals that the Vasa Pathway events brought more than 13,000 people to the Traverse City area.

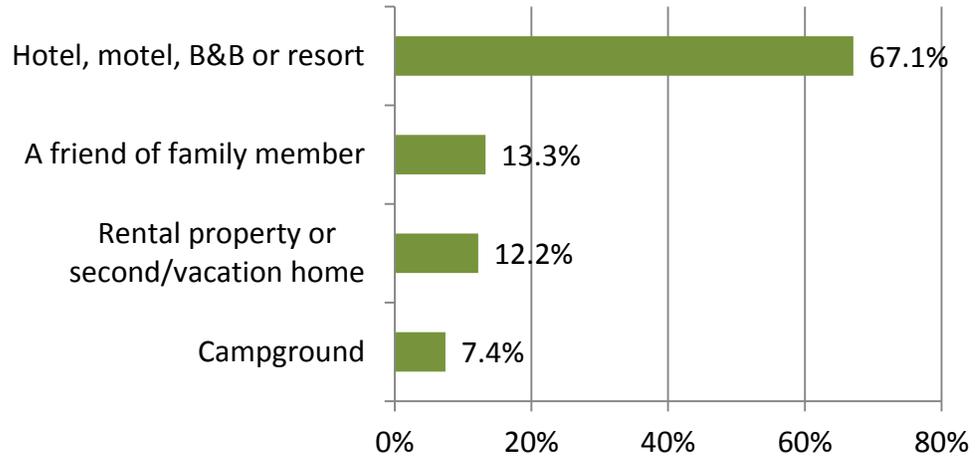
**Total number of people brought to Traverse
City Area by Vasa Pathway events
= 13,050**

88.4 percent of those who attended these Vasa Pathway events from outside the area stayed overnight in the region. On average, each party stayed in the region 1.77 nights. As Appendix 1 shows, total Party Nights (the total number of nights that all participants and their party members stayed in the region) are therefore 23,100.

Chart 14 shows the mix of accommodations used by event participants. More than two-thirds stayed in a hotel, motel, B&B or resort while they were in the Traverse City area.

Chart 14 – Accommodations during events

Where did you personally stay during your visit?



In order to calculate destination trip spending, we used two different methods – first a direct method in which survey respondents reported total spending in each of a variety of spending categories and second an indirect method in which we used existing models and multipliers to calculate the result. These two methods are explained as follows.

Economic Impact Method #1:

In the direct method of measuring economic activity, we asked each event participant surveyed to indicate spending in the following spending categories for both “Spending in the Traverse City Area” and “Spending in Michigan for en-route and nights away from home before or after the event”

<u>Traverse City Area</u>	<u>Spending</u>
Accommodations	\$257
Restaurant meals	\$185
Groceries	\$54
Concessions or other food	\$32
Fuel	\$62
Other (sporting goods, souvenirs, entertainment, etc.)	\$129
TOTAL	\$718

Each party of event participants spends an average of \$718 of direct spending within the Traverse City Region. Multiplying this by the total number of travelling parties yields direct spending of \$2.6 million

Economic Impact Method #2:

In order to confirm these data and to evaluate a useful potential shortcut for future efforts designed to measure the economic impact of events held on the Vasa Pathway, we used the Michigan State University Economic Impact Calculator for rural regions (<https://www.msu.edu/course/prr/840/econimpact/michigan/eimpadjavarural.html>).

Using the MSU Economic Impact Calculator, the mix of accommodations and Party Nights, total direct regional capture is also estimated to be \$2.6 million. With this validation, we can leverage some additional implications from the model.

Using a standard multiplier of 1.342, the overall impact would be calculated at \$3.5 million.

Even a conservative estimate of the total direct spending in the Traverse City area generated by these events is as follows:



Downtown Traverse City

**Total Annual Regional Direct
Spending =
\$2.6 Million**

Furthermore, the three largest events held on the Vasa Pathway (The Iceman Cometh Challenge; Mud, Sweat & Beers Fat Tire Fest; and the North American Vasa Race) all occur outside of the peak travel season of the Traverse City area. These events deliver substantial economic benefit to the tourism sector precisely when it is needed most.

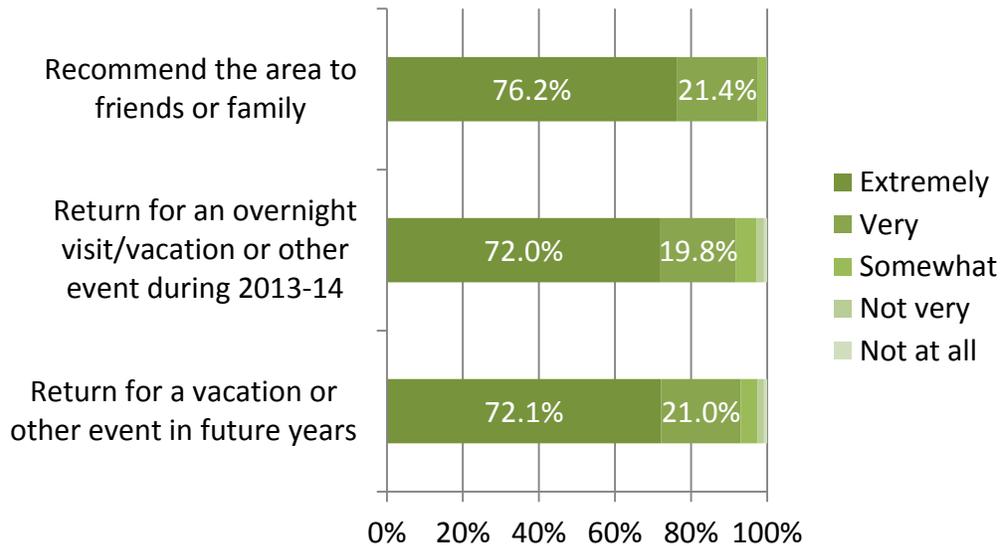
Other Regional Impacts

In addition to providing a substantial direct economic infusion into the regional economy on an ongoing basis, events held at the Vasa Pathway tend to build goodwill for future visits and word of mouth referrals.

Chart 15 shows that those who participated in events at the Vasa Pathway will be very prone to recommend the region and very prone to return again, both within the calendar year and beyond. By implication, these events have a multiplier effect to drive future tourism spending.

Chart 15 – Willingness to recommend or return

Based on your most recent experiences of the Traverse City area, how likely is it that you would...



In addition to tourism, travel and recreation benefits, it is highly likely that the Vasa Pathway has a positive influence on home values nearby and the related tax base. In numerous articles about the “Proximate Principle,” John Crompton has shown these strong effects associated with proximity to parks and parkland. However, it was difficult for this study to isolate the effects of the Vasa Pathway itself from other nearby parks and public lands, so we did not include this in our calculations of overall regional economic impact.

State of Michigan Economic Impacts

Each of these riders, skiers, hikers and other non-motorized users spends money on equipment, lodging, clothing and a number of other goods and services that support their activities. As **Table 9** shows, these non-motorized users tend to spend nearly \$3,800 per year each in Michigan. A significant proportion of this overall spending is on equipment, such as bicycles, skis and other technical equipment with which to enjoy non-motorized activities.

Table 9 – Michigan Direct Spending Per Individual

Spending Category	Average Spending
Equipment	\$1,651
Lodging and travel related expenses	\$571
Specialized clothing	\$326
Event registration fees	\$301
Repair / Maintenance	\$298
Miscellaneous	\$213
Horses/Dogs and related expenses	\$134
Vehicle rack(s)	\$120
Permits, passes or entry fees	\$78
Memberships	\$63
Books	\$30
TOTAL	\$3,786

Multiplying the average spending in **Table 9** by the 6,200 unique individuals identified in this study, we get the following total direct spending in Michigan:

**Total Michigan Direct
Spending=\$23.5 Million**

In addition to supporting the regional and statewide economies, these users are likely to support public institutions through the purchase of the Michigan State Parks Recreation Passport. As **Table 10** indicates, 69 percent of daily users and 80 percent of event participants indicate they have purchased a Recreation Passport. Though there is obviously room for improvement, these

numbers show this population substantially supports Michigan State Parks and public lands.

Table 10 – Michigan Recreation Passport

Did you purchase a Michigan Recreation Passport in the past 12 months?

	Daily User	Event Participant
Yes	69.0%	80.0%
No	31.0%	18.0%
Not Sure	0.0%	2.0%



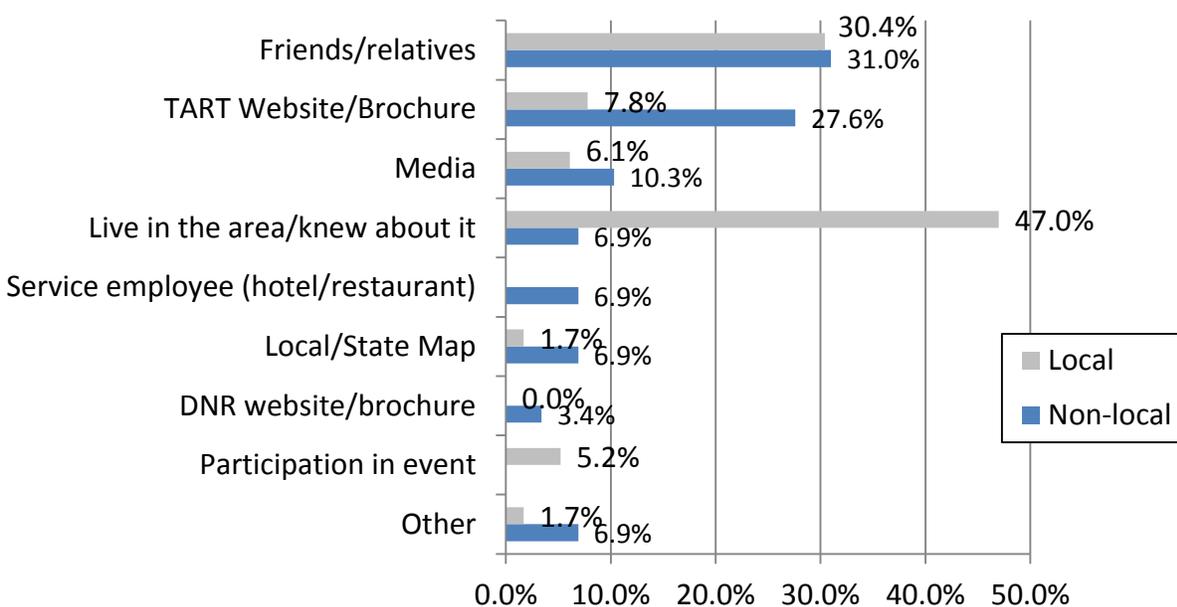
Photo by Joel Gaff

Implications & Conclusions

A final set of findings speaks to some of the implications of this study. As **Chart 16** shows, most locals and non-locals first learn about the Vasa Pathway from friends and relatives or the through communications published by TART Trails, Inc. While it is certainly to the credit of TART that their materials are being used, the fact that “media” of any kind is so low may speak to a significant missed opportunity.

Chart 16 – Information Sources

How did you first learn about the Vasa Pathway?



In review, here is what we learned about the Vasa Pathway and its users.

1. Non-motorized trail users provide a significant benefit to the regional and statewide economies.
2. Events held on the Vasa Pathway are of particular benefit to the Traverse City area, especially those held during non-peak months.
3. These event participants constitute an appealing demographic with higher median income than the typical Michigan tourist. They express a strong willingness to both return to the Traverse City area for repeat visits and to promote the area to friends and family.

4. There is a core group of local daily users who frequently visit the Vasa Pathway.
5. Both daily users and event participants are very satisfied with the Vasa Pathway but would like to see some improvement to existing trails and expansion of the trail system.

Implications for Vasa Pathway managers:

- To the extent that additional resources become available, daily user and event participant comments indicate trail managers should invest first in improvements to the existing trail system, attending to roots, ruts and sand if possible and they should also invest in expansion of the existing trail system.
- According to the U.S. Census Bureau: State and County QuickFacts, there are more than 89,000 people living in Grand Traverse County, MI. Based on these data, a large number of these people do not visit the Vasa Pathway. There is considerable potential to introduce new daily users to the Vasa Pathway.

Implications for regional business leaders and policymakers:

- The significant impact that events held on the Vasa Pathway have on the regional economy implies that supporting existing events through sponsorship and advocacy is worthwhile; this would include reaching out to event participants with communications and programming.
- Exploring additional events, particularly those that are likely to attract serious participants from outside the region, may bring additional impact.
- The Vasa Pathway as a destination for non-local daily users may be underoptimized. Featuring this valuable local amenity in external communications about the region may cause new enthusiasts in non-motorized sports to visit the region.

Implications for statewide business leaders and policymakers:

- Michigan trails and pathways are providing significant economic activity by non-motorized users throughout the State of Michigan; these Trails and Pathways should be cultivated and supported.
- Featuring Michigan as a destination for biking, cross-country skiing, trail running and other non-motorized activities stands a good chance of bringing highly valuable visitors to the State.

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APPENDICES

Appendix 1 – Detailed Calculations

Seasonal Weighting

Data reported in Chart 5 and Chart 7 has been modified to account for seasonality. Roughly 25% of pen and paper questionnaires were collected from daily users during winter months when trails were covered with snow. Based on infrared scanner data of daily use during days when the trail was groomed for snow (November 27 to April 7), the actual number of daily users during these months is approximately 54%. Weighting was therefore applied to the data in Chart 5 and Chart 7. No other result would have significantly changed if this weighting had been applied, so overall unweighted results are presented in all other cases.

Total Visitors

Average Daily Sensor Traffic (from sensors)	134.3
Annual Sensor Traffic (Average Daily Sensor Traffic x 365.25, rounded to the nearest thousand)	49,000
Untracked Participants (participants in events not tracked by sensors – from event organizers)	6,484
Total Visitors (Estimated Annual Traffic + Untracked Participants)	55,484

Total Unique Visitors

Tracked Participants (participants in events tracked by sensors – from event organizers)	2,576
Daily Use (Annual Sensor Traffic – Tracked Participants)	46,424
Frequency of Use (from survey data)*	72 times/yr
Unique Daily Visitors (Daily Use/Frequency of Use)	643
Event Traffic (Untracked Participants + Tracked Participants)	9,060
Average Events Per Person (from survey data)	1.5
Unique Individuals from Events (Event Traffic/Average Events per Person)	6,213
Local Event % (percentage of local event participants – from survey data)	22.9%
Unique Local Event Participants (Unique Individuals from Events x Local Event %)	1,423
Nonlocal Event % (percentage of non-local event participants – from survey data)	77.1%
Unique Non-local Event Participants (Unique Individuals from Events x Nonlocal Event %)	4,790
Unique Local Visitors (the larger of Unique Daily Visitors and Unique Local Event Participants)**	1,423

Total Unique Visitors (Unique Local Visitors + Unique Non-local Event Participants) 6,213

* As explained in **Patterns of Use: Overall Visits and Users**, it is likely that this number is aspirational and is several times the average annual number of visits per person. For this reason, the number of unique visitors to the Vasa Pathway may be substantially larger than the Total Unique Visitors number presented here.

** In calculating the total number of unique visitors to the Vasa Pathway, the number of local residents participating in events far exceeds the number of local residents using the trail for daily use. We used this higher number for our calculations.

Total Travelling to Area

Total Non-local Participants (Event Traffic x Nonlocal Event %) 6,985
 Average Competitors per Party (from survey data) 1.8683
 Total Travelling Parties (Total Non-local Participants/Average Competitors per Party) 3,676
 Average People per Party (from survey data) 3.55
 Total Travelling to Area (Total Travelling Parties x Average People per Party) 13,050

Total Party Nights

Average Nights of Stay (from survey data) 1.77
 Total Party Nights (Total Travelling to Area x Average Nights of Stay) 23,100

Destination Trip Spending: Method 1

Average Spending per Category (from survey data)

	In Traverse City Area	In Michigan, En Route
Accommodations	\$257	\$0
Restaurant meals	\$185	\$29
Groceries	\$54	\$14
Concessions or other food	\$32	\$8
Fuel	\$62	\$32
Other (sporting goods, souvenirs, entertainment, etc.)	\$129	\$22
TOTAL AVERAGE SPENDING	\$718	\$105

Total Direct Spending– Traverse City Area (Total Average Spending x Total Travelling Parties) \$2,639,841
 Total Direct Spending – Michigan (Total Average Spending x Total Travelling Parties) \$385,308

Destination Trip Spending: Method 2 (Michigan Economic Impact Calculator - Rural Regions)

Mix of Accommodations: Motel (68%), Campground (7%), Seasonal Home (12%), Stay With Friend (13%)

Enter total Party Nights and Mix of Accommodations into calculator.

Total Direct Spending	\$2,574,614
Model Multiplier	1.342
Total Visitor Spending (Total Direct Spending x Model Multiplier)	\$3,456,113
Total Personal Income	\$1,172,139
Total Value Added	\$1,845,219
Total Jobs	100

Appendix 2 – Daily Use Research Instrument

Note: the following document was formatted to fit on a single side of a single standard sheet of paper.

Date: _____ Time: _____ am /pm

Location: _____

Vasa Pathway 2013 Use Assessment

Thank you for taking the time to complete this short survey about your experiences with the Vasa Pathway! Your responses are extremely important to us.

- Which of the following activities best describes your use of the Vasa Pathway today?
 Biking Running Walking Skiing Backpacking Other: _____
- Do you live and/or work in the Traverse City Area? Yes (answer 2a) No (answer 2b)
 2a. Which of these best describe you? Full Time resident Seasonal Resident
 2b. Was your trip to the Vasa Pathway your primary reason for visiting the Traverse City area? Yes No
- What is your zip code for your primary residence? _____
- Where did you enter the Pathway today? Bartlett Rd. Timber Ridge The Rock Other: _____
 4a. Where will you end your trip today? Bartlett Rd. Timber Ridge The Rock Other: _____
- How far did you travel (one-way) to the pathway today from your home/lodging facility? # of miles: _____
 5a. How did you get to the Pathway today? Drove vehicle Biked Walked Other: _____
- How long will you spend on the Pathway today? # of hours: _____
- Including yourself how many people are in your group today? 18 & under: _____ Over 18: _____
- Which loop(s) did you use today? (see map for reference) 3K 5K 10K 25K Single Track Other: _____
- Over the past 12 months, in which of the following activities have you participated on the Vasa Pathway, and how often have you participated?

	5-7x week	1-4x week	2-4x per month	6-12x per year	1-5x per year	This is the first
Biking						
Running/Walking						
Backpacking						
Skiing						
Other:						

- How would you rate your experience on the Pathway today on a scale of 1-5? (5=extremely satisfied 1=not at all satisfied)
 1 2 3 4 5
 Please briefly explain why you gave this score. _____
- In which seasons do you use the Vasa Pathway? Fall Winter Spring Summer
- How did you first learn about the Vasa Pathway?
 Media (TV, newspaper, etc.) Local/state map Participation in event Service employee (hotel/restaurant)
 TART website/brochure Friends/relatives DNR website/brochure Live in the area/knew about it
 Other: _____
- Which of the following improvements would you most like to see on the VASA Pathway? (select one only)
 Improvement of existing trails Additional parking Better non-motorized access to Pathway
 Improved Pathway signage Development of additional trails Other: _____
- Which of the following regional trails have you used in the last 12 months? (select all that apply)
 Leelanau Trail TART Trail (Traverse City Open Space to Acme) Boardman Lake 3 Mile Buffalo Ridge

Appendix 3 – Event Research Instrument

Note:

- Items in [BRACKETS] indicate coding instructions that were not be seen by participants
- Items in {BRACES} indicate variable event names and other information that was changed based on the event
- [PAGE BREAK] indicates where a page break was placed for flow and functionality; other page breaks were introduced throughout the instrument to keep the number of questions on any page to a manageable number
- When two sets of answers are presented following a question, this indicates a table was constructed - the first set of answers consists of column headings; the second set consists of rows of possible responses
- The survey was designed to be completed on smart phones and tablet computers as well as full screen computers.
- Invitation copy indicated that respondents were being carefully selected to offer input that will help better understand/improve the Vasa Pathway and other trails and pathways in Michigan.

Thank you for taking the time to complete this short survey about your experiences with {the Mud, Sweat & Beers Fat Tire Fest} and the Vasa Pathway! Your responses are extremely important to us. Please answer all questions as completely as possible.

I. Did you personally attend {the 2013 Mud, Sweat & Beers Fat Tire Fest}? (choose the answer that best describes your participation)

Yes, I was a participant

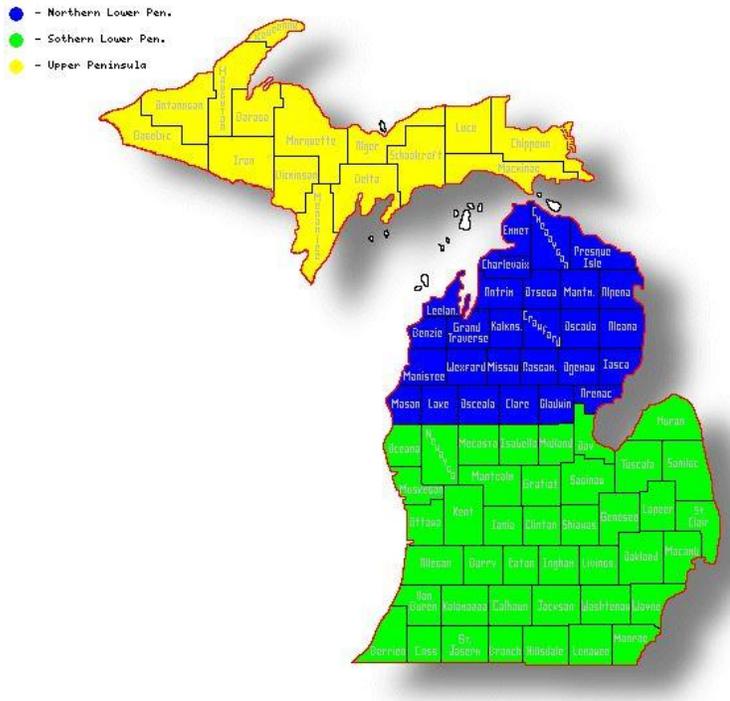
Yes, I was a spectator

Yes, I worked or volunteered at the event

No, I did not attend [TO TERMINATE PAGE WITH MESSAGE BELOW]

Thank you very much for your willingness to participate in our survey. However, survey questions generally are only relevant to people who participated in {the Mud, Sweat & Beers Fat Tire Fest}. If you have any general advice or feedback for the event organizers or for the Vasa Pathway, please enter it below.

[ESSAY]



2. Where is your primary residence? (See above map for reference)

Traverse City Area

Northern Lower Peninsula Michigan (not Traverse City) (Blue)

Southern Lower Peninsula Michigan (Green)

Upper Peninsula (Yellow)

Other U.S. State, please specify _____ [TRIGGER Q3]

Canadian Province, please specify _____ [TRIGGER Q3]

Other Country, please specify _____ [TRIGGER Q3]

3. Do you own a second or vacation home in Michigan?

Yes No

4. What is your zip/postal code for your primary residence?

[NUMERIC TEXT BOX]

[TRAVERSE CITY RESIDENTS SKIP Q5-Q6]

5. Was {Mud, Sweat & Beers} the primary reason for your trip to the Traverse City area?

Yes No [TRIGGER Q6]

6. Was this your first time visiting the Traverse City area?

Yes No

7. In addition to you, did any other individuals travel with you to {Mud, Sweat & Beers}?

Yes [TRIGGER Q8] No

8. How many of each of the following attended {Mud, Sweat & Beers} with you?

[NUMERIC TEXT BOXES WITH CONTINUOUS SUM TOTAL]

Friends, family members, etc. who participated in the event

Friends, family members, etc. who attended but did not participate in the event

Friends, family members, etc. who travelled to the area but did not attend the event

Other

[TRAVERSE CITY RESIDENTS SKIP TO Q15]

9. Did you stay overnight in the Traverse City area on this trip?

Yes No [SKIP TO Q15]

10. How many nights did you stay in the Traverse City area?

1, 2, 3, 4, 5 or more [TRIGGER WRITE-IN FOR 5 OR MORE]

Please write in the number of nights you stayed in the Traverse City area for {Mud, Sweat & Beers}?

[TEXT BOX]

11. Where did you personally stay during your visit?

At a secondary or vacation home in the area that I own [SKIP TO Q15]

A friend or family member's home [SKIP TO Q15]

Rental property [TRIGGER Q12&Q13]

Hotel/motel [TRIGGER Q12& Q13]

Bed and Breakfast [TRIGGER Q12 & Q13]

Campground [TRIGGER Q12 & Q13]

Other, please explain _____

12. How many people were in your party that stayed overnight? If just yourself, please select "1", if yourself and one other friend or family member select "2", etc.

1 2 3 4 5 or more, please specify _____

13. What is the total amount that your family group spent on lodging while you were in the Traverse City area? (Note: If you travelled alone, your "family group" consists of you)

\$0-99

\$100-199

\$200-299

\$300-399

\$400-499

\$500 or more [TRIGGER Q14]

14. Please enter the total amount you spent on lodging while you were in the Traverse City area.

[TEXT BOX]

15. Which of the following did you do while you were in the Traverse City area for {Mud, Sweat & Beers}? (select all that apply; residents as well as visitors)

- | | |
|---|--|
| Ate at one or more restaurants | Visited downtown Traverse City |
| Shopped at one or more retail stores | Visited other town(s) in the area |
| Paid for entertainment, e.g. movies,
miniature golf, bowling, etc. | Visited one or more shopping malls |
| Purchased gasoline | Visited other parks, trails or beaches |
| Purchased groceries | Other, please explain _____ |
| Visited a medical facility (hospital,
doctor's office, etc.) | None of the above |

16. What is the total amount your party (you, if you travelled alone) spent on each of the following categories while you were in the Traverse City area for {Mud, Sweat & Beers}?

[TABLE OF DROP DOWNS]

Spending in the Traverse City Area

Spending in Michigan for en-route and nights away from home before or after the event

- \$0 – nothing at all
- \$1-99
- \$100-249
- \$250-499
- \$500-749
- \$750-999
- \$1,000-1,499
- \$1,500-1,999
- \$2,000 or more

- | | |
|--|---|
| Restaurant and bar meals and drinks | Souvenirs |
| Grocery & convenience store food/drink | Recreation and entertainment |
| Concessions or other food | Motor vehicle expenses (gas, oil, etc.) |
| Sporting goods and equipment | Medical expenses |
| Clothing | Miscellaneous |

17. How satisfied were you overall with your experience of the Vasa Race?

- 1 – Not at all satisfied
- 2 – Not very satisfied
- 3 – Somewhat satisfied
- 4 – Very satisfied
- 5 – Extremely satisfied
- No opinion

18. What did you like best about {Mud, Sweat & Beers}?

[ESSAY]

19. We are looking for suggestions for ways to make our event better. What one thing would make your experience of the {Mud, Sweat & Beers Fat Tire Fest} better?

[ESSAY]

20. As you may know, a significant portion of {Mud, Sweat & Beers} is held on the wooded trails of the Vasa Pathway. How satisfied are you with the Vasa Pathway overall?

- 1 – Not at all satisfied
- 2 – Not very satisfied
- 3 – Somewhat satisfied
- 4 – Very satisfied
- 5 – Extremely satisfied
- No opinion

21. Please explain why you gave this score.

[ESSAY]

22. Based on your most recent experiences of the Traverse City area, how likely is it that you would...

- Extremely likely
- Very likely
- Somewhat likely
- Not very likely
- Not at all likely

- Recommend the area to friends or family
- Return for an overnight visit/vacation or other event during 2013-4
- Return for a vacation or other event in future years

23. How much influence did the Vasa Pathway have on your decision to participate in {Mud, Sweat & Beers}?

- Not much influence – I would gladly participate in {Mud, Sweat & Beers} even if it weren't on the Vasa Pathway
- Some influence
- Moderate influence
- A lot of influence – if the Vasa Pathway were not part of the course, I wouldn't have participated

24. Aside from {Mud, Sweat & Beers} have you participated in other events (running, walking, biking, skiing) on the Vasa Pathway?

- Yes [TRIGGER Q25 AND Q26]
- No

Not Sure

25. In which of the following events have you participated in the past 12 months? (select all that apply)

- January – Running Fit snowshoe event
- February – North American Vasa Nordic ski races
- April – Traverse City Trail Running Festival
- May – Tails to Trails walking/running event with pet dogs
- {May – Mud, Sweat & Beers Fat Tire Fest}
- October – Running Fit 5K, 10K and/or 25K races
- October – Remembrance Run (Traverse City Track Club running event)
- November – Iceman Cometh mountain bike race
- Other, please explain _____

26. Have you already completed a version of this survey (re: events on the Vasa Pathway) within the past 12 months?

- Yes [SKIP TO Q36]
- No

27. In the past year, in which of the following non-motorized activities have you participated on Michigan trails and pathways? (select all that apply)

- | | |
|--|----------------------------------|
| [RANDOMIZE] | Biking |
| Snowshoeing | Mountain biking and/or fatbiking |
| Cross country (Nordic) skiing – skating | Horseback riding |
| Cross country (Nordic) skiing – classic | Running/Jogging |
| Ski-jouring | Backpacking |
| Dog sledding | Hiking or walking |
| Other non-motorized use, please explain
_____ | |

[PAGE BREAK]

From this point, we will refer to the activity or activities you specified in the previous question as “these activities.”

[PAGE BREAK]

28. How often do you participate in one or more of these activities on the Vasa Pathway...and on all Michigan trails and pathways (including the Vasa) put together? [SIDE BY SIDE DROP DOWN MENUS]

- | | |
|-----------------------|--|
| Every day | Once a month |
| Several times a week | A few times a year |
| Once a week | Once only – {Mud, Sweat & Beers} is it |
| Several times a month | [SKIP TO Q31] |

\$2,000 or more

[RANDOMIZE]

Lodging and travel related expenses

Horses / Dogs and related expenses

Equipment

Repair/Maintenance

Event registration fees

Specialized clothing

Vehicle rack(s)

Permits, passes or entry fees

Books

Memberships

Miscellaneous

[FOR ANY CATEGORY AT \$2,000 OR MORE, TRIGGER A TEXT BOX REQUESTING A WRITE IN: "How much in total did you spend on {books}?"]

32. Did you purchase a Michigan Recreation Passport in the past 12 months?

Yes

No

Not sure

33. Do you belong to any trail/outdoor clubs, organizations or groups?

Yes [TRIGGER Q34] NO

34. Please list the trail/outdoor clubs, organizations or groups of which you are a member.

[ESSAY]

35. Do you own a snowmobile, ATV or motorcycle? (select all that apply)

[RANDOMIZE]

Snowmobile(s)

ATV(s)

Motorcycle(s)

None of these

[PAGE BREAK]

Almost finished! Here are some questions about you.

36. What is your gender?

Female

Male

Other, please explain _____

37. What is your age?

Under 25

25-34

35-44

45-54

55-64

65-74

75-84

85 or over

38. What is the highest level of education you have completed?

High school or less

Trade or technical school
Some college
Associate's degree
Bachelor's degree
Graduate degree (e.g. M.A. or Ph.D.)

39. What is your present employment status?

Employed, full time	Unemployed	Other, please explain
Employed, part time	Homemaker	_____
Retired	Student	Prefer to not answer
Self-employed		

40. Do you have an impairment that seriously limits your participation in work or recreation?

Yes No

41. How many adults and children live in your household?

[DROP DOWNS FROM 1 to 20]
Number of adults including yourself Number of children (under 18)

42. What is your race? (check one only)

White
Black or African-American
Asian/Pacific Islander
American Indian
Multi-racial
Prefer to not answer
Other, please explain _____

43. Are you of Hispanic, Latino or Spanish origin?

Yes No

44. Considering all sources (salary, bonuses, investment income, etc.), approximately what was your household's total income – before taxes – in {2012}?

[DROP DOWN]
Less than \$25,000
\$25,000 - \$49,999
\$50,000 - \$74,999
\$75,000 - \$99,999
\$100,000 - \$149,999
\$150,000 - \$199,999
\$200,000 - \$299,999
More than \$300,000
Prefer to not answer