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# Lebanon Valley Rail-Trail and Conewago Recreation Trail 2011 User Survey and Economic Impact Analysis

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Our thanks to John Wengert for photos on pages: 19 (right), 22, 23 and 25.

# Lebanon Valley Rail-Trail and Conewago Recreation Trail 2011 User Survey and Economic Impact Analysis

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# Executive Summary

**An analysis of the data accumulated from infrared counters located along the trails and the completed surveys received from users indicates an estimated 125,244 annual user visits to the combined trails. These user visits resulted in a total economic impact in 2011 of \$1,326,117 (including \$875,320 directly into the local economy).**

The 15-mile Lebanon Valley Rail-Trail and the 5.5-mile Conewago Recreation Trail represent one continuous trail corridor maintained by two separate entities in Pennsylvania. The Lebanon Valley Rail-Trail is owned and maintained by the all-volunteer, nonprofit Lebanon Valley Rails-to-Trails, Inc. (LVRT). The Conewago Recreation Trail is owned and maintained by the Lancaster County Department of Parks and Recreation.

Though titled with different names and managed separately, the trails are connected at the county border, where there is no access—as in, no one could get on or off the trail there—and no differentiation



between the two trails. Therefore, for the purposes of this report, the two trails will be treated as one entity, and unless designated otherwise, the terms “trail” or “trails” will apply to the entire corridor.

During 2011, Rails-to-Trails Conservancy (RTC) conducted this study of the users of the trail under a grant from the Pennsylvania Department of Conservation and Natural Resources. This study utilized a survey methodology previously tested on Pennsylvania trails and documented in RTC’s Trail User Survey Workbook ([www.railstotrails.org/resources/documents/resource\\_docs/UserSurveyMethodology.pdf](http://www.railstotrails.org/resources/documents/resource_docs/UserSurveyMethodology.pdf)).

This survey was designed to monitor trail user characteristics and economic impact.

Survey forms were available at 11 locations along the trails between Lebanon and Elizabethtown from the beginning of May through October 2011. In all, 563 completed survey forms are included in this analysis.

ZIP codes indicate a large majority (64.5 percent) of trail users on the Lebanon and Conewago trails are from the local communities in Lancaster, Lebanon and Dauphin counties. Another 15 percent are visiting from nearby counties, and 14.5 percent reported coming from distant counties or out of state.

The majority of respondents (51.8 percent) reported using the trail at least twice a week or more.

The age profile of users of these trails is similar to what we’ve seen in other trail surveys, with the majority of users (53.8 percent) in the range of 46 to 65 years old. Though the trail is within two blocks of the Lebanon High School and students can be observed using short sections of the trail, this survey



was unable to capture any substantive results of users from the secondary school population. Fewer than 4 percent of the survey participants reported being between the ages of 16 and 25, while 18 percent reported being over 66 years of age.\*

The male/female ratio is also typical of what we have surveyed on other rail-trails, with 55.5 percent male and 44.5 percent female.

The majority of respondents are riding their bikes (47.9 percent) between one to two hours (49.6 percent) on the trail. For the average cyclist, this range represents approximately 20 miles of riding. The most heavily used section of trail is from Colebrook heading south to State Route 230, just outside Elizabethtown. The most heavily used trailheads are at Route 230, Colebrook and Cornwall, which also have the largest parking areas and restroom facilities, as well as nearby eating establishments. The newest trailhead at 8th Street in downtown Lebanon sees a steady stream of use, measuring about 11.4 percent of the total trail traffic, and with little fluctuation on the weekends. (Due to construction of a sewer main on the trail right-of-way, the area immediately north of Mt. Gretna saw limited use during the survey period.)

One-quarter of respondents (25.7 percent) reported walking/hiking as their primary activity. The other top activities listed were jogging or running (12.6 percent) and dog walking, which was the third-most popular activity. Geocaching along the trail was reported by fewer than 1 percent of respondents.

Nearly 60 percent of respondents are using the trail for health, and another 34.9 percent are using the trail as a form of recreation.

Asked how they learned about the trails' existence, the greatest majority of respondents reported word of mouth, driving by the trail or seeing a road sign to be the biggest influences (a combined 66 percent). Just under 14 percent of respondents used various websites to learn about the trail, while the Lebanon Valley Rail-Trail brochure (6.7 percent) and local newspaper (6.0 percent) were at the top of print media.

Nearly 80 percent (79.8) of respondents indicated they had purchased some form of durable good, also known as a "hard good," for use while on the trail (shoes, bike supplies, etc.), with users spending an average of \$327.46 per person on these types of items during the previous year.

Consumable goods, or "soft goods" such as snacks and drinks, were purchased by 55.6 percent of respondents, for an average of \$12.57 per person, per trip.

Lodging was the third factor examined for economic analysis. But in the case of the Lebanon Valley and Conewago trails, the impact of overnight stays was insignificant, which is typical of a local community trail. Only 5.3 percent of survey respondents indicated they stayed overnight in conjunction with their visit to the trail, and of those, only 2.3 percent actually paid for their lodging.

Survey respondents perceived both trails to be very well maintained. More than 90 percent rated the cleanliness and maintenance of the trails as good to excellent, and 88.2 percent felt safety on the trail was good to excellent.

\*The correlation between age and people who are most likely to fill out surveys is known to be a factor that may unduly weight our results to an older age group.

# Historical Perspective

Located about 80 miles from Philadelphia, the land of Lebanon County was rich with chestnut trees and iron ore that served as a basic supply for the growing American colonies in the mid-18th century. Lebanon County itself wasn't officially founded until 1812, but the demand for natural resources as well as religious freedom assured the area would be well developed by the mid-1700s. The Cornwall Iron Furnace was opened during this time. The virgin stands of chestnut produced a hardwood charcoal perfect for smelting raw iron ore; the trees helped produce much-needed hardware and tools for the German colonists settling and establishing farms in the region. The same furnace produced cannon and cannonballs for Patriots during the Revolutionary War.

The heavy ore and iron products were transported by horse and wagon on plank roads to the transportation hub in Lebanon, where they could be transferred to canal boats and sent west to the Susquehanna River or east to Philadelphia. The Union Canal running between the Susquehanna River at Harrisburg and the Schuylkill River in Reading served as the main "highway" for transporting these goods for nearly 50 years. The Coleman family took over operation of the Cornwall Furnace and completely overhauled the structure, which stands today just outside the village of Cornwall and a few blocks from today's Lebanon Valley Rail-Trail.

The Cornwall-Lebanon Railroad was the first railroad to begin operations in support of the iron industry in the 1880s and was built by Robert H. Coleman, then owner of the Cornwall Iron Furnace. The furnace and nearby village of Cornwall have both been designated National Historic Sites and today are a highlight along the trail.

Railroads quickly became the preferred transportation for heavy loads of pig iron smelted at the Cornwall Furnace in Lebanon County. By the 1880s, several railroads were operating in the area, but the main company was the Cornwall Railroad. Nicknamed the "Corny," this line was very successful and continued to run well into the 1960s.

But back in 1883, Robert Coleman built the Cornwall-Lebanon Railroad in direct competition to the existing Cornwall Railroad. The two railroads had tracks parallel to each other, and news stories tell of the two railroads actually racing each other along a five-mile flat stretch before reaching the town of Lebanon.\*

Coleman also promoted the land (which he owned) at nearby Mt. Gretna as a vacation resort that could be serviced by his Cornwall-Lebanon line, and he encouraged the formation of the first Pennsylvania Chautauqua, part of an adult assembly and education movement. Modeled on the famous Chautauqua Institute held in New York State, the Pennsylvania Chautauqua began at Mt. Gretna in 1892\*\*. Initially maintained as a church camp, the area quickly developed with Victorian cottages, a small lake for boating, a playhouse, a 125-room hotel and even a large carousel. By 1910 there were as many as eight daily passenger trains traveling to the resort town of Mt. Gretna. As the automobile took over transportation from the railroads, the popularity of Mt. Gretna diminished in favor of ocean-side resorts, which could now be reached by car.

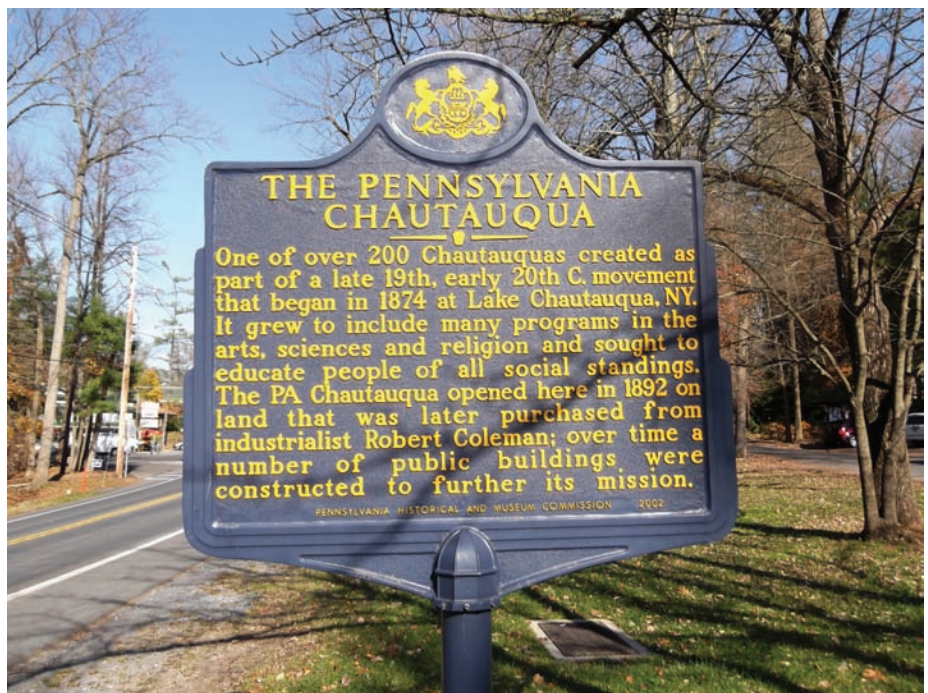
The Pennsylvania Railroad purchased the Cornwall-Lebanon line from Coleman and continued to run freight and passenger service. Penn Central was the last operator of the line and kept it running as

a short line freight service until the 1970s. Hurricane Agnes damaged much of the railroad infrastructure throughout the state in 1972, including the Cornwall-Lebanon Railroad. Penn Central chose not to rebuild the railroad and abandoned this property shortly after the hurricane.

In 1979, the Lancaster County Department of Parks and Recreation acquired the portion of the Cornwall-Lebanon line from Route 230 to the Lancaster/Lebanon County line from Penn Central and opened the Conewago Trail shortly thereafter. In 2007, with funding assistance from the Pennsylvania Department of Conservation and Natural Resources, a major renovation was completed to this portion of the trail.

Lebanon Valley Rails to Trails, Inc., was formed in 1996 as a nonprofit group with a mission to develop and maintain a trail along the former Cornwall-Lebanon corridor in Lebanon County. The organization's initial private fundraising campaign raised more than \$350,000 and was excellent leverage for the additional public funding needed to purchase the corridor and begin trail development. The first five-mile section of trail between the communities of Colebrook and Mt. Gretna was completed in 2000. Between 2002 and 2009, four additional phases of trail development were completed.

Today, the trail extends to South 8th Street in downtown Lebanon. Current construction on an extension through the city is expected to be com-



pleted in 2012. Plans are also under way for a stand-alone section of trail in Jonestown to be constructed in 2013. Additional sections in the northern end of Lebanon County will be developed as rights-of-way are secured and funding becomes available. Eventually, the goal is to have a continuous 30-mile trail from Lancaster County to Swatara State Park.

\*Kercher, James W. Cornwall Railroad (Copyright 1969) The Lebanon County Historical Society.

\*\*Mt. Gretna's History, <http://www.mtgretna.com/community/Mtgretnacommunity.html>

# Locational Analysis

The Lebanon Valley Rail-Trail and the Conewago Recreation Trail are located in south-central Pennsylvania, approximately 90 miles west of Philadelphia and 75 miles north of Baltimore, Md. The trails are located within the Susquehanna River and Chesapeake Bay watersheds. Other environmental management designations for the region include the Lower Susquehanna Conservation Landscape Initiative and the Susquehanna Gateway Heritage Area.

Though using a different name, the 5.5 miles of the Conewago Recreation Trail follow the same original rail corridor as the Lebanon Valley Rail-Trail. Two names have been used to distinguish separate ownership and management of the trail corridor, but their geographical connection is marked solely by a wood sign indicating the county boundary. The majority of the trail is bounded by a combination of deciduous trees, farmland, private residences and state game lands.

The city of Lancaster, Pa. (population 59,322\*), is approximately 20 miles from the southern trailhead near Elizabethtown and is the largest metropolitan

area within a 30-mile radius of the trail. The state capital of Harrisburg (population 49,528\*) is approximately 30 miles west.

This is a very rural agricultural area of the state, dotted by single-family homes, family farms and small manufacturing facilities, including industrial meat, poultry and dairy facilities. The largest town center touched by the trail is Lebanon, population 25,477\*, which is also the county seat. The northern end of the trail connects directly to this town center and runs adjacent to a senior care facility, where the trail functions as an extra park setting for the residents. The trail also runs behind two of the local secondary schools in Lebanon, so small sections of the trail tend to be used by students walking to and from school.

In Lancaster County, the 5.5 miles of the Conewago Recreation Trail run northeast to southwest, ending at a major trailhead along State Route 230 (Market Street) 2.5 miles from the borough of Elizabethtown, population 11,545\*. Elizabethtown is home to a small private college and has an Amtrak stop for their Keystone Line that runs between Philadelphia and Harrisburg. Elizabethtown also supports a bike shop in its town center as well as a bike shop directly along the Conewago portion of the trail.

Mt. Gretna, Pa., is a historical summer resort located on a ridge top near the middle of the trail. This quaint borough continues to support a summer theater program as well as many music events and a nationally judged arts festival. A connector trail has been developed to bring trail users into the center of Mt. Gretna, which supports several casual eateries.



\*2010 U.S. Census



# Demographics



The 15-mile Lebanon Valley Rail-Trail is located in Lebanon County in southeastern Pennsylvania; another 5.5 miles of this corridor, called the Conewago Recreation Trail, extend into Lancaster County.

## Trail Region Demographic Profile (by County)\*

	Lebanon County	Lancaster County	Dauphin County
Population (2010 est.)	133,568	519,445	268,100
Median Household Income (2009 est.)	\$50,334	\$55,504	\$48,792
Households (2005–2009)	50,384	168,301	105,259
Persons per Household (2005–2009)	2.46	2.59	2.39
Persons Density (per square mile)	369.1	550.4	510.6

\*Source: U.S. Census QuickFacts.

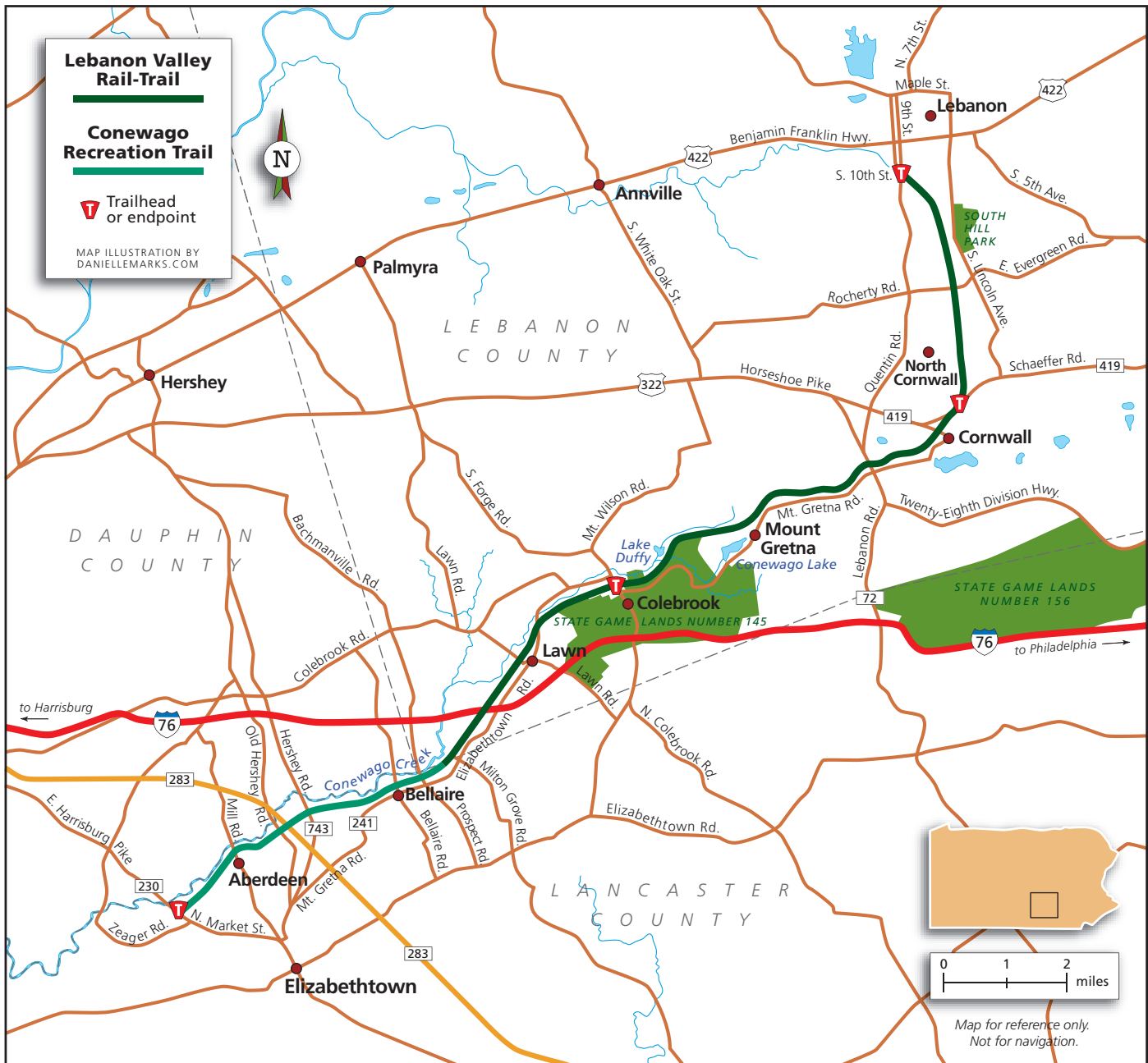
## Trail Region Population Growth\*\*

2000	120,327	470,658	251,798
2010	122,619	499,261	256,478
2020	126,397	527,486	263,198
2030	131,470	554,611	270,543

\*\*Source: U.S. Census and PA Bulletin 38 PA.B. 1415 (2008 estimates).



# Lebanon Valley Rail-Trail and Conewago Recreation Trail Map



# Qualitative Values of the Lebanon Valley Rail-Trail and Conewago Recreation Trail

The following are a sampling of verbatim comments taken from the Trail User Survey forms distributed along the trails:

*This trail is an enhancement to my life. I use it as often as I can & have walked most of it many times & am grateful to enjoy most of it.*

*We can't wait for the extension of the trail through Lebanon.*

*Last summer I lost 20 lbs. Walking & biking. It was a big help for my health (diabetic). I plan on doing the same this summer. Any public money spent on the trails is well spent.*

*Excellent place to ride. Love the trail. Maybe more benches or small leanto shelters would be good. Available water would be nice but everyone takes their own. RTT Bike Shop is a great help!! & promoter!*

*The only significant, ongoing problems that I see on the trail are the horse rider's disrespect for the trail & their unwillingness to use the appropriate portions of the trail.*

*Thank you for the trail. I don't have sidewalks so this is a place that I feel is safe to walk & my daughter can ride her bike without worrying about getting run over.*

*I think this is the best thing that's been done around here. I live behind the Lebanon Daily News & I enjoy the trail.*

*Thank you & Keep the trails! Need to paint a crosswalk on Rt 743 crossing & post more signs warning drivers of the crossing. Very dangerous because of the speed.*

*Fantastic & Beautiful! My typical ride: Colebrook to Lebanon South Hills Park, back to Colebrook, Twin Kiss & a Hollywood burger. Then from Colebrook south to Rt 230 & back to Colebrook. A terrific bike ride.*

*Sold a home in Lanc. Co. after finding we used the trail so much. Bought home on the Rail Trail. Without the trail we would not have moved here.*

*Poor communication. If trail is torn up advise rider of distance in miles to the next usable part of the trail. The name of the next crossroad has no meaning to a non-resident.*

*The trail is wonderful to walk. I love the trees, nature, & birds & the trail is kept clean & safe. Thank-you keep up the good work!*

*The Trail is a wonderful resource. Everyday I am happy to live nearby!*

*There are a couple sections that seem to be getting too narrow like the section immediately south of Colebrook. Thank you for all that you do to maintain the trail! I am looking forward to the expansion. I ride the entire length back & forth at least once per yr. Thanks again!*

# 2011 Survey Results



### Question 1

What is your ZIP code?

- 25% Lebanon County
- 22% Lancaster County
- 17.5% Dauphin County
- 15.5% Nearby counties
- 7.0% Distant counties
- 7.5% Out of state

### Question 2

How often, on average, do you use the trail?

- 6.7% Daily
- 15.1% Once a week
- 11.9% Twice a week
- 18.1% More than twice a week
- 5.0% Once a month
- 17.7% A couple of times a month
- 25.5% Few times a year

### Question 3

Please identify your age group.

- 1.9% 15 and under
- 3.8% 16–25
- 7.3% 26–35
- 15.0% 36–45
- 25.0% 46–55
- 28.8% 56–65
- 18.0% 66 or older

### Question 4

Were any children 15 years of age or younger with you on your trail experience today?

- 17.6% Yes
- 82.4% No

### Question 5

What is your gender?

- 55.5% Male
- 44.5% Female

### Questions 6

What is your primary activity on the trail?

- 25.7% Walking/hiking
- 47.9% Biking
- 12.6% Jogging/running
- 0.5% Horseback riding
- 2.3% Cross-country skiing/snowshoeing
- 0.9% Geocaching
- 8.7% Dog walking
- 1.5% Other: Birding, photography

### Question 7

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

- 80.1% Yes
- 19.9% No

### Question 8

Generally, when do you use the trail?

- 18.3% Weekdays
- 28.0% Weekends
- 53.7% Both

### Question 9

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

- 0.4% Less than 30 minutes
- 23.8% 30 minutes to 1 hour
- 49.6% 1 to 2 hours
- 26.2% More than 2 hours

### Question 10

Would you consider your main use of the trail to be for...

- 34.9% Recreation
- 59.0% Health and exercise
- 4.8% Training
- 0.7% Commute to work
- 0.1% Walk to school
- 0.5% Other

### Question 11

During your visit to the trail did you...

- 41.2% Do bird watching
- 24.3% Study wildflowers
- 3.8% Geocache
- 10.9% Visit Historic Sites
- 19.8% Other: Photography, relaxation, socialize

### Question 12

How did you find out about the trail?

- 36.4% Word of mouth
- 10.2% Roadside signage
- 19.4% Driving past
- 6.0% Newspaper
- 3.6% Bike shop
- 0.1% Tourist bureau
- 6.7% LVRT Trail brochure
- 2.5% www.explorePATrails.com
- 4.7% www.TrailLink.com
- 3.9% www.lvtrail.com
- 2.1% Lancaster County Parks Website
- 0.5% Other website
- 3.9% Other: Old guidebook

### Question 13

Has your use of the trail influenced your purchase of?

- 22.2% Bike
- 23.6% Bike supplies
- 3.7% Auto accessories (bike rack, etc.)
- 15.7% Footwear
- 14.6% Clothing
- 20.2% Nothing

### Question 14

Approximately how much did you spend on the items above in the past year?

The average for those who indicated they had made a purchase and provided a dollar amount was \$327.46 (n=348)

### Question 15

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

- 17.5% Beverages
- 6.8% Candy/snack foods
- 4.8% Sandwiches
- 11.5% Ice cream
- 13.9% Meals at a restaurant along the trail
- 0.0% Bike rental
- 1.0% Other
- 44.4% None of these

### Question 16

Approximately how much did you spend per person on the items above?

The average for those who indicated they had made a purchase and provided a dollar amount was \$12.57 (n=226)

*Note: This is an average amount spent per person, per trip.*

### Question 17

Did your visit to the trail involve an overnight stay in one of the following types of accommodations? (n=29)

- 24.1% Motel/hotel
- 0.0% Bed-and-Breakfast
- 51.7% Friend or relative's home
- 20.7% Campground
- 3.4% Other

### Question 18

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

Average number of nights per stay: 3.6

### Question 19

Approximately how much did you spend on overnight accommodations per night?

Average expenditure per night for those who provided an amount was \$63.62 (n=13)

### Question 20

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

- 47.9% Excellent
- 43.1% Good
- 6.2% Fair
- 2.8% Poor

### Question 21

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

- 38.7% Excellent
- 49.5% Good
- 8.6% Fair
- 3.2% Poor

### Question 22

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

- 52.3% Excellent
- 40.9% Good
- 5.7% Fair
- 1.1% Poor

### Question 23

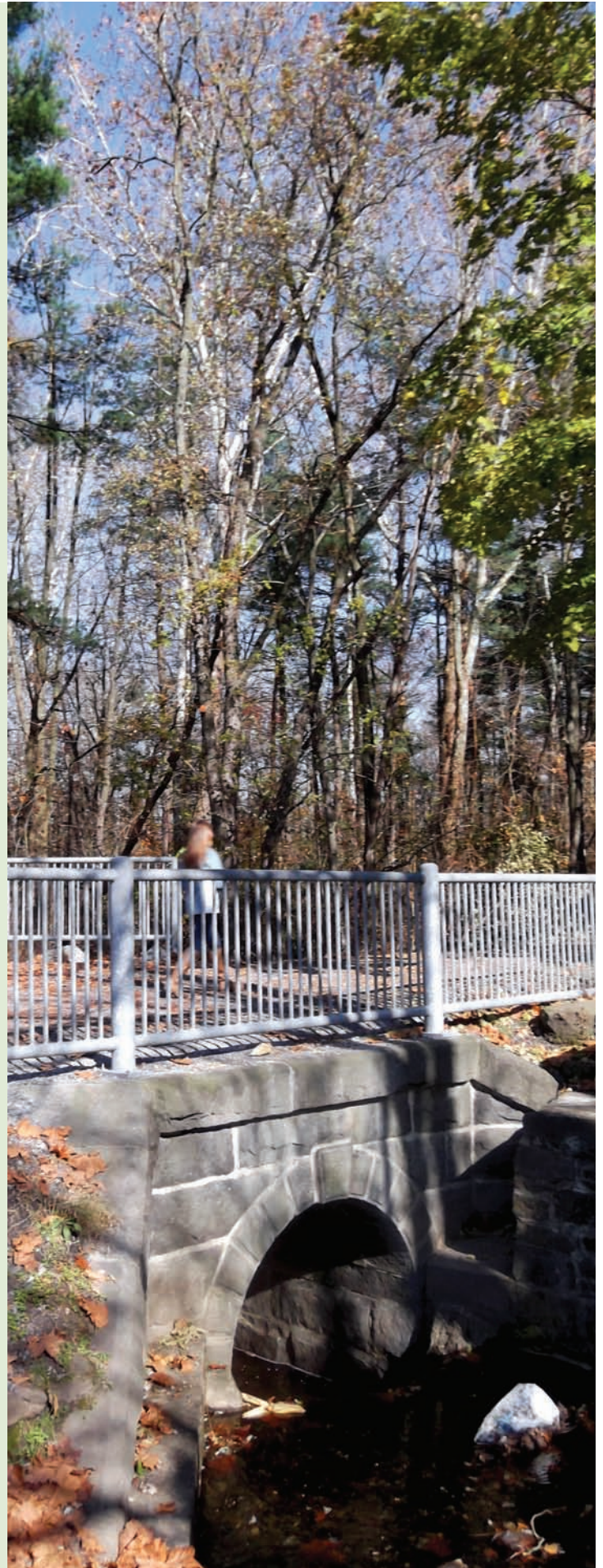
Which portion of the trail do you use most often?

- 7.7% 8th to Expo
- 8.6% Expo to Cornwall
- 9.7% Cornwall to Rt. 72
- 8.9% Rt. 72 to Mt. Gretna
- 11.6% Mt. Gretna to Colebrook
- 10.1% Colebrook to Lawn
- 8.9% Lawn to Prospect Rd.
- 8.3% Prospect Rd. to Bellaire Rd.
- 8.2% Bellaire Rd. to Koser Rd.
- 8.5% Koser Rd. to Hershey Rd.
- 8.8% Old Hershey Rd. to Market St.
- 0.9% Templeton

### Question 24

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

- 11.4% Lebanon at 8th St.
- 1.3% Wilhelm Ave/South Hills Park
- 3.8% Lebanon at Expo
- 17.2% Cornwall
- 3.2% Rt. 72
- 9.1% Mt. Gretna
- 15.7% Colebrook
- 7.8% Lawn
- 2.3% Prospect Rd.
- 1.7% Bellaire Rd.
- 4.6% Koser Rd.
- 5.5% Old Hershey Rd.
- 13.5% Market St. (Rt. 230)
- 3.0% Other



# Methodology and Analysis

Utilizing RTC's Trail User Survey Workbook template as a starting point, the survey form was refined with input from the trail managers, Lebanon Valley Rails-to-Trails and the Lancaster County Department of Parks and Recreation. The sample was self-selecting, meaning trail users could pick up survey forms that were available at each of the trail's primary trailheads between Lebanon and Elizabethtown, Pa. The survey forms were folded into a postage-paid self-mailer that was addressed to Rails-to-Trails Conservancy's national headquarters in Washington, D.C., and delivered to an independent consultant who tallied the survey results. Survey collection was conducted from May 2011 through October 2011. Approximately 2,500 survey forms were distributed. A total of 563 survey forms were received and tallied for this analysis.

Because several questions called for multiple responses, and some survey respondents did not answer all of the questions, the percentages presented in this analysis are based on 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 and other published reports, as well as anecdotal evidence).

For the purpose of this analysis, the data from the trails will be compared with data collected in a 2008 survey of users on the Perkiomen Trail in nearby Montgomery County, Pa., and a 2009 survey of users on the Ghost Town Trail in Indiana and Cambria counties in west-central Pennsylvania. The data-collection methodology and the survey questions from the Perkiomen Trail and the Ghost Town Trail

surveys are in most cases identical to those in the Lebanon/Conewago trails survey.

The Ghost Town Trail and the Perkiomen Trail were chosen for comparison because they share similar characteristics to the Lebanon Valley Rail-Trail and Conewago Recreation Trail in size and design. The Ghost Town Trail is a multi-use pathway that runs 36 miles east to west between Ebensburg in Cambria County and Black Lick in Indiana County. The Ghost Town Trail is co-managed by Indiana County Parks and the Cambria County Conservation Authority. In a formerly robust coal mining region, the trail is distinctly rural, running parallel to Blacklick Creek and state game lands, passing through the town of Ebensburg as well as a few small residential communities.

The Perkiomen Trail is a 19-mile, multi-use pathway in southeast Pennsylvania that runs along the banks of Perkiomen Creek. The Perkiomen Trail is managed by the Montgomery County Parks Department. The Perkiomen Trail differs from the Ghost Town, Lebanon and Conewago trails in that it is surrounded by dense suburban communities and interstate highways, as the trail passes through several small towns as well as rural areas, all within 30 miles of Philadelphia.

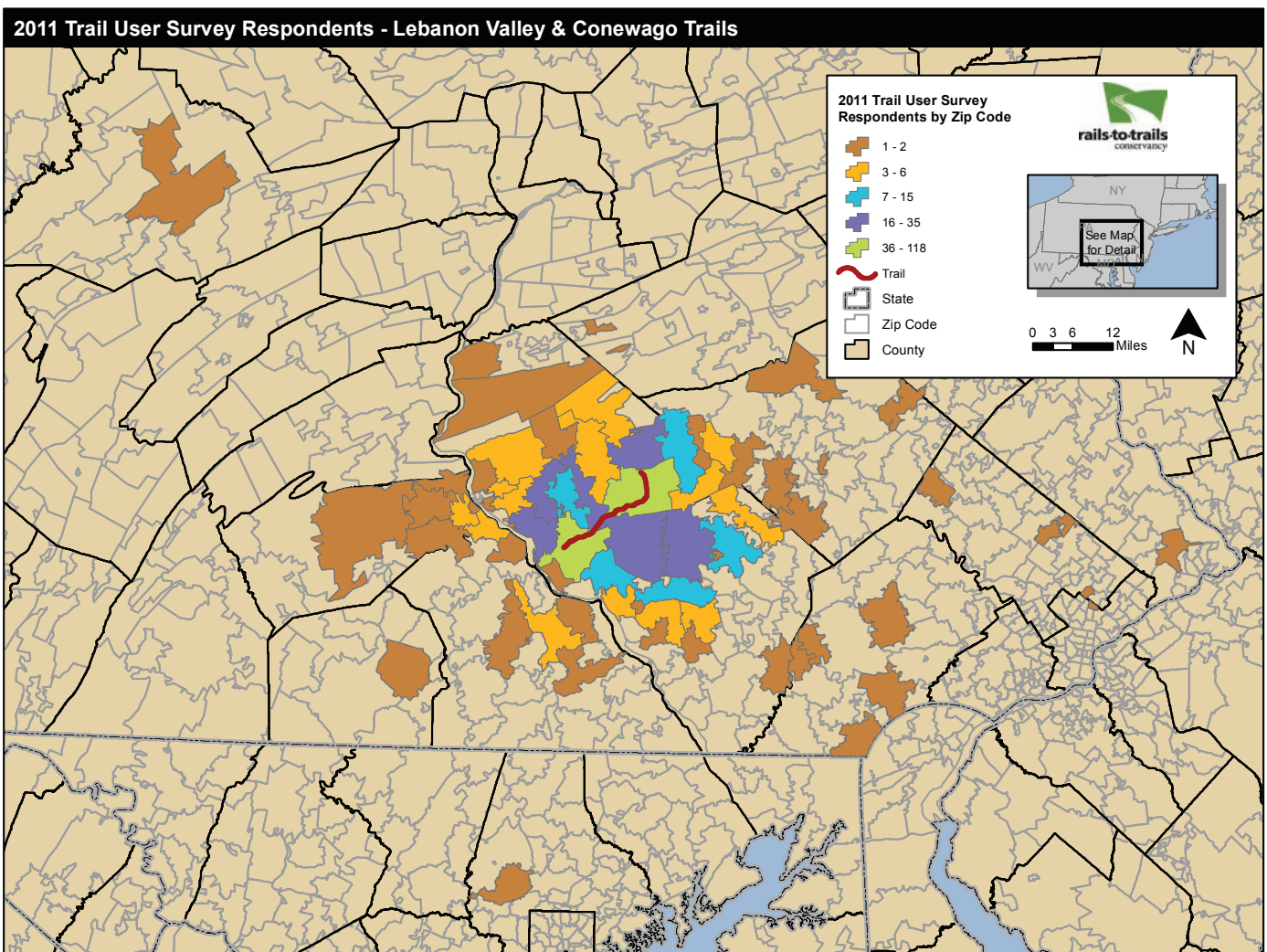
Like the Lebanon and Conewago trails, both the Ghost Town and Perkiomen trails demonstrate characteristics of a local community trail.





ZIP CODE MAP for Lebanon Valley Rail-Trail and Conewago Recreation Trail Survey Respondents

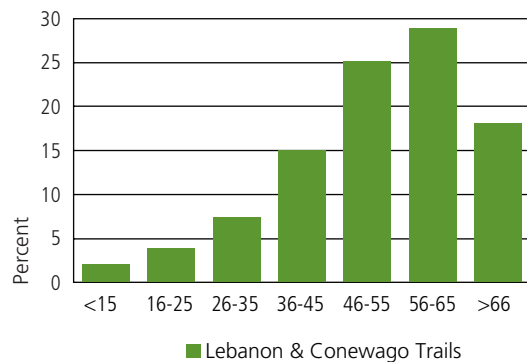
Distribution of the survey respondents based on ZIP code.



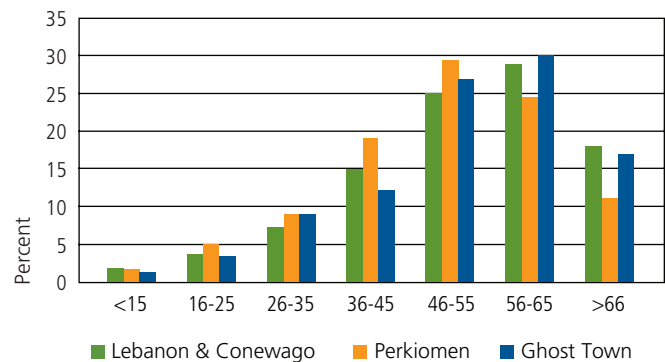
# Comparative Analysis

The general curve represented by the various age groups closely parallels what we have found in all previous trail surveys RTC has performed. The Lebanon and Conewago trails do have a large percentage of users over 66 years of age, which likely correlates to the fact the trail connects directly to an assisted living facility for seniors. This proximity also could be a factor in the number of surveys completed by people living at the facility.

What is your age group?

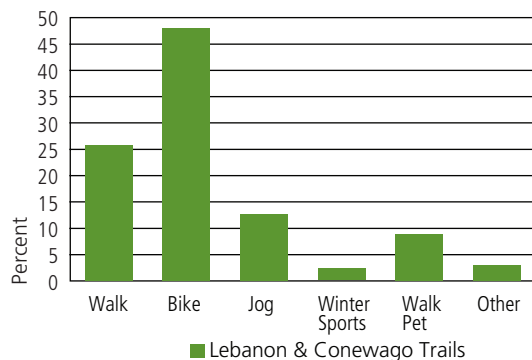


Comparison with other trails

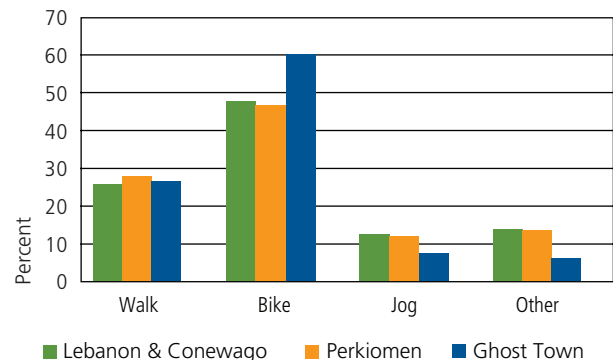


As with most rail-trails, the predominant activities on the Lebanon and Conewago trails are bicycling and walking, with bicycling being the most common activity (accounting for 47.9 percent). Winter activities include cross-country skiing and snowshoeing. Geocaching (0.9 percent) and horseback riding (0.5 percent) were included on the survey form as activity choices and have been added to the “other” category for the purposes of comparison. Other activities specified by respondents on the survey form included photography and people watching.

What is your primary activity?



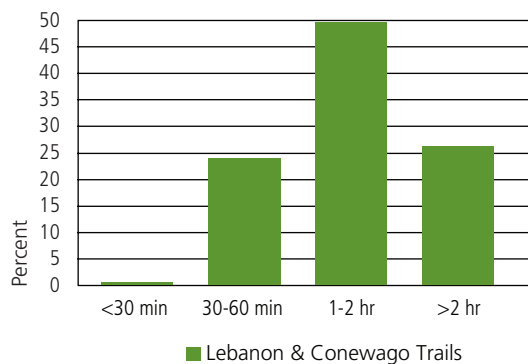
Comparison with other trails



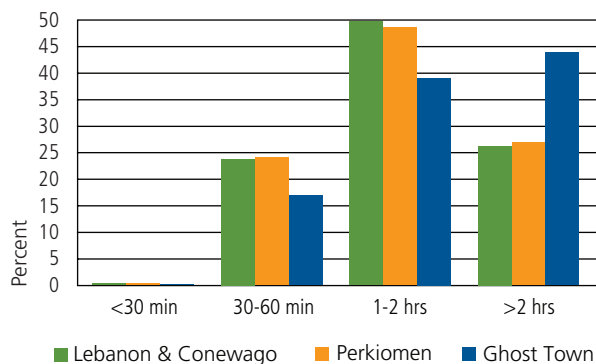


All three trails in this comparison pass through a combination of natural areas as well as residential and retail areas. The Ghost Town Trail passes through the smallest percentage of populated areas and has the longest distance of unbroken trail. The most striking aspect of this comparison is the similarity of time spent on the Perkiomen with the users in Lebanon and Lancaster counties. The percentages are nearly identical between the two trails. As on the Perkiomen, the majority of users of the Lebanon and Conewago trails are on the trail between one and two hours.

How much time did you spend on each trail visit?

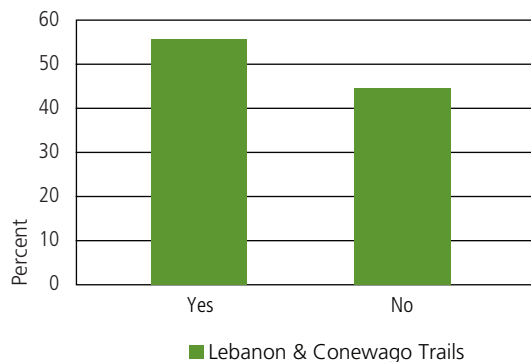


Comparison with other trails

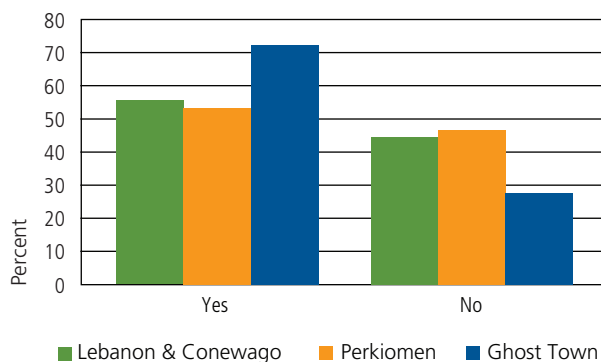


More than 55 percent of survey respondents purchased consumable items in conjunction with their trail visit; for the purpose of this survey, those items included such items as snacks, water, ice cream and meals. This percentage is very similar to what we see on the Perkiomen Trail. The percentage of purchases relates to the length of the trail and the environment through which the trail passes (feeling a need to be prepared by carrying some nourishment on more remote trails, for instance, versus expecting services in more populous areas; also, longer trail excursions versus short trips). Purchases also relate to the distance people may be traveling to get to the trail.

Number of people who purchased "soft goods"



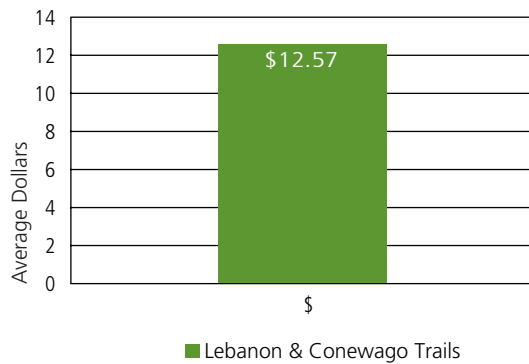
Comparison with other trails



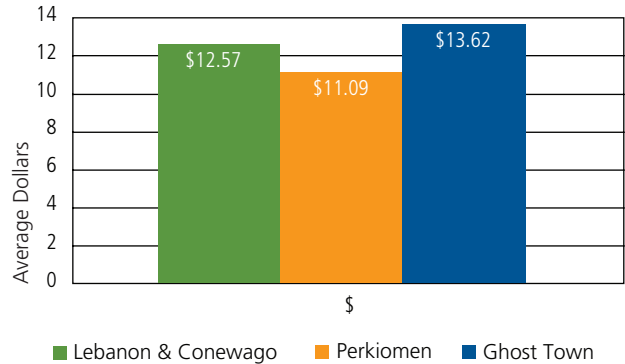


Respondents to the Lebanon and Conewago survey reported spending an average of \$12.57 per visit to the trail (slightly more than users of the Perkiomen, and slightly less than users of the Ghost Town). Again, the distance traveled on the trail, the amount of time spent on the trail, and the environment through which the trail passes all influence the amount of money spent on consumable goods. Other factors corresponding to the amount of spending while on the trail can be the economy in general and the type of trailside retail (full-service restaurants versus quick-stop snack shops). The Lebanon Valley Trail maintains a snack stand along the trail in the shape of a large root beer barrel. The stand is open only on weekends.

Average \$ spent per person on "soft goods"

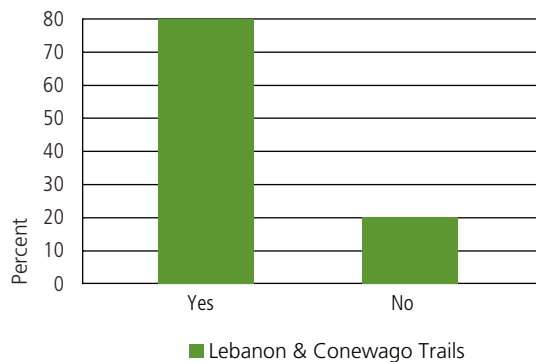


Comparison with other trails

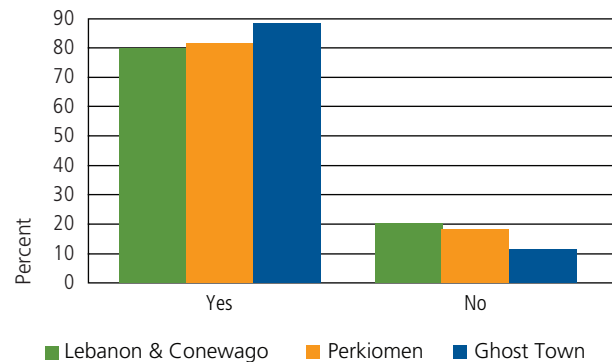


In the case of all three of these studies, use of the rail-trail has influenced purchase of durable goods by close to 80 percent or more of respondents. For the purpose of these three studies, durable or "hard goods" included bikes, bike supplies, auto accessories (bike racks, etc.), footwear and clothing. The percentage of respondents to the Lebanon and Conewago survey purchasing "hard goods" is comparable to other user surveys conducted in Pennsylvania.

Number of people who purchased "hard goods"



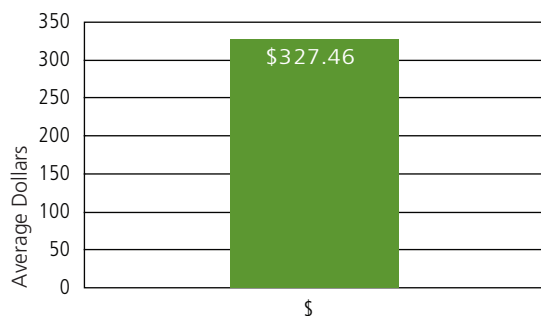
Comparison with other trails



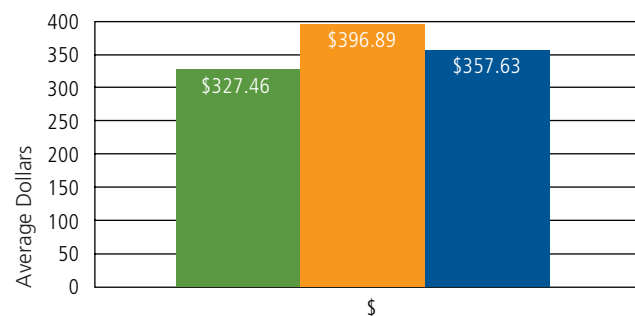


The amount respondents reported spending on durable goods such as bicycles and clothing is averaged at \$327.46 per respondent on the Lebanon and Conewago trails. This figure is right in line with the respondents to the Perkiomen and Ghost Town Trail surveys. The percentage of respondents who reported purchasing non-durable goods varies less than 9 percent between the three trails (Lebanon and Conewago trails, 79.8 percent; Perkiomen, 81.5 percent; and Ghost Town, 88.4 percent).

Average \$ spent on "hard goods" per person?



Comparison with other trails



■ Lebanon & Conewago Trails

■ Lebanon & Conewago ■ Perkiomen ■ Ghost Town



# Lebanon Valley Rail-Trail and Conewago Recreation Trail User Estimate

During the spring, summer and fall of 2011, passive infrared counters were placed at six locations along the Lebanon Valley Rail-Trail and Conewago Recreation Trail between Lebanon and Elizabethtown, Pa. These counters collect data on the number of trail users passing the counter by detecting each user's "heat signature."

The counters were placed along the trails at 8th Street, Wilhelm Road, Cornwall, Colebrook and near the Route 230 trailheads.

In order to develop an annual user estimate for the trails, the data collected from July was extrapolated to a 12-month estimate using a User Visit Model developed by RTC. This model examines data collected using electronic counters at 58 different locations on rail-trails across the United States.

Trail Counter Location	Actual Count	Estimated 12-Month Count*	Adjusted for Passing Multiple Counters	Adjusted for Missing Counter	Adjusted for Out-&-Back Trips
8th St	3,497	42,234	26,903	32,284	16,949
Wilhelm Ave.	3,784	45,700	29,111	34,933	18,340
Cornwall North	3,962	47,850	30,480	36,577	19,203
Cornwall South	4,025	48,611	30,965	37,158	19,508
Colebrook North	4,170	50,362	32,081	38,497	20,211
Colebrook South	1,815	21,920	13,963	16,756	8,797
Route 230	4,588	55,411	35,297	42,356	22,237
Total Estimated Annual Trail User Visits					125,244*

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



# Economic Impact



## Non-Consumable, “Hard Goods”

The economic impact of the Lebanon and Conewago trails is comprised of several elements. From the survey, the percentage of respondents who have purchased durable or “hard goods” (bikes, bike equipment, running/walking shoes, etc.) was determined (79.8 percent). Most respondents also indicated how much they spent on these types of purchases during the past 12 months.

### Hard Goods

Has your use of the trail influenced your purchase of? (check all that apply)

Bike	22.2%
Bike supplies	23.6%
Auto accessories	3.7%
Running/walking/hiking shoes	15.7%
Clothing	14.6%
Nothing	20.2%

Approximately how much did you spend on the items above in the past year? (enter dollar amount)

Average “hard goods” purchase	\$327.46
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## Consumable, “Soft Goods”

The survey also determined how much trail users spent on non-durable consumables, or “soft goods” (water, soda, snacks, ice cream, lunches, etc.), while using the trail. The percentage of respondents who made these types of purchases—55.6 percent—is an

important aspect for determining the local economic impact.

In conjunction with your most recent trip to the trail, did you purchase any of the following? (check all that apply)

Beverages	17.5%
Candy/snack foods	6.8%
Sandwiches	4.8%
Ice cream	11.5%
Meals at a restaurant along the trail	13.9%
Bike rental	0.0%
Other	1.0%
None of these	44.4%

Approximately how much did you spend per person on the items above? (enter dollar amount)

Average consumable goods purchase	\$12.57
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## Lodging

Very few respondents to the Lebanon and Conewago trails survey indicated that an overnight stay was part of their trail experience. Of the 563 completed survey forms, only 29 indicated an overnight stay, and of those fewer than half paid for lodging (most reported staying with friends at no cost). With fewer than 3 percent of respondents reporting any expenditure on lodging, there is insufficient data to include this category of spending in the economic impact analysis.

The following chart takes the data collected from the categories of “soft goods” and “hard goods” and extrapolates the purchases on an annual basis. While “hard good” purchases may not be made on an annual basis, they represent a significant expenditure figure. The purchase of “soft goods” does represent an annual expenditure because these purchases are made on a per-trip basis by users.

### Lebanon Valley Rail-Trail and Conewago Recreation Trail Economic Impact Analysis

Annual User Estimate (rounded)					125,244
Category	% Usage	Avg. \$	Avg. Life	Avg. # of trips	Total Est. Expenditure
Hard Goods*	79.8%	\$327.46	6 years	12.1	\$450,797
Soft Goods	55.6%	\$12.57			\$875,320

Hard Goods = (% Usage X (Avg. \$÷Avg. Life) X # Users ÷ Avg. Number of Trips)\* In the above example, the calculation would look like this: ((.798 X (\$327.46÷6)) X (125,244÷12.1)) = \$450,797.

Soft Goods = (% Usage X Users Avg. \$ X # Users) In the above example, the calculation would look like this: (.556 X \$12.57 X 125,244) = \$875,320.

\*Major “hard good” purchases such as a bike may be replaced every five to 10 years. Running shoes may be replaced every couple of months. For the purpose of this analysis, we assumed the average life of a “hard good” to be six years. To get a figure that is usable on an annual user basis, the “hard goods” need to be broken down to a per-trip figure.\*\* This amounts to working the average spending on a “hard good” down to a per-use depreciation amount.





# Trail Acquisition, Construction and Maintenance Costs



Recording and evaluating the costs of acquisition, construction and maintenance against the estimated revenue can provide a much more accurate picture of the complete economic impact the trails have on the Lebanon-Lancaster County region.

The original rail corridor used for the development of the 5.5-mile Conewago Trail was purchased by Lancaster County from Penn Central Railroad in 1979 for \$50,000.

In 2006, Lancaster County performed a full reconstruction of the 5.5-mile Conewago Trail for a total cost of \$560,420. Maintenance is provided for the Conewago Trail by the Lancaster County Department of Parks and Recreation. The maintenance cost for the trail alone is not separated out from the total county parks budget but has been estimated to be approximately \$2,750 per mile annually.

The Lebanon Valley Rail-Trail is owned and operated by Lebanon Valley Rails to Trails, Inc. (LVRT), a private nonprofit formed in 1996 to acquire and build the trail. The total cost for construction of the first five phases of the 15-mile trail has totaled approximately \$2.5 million.

Maintenance costs for the Lebanon Valley Rail-Trail vary according to weather events, from a low of \$10,000 per year to a high of more than \$100,000 when extraordinary repairs are required. LVRT officials estimate their 10-year average to be approximately \$2,000 per mile annually for maintenance expenses.

Original Acquisition	
Conewago Recreation Trail 1979	\$50,000
Lebanon Valley Rail-Trail 1999	\$130,000
Construction	
Conewago Recreation Trail: original construction	N/A
Conewago Recreation Trail: 2006 reconstruction	\$560,420
Lebanon Valley Rail-Trail	Phases 1 – 5: \$2.5 million
Maintenance (annual estimate)	
Conewago Recreation Trail	\$15,125
Lebanon Valley Rail-Trail	\$30,000

# Trail Maintenance, Security and Cleanliness

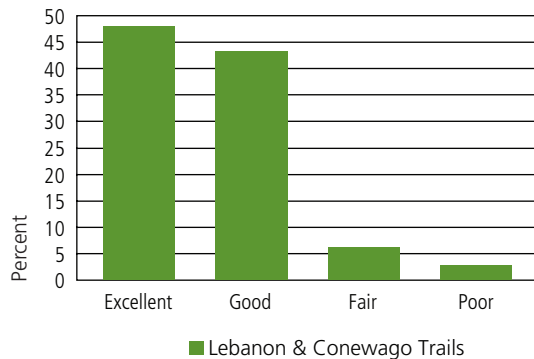
One of the most important aspects of the trail user survey is that it allows the trail's managers to receive feedback, both positive and negative, from trail users. This 2011 Trail User Survey can serve as a benchmark against which future maintenance, security and cleanliness issues can be compared. The managers of the trails will receive documentation of all the comments collected from the surveys.

This series of questions was also posed in the 2009 study of the Ghost Town Trail and the 2008 study of the Perkiomen Trail. To provide a basis of comparison for the management of the Lebanon and Conewago trails, the responses from those studies have been included in this section of the analysis.

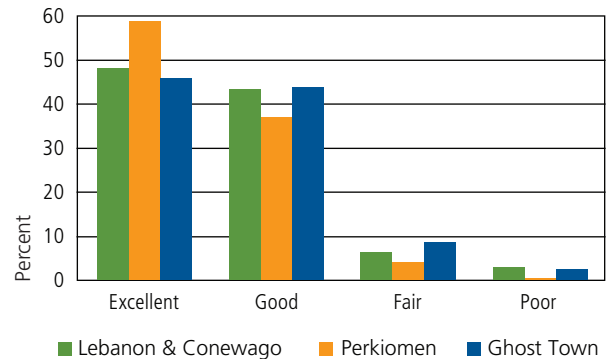
According to survey respondents, both trails are well maintained, with the majority of respondents replying that maintenance was good to excellent. This feedback is significant because virtually all maintenance for the Lebanon Valley Rail-Trail is taken care of by volunteers. The Conewago Trail is maintained by paid staff of the Lancaster County Department of Parks and Recreation.

The Ghost Town Trail in Indiana and Cambria counties is maintained largely by Indiana County Parks with financial assistance from Cambria County. The Perkiomen Trail is maintained by the Montgomery County Department of Parks.

Opinion of trail maintenance



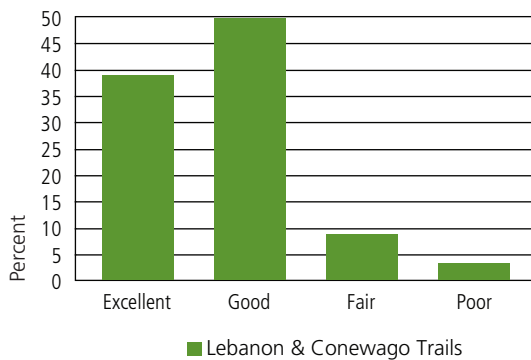
Comparison with other trails



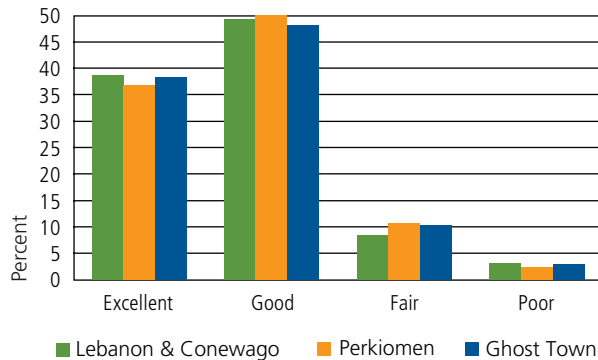


The feeling of security that trail users have is influenced by the presence of other trail users, familiarity with the trail, the users' general perception of how safe their overall environment is, and the overall appearance of the trail and any amenities (benches, signs, etc.). From the responses to the 2011 Trail User Survey, it is evident that respondents feel safe on the Lebanon and Conewago trails.

Opinion of safety and security of the trail

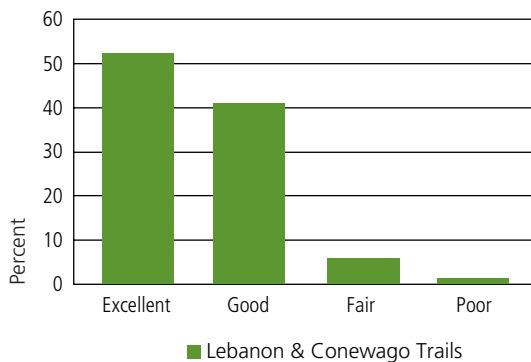


Comparison with other trails

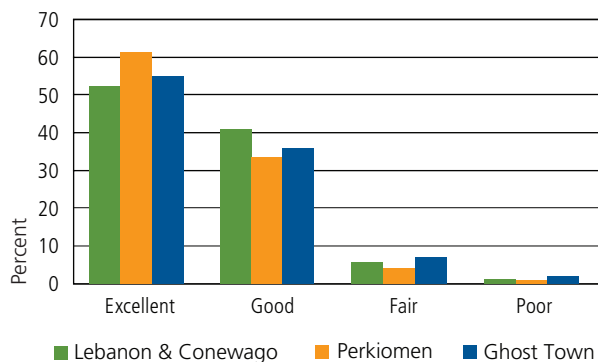


The majority of survey respondents gave the cleanliness of the trails an excellent rating. Based on comments received, a number of users would like to have trash cans available along the length of the trails; however, making the trail a "pack out what you pack in" facility normally results in a much cleaner environment than those areas using trash cans, which can be misused and are costly to maintain. The comments section also indicates that users do not necessarily understand that the Lebanon Valley Rail-Trail is an all-volunteer owned and managed trail.

Opinion of cleanliness of the trail



Comparison with other trails



# Appendix A—Aggregate Charts and Trail Counter Data



## Average Annual User Estimate

### All Trailheads

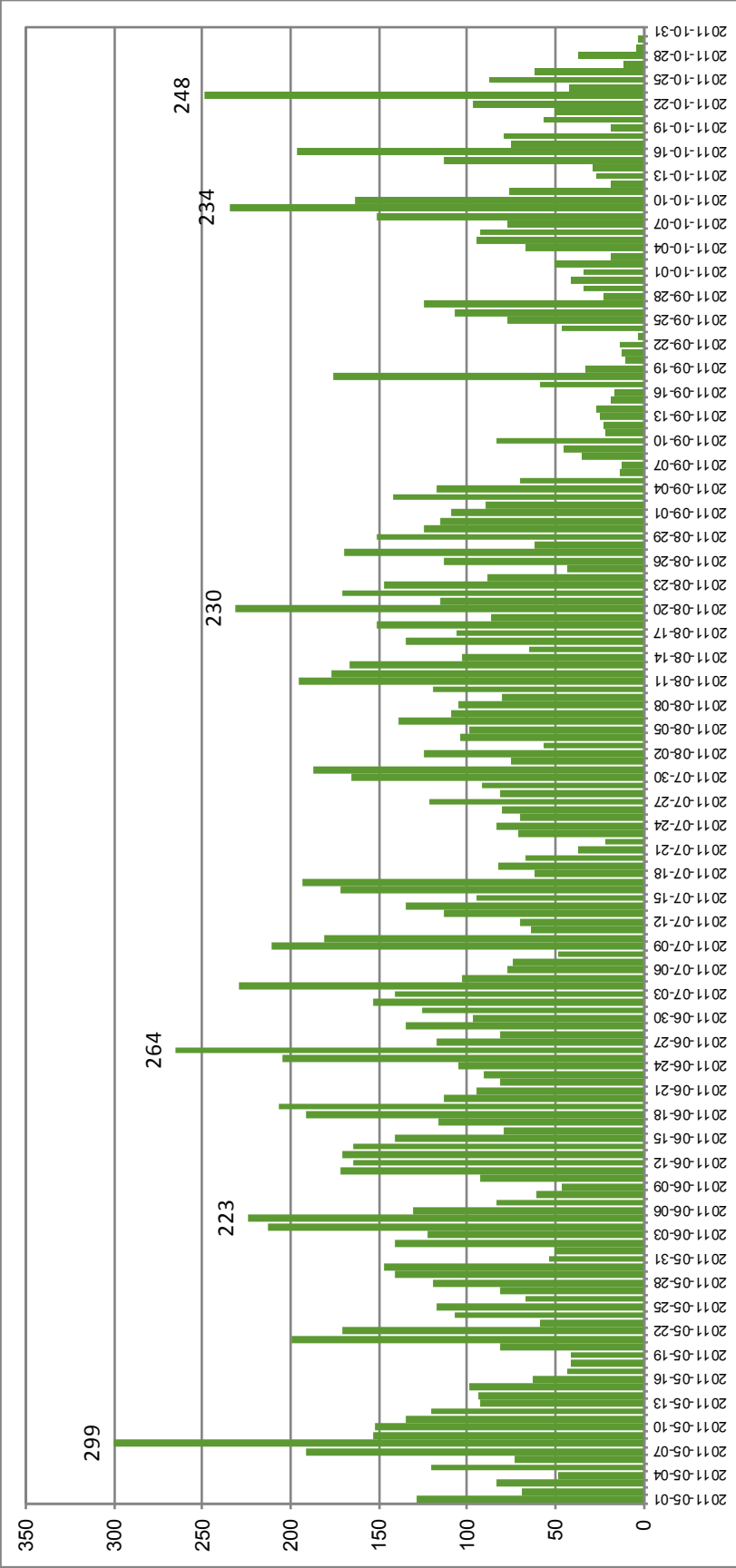
Lebanon-8th St	42,234
Wilhelm Ave	45,700
Cornwall North	47,850
Cornwall South	48,611
Colebrook North	47,850
Colebrook South	21,920
Conewago-RT230	55,411

## Mean Daily Visitation

	RT 230	Colebrook South	Colebrook North	Cornwall South	Cornwall North	Wilhelm	8th St
Monday	93.5	41.5	63.1	50.7	67.4	73.0	40.8
Tuesday	87.2	33.5	52.2	46.8	66.0	67.9	39.1
Wednesday	73.9	33.8	56.3	44.8	67.2	60.7	36.3
Thursday	76.7	27.2	57.5	41.5	58.0	55.2	34.1
Friday	76.4	33.6	62.2	46.7	58.4	56.0	32.7
Saturday	137.3	74.9	121.9	85.7	103.5	90.5	42.7
Sunday	147.3	90.6	132.4	110.7	116.3	91.6	46.6

**TRAFx REPORT:**

Project: Conewago Rec Trail Survey      Start: 2011-05-01      Location: Rt 230 Trailhead  
 Counter: Conewago\_RT230\_May\_Oct      Finish: 2011-10-31      Comment: Divide by 2 applied.

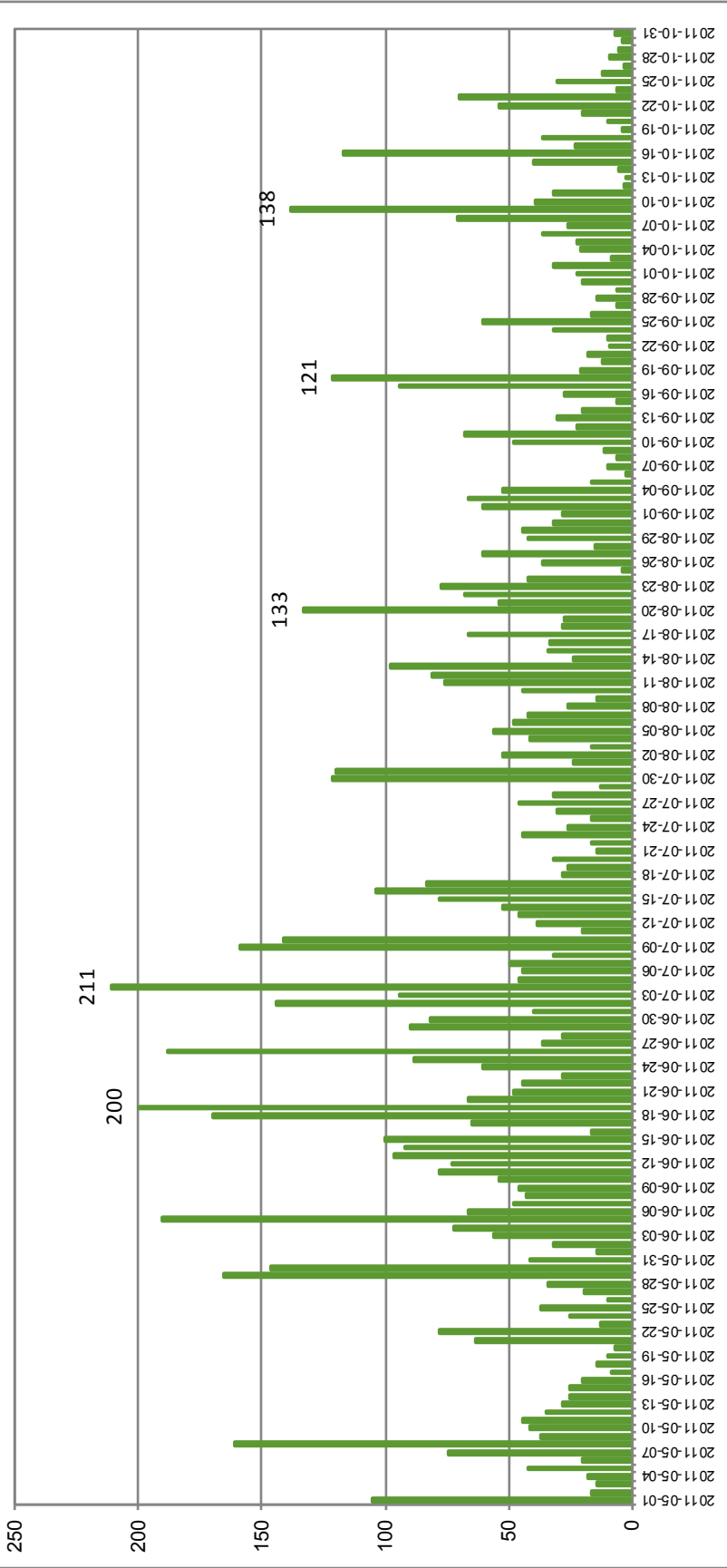


<b>Total Counts:</b>	<b>18,237</b>	<b>Daily Mean Weekday:</b>	<b>81.6</b>	<b>Total (1):</b>	<b>18,237</b>
<b>Total Periods:</b>	<b>184</b>	<b>Daily Mean Weekend:</b>	<b>142.3</b>	<b>Total (2):</b>	<b>0</b>
<b>Period Length:</b>	<b>1 day</b>	<b>Mean Monday</b>	<b>93.5</b>	<b>Percentage (1):</b>	<b>100.0</b>
<b>Mean:</b>	<b>99.1</b>	<b>Mean Tuesday</b>	<b>87.2</b>	<b>Percentage (2):</b>	<b>0.0</b>
<b>Mode:</b>	<b>80.0</b>	<b>Mean Wednesday</b>	<b>73.9</b>	<b>Mean (1):</b>	<b>99.1</b>
<b>Median:</b>	<b>92.0</b>	<b>Mean Thursday</b>	<b>76.7</b>	<b>Mean (2):</b>	<b>0.0</b>
<b>Standard Deviation:</b>	<b>59.5</b>	<b>Mean Friday</b>	<b>76.4</b>	<b>Max/Min (1):</b>	<b>299 / 0</b>
<b>Maximum:</b>	<b>299</b>	<b>Mean Saturday</b>	<b>137.3</b>	<b>Max/Min (2):</b>	<b>0 / 0</b>
<b>Minimum:</b>	<b>0</b>	<b>Mean Sunday</b>	<b>147.3</b>		
<b>Total Weekday:</b>	<b>10,694</b>				
<b>Total Weekend:</b>	<b>7,543</b>				
<b>Daily Max/Min Weekday:</b>	<b>228 / 0</b>				
<b>Daily Max/Min Weekend:</b>	<b>299 / 2</b>				

FIVE PEAK PERIODS: 2011-05-08 (299), 2011-06-26 (264), 2011-10-23 (248), 2011-10-09 (234), 2011-08-20 (230)

**TRAFx REPORT:**

Project: Lebanon Valley Rail-Trail Survey      Start: 2011-05-01      Location: Colebrook South  
 Counter: Colebrook\_south\_May\_Oct      Finish: 2011-10-31      Comment: Divide by 2 applied.

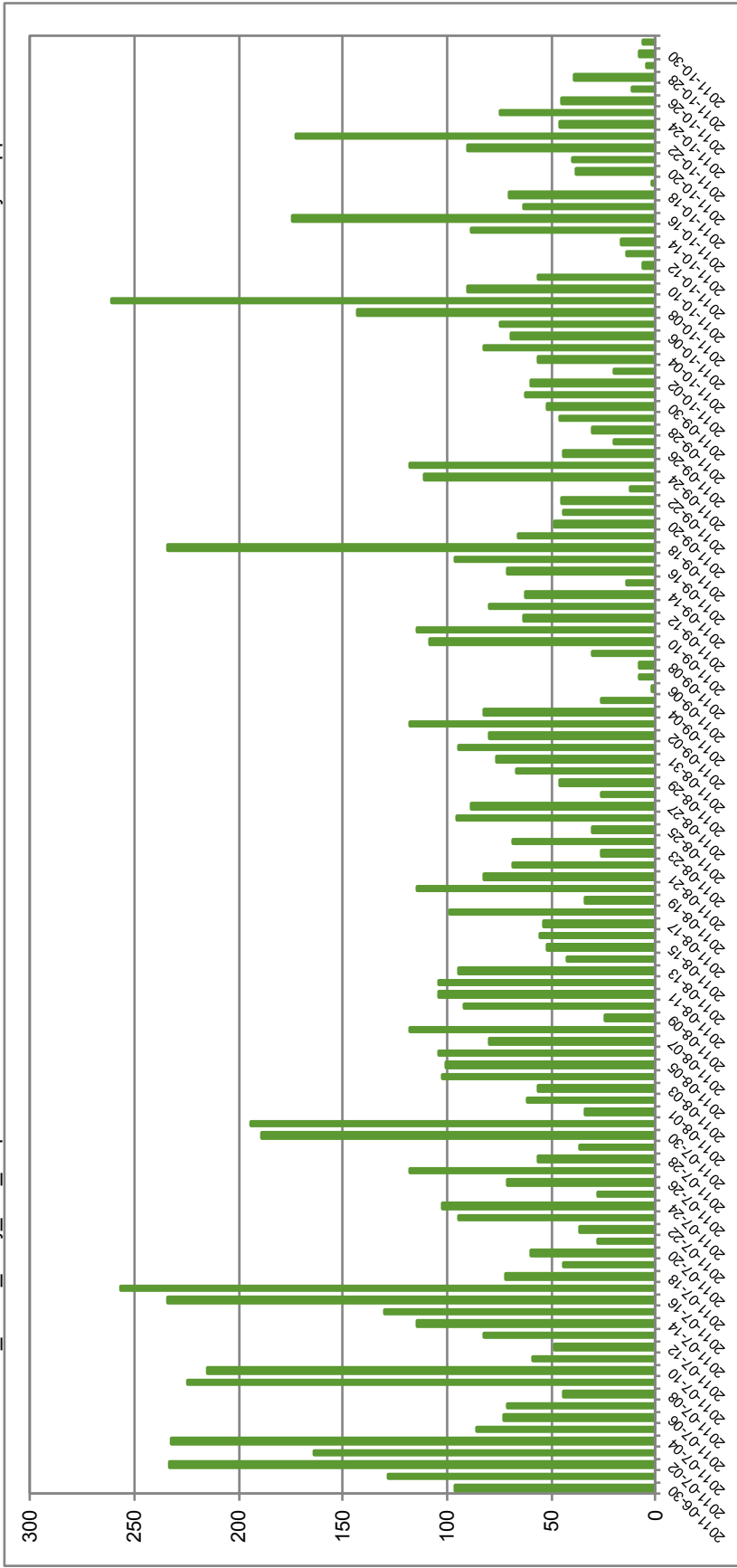


<b>Total Counts:</b>	<b>8,844</b>	<b>Daily Mean Weekday:</b>	34.0	<b>Total (1) :</b>	8,844
<b>Total Periods:</b>	<b>184</b>	<b>Daily Mean Weekend:</b>	82.9	<b>Total (2) :</b>	0
<b>Period Length:</b>	<b>1 day</b>	<b>Mean Monday</b>	41.5	<b>Percentage (1) :</b>	100.0
<b>Mean:</b>	<b>48.1</b>	<b>Mean Tuesday</b>	33.5	<b>Percentage (2) :</b>	0.0
<b>Mode:</b>	<b>32.0</b>	<b>Mean Wednesday</b>	33.8	<b>Mean (1) :</b>	48.1
<b>Median:</b>	<b>36.0</b>	<b>Mean Thursday</b>	27.2	<b>Mean (2) :</b>	0.0
<b>Standard Deviation:</b>	<b>42.7</b>	<b>Mean Friday</b>	33.6	<b>Max/Min (1) :</b>	211 / 2
<b>Maximum:</b>	<b>211</b>	<b>Mean Saturday</b>	74.9	<b>Max/Min (2) :</b>	0 / 0
<b>Minimum:</b>	<b>2</b>	<b>Mean Sunday</b>	90.6		
<b>Total Weekday:</b>	4,451				
<b>Total Weekend:</b>	4,393				
<b>Daily Max/Min Weekday:</b>	211 / 2				
<b>Daily Max/Min Weekend:</b>	200 / 4				

FIVE PEAK PERIODS: 2011-07-04 (211), 2011-06-19 (200), 2011-06-05 (190), 2011-06-26 (188), 2011-06-18 (170)

**TRAFx REPORT:**

Project: Lebanon Valley Rail Trail Survey      Start: 2011-06-30      Location: Colebrook North  
 Counter: colebrook\_north\_July\_Oct\_Repai      Finish: 2011-10-31      Comment: Divide by 2 applied.



<b>Total Counts:</b>	<b>9,717</b>	<b>Daily Mean Weekday:</b>	<b>58.4</b>	<b>Total (1):</b>	<b>9,717</b>
<b>Total Periods:</b>	<b>124</b>	<b>Daily Mean Weekend:</b>	<b>127.2</b>	<b>Total (2):</b>	<b>0</b>
<b>Period Length:</b>	<b>1 day</b>	<b>Mean Monday</b>	<b>63.1</b>	<b>Percentage (1):</b>	<b>100.0</b>
<b>Mean:</b>	<b>78.4</b>	<b>Mean Tuesday</b>	<b>52.2</b>	<b>Percentage (2):</b>	<b>0.0</b>
<b>Mode:</b>	<b>44.0</b>	<b>Mean Wednesday</b>	<b>56.3</b>	<b>Mean (1):</b>	<b>78.4</b>
<b>Median:</b>	<b>68.0</b>	<b>Mean Thursday</b>	<b>57.5</b>	<b>Mean (2):</b>	<b>0.0</b>
<b>Standard Deviation:</b>	<b>57.5</b>	<b>Mean Friday</b>	<b>62.2</b>	<b>Max/Min (1):</b>	<b>261 / 2</b>
<b>Maximum:</b>	<b>261</b>	<b>Mean Saturday</b>	<b>121.9</b>	<b>Max/Min (2):</b>	<b>0 / 0</b>
<b>Minimum:</b>	<b>2</b>	<b>Mean Sunday</b>	<b>132.4</b>		
<b>Total Weekday:</b>	<b>5,139</b>				
<b>Total Weekend:</b>	<b>4,578</b>				
<b>Daily Max/Min Weekday:</b>	<b>232 / 2</b>				
<b>Daily Max/Min Weekend:</b>	<b>261 / 4</b>				

FIVE PEAK PERIODS: 2011-10-09 (261), 2011-07-17 (256), 2011-07-16 (234), 2011-09-18 (234), 2011-07-02 (233)



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