

D&H Rail-Trail 2016-2017 User Survey and Economic Impact Analysis



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EXECUTIVE SUMMARY

The Delaware & Hudson (D&H) Rail-Trail is a multi-use stone trail located in rural northeast Pennsylvania that has significant snowmobile use. It generally follows the border of Susquehanna and Wayne counties and reaches to the New York state line from its southern terminus near the city of Carbondale. The Lackawanna River parallels the trail on its eastern side and separates it from the 10-mile Ontario & Western Rail-Trail. Together they form a part of the emerging 70-miles-plus Lackawanna River Heritage Trail system.

From December 2015 through October 2017, Rails-to-Trails Conservancy (RTC) conducted this study of the users of the 38-mile D&H Rail-Trail under a grant from the Pennsylvania Department of Conservation and Natural Resources. This study utilized RTC's User Survey Workbook, which measures user characteristics and economic impact and has been employed on 19 studies conducted by RTC since 2006. The workbook has been used in many states by trail managers both public and private. However, this was the first time RTC sought to capture snowmobile economic impact.

Four counters located along the D&H Rail-Trail estimated 10,803 annual nonmotorized user visits. Returned surveys from nonmotorized users were generated from seven survey boxes and online sources; they totaled 197. Spending per day by these nonmotorized users was \$20.77 for consumable goods and \$128.42 for lodging. The resulting total economic impact from nonmotorized use in 2016 is calculated to be \$371,073.

Due to low snowfall and complexities in recording motorized vehicles, the study was not able to calculate the normal amount of yearly snowmobile use. However, 305 members of the trail's local snowmobile club did respond to a survey. This provided sufficient data to compare and contrast their spending habits with those of nonmotorized users. Snowmobilers indicated they spend \$102.85 per day on consumables and \$127.80 on lodging.

While hard-goods spending was captured, it's best not to treat this number with any certainty, since the purchase of a snowmobile or bicycle, for example, could have been made from out of the region or state. Also, it's impossible to determine if a conveyance or apparel is for use only on this trail.

However, consumables, or "soft goods," are mostly applicable to the general trail corridor. Such items as meals, snacks and drinks were purchased by 96 percent of snowmobile respondents and 80 percent of nonmotorized users.

Spending on lodging is the most accurate revenue that can be captured along a trail corridor. In the case of the D&H Rail-Trail, the impact of overnight stays was significant. Nearly a quarter of all survey respondents indicated they stayed overnight in conjunction with their trail visit, and their stays averaged three nights.

User characteristics generally followed those of other similar rural rail-trails in the region. However, there were some notable differences for the D&H Rail-Trail.

The segments of the D&H Rail-Trail that our respondents used most frequently were between Forest City and Union Dale. That is not surprising, since this southern 10-mile section has a relatively smooth crushed-limestone surface, while the remaining northern two-thirds of the trail is rough. However, snowmobiles frequently use the entire length of the trail. First-time users made up 16 percent of the nonmotorized users but only 1 percent of the snowmobile users.

Almost 72 percent of the users were over the age of 46, which is higher than findings for most rail-trails but similar to other rural rail-trails. The male/female ratio was 91/9 for snowmobile respondents and 61/39 for respondents using other modes.

Bike riding (39 percent) was cited as the most frequent mode by those completing the survey, with almost the same percentage of walkers at 37 percent. Most respondents heard about the trail via word of mouth (31 percent).

HISTORICAL PERSPECTIVE



A bit of history has been preserved in the development of the D&H Rail-Trail. The Delaware and Hudson (D&H) Gravity Railroad—a precursor to the Delaware and Hudson (D&H) Railway—got its start when it conducted a test of the first steam locomotive in the United States in August 1829 along a 3-mile route from the town of Honesdale to Seelyville, Pennsylvania. By 1830, the railroad's 17 miles of track constituted the vast majority of total railroad tracks in the United States at the time—just 23 miles!

From these small beginnings, the D&H Gravity Railroad became a successful mining and railroad company, shipping anthracite coal and lumber from the Lackawanna Valley in northeastern Pennsylvania to the East Coast of the United States and to Canada. As the supplies of coal and lumber were depleted from the area, the need for the railroad diminished, and the rail-trail came into being.

The D&H Railway opened in October 1870, when the first load of coal rolled north out of Carbondale on a newly constructed line referred to as the “Jefferson Branch.” D&H managers had entered into an agreement with the Erie Railroad to build a link from Carbondale to Erie's existing line at Lanesboro Junction, where connections could be made to upstate and downstate New York. With the demand for coal soaring after the Civil War, it was necessary to find an all-season route for

coal. Previously, coal had been shipped over the Moosic Mountains via the D&H Gravity Railroad to Waymart and on to the canals in Honesdale. However, the canals froze in winter. The Jefferson Branch provided a 37-mile link between Carbondale and Lanesboro, replacing a 120-mile roundabout trip entailing two costly reloadings.

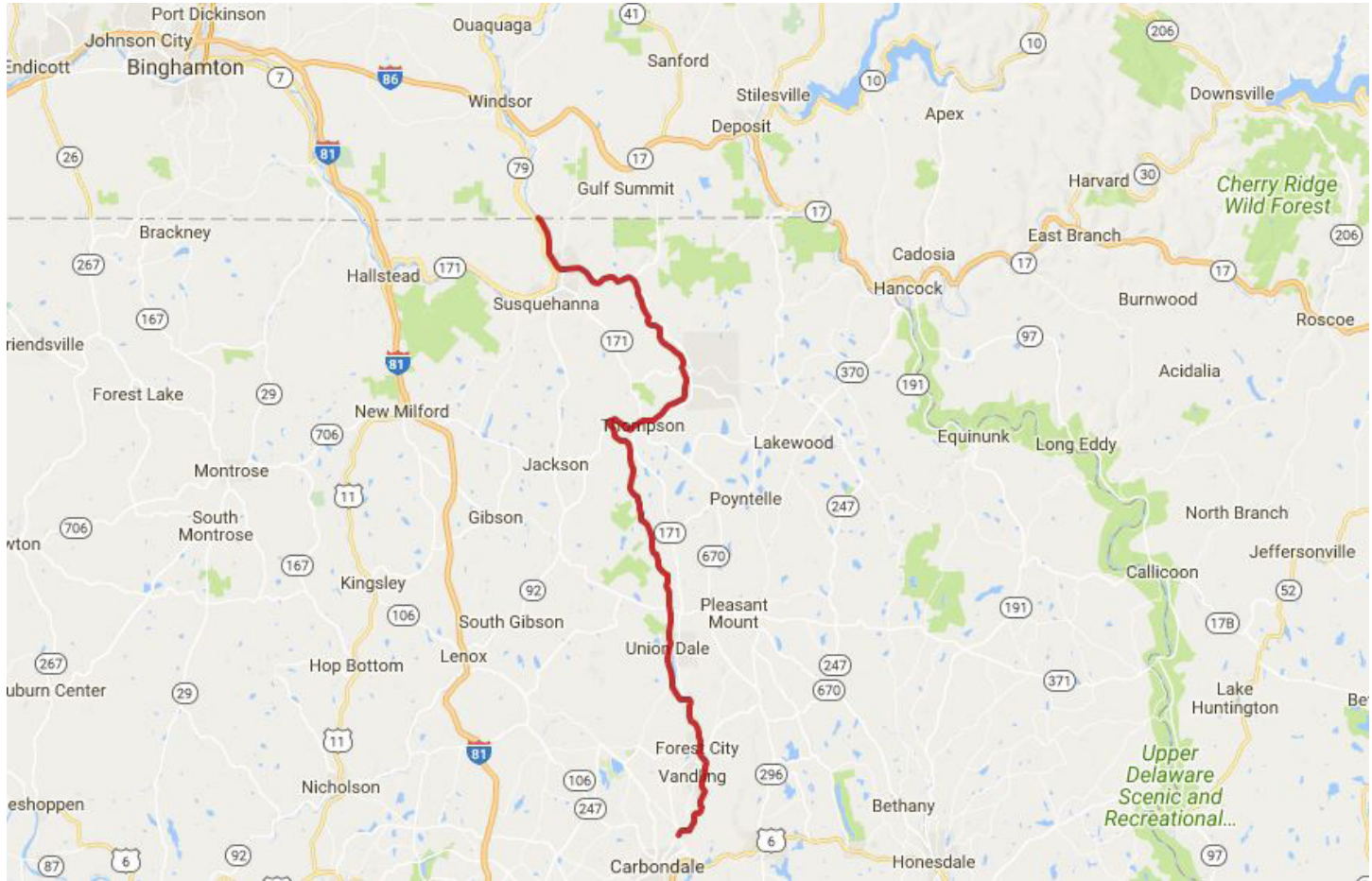
The Jefferson Branch traveled over Ararat Summit, a “lofty tableland” at 2,040 feet above sea level. Ask any old railroader about the D&H out of Carbondale, and Ararat will always be the first subject brought up. Hauling coal out of the Lackawanna Valley over Ararat Summit took the most impressive assemblage of engine power to be found anywhere in the East. It required three smoke-belching pusher engines in addition to the lead engine to haul the anthracite-loaded trains. The steepest part of the grade was between Carbondale and Forest City. The “Forest City Kicker” cut off on the fly in Forest City, while the other two pushers continued to Ararat, where one turned off on a side track and returned to Carbondale. The other pusher followed the freight train to the Cascade Wye, north of Lanesboro, to wait and assist southbound trains needing a push back up to Ararat Summit.

There were seven train stations along the Jefferson Branch of the D&H: Forest City, Union Dale, Herrick Center, Ararat, Thompson, Starrucca and Brandt. The only station still standing is in Thompson, and it now houses an ice cream stand that is open in the warmer months. Pictures of other stations can be seen on the historical posters trailside in Union Dale and Starrucca. A carved sign of the Forest City railroad station is displayed just north of the Forest City trailhead. Plans are to continue placing historical posters and signage all along the D&H Rail-Trail, following a new signage plan.

Perhaps the most exciting sight along the D&H is the 1848 Starrucca Viaduct in Lanesboro, also called the “Bridge of Stone.” The oldest stone railroad bridge still in use in Pennsylvania, it stands 110 feet high and 1,200 feet long, with 17 perfect arches of bluestone. The D&H Rail-Trail passes underneath this historical and architectural wonder. A new, two-panel historical interpretational sign recently was installed.¹

¹Rail-Trail Council of NEPA, Inc.

LOCATIONAL ANALYSIS



Source: TrailLink.com

The D&H Rail-Trail is located in northeastern Pennsylvania between the community of Simpson and the New York state border. The right-of-way is 38 miles long. The trail goes through three counties and 14 municipalities but basically follows the eastern border of Susquehanna County. Towns include Simpson, Vanding, Forest City, Union Dale, Herrick Center, Burnwood, Ararat, Thompson, Starrucca, Stevens Point and Lanesboro. The 10-mile refurbished and resurfaced section runs from Forest City to Herrick Center. The largest community near the southern trailhead is Scranton, Pennsylvania, at the intersection of Interstates 81 and 84.

Heading north from the Forest City trailhead, a tree trail can be found along a half-mile section. The trail includes approximately 60 trees that are labeled with their scientific and common names along with numbered “mystery” trees yet to be identified. A map of the tree trail is available on the Rail-Trail Council of Northeast Pennsylvania (NEPA) website.

The D&H Rail-Trail leaves the anthracite coalfields behind as it crosses the Lackawanna River twice and parallels Stillwater Dam, entering an unblemished rural landscape.

Heading north toward Thompson through a rural area, the trail passes numerous trailside lakes and ponds. It affords great views of the Moosic Mountains to the east and the north and south knobs of Elk Mountain to the west. Once in Thompson, trail users can grab a quick bite to eat, visit numerous craft and antique stores and even stay the night at a bed-and-breakfast.

ABOUT THE TRAIL



As the D&H Rail-Trail is composed of cinder, original ballast and hard-packed dirt, bicyclists need a hybrid or mountain bike to ride this intermittently rugged trail comfortably. There are also a few short sections with large chunks of ballast and steep inclines where walking is recommended (bicyclists may need to walk their bikes through these sections).

The trail parallels the Lackawanna River for several miles, offering scenic vistas of the river and a few small lakes. Some areas of the trail are tree lined, but some are out in the open. The first 8 miles of the southern end of the D&H Rail-Trail parallel the O&W Trail (Simpson to Stillwater dam area). Due to right-of-way issues and unimproved bridges, the first 2 miles of the D&H are closed; trail users can start in Simpson on the O&W Trail and head west to the D&H where a sign indicates access.

From Simpson to Ararat, bicyclists must pedal constantly because of the slight incline in the trail. But from Ararat to Stevens Point, the trail's grade is at a slight decline. In Thompson, D&H users will find a homemade ice cream shop alongside the trail. From there, the trail continues on to the New York state border.

Note: A 10-mile section of the D&H Rail-Trail, from where it crosses over the Lackawanna River after its crossing point with the O&W Trail to Herrick Center at State Route 374, is improved with a stone dust surface. From Herrick Center, some sections of the trail have rough surfacing, and a mountain bike is recommended for bicyclists who wish to reach the New York border.

Parking and Trail Access

The trail can be accessed in Simpson by taking I-81 to Exit 187 toward Carbondale. After 1 mile, continue onto U.S. Route 6 heading east. Go 15.4 miles, turn left onto U.S. Route 6 Business W (signs say US 6 BUS), and go 0.9 mile. Turn right onto Canaan Street, go 0.2 mile, and then turn left onto Morse Avenue. After 0.1 mile, stay right to continue onto Township Road/Reservoir Street, and turn right onto Homestead Street/Lord Avenue. Turn left into the small parking area on the right side of the viaduct next to the military tank. Follow the O&W Trail for 2 miles, and head west onto the D&H Rail-Trail.

In Forest City, parking and a portable toilet are available at the trailhead in the Forest City Industrial Park off Commerce Boulevard. From Forest City, the improved trail runs 2 miles south and 2 miles north.

The Union Dale trailhead is located on South Main Avenue at the intersection with Skyline Drive.

D&H RAIL-TRAIL AREA DEMOGRAPHICS

Trail Region Demographics

	Simpson	Forest City	Union Dale	Thompson	Lanesboro
Population	1,275	1,911	267	299	506
Median household income	\$43,103	\$33,618	\$39,375	\$31,875	\$29,083
Persons per household	2.27	2.23	2.05	2.37	2.33
Population density	1,396	1,977	100	326	195

Source: 2010 Census, U.S. Census Bureau

Trail Region Population Growth Projection

	Lackawanna County	Susquehanna County
2010	214,411	43,348
2020	221,688	42,335
2030	229,062	41,525
2040	233,436	40,133

Source: Pennsylvania Population Projections 2010-2040, The Center for Rural Pennsylvania



QUALITATIVE VALUES OF THE D&H RAIL-TRAIL

The following is a sample of comments taken from the Trail User Survey forms distributed along the trail.

Thanks for providing this wonderful opportunity to enjoy the beauty of our area and also an avenue to exercise in many ways.

Walked my dog there the last 13 years. We love it.

Great asset for NE Penna—kudos to ALL volunteers involved. Wish the dirt bike riders would follow the rules and STAY OFF OF IT!

You do a great job! Creates a sense of community.

Great organization. Love the activities planned!

I share the trail with snowmobiles and they are respectful, responsible people and excellent co-users. Thanks!

Thanks for your work. This is an asset to our community.

More X-C skiing events, please.

Lovely trail. It would be wonderful if the northern portion was upgraded to easier riding. It would bring many more tourists like myself that will stay overnight.

I would like to see ATV use permitted on trail.

Northeast Pa. Sno Trails do an excellent job on this system.

I think the trail system is fantastic for all activities, all times of the year.

LOVE the trail—purchased 2 new snowmobiles because of it and regularly dine at restaurants along the trail. Bike the trail in the summer too.

We would use the trails much more if there were more snow. We think the trail system is great!

I did speak with a representative and told her that I thought mile markers would be beneficial, but I understand that there have been problems in the past with vandalism. You might want to put decorative rocks rather than sign posts to alleviate this problem.

Would like to see bikers announce when they are approaching a walker from the rear.

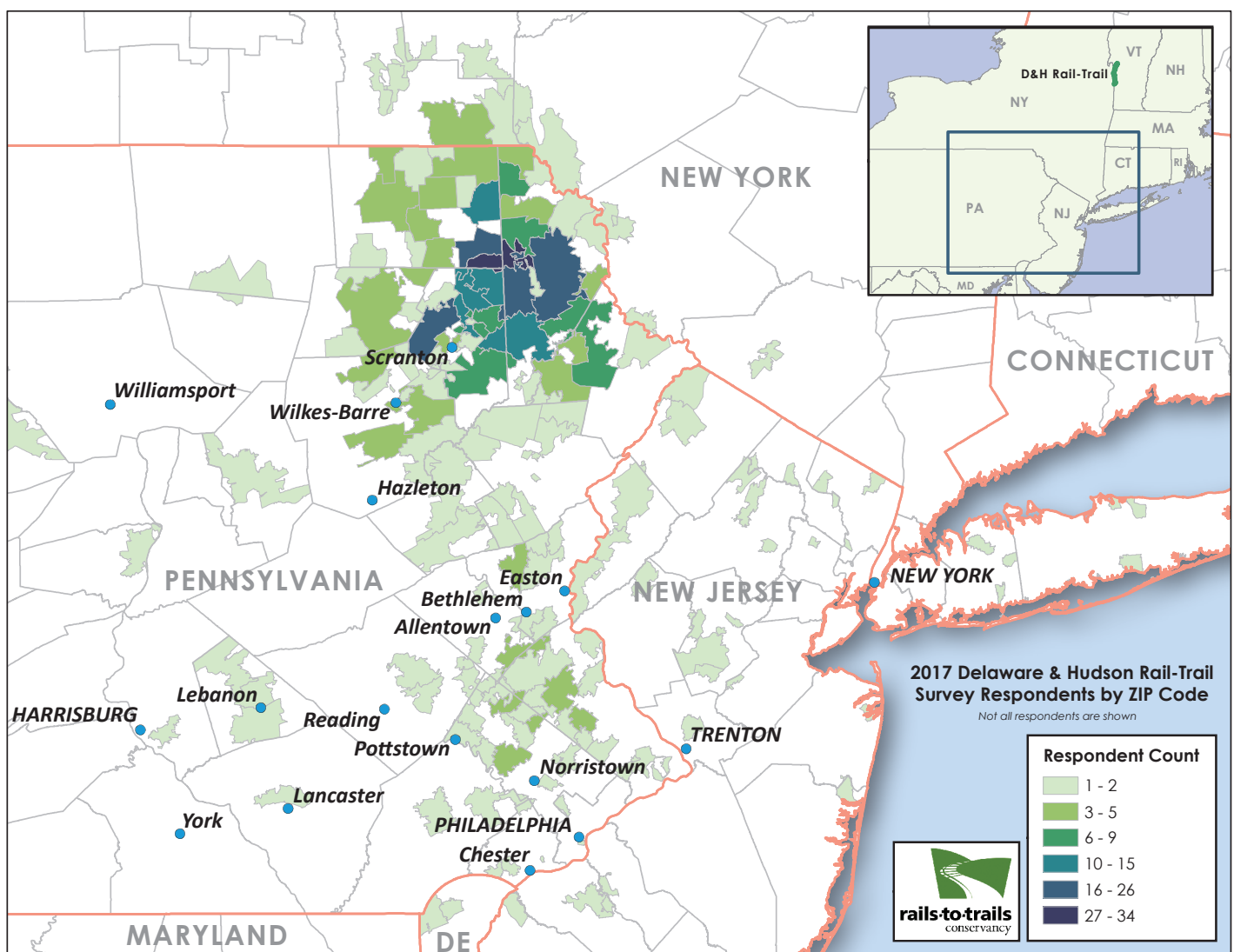
The only complaints I have are people riding ATVs on the trail.

Trails are the best, been snowmobiling here since the '80s.

SURVEY RESULTS

1. What is your ZIP Code?

Count	ZIP	PO Name	State	Count	ZIP	PO Name	State
34	18421	Forest City	PA	9	18428	Hawley	PA
26	18470	Union Dale	PA	9	18444	Moscow	PA
20	18431	Honesdale	PA	7	18462	Starrucca	PA
20	18472	Waymart	PA	6	18403	Archbald	PA
19	18411	Clarks Summit	PA	6	18434	Jessup	PA
15	18407	Carbondale	PA	6	18453	Pleasant Mount	PA
14	18447	Olyphant	PA	6	18519	Scranton	PA
12	18433	Jermyn	PA	<6	All Other ZIPS		
11	18436	Lake Ariel	PA				
10	18465	Thompson	PA				



Source: Rails-to-Trails Conservancy

SURVEY RESULTS

2. Please identify your age group.

	Total Sample	Snowmobile Users	Nonmotorized Users
25 and Under	0.0%	0.0%	0.0%
16-25	1.2%	1.0%	1.6%
26-35	8.2%	11.0%	3.6%
36-45	18.8%	20.8%	15.5%
46-55	31.2%	32.8%	28.5%
56-65	28.6%	27.3%	31.1%
65+	12.0%	7.1%	19.7%

3. Were any children under the age of 15 with you on your trail experience today?

	Total Sample	Snowmobile Users	Nonmotorized Users
Yes	17.0%	15.1%	20.1%
No	83.0%	81.9%	79.9%

4. What is your gender?

	Total Sample	Snowmobile Users	Nonmotorized Users
Male	79.5%	90.6%	61.1%
Female	20.5%	9.4%	38.9%

5. What is your primary activity on the trail?

	Total Sample	Snowmobile Users	Nonmotorized Users
Walking/Hiking	14.3%	--	37.1%
Biking	12.2%	--	39.1%
Jogging/Running	4.0%	--	10.2%
Horseback riding	0.4%	--	1.0%
Cross-country skiing	2.0%	--	5.1%
Snowshoeing	1.8%	--	4.6%
Snowmobiling	61.0%	100.0%	0.0%
Other	1.4%	--	3.0%

SURVEY RESULTS

6. What other activities do you participate in on the trail?

	Total Sample	Snowmobile Users	Nonmotorized Users
Walking/Hiking	25.2%	24.0%	26.9%
Biking	22.2%	19.2%	25.7%
Jogging/Running	6.5%	3.8%	9.6%
Horseback riding	1.1%	1.7%	0.4%
Cross-country skiing	8.6%	3.1%	14.9%
Snowshoeing	8.0%	2.1%	14.9%
Snowmobiling	23.6%	38.3%	6.4%
Other	4.7%	7.7%	1.2%

7. How often, on average, do you use the trail (one response)?

	Total Sample	Snowmobile Users	Nonmotorized Users
Daily	2.6%	1.7%	4.2%
More than twice a week	5.3%	4.3%	6.8%
Twice a week	4.9%	4.7%	5.2%
Once a week	7.3%	6.6%	8.3%
A couple times a month	18.3%	17.9%	18.8%
Once a month	5.9%	5.3%	6.8%
A few times a year	48.8%	58.1%	33.9%
First time	6.9%	1.3%	16.1%

8. Has the trail had an influence on the type or frequency of activity you participate in?

	Total Sample	Snowmobile Users	Nonmotorized Users
Yes	74.7%	75.5%	73.0%
No	23.5%	24.5%	27.0%

9. Generally, when do you use the trail?

	Total Sample	Snowmobile Users	Nonmotorized Users
Weekdays	6.9%	4.9%	10.2%
Weekends	38.0%	37.8%	39.8%
Both	55.1%	58.0%	50.0%

SURVEY RESULTS

10. How much time do you generally spend on the trail each visit?

	Total Sample	Snowmobile Users	Nonmotorized Users
Less than 30 minutes	1.0%	1.0%	1.1%
30 minutes to 1 hour	10.0%	5.6%	17.6%
1 to 2 hours	32.0%	20.7%	50.0%
More than 2 hours	57.0%	72.7%	31.4%

11. Would you consider your use of the trail primarily for:

	Total Sample	Snowmobile Users	Nonmotorized Users
Recreation	74.0%	93.1%	45.1%
Health and exercise	21.1%	2.6%	49.0%
Training	1.4%	0.0%	3.4%
Commuting	0.2%	0.0%	0.5%
Walking to school	0.0%	0.0%	0.0%
Fishing	0.4%	0.3%	0.5%
Boating	0.4%	0.3%	0.5%
Other	2.6%	3.6%	1.0%

12. During or after your trail visit, did you also:

	Total Sample	Snowmobile Users	Nonmotorized Users
Fish	7.2%	7.0%	7.3%
Go boating	2.6%	2.7%	2.4%
Birdwatch	9.5%	6.0%	13.8%
Watch wildlife	28.5%	28.9%	30.4%
Study wildflowers	5.9%	1.3%	11.3%
Geocache	2.0%	0.7%	3.6%
Visit a historic site	13.2%	9.1%	18.2%
Shop	15.0%	19.8%	9.3%
Other	15.0%	24.5%	3.6%

SURVEY RESULTS

13. How did you find out about the trail?

	Total Sample	Snowmobile Users	Nonmotorized Users
Word of mouth	26.1%	23.3%	30.9%
Roadside signage	4.1%	2.9%	6.0%
Driving past	5.5%	4.7%	6.7%
Newspaper	1.9%	0.7%	3.9%
Bike shop	1.0%	0.0%	2.5%
Tourist bureau	0.3%	0.2%	0.4%
D&H Rail-Trail brochure	8.9%	4.0%	16.7%
nepa-rail-trails.org	11.6%	9.6%	14.5%
nepsnotrails.com	29.8%	46.0%	4.3%
explorepatrials.com	0.0%	0.0%	0.0%
TrailLink.com	1.8%	0.0%	4.6%
Search engine (Google, Yahoo)	1.8%	0.9%	3.2%
Social media	1.8%	1.3%	2.5%
Other	5.4%	6.3%	3.9%

14. Has your use of the trail influenced your purchase of:

	Total Sample	Snowmobile Users	Nonmotorized Users
Bike	10.3%	5.8%	16.1%
Bike supplies	8.5%	2.7%	16.1%
Auto accessories	1.7%	2.0%	1.2%
Footwear	12.2%	9.4%	16.1%
Clothing	11.8%	11.4%	12.2%
Cross-country skis	3.7%	1.3%	6.9%
Snowshoes	4.1%	1.1%	8.1%
Snowmobile	34.1%	57.0%	3.6%
Nothing	13.7%	9.2%	19.7%

15. Approximately how much did you spend on the items above in the past 12 months?

Average expenditure for those that provided a dollar figure was:

	Total Sample	Snowmobile Users	Nonmotorized Users
	\$4,083	\$5,709	\$927

SURVEY RESULTS

16. In conjunction with your most recent trip to the trail, did you purchase any of the following?

	Total Sample	Snowmobile Users	Nonmotorized Users
Beverages	21.7%	21.1%	23.9%
Candy/Snack foods	10.7%	10.2%	12.5%
Sandwiches	11.1%	11.4%	10.1%
Ice cream	2.2%	1.2%	5.4%
Meals at a restaurant near the trail	25.8%	26.3%	24.2%
Fuel for snowmobile	21.3%	27.0%	3.4%
None of these	4.1%	1.3%	13.1%
Other	3.0%	1.6%	7.4%

17. Approximately how much did you spend, per person, on the items above on your most recent visit? Average spending per person for those individuals that provided a dollar figure was:

	Total Sample	Snowmobile Users	Nonmotorized Users
	\$79	\$102.85	\$20.77

18. Did your visit to the trail involve an overnight stay in one of the following types of accommodations? Of the total sample, 24 percent stayed in an overnight accommodation. Below is the distribution of where those stays occurred.

	Total Sample	Snowmobile Users	Nonmotorized Users
Motel/Hotel	38.3%	37.1%	40.0%
Bed-and-breakfast	6.7%	8.2%	0.0%
Friend's or relative's home	44.2%	45.4%	36.0%
Campground	1.7%	0.0%	8.0%
Other	9.2%	9.3%	8.0%

19. How many nights did you stay in conjunction with your visit to the D&H Rail-Trail? Average number of nights:

	Total Sample	Snowmobile Users	Nonmotorized Users
	2.89	2.84	3.11

SURVEY RESULTS

20. Approximately how much did you spend on overnight accommodations per night?
Average expenditure per night for those that provided a dollar figure:

	Total Sample	Snowmobile Users	Nonmotorized Users
	\$127.92	\$127.80	\$128.42

21. In your opinion, the maintenance of the trail is:

	Total Sample	Snowmobile Users	Nonmotorized Users
Excellent	47.5%	49.3%	44.9%
Good	42.8%	44.7%	39.6%
Fair	8.4%	5.7%	12.8%
Poor	1.2%	0.3%	2.7%

22. In your opinion, the safety and security along the trail is:

	Total Sample	Snowmobile Users	Nonmotorized Users
Excellent	46.5%	49.7%	41.6%
Good	44.6%	41.6%	49.2%
Fair	7.9%	8.1%	7.6%
Poor	1.0%	0.7%	1.6%

23. In your opinion, the cleanliness of the trail is:

	Total Sample	Snowmobile Users	Nonmotorized Users
Excellent	57.8%	49.7%	55.3%
Good	38.1%	41.6%	38.8%
Fair	3.5%	8.1%	4.8%
Poor	0.6%	0.7%	1.1%

SURVEY RESULTS

24. Are you currently a member of any of the following organizations?

Of the total sample, 74 percent said they belong to one of the following organizations. The distribution of those memberships is as follows.

	Total Sample	Snowmobile Users	Nonmotorized Users
Rail-Trail Council of NEPA	16.8%	2.1%	65.5%
NEP Sno Trails	79.0%	97.6%	17.2%
Lackawanna River Corridor Association	3.2%	0.3%	12.6%
Lackawanna Valley Trout Unlimited	0.5%	0.0%	2.3%
Heritage Valley Partners	0.5%	0.0%	2.3%

25. Which trail access point do you generally use when you visit the trail?

	Total Sample	Snowmobile Users	Nonmotorized Users
Simpson	12.2%	6.8%	19.9%
Forest City	36.9%	42.1%	29.6%
Union Dale	19.6%	13.4%	28.6%
Herrick Center	9.3%	10.5%	7.6%
Burnwood	2.2%	1.6%	3.0%
Thompson	5.7%	6.8%	4.0%
Starrucca	5.7%	7.7%	2.7%
Lanesboro	2.8%	2.5%	3.3%
Other	5.5%	8.4%	1.3%

26. What portion of the trail do you use most often?

	Total Sample	Snowmobile Users	Nonmotorized Users
Simpson to Forest City	13.0%	10.6%	21.1%
Forest City to Union Dale	27.0%	22.9%	40.0%
Union Dale to Herrick Center	17.4%	16.3%	20.7%
Herrick Center to Burnwood	10.7%	12.7%	4.3%
Burnwood to Thompson	9.5%	11.1%	4.6%
Thompson to Starrucca	11.2%	13.1%	5.4%
Starrucca to Lanesboro	7.4%	8.8%	2.9%
Other	3.7%	4.5%	1.1%

METHODOLOGY AND ANALYSIS

Starting with a survey questionnaire template used on previous trail user surveys, the survey instrument for the D&H Rail-Trail project was developed with input from the Rail-Trail Council of Northeast Pennsylvania. The sample was self-selecting, meaning that trail users could pick up survey forms that were available along the trail, capture the QR code on flyers in the survey boxes, or take an information card containing the QR code and the URL for the survey on Survey Monkey. Paper survey forms were available at trailhead locations; they were folded into postage-paid self-mailers addressed to Rails-to-Trails Conservancy (RTC). Survey collection was conducted along the D&H Rail-Trail from December 2015 to October 2017.

The D&H Rail-Trail is one of 12 rail-trails in Pennsylvania that permit snowmobile use. One of the objectives of this study was to capture user survey data from snowmobile users. Unfortunately, during the winter of 2015-2016, there was only one late-winter snowfall in March that enabled snowmobile use. During the winter of 2016-2017, there was sufficient snow cover to allow only 15 days of snowmobile use. To meet the snowmobile usage data objective, a link to the online survey was sent via the local snowmobile club newsletter (email and some hard copies) to the membership of NEP Sno Trails (whoever had passes) from 2016.

This analysis compares nonmotorized users of the D&H Rail-Trail with nonmotorized users of two other similar rail-trails in Pennsylvania on which trail user surveys were conducted by RTC. Because the data from those comparative studies looked only at trail usage between April and October, and those trails do not permit usage by snowmobiles, only the responses from nonmotorized users (walkers, hikers, cyclists, equestrians, cross-country skiers, snowshoers) will be included in this comparative analysis.

For the purpose of this analysis, 197 completed paper and electronic surveys were tabulated and analyzed. Because several questions called for multiple responses, and some survey respondents did not answer all the questions, the percentages presented in this analysis are based upon the total number of responses to each individual question. (Disclaimer: As a self-selecting survey, the findings are not

absolute, and no one can predict with any certainty how trail users will act in the future. That said, our findings track very closely with similar surveys conducted by RTC and other published reports, as well as anecdotal evidence.)

For the purposes of this analysis, the data from the D&H Rail-Trail will be compared with data collected in a 2009 user survey of the Ghost Town Trail in Cambria and Indiana counties in Pennsylvania, and a 2015 Clarion-Little Toby Trail user survey in Elk and Jefferson counties in Pennsylvania. The data collection methodology and the survey questions from the Ghost Town and Clarion-Little Toby Trail user surveys are, in most cases, identical to those in the D&H Rail-Trail survey. The one exception is that the Ghost Town study did not use an online-based data collection methodology. Experience has shown that there has not been a substantial variance in responses between the paper and online surveys.

The Ghost Town and Clarion-Little Toby trails were chosen for comparison because they are similar to the D&H Rail-Trail in terms of their general surroundings and length. The Ghost Town Trail is a multiuse trail that runs east to west between Ebensburg in Cambria County and Black Lick in Indiana County. The trail is primarily rural, running parallel to Blacklick Creek and through Pennsylvania State Game Lands 276. Remnants of building foundations from several small towns that once were supported by coal-mining operations can be seen along the trail, leading to its unique name.

The Clarion-Little Toby Trail is located between the communities of Ridgway and Brockway in Elk and Jefferson counties in northwestern Pennsylvania. The trail runs along the Clarion River and Little Toby Creek. This region of Pennsylvania is designated as “The Pennsylvania Wilds” and encompasses more than 2 million acres of forested land. The Pennsylvania Fish and Boat Commission stocks both the Clarion River and Little Toby Creek with trout.

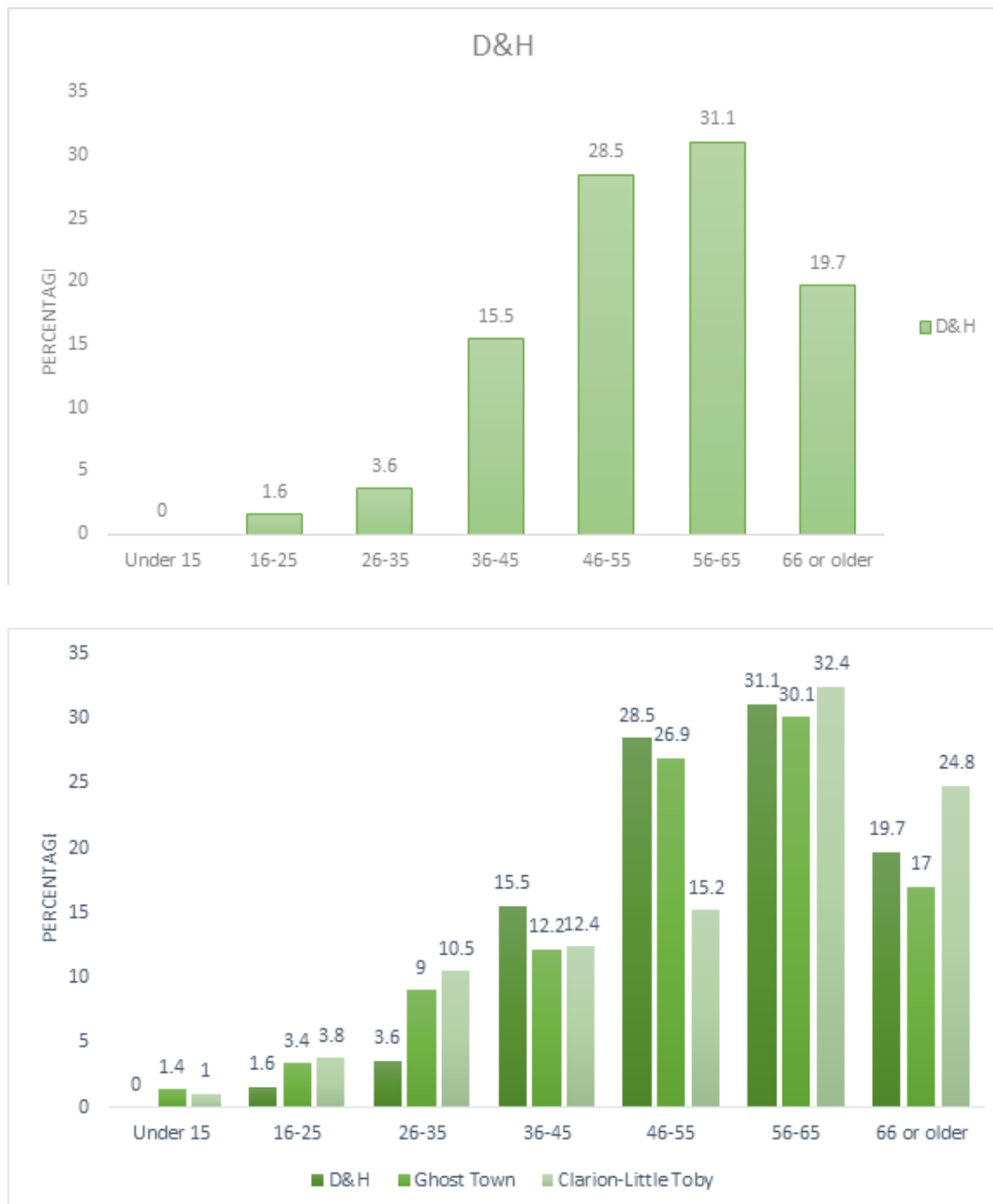
COMPARATIVE ANALYSIS

Following is an analysis and commentary on user surveys of three trails: the D&H Rail-Trail, Ghost Town Trail and Clarion-Little Toby Trail. The purpose is to compare users of the D&H Rail-Trail with users of similar rail-trails in the Mid-Atlantic region.

Age

In all three studies, the majority of trail users are older than 45. Clarion-Little Toby Trail survey respondents in the 66 and older age range represent a higher percentage than respondents of that age in the D&H Rail-Trail study.

Percentage of Trail Users by Age

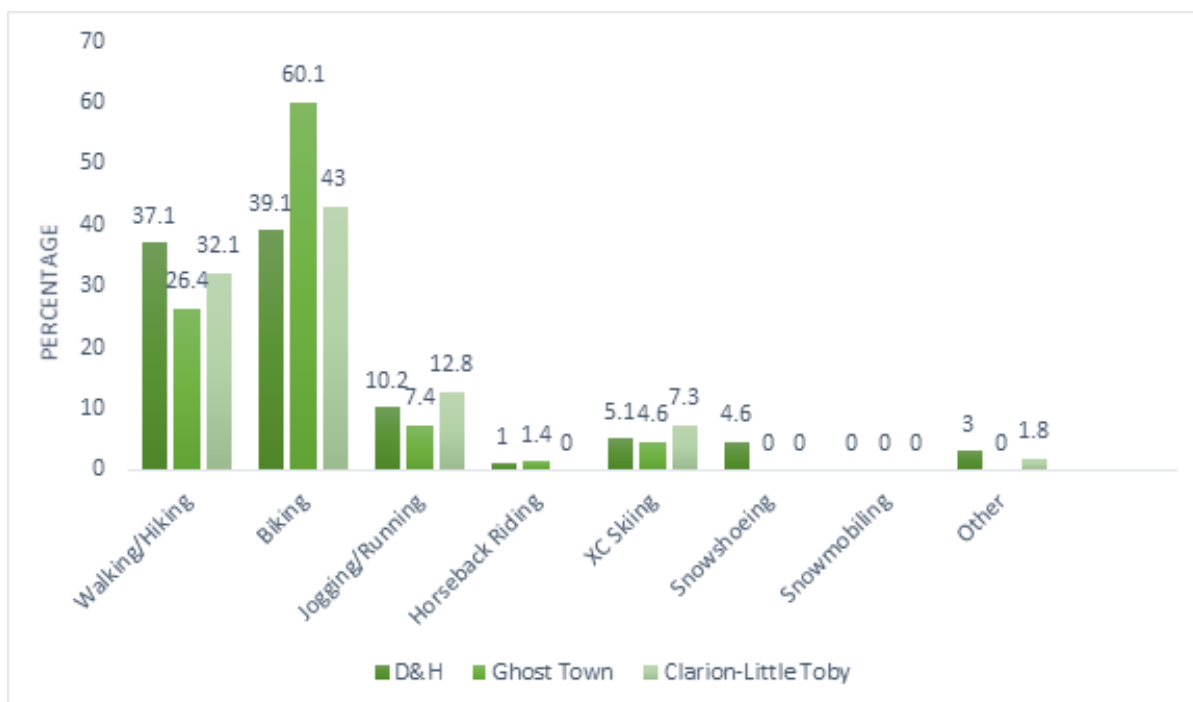
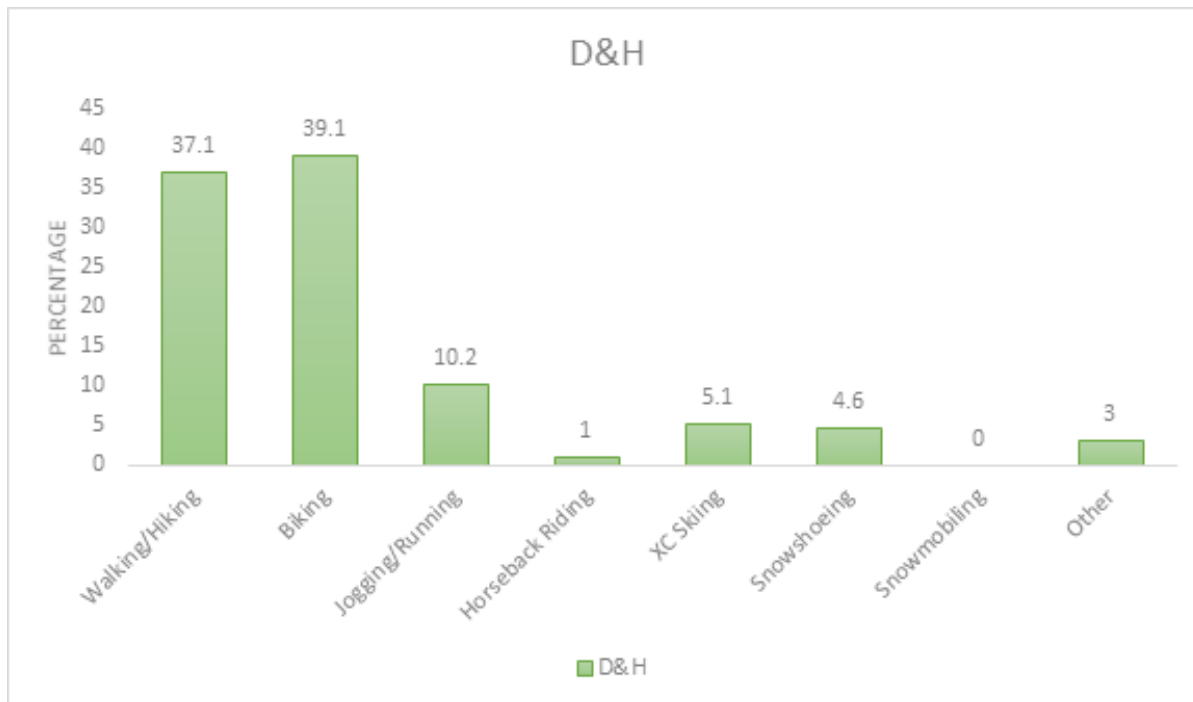


COMPARATIVE ANALYSIS

Primary Activity

The predominant activities on the D&H Rail-Trail are biking and walking/hiking. Biking is much more popular on the Ghost Town Trail than on either the D&H or the Clarion-Little Toby trails.

Percentage of Trail Users by Primary Activity

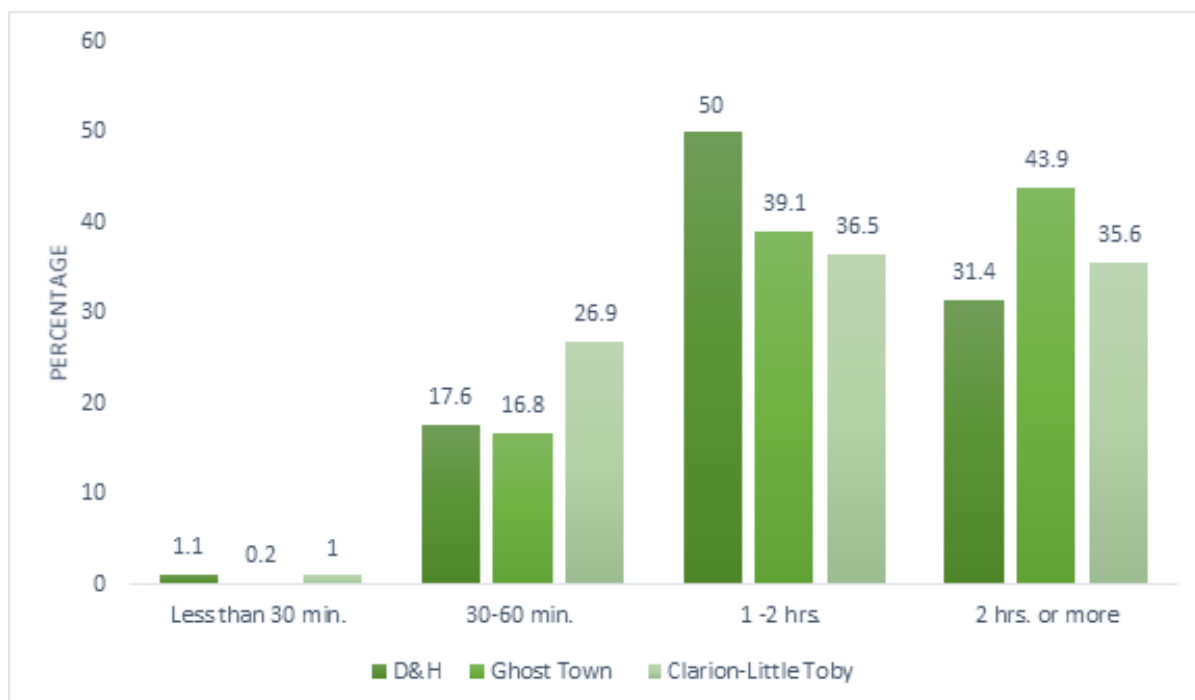
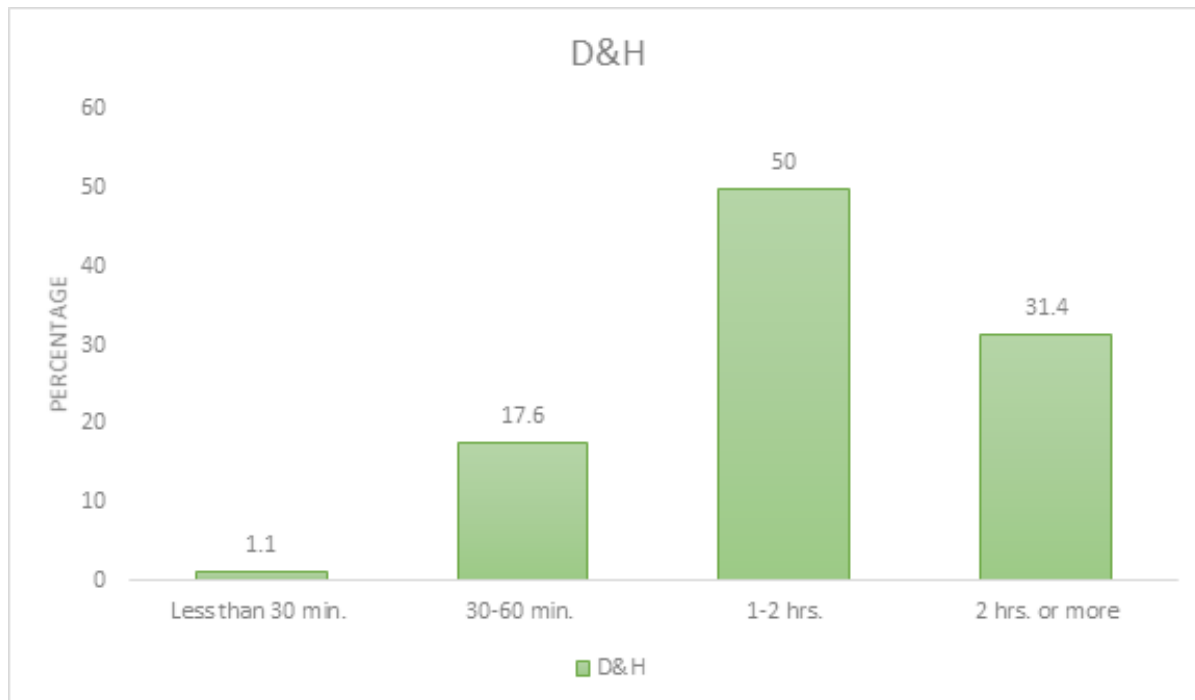


COMPARATIVE ANALYSIS

Time Spent on Trail

The D&H Rail-Trail has the highest percentage of users who are on the trail for less than two hours. The Ghost Town Trail, with an improved surface, has the highest percentage of users out on the trail for more than two hours. The D&H Rail-Trail and the Clarion-Little Toby Trail share roughly the same percentage of users out for less than 30 minutes.

Percentage of Trail Users by Time Spent on Trail per Visit

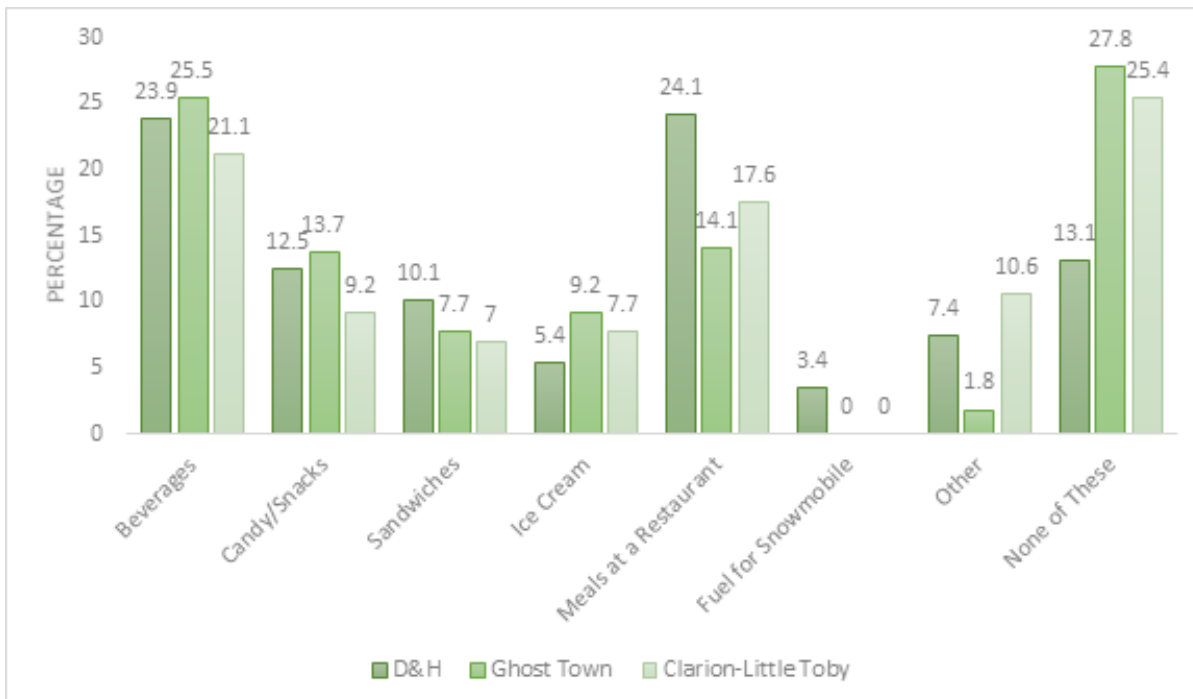
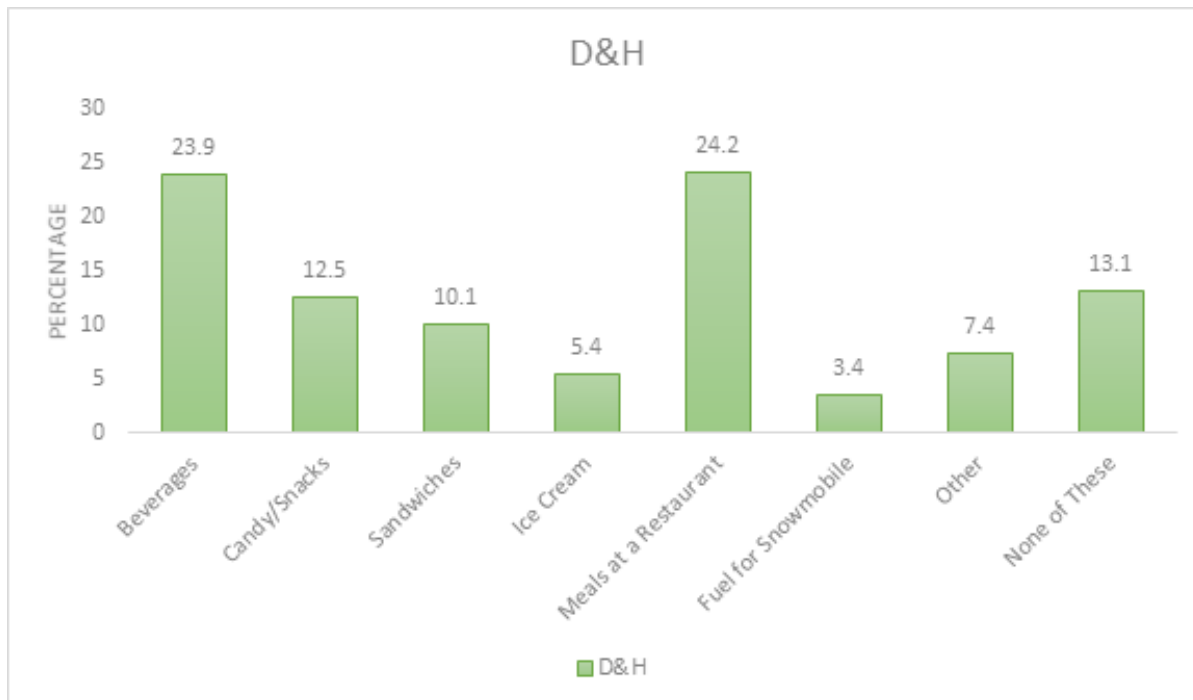


COMPARATIVE ANALYSIS

Purchase of Soft Goods

In conjunction with their trail visit, a high percentage of D&H Rail-Trail users purchased soft goods, which for the purposes of this survey included such items as water, snacks, ice cream and meals at a restaurant. The percentage of respondents who indicated that they purchased a meal at a restaurant is considerably higher for D&H survey respondents than for those of the Ghost Town and Clarion-Little Toby trails, both of which have larger communities as their endpoints.

Percentage of People Who Purchased Soft Goods

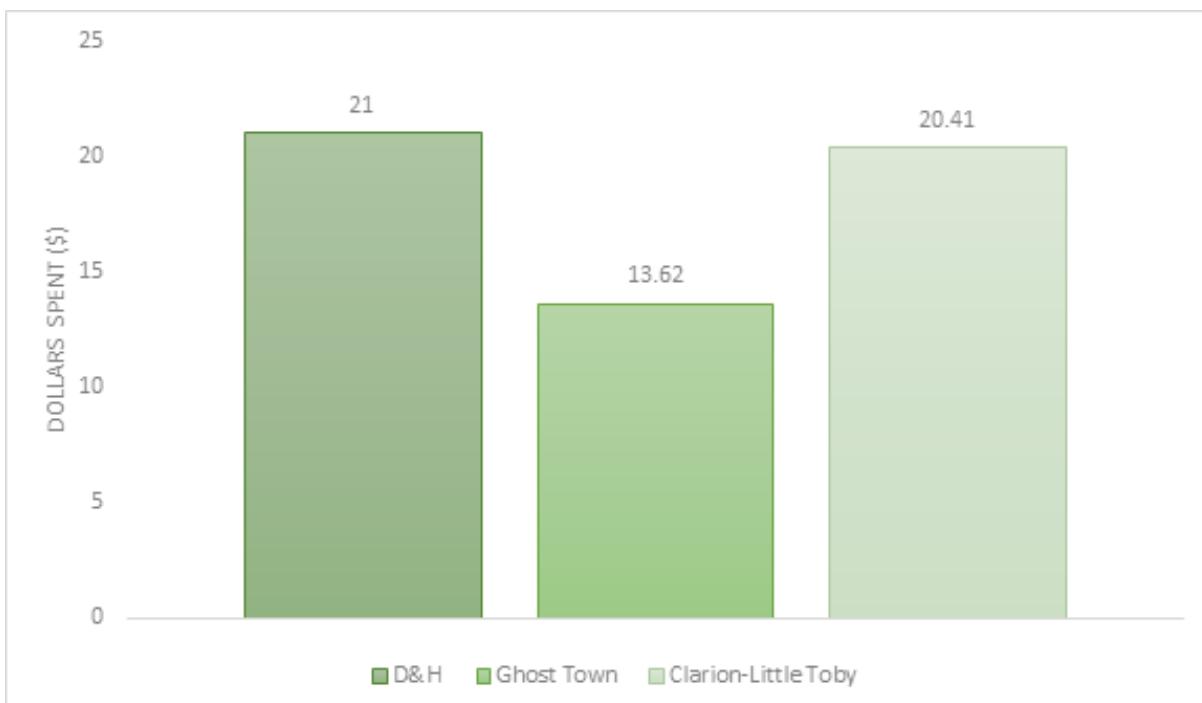
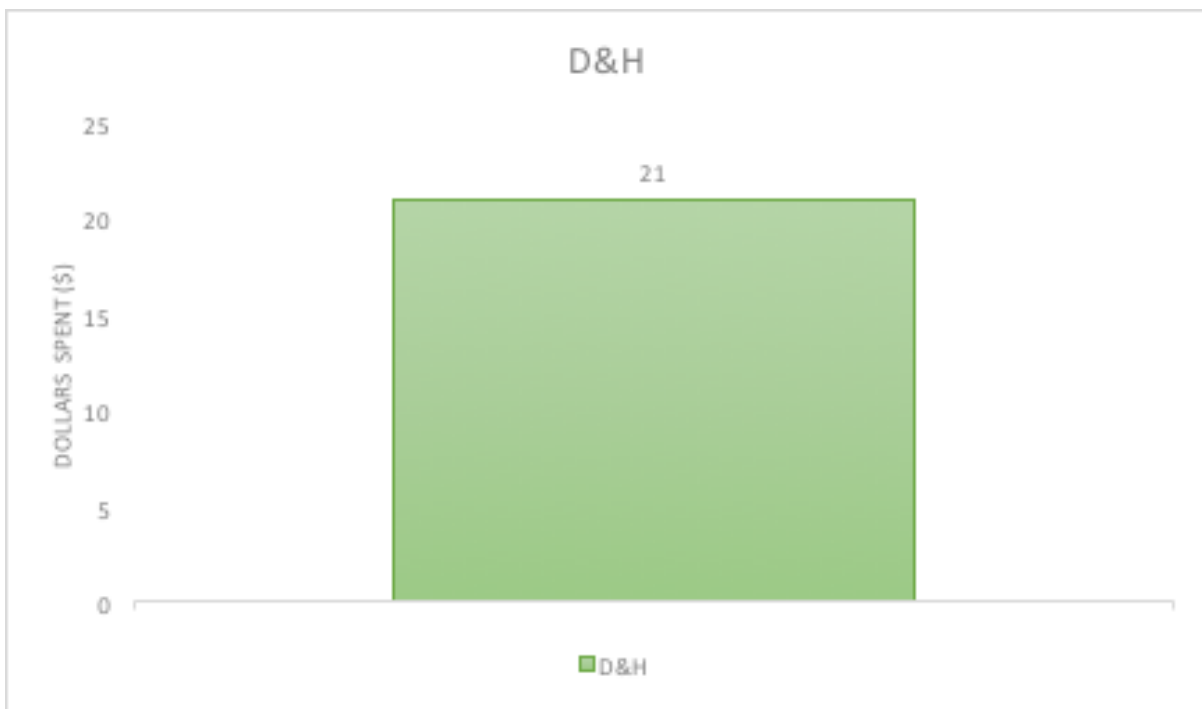


COMPARATIVE ANALYSIS

Soft Goods Expenditure

Respondents to the D&H Rail-Trail Survey reported the highest average spending on soft goods compared with the spending level reported on the other two trails. This may be related to the fact that more users of the D&H reported spending for meals at a restaurant in conjunction with their trail experience.

Average \$ Amount spent per Person on Soft Goods

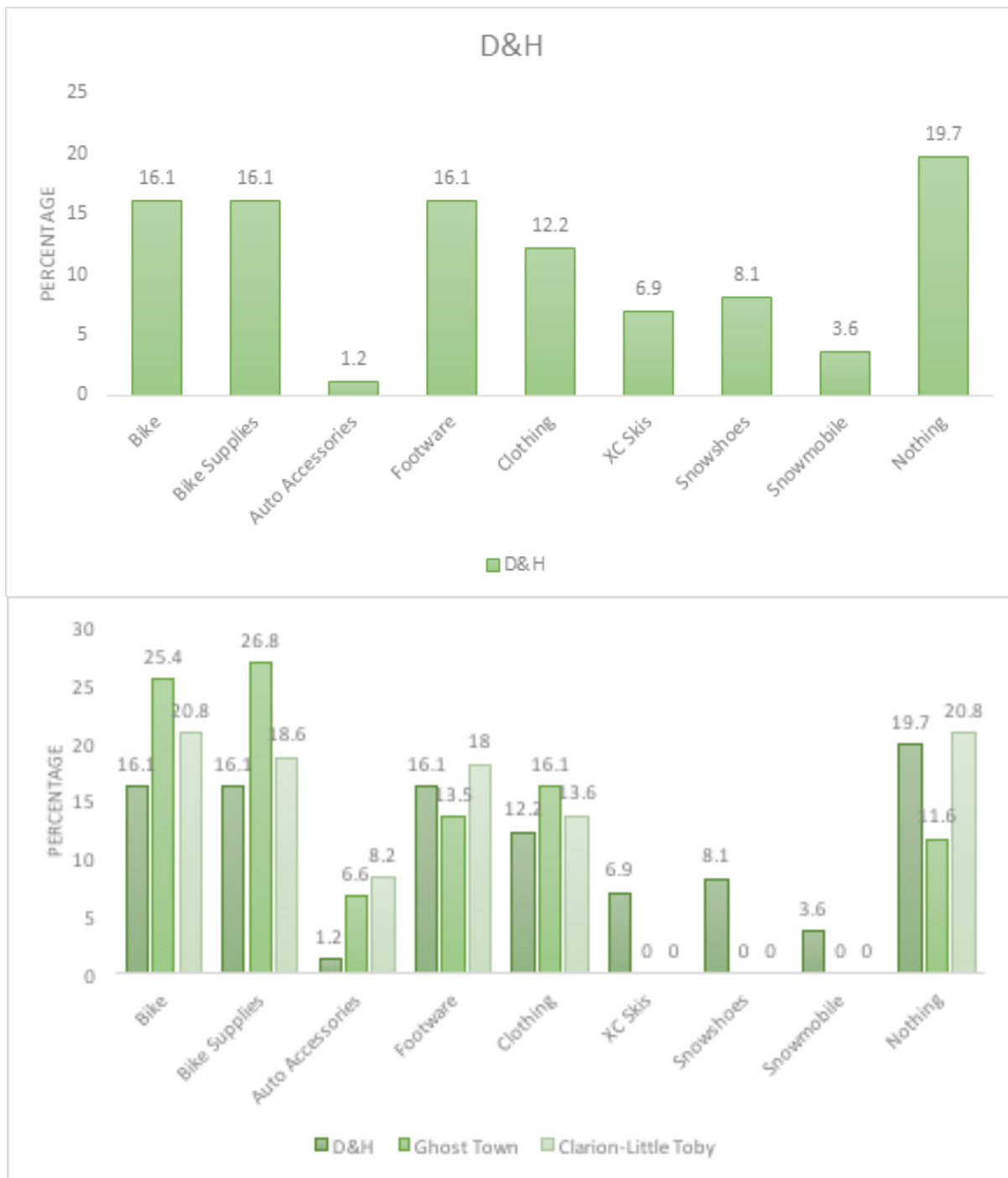


COMPARATIVE ANALYSIS

Type of Hard Goods Purchased

The percentage of survey respondents who reported purchasing hard goods in conjunction with their trail-related activity varies by less than 10 percent for the trails in this comparison. The Ghost Town Trail users had the highest percentage of hard goods purchases at 88.5 percent, followed by the D&H Rail-Trail, with 80 percent indicating that they had purchased a hard good in conjunction with their trail use in the past 12 months. The Clarion-Little Toby Trail came in a close third with 79 percent.

Percentage of Expenditures on Hard Goods by Type

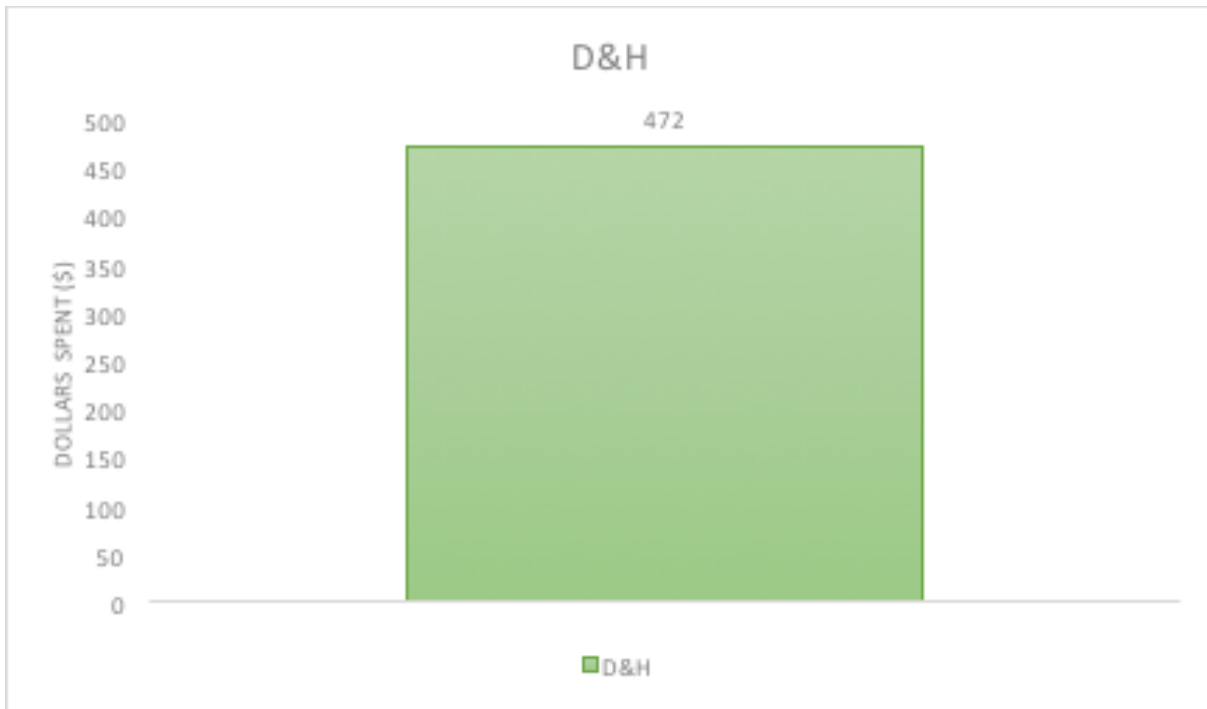


COMPARATIVE ANALYSIS

Hard Goods Expenditure

Spending on hard goods by users of the D&H Rail-Trail is nearly identical to the spending reported by users of the Clarion-Little Toby Trail. For the purpose of this expenditure analysis, spending on snowmobiles was eliminated from the D&H Rail-Trail user responses so that the comparison would not be overstated. If snowmobile expenditures were included, the average would increase to \$927.

Average Expenditure on Hard Goods



COMPARATIVE ANALYSIS

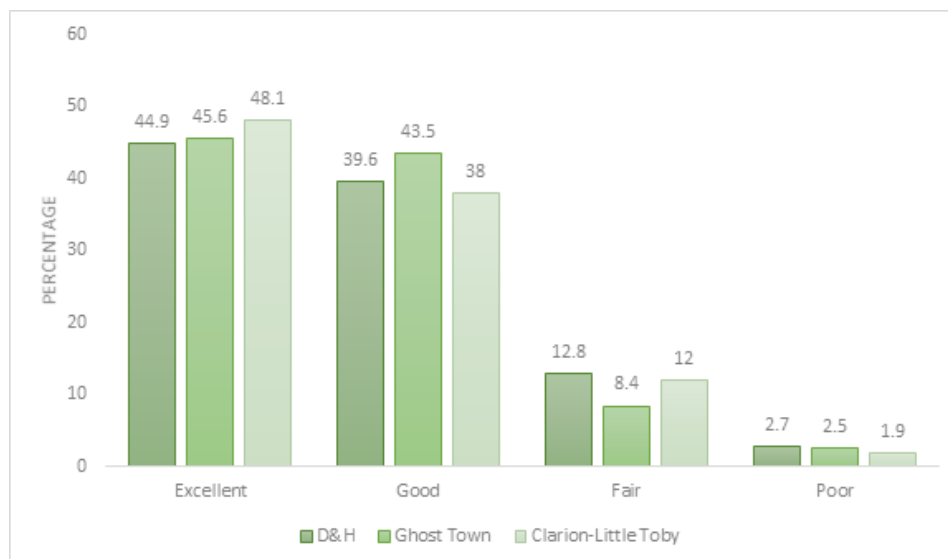
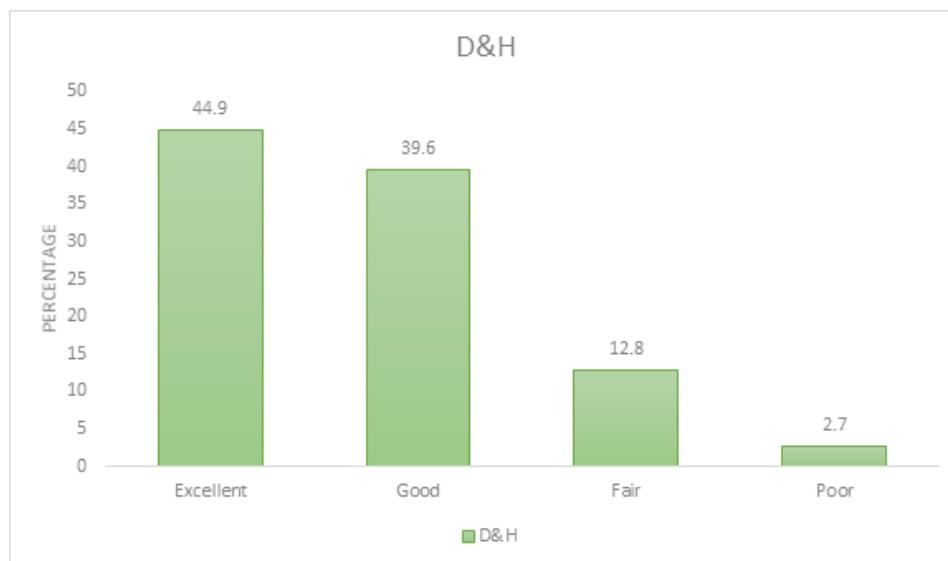
Trail Maintenance, Security and Cleanliness

One of the most important aspects of the trail user survey is that it allows the trail's management organization to receive feedback, both positive and negative, from users. The 2015-2017 D&H Rail-Trail Survey can serve as a benchmark against which future operations, maintenance and security issues can be compared.

This series of questions was also posed in the 2009 Ghost Town Trail and the 2015 Clarion-Little Toby Trail studies. To provide a basis of comparison for management of the D&H Rail-Trail, the responses from those studies have been included in this section of the analysis. According to the survey responses, the D&H Rail-Trail is well maintained, with the vast majority of survey respondents rating its maintenance as either excellent or good. While its rating is slightly lower than those of the other two trails, it must be kept in mind that only a 10-mile segment of the D&H has an improved surface to date.

Trail Maintenance

In your opinion, the maintenance of the trail is:

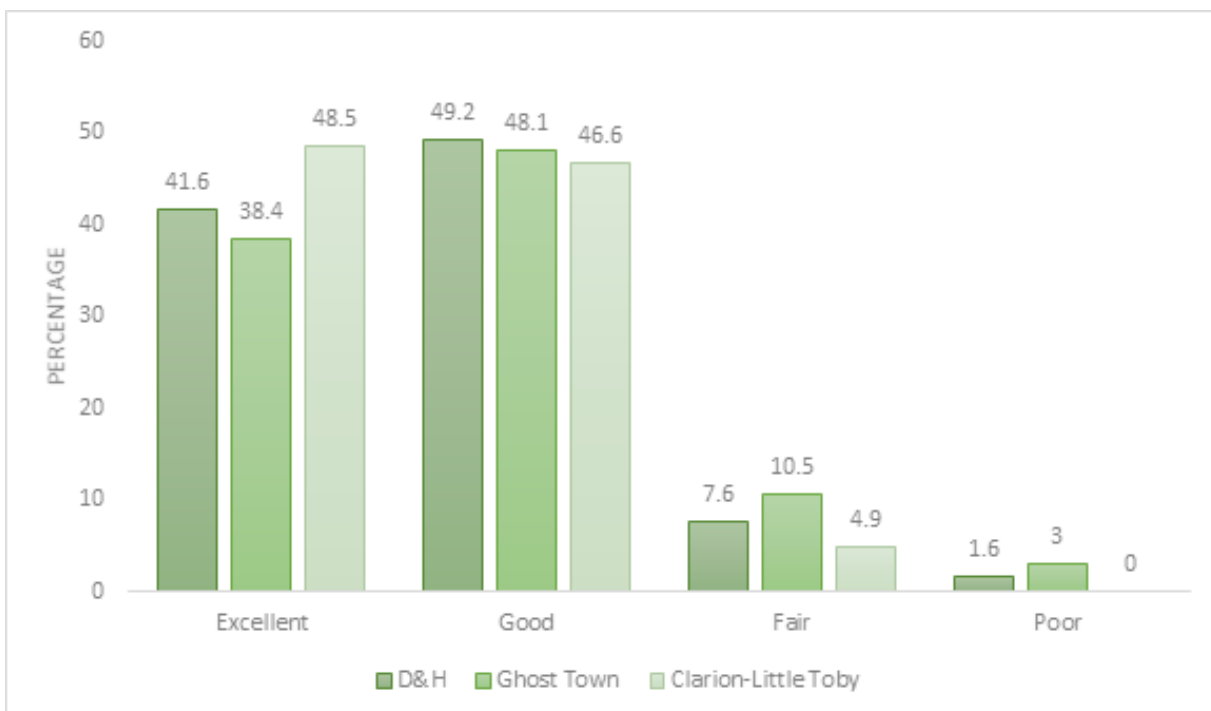
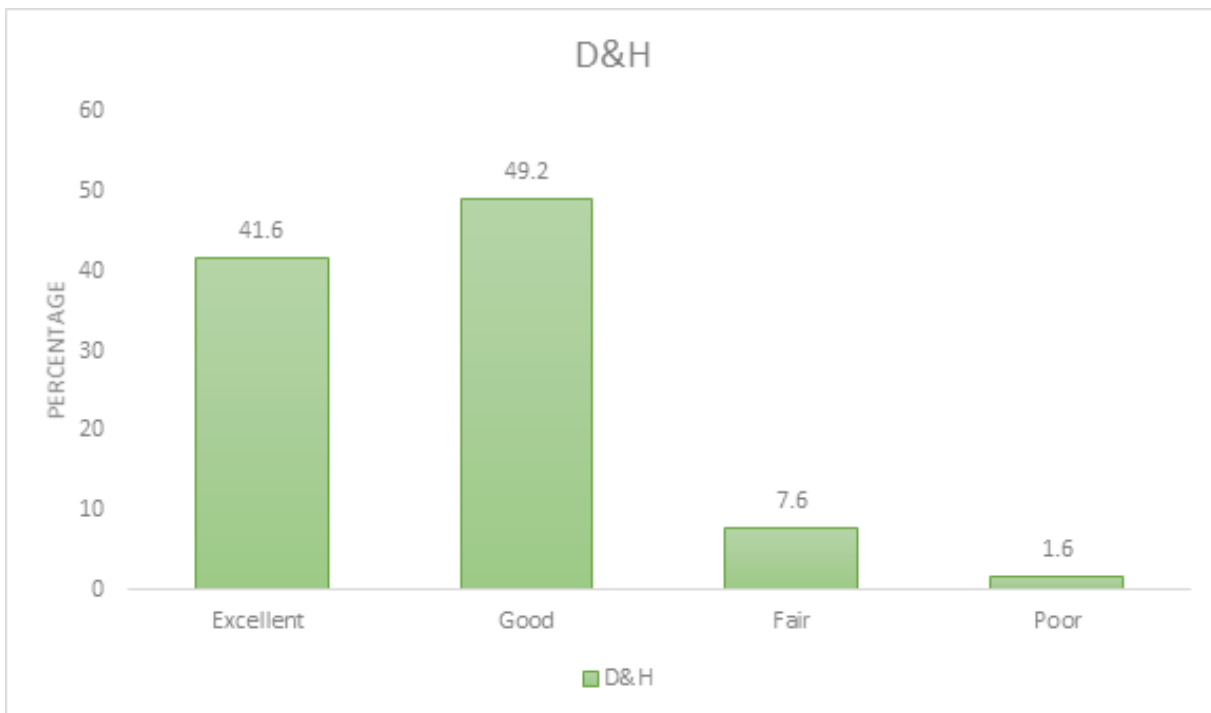


COMPARATIVE ANALYSIS

Trail Safety and Security

More than 86 percent of the respondents to all three surveys rated the safety and security along the trail as either excellent or good. A very small percentage, less than 3 percent, rated security as poor.

In your opinion, the safety and security along the trail is:

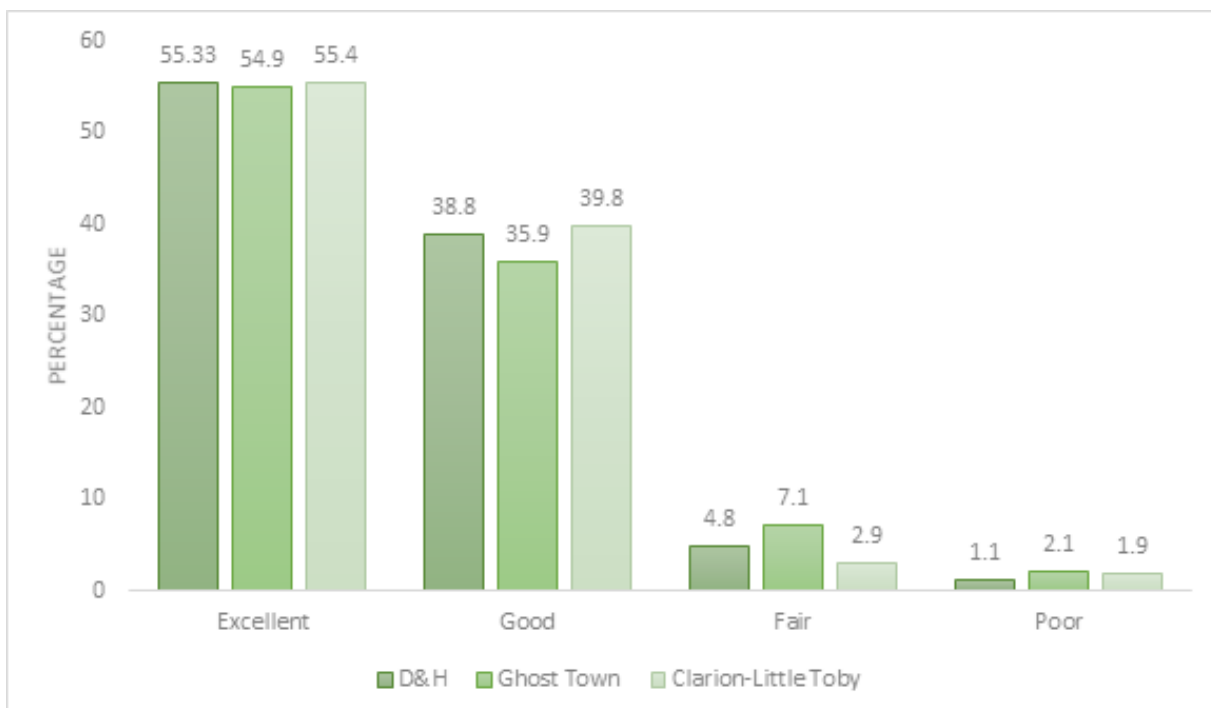
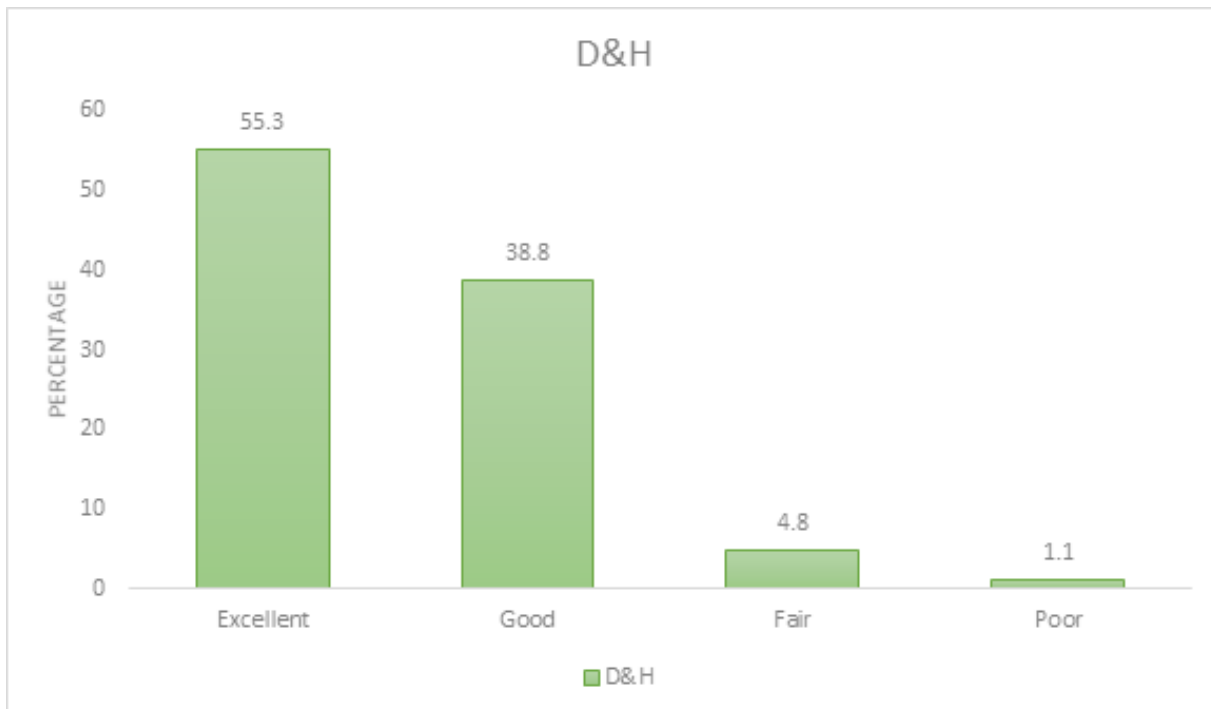


COMPARATIVE ANALYSIS

Trail Cleanliness

Respondents to the D&H Rail-Trail User Survey rated the cleanliness of the trail as excellent or good. These percentages are nearly the same as the findings in the Ghost Town Trail and the Clarion-Little Toby Trail surveys. In both cases, the trails have long stretches that are away from such litter-producing areas as small towns and highways. Also, a clean trail is often the work of actual trail users, who will pick up trash that less responsible users may have left behind. Taking pride in a trail as a community asset leads to a better experience for all trail users.

In your opinion, cleanliness along the trail is:



D&H RAIL-TRAIL USER ESTIMATE

Beginning in December 2015, passive infrared counters were placed at four locations along the D&H Rail-Trail. These counters collected data on the number of trail users passing them by detecting each user’s “heat signature.” Counters were removed from the trail in late October 2017. June 2016 was selected as the base date for this analysis. During 2017, gas pipeline construction along the trail at the Forest City trailhead contaminated the data collection due to movement of heavy construction equipment.

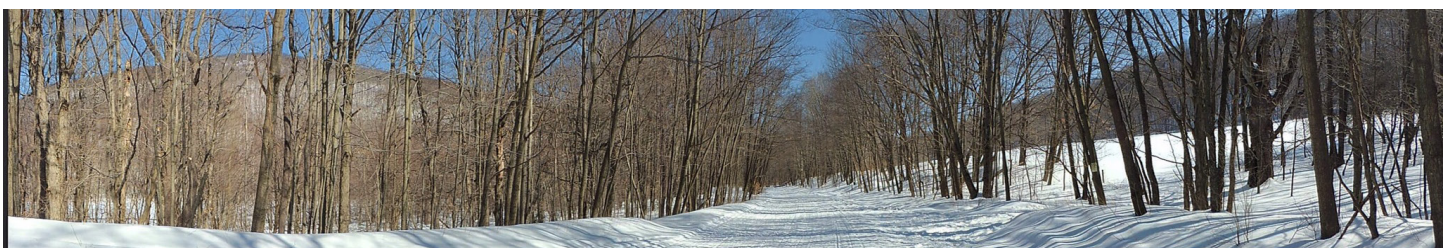
The counters were placed along the trail at the trailheads and access points listed in the table below. In order to develop an annual user estimate for the trail, the data collected in June 2016 was extrapolated to a 12-month estimate using a User Visit Model developed by RTC. The model examines data collected using electronic counters from more than 60 different trail locations on rail-trails throughout the United States, representing more than 5 million individual user counts.

This estimate applies only to the nonmotorized user segment of respondents. An estimate of the number of snowmobile users is difficult to predict due to their activity being weather dependent, and to the fact that the counters cannot differentiate between a passing snowmobile and a passing cross-country skier.

	Actual Count (June 2016 Base)	Estimated 12-Month Count*	Adjusted for Passing Multiple Counters	Adjusted for Missing Counts	Adjusted for Out-and-Back Trips
Forest City	1,588	13,465	11,445	12,933	6,725
Union Dale	268	2,272	1,931	2,183	1,135
Herrick Center	650	5,511	4,685	5,294	2,752
Starrucca	45	381	324	367	191
Total Estimated Annual User Visits (excluding snowmobile use)					10,803*

* Annual estimate developed from actual counter data extrapolated using the RTC User Visit Model.

There were wide swings in the counts collected along the D&H Rail-Trail. Forest City had a huge spike with more than 2,200 user visits on March 29 between noon and 2 p.m. Starrucca had a spike in January 2016 of more than 3,400 hits on the counter. This occurred between 3 and 7 a.m. Perhaps a herd of deer grazed in front of the counter for an extended period? When there is a significant snowfall, the snowmobilers will roll out in force. This is RTC’s first experience counting snowmobile traffic on a rail-trail.



ECONOMIC IMPACT

Given that this study included both nonmotorized and snowmobile users, we have separated those modes below. However, to develop an economic impact estimate we need to estimate the overall annual number of users. We do this by employing infrared counters along the trail. During the winter months, the counters cannot differentiate between a snowmobile and a cross-country skier. Therefore, we have used counts during the summer months to estimate nonmotorized users and extrapolated those numbers to an annual estimate based on previous studies. An effort will be made to look specifically at the economic impact of the snowmobile community on this region.

Nonmotorized Users

First, the survey determined the percentage of respondents who purchased hard goods. Many of these respondents revealed how much they spent on these types of purchases over the past 12 months.

Because it isn't possible from the survey responses to determine where these purchases were made (e.g., online, in another state, in another community), it is not possible to attribute this spending or even predominant use to the D&H Rail-Trail corridor communities.

Second, the survey determined how much trail users spent on soft goods (consumables) while using the trail. Again, it is important to know the percentage of respondents who made these types of purchases when determining the economic impact of the trail.

SOFT GOODS EXPENDITURES

Beverages	23.9%
Candy/Snack foods	12.5%
Sandwiches	10.1%
Ice cream	5.4%
Meals at a restaurant near the trail	24.2%
None of these	13.1%
Other	7.4%

Approximately how much did you spend, per person, on the items above on your most recent visit?

Average spending per person for those individuals that provided a dollar figure was: \$20.77.

Third, 13 percent of the nonmotorized respondents to the D&H Rail-Trail Survey indicated that an overnight stay was part of their trail experience.

OVERNIGHT ACCOMMODATION EXPENDITURES

Motel/Hotel	40.0%
Bed-and-breakfast	0.0%
Friend's or relative's home	36.0%
Campground	8.0%
Other	8.0%

ECONOMIC IMPACT

Note that some of these stays were with friends or relatives, and it is assumed there was no cost involved. The “Other” category also has no associated cost and includes family-owned hunting camps in the region. Therefore, to calculate the economic impact, the “nonpaying” overnight visitors are not included in the calculation.

How many nights did you stay in conjunction with your visit to the trail? Average: 3.1

Approximately how much did you spend on overnight accommodations per night? Average: \$128.42

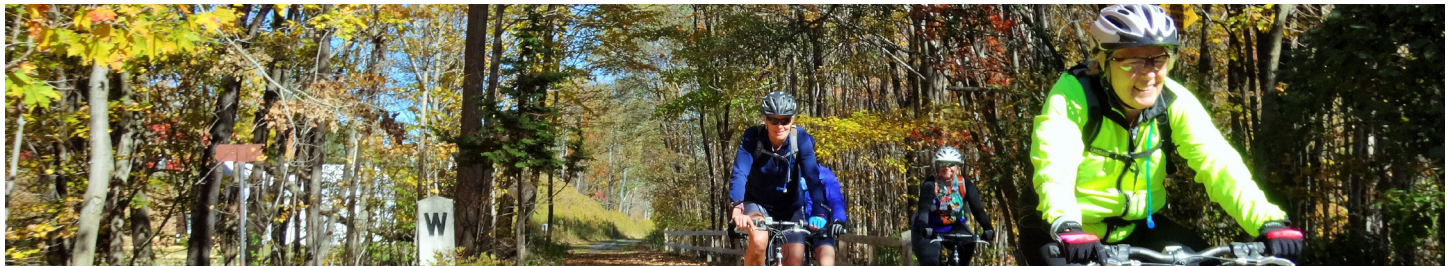
The following chart takes the data provided above and extrapolates the purchases on an annual basis. The purchase of soft goods does represent an anticipated annual expenditure because these types of purchases are made on a per-trip basis by trail users. Likewise, the spending on overnight accommodations can be anticipated to occur year after year.

D&H RAIL-TRAIL ECONOMIC IMPACT ANALYSIS

	% Usage	Avg. \$	Avg. # of nights	Estimated \$ Impact
Soft Goods	85.0%	\$20.77		\$190,721
Overnight Accommodations	13.0%	\$128.42	3.1	\$559,090

Soft Goods = (% Usage × Avg. Users \$ × # Users)
 (0.85 × \$20.77 × 10,803) = \$190,721

Overnight Accommodations = (% Usage × Avg. User \$ × Avg. # Nights × # Users)
 (0.130 × \$128.42 × 3.1 × 10,803) = \$559,090



SNOWMOBILES

While we are unable to get an estimate of the number of snowmobile users on the D&H Rail-Trail, economic data were collected for this use. An online link and hard copy of the survey were sent to holders of a 2016 snowmobile pass from NEP Sno Trails, the local snowmobile club. This effort resulted in 305 completed online surveys by snowmobile users of the D&H Rail-Trail.

Soft Good Expenditures

Average spending on soft goods reported by snowmobile respondents was \$102.85 (five times the spending of the nonmotorized respondents), and 26.3 percent reported spending on meals at a restaurant. What may have really helped to increase the average expenditure is “Fuel for snowmobile,” reported by 27 percent of respondents. Also, only 1.3 percent of snowmobile respondents reported that they spent nothing on consumable goods, while 13.91 percent of the nonmotorized group reported purchasing no consumable goods.

Two factors may have contributed to the higher spending by snowmobile users. One is that they are slightly younger than the nonmotorized respondents, with only 67.2 percent over the age of 46 as opposed to 79.3 percent for the nonmotorized respondents. Another factor that may account for the spending differential is that all the snowmobile respondents belong to NEP Sno Trails. There is a tendency for snowmobile outings to be group activities rather than solo. Thus a meal at a restaurant becomes a social gathering with a longer duration and increased spending on food and beverages. According to a Montana State University study, the main reasons people snowmobile include: to view the scenery, to be with friends, to get away from the usual demands of life, to do something with the family and to be close to nature. Ninety-five percent of snowmobilers consider snowmobiling a friend-and-family activity.

As stated earlier, many of the snowmobile respondents indicated that they utilize the entire 38 miles of the D&H Rail-Trail. This is supported by the data that 72.7 percent of the snowmobile respondents were out on the trail for more than two hours. They also consider their activity to be purely recreational in nature.

Overnight Accommodation

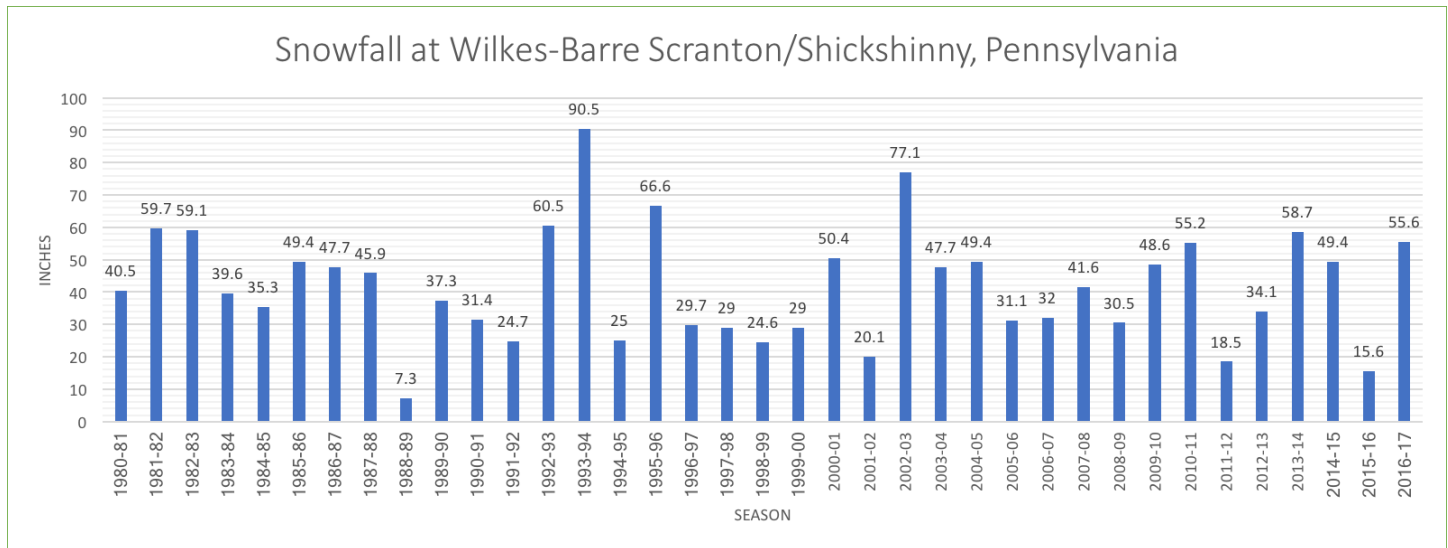
Nearly a third of the snowmobile respondents reported that their use of the D&H Rail-Trail required an overnight stay. While nearly half of those stays were with a friend or relative, those who stayed in motels/hotels or bed-and-breakfast lodgings spent on average \$127.80 per night and stayed an average of 2.8 nights. Overnight stays also translate into more meals and other consumable goods spending.

The economic impact of snowmobile use on the D&H Rail-Trail is, of course, highly weather dependent. In good snow years there may be snowmobile activity from December through February. In bad snow years, which occurred during this study, there was less snowmobile economic impact. One of the snowmobile respondents put it this way: “We just don’t get much snow anymore. I remember years ago we used to ride all winter. Not many years ago, the O&W [Trail] club closed when we had no snow for a couple of years, and we could not pay the payments on the [trail] groomer.”

The chart below shows the 10 highest and lowest yearly snowfall totals for the Scranton area from 1901 to the present for the winter season, December through February. Only one of the highest total falls in this century has occurred since 2000, while four of the lowest totals have occurred.



SNOWMOBILES



Source: National Weather Service, National Oceanic and Atmospheric Administration

While we can't make an estimate of the overall impact of snowmobile use on the D&H Rail-Trail, we can analyze the impact of one snowmobile user over a typical outing. The respondents stated that they spent, on average, \$102.85 per day on soft goods and \$127.80 on overnight accommodations and stayed an average of 2.84 nights. The economic impact looks like this:

Local snowmobile outing: $102.85 \times \text{number of outings}$ (depends upon snowpack)

Non-local snowmobile outing staying at a motel for several days: $(102.85 + 127.80) \times 2.84 = \655.05

As another snowmobile respondent put it, "This has been the main backbone snowmobile trail for over 40 years and is a wonderful snowmobile experience. It benefits many local businesses."

