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# Armstrong Trail 2010 User Survey and Economic Impact Analysis

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Photos are courtesy of Ron Steffey, except for the following:  
The map on page four is courtesy of U.S. Library of Congress's Geography & Map Division, and the photo at the bottom of page 19 is courtesy of Teresa Rose.

# Armstrong Trail 2010 User Survey and Economic Impact Analysis

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# Executive Summary

The Armstrong Trail is a multi-use, community-based trail that runs 34.8 miles in Pennsylvania from Ford City in Armstrong County to East Brady in Clarion County.

An analysis of the data accumulated from infrared counters located along the trail and the completed surveys received from users indicates an estimated 80,638 annual user visits to the Armstrong Trail, resulting in a total economic impact in 2010 of \$897,442 (\$740,250 directly into the local economy).

During 2010, Rails-to-Trails Conservancy (RTC) conducted this study of the users of the Armstrong 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.

It was determined during the planning process that data collection would focus on the area of the trail between Ford City and Templeton since segments of the northern section are still under development. Therefore, no infrared counters or survey boxes were located north of Templeton.

Survey forms were available at six locations along the Armstrong Trail between Ford City and Templeton from the beginning of May through October 2010. Completed responses were mailed back to RTC. In all, 296 completed survey forms are included in this analysis.

ZIP codes indicate a large majority of trail users on the Armstrong Trail are from the local communities of Kittanning and Ford City, with a small percentage (11) from nine counties in the southwest corner of the state.

The majority of respondents (38.4 percent) reported using the trail more than twice a week, and more than a quarter (26.7 percent) reported using it on a daily basis.

The age profile of users is similar to that seen in other trail surveys, with the majority of users (45.5 percent) in the range of 46 to 65 years old. However, survey respondents on the Armstrong Trail also include a higher percentage of adolescents (6.3 percent) and young adults (16.3 percent) than what we normally see on other trails that have been surveyed using this method. Visual observations in the towns of Kittanning and Ford City provide higher indications of use by students than what the surveys documented. The trail is used by the school's physical education classes and the Safe Routes to School program on a regular basis.

The male/female ratio is not typical of what we have surveyed on other rail-trails, with 47.1 percent male and 52.9 percent female.

The Armstrong Trail is used primarily for walking and bicycling, with walking slightly more common (42.5 percent) than biking (41.2 percent). This breakdown correlates to the trail's easy connectivity to residents, schools and businesses. Another 8.5 percent of respondents indicated running as the third primary activity.



Many survey respondents (41 percent) spent one hour or less on the trail, again indicative of walking as the primary activity. An almost equal number (40.3 percent) spent up to two hours on the trail, which may account for the 41 percent who indicated they preferred biking as an activity.

A resounding 84.9 percent of respondents indicated that the trail did have an influence on the type and frequency of activities they participated in, with 59.5 percent saying they used the trail primarily for health and exercise rather than recreation (30.8 percent).

Most respondents (67.9 percent) learned about the trail primarily because they live close to it, drove by it or by word of mouth. The Armstrong Trail brochure was identified by 9.1 percent of respondents as informing them about the trail, and 3.1 percent learned about the pathway via a tourist bureau.

The survey included seven questions about expenditures in order to develop a profile of trail user spending habits. Nearly 80 percent 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 \$194.69 per person in 2010. Consumable goods, or “soft goods” such as snacks and drinks, were purchased by 65.1 percent, for an average of \$8.35 per person, per trip. Lodging was the third factor examined for economic analysis. Just three percent of the Armstrong Trail survey respondents indicated they paid for lodging for an average of \$52.00 per night; the largest percentage of respondents (11.4 percent) indicated they had camped, accounting for the low dollar/night figure.

Overall maintenance on the Armstrong Trail was rated good to excellent by 78.5 percent of respondents, and safety and security along the trail was rated good to excellent by 75.4 percent.

Nearly 78 percent of respondents felt the cleanliness of the trail was good to excellent.

The respondents’ willingness to donate a voluntary annual fee to help maintain the trail was divided, with 51.8 percent in support and 48.2 percent opposed. Of those who indicated they would be willing to donate annually, \$10.00 was the most common amount they would donate.

The segment of trail from Ford City through Kittanning was cited by 51.9 percent of respondents as the section of trail they most frequently used. The percentage of use by respondents diminished with each section of trail heading north: Kittanning to Cowanshannock (24.9 percent), Cowanshannock to Mosgrove (10.7 percent), Mosgrove to Templeton (7.7 percent) and Templeton to East Brady (4.8 percent).

The most popular access points along the trail are Ford City (41.7 percent) and Kittanning (32.5 percent). Usage at the other access points was 8.7 percent at Rosston, 6 percent at Cowanshannock, 4.2 percent in Templeton and 1.3 percent at Lock and Dam #8. Five percent of respondents said they generally accessed the trail at an “other” location, which was unspecified but likely is directly from their home location since the trail is very accessible from individual properties and yards.

# Historical Perspective

The Allegheny River originates in Potter County, Pa. The river's total length is approximately 325 miles from Potter County to Pittsburgh. The Allegheny River is the main headwater of the Ohio River, which flows into the Mississippi River.

The banks of the river were populated by pre-Columbian cultures until the 16th century, when western diseases devastated the existing local populations. Lenni Lenape and Shawnee later repopulated these same areas in the 17th century. By the 1700s, French and English were exploring the area, trading furs and goods at Fort Duquesne.

Just 40 miles north of Fort Duquesne on the banks of the Allegheny River, the Indian village of Kittanning had been settled at the western end of what was called the Kittanning Path, used by both natives and frontiersmen to cross the Allegheny Mountains. In 1756 the village of Kittanning was destroyed by troops led by Colonel John Armstrong in the Battle of Kittanning.

Following the American Revolution, the Allegheny River Valley quickly became a primary supply route for Pittsburgh and points west. What had started as native walking paths along the banks of the river were eventually developed for use by the railroads to haul merchandise and raw supplies in support of the steel industry.

The first railroad line along the banks of the Allegheny River was authorized in 1837 and entitled the Pittsburgh, Kittanning & Warren Railroad.



Changing the name to the Allegheny Valley Rail Road Company, the railroad began laying lines from Pittsburgh to Buffalo in 1853. The company hauled iron ore, coal, lumber and farm products, along with providing passenger service, and by 1870 the route had become important for transporting petroleum from the Oil Creek region of Pennsylvania. In fact, the Allegheny Valley Railroad was one of the first railroads to transport oil in the United States.

By 1900 the Pennsylvania Railroad had taken over operations for the bankrupt Allegheny Valley Railroad. This part of the line remained in service through the first half of the 20th century and into the 1960s, when diminished rail traffic led to the eventual sale of the Allegheny Branch.

The Allegheny Valley Land Trust (AVLT), whose mission is to convert unused railroad rights-of-way into trails for public use and outdoor recreation, was able to purchase the rail corridor from Schenley north to East Brady. The original trail route began near the site of the former Schenley Whiskey Distillery. In 2009 the Pennsylvania Supreme Court determined that the railroad corridor was privately railbanked after nearly 15 years of litigation, ensuring the AVLT would be able to continue development of the trail. Also in 2010, a 9.5-mile section of corridor was reactivated for coal, freight and other transportation purposes by the Kiski Junction Railroad Company of Kittanning, Pa. The AVLT continues to confer with the railroad for possibilities to build a rail-with-trail along this reactivated section.

# Locational Analysis

The Armstrong Trail is situated in western Pennsylvania, approximately 35 miles northeast of downtown Pittsburgh. The most populous municipalities along the trail are Kittanning (2009 pop. 4,285, [www.city-data.com](http://www.city-data.com)) and Ford City (2009 pop. 3,123, [www.city-data.com](http://www.city-data.com)), both in Armstrong County.

Generally running north and south, the trail follows the path of the Allegheny River and is located in two different tourism regions as officially designated by the state: “The Alleghenies and Her Valleys” and “Pittsburgh and Its Countryside.”

The southern end of the trail in Armstrong County bisects several populated areas as it weaves back and forth with the flow of the Allegheny River. The northern section of trail is more remote and lies closer to the banks of the river, crossing over Red Bank Creek into Clarion County at the village of Redbank. A spur line originally known as the Driftwood Branch includes a four-mile section along the Red Bank Creek. Another spur line extends into East Brady to the local high school football field. A large railroad tunnel on the northern end at East Brady remains closed pending funding for relining the original structure. The current northern terminus of the trail is along the Allegheny River at the Toby Township line just south of Upper Hillville.

The Armstrong Trail is steadily being improved a section at a time as funds permit. Ford City, Kittanning to Manorville, Scheeren Extension and the Templeton Trail segment are all improved sections of the Armstrong Trail. Using shared-road linkages, these segments connect to make a nine-mile, smooth-surfaced artery through the heart of Armstrong County. Another 5.7 miles of trail, known as the Cowanshannock North Trail Section, has been improved and a trailhead developed at the junction

of Cowanshannock Creek and the Allegheny River about two miles north of Kittanning. There is ample trailhead parking at the Bernard Snyder Picnic Area, where the Armstrong Trail joins the 1.5-mile branch trail to the Buttermilk Falls section of the Canfield-Holmes Sanctuary.

From Gray’s Eddy, approximately two miles north of Templeton, to East Brady, the trail surface is primarily railroad ballast and is routed through several natural areas bordered by the river and steep, tree-covered hills rising to the east. This section is currently being improved by volunteers of the Armstrong Rails to Trails Association and the AVLTL.

Parking for the improved sections of the trail has been provided in cooperation with the PA Fish and Boat Commission, with parking areas at Crooked Creek, Cowanshannock Creek and the village of Templeton. Additional off-street parking can be found all along the trail as it passes through downtown locations in Ford City and Kittanning.



# Community Programs



The Armstrong Trail is a community asset. In November 2010, Armstrong County received national recognition for its program HEALTHY Armstrong (Healthy Eating Active Lifestyles Together Helping Youth), which focuses on preventing childhood obesity and improving family health. The program was awarded a Carol M. White Physical Education Program (PEP) grant of close to \$1 million from the U.S. Department of Education. HEALTHY Armstrong is one of only three organizations in Pennsylvania to receive a PEP grant. A portion of these funds is to be used to purchase 30 to 40 bicycles for use by the school programs.

The physical education program at the Devine Redeemer Christian School has used the trail weekly in the spring and fall months as part of their regular classes and to perform their fitness run test. Students at Ford City Junior/Senior High School also use the trail as an integral part of their physical educational classes. Hundreds of students have been exposed to the trail and an active lifestyle due to the trail's proximity to the school (several respondents

to this survey noted they learned of the trail through their gym class). Kittanning Middle School and Kittanning Senior High School also use the trail as part of their physical education classes. Both schools were destinations in Safe Routes to School projects that connected the school to the Armstrong Trail.

Armstrong County was also the first We Can!® (Ways to Enhance Children's Activity & Nutrition) county in the nation. We Can!® is sponsored by the National Institutes of Health that promotes healthy weight in children ages 8 to 13 by improving food choices and increasing physical activity. The Armstrong Trail is an integral asset for the program.

Each year special events are held on or adjacent to the trail. Community fundraisers for nonprofit service organizations, as well as special event awareness programs, continually take place on or along the trail. Besides promoting daily use of the trail as a safe route to school, HEALTHY Armstrong sponsors an annual hike and bike event, which is held in August on the Armstrong Trail and promotes families exercising together.

Also this year, 205 people registered for the YMCA's Fall Classic 10K Race, 5K Run/Walk in November, and the YMCA reports they typically have 300 or more participants in the Big Foot Half Marathon, 5K Run/Walk held each spring.



# Armstrong Trail Area Demographics

The Armstrong Trail is located primarily in Armstrong County in western Pennsylvania. A separate segment of trail lies north of East Brady in Clarion County, Pa.

Armstrong Trail Region Demographic Profile*		
	Armstrong County	Clarion County
Population	67,851(2009 est.)	39,479 (2009 est.)
Median Household Income	\$41,055 (2008 est.)	\$42,092 (2008 est.)
Households	29,005 (2000 Census)	16,052 (2000 Census)
Persons Per Household	2.46 (2000 Census)	2.46 (2000 Census)
Population Density	110.7 per sq. mile	69.4 per sq. mile

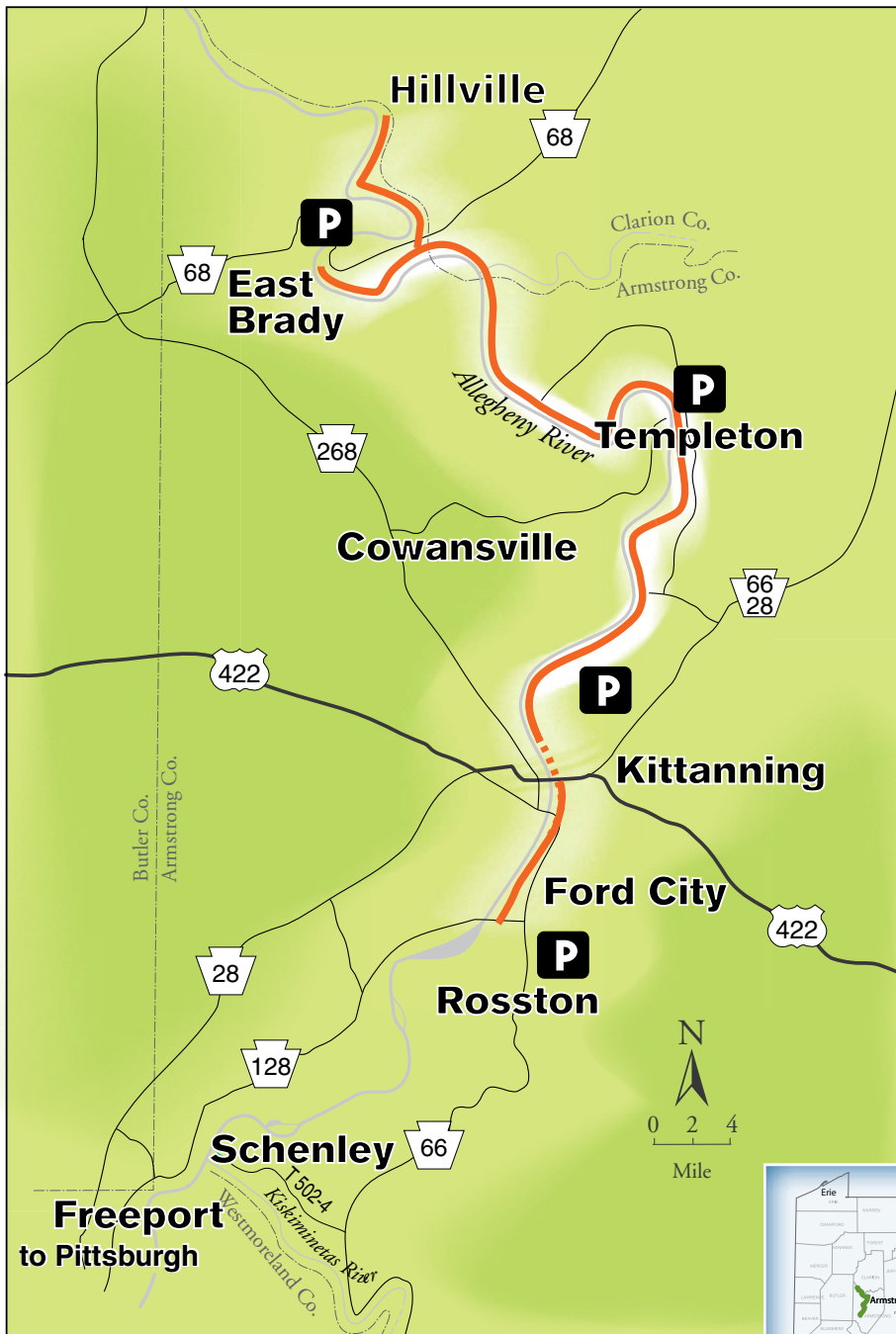
Armstrong Trail Region Population Growth***				
	2000	2010	2020	2030
Armstrong County	72,392	68,550	66,226	63,909
Clarion County	41,765	39,728	38,844	38,025

\*SOURCE: U.S. CENSUS QUICK FACTS

\*\* SOURCE: U.S. CENSUS AND PA BULLETIN 38 PA.B. 1415



# Armstrong Trail Map



# Qualitative Values of the Armstrong Trail



The following are a sampling of verbatim comments taken from the 2010 Armstrong Trail User Survey forms:

*The Armstrong Trail is the best thing since "sliced bread" Keep up the good work, Love the trail!!*

*It would be helpful to have more trash receptacles closer together, and additional signage about cleaning up after pets. Also there's a real need for signs to always have dogs on leashes.*

*There are a lot of people that use the trail that can't afford to pay to use the trail.*

*Please finish Manorville section between Kittanning and Ford City. Thank you!*

*Might be good to have trash cans along the trail. Also water fountains!*

*Trail is poorly marked. No place to stop & have refreshments.*

*Good over all. The Cowanshannock Trail is very nice. Trail gets confusing in trailer park in Mosgrove, 1 or 2 signs could solve this. Also in Templeton trail kind of disappears with no indication of where to continue.*

*Needs additional maintenance overall. Nice around Kittanning area — 7 mile north much rougher trail. Still enjoyed trail, very photographic in areas.*

*You have done an excellent job & I love it!*

*Keep making the trails connect together to make it larger.*

*I think the trail is best thing to hit this area in my life time.*

*We as a family really enjoy the trails.*

*Trail was difficult to locate at times esp. just north of Ford City & through the town of Kittanning. Better signage is a must! Had to ask several people for directions. Trail head kiosks & maps along the trail should be offered. Traffic was dangerous in Kittanning.*

*I live along the trail I like the new fitness stations that were installed last summer. I hope they extend the trail thru Megrann and Manorville maybe along the river.*

*All of the trail should be connected so you don't have to go on the road to get onto the other parts of the trail!*

*A trail map and better trail signage would be nice.*

*The Armstrong Trail is so beautiful — we need bike rental shops, coffee houses, ice cream shops along the trail to encourage tourism & trail usage. Thank you!!*

*The trail in Ford City is a nice addition to the city. And the river part of the trail is a nice ride!!!*

*There needs to be more fishing access points from the trail to the river like the one across from the park at Cowanshannock off the trail.*

# 2010 Survey Results



### Question 1

What is your ZIP Code?

- 89% Armstrong County, primarily Kittanning and Ford City
- 7% Allegheny County
- 4% Seven other southwest counties

### Question 2

How often on average do you use the trail?

- 26.7% Daily
- 3.9% Once a week
- 9.8% Twice a week
- 38.2% More than twice a week
- 7.0% Once a month
- 1.4% A couple of times a month
- 9.1% Few times a year
- 3.9% First time

### Question 3

Please identify your age group.

- 4.2% 15 and under
- 6.3% 16 – 25
- 16.3% 26 – 35
- 12.5% 36 – 45
- 23.6% 46 – 55
- 21.9% 56 – 65
- 15.3% 66 and older

### Question 4

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

- 27.4% Yes
- 72.6% No

### Question 5

What is your gender?

- 47.1% Male
- 52.9% Female

### Questions 6

What is your primary activity on the trail?

- 41.8% Walking/hiking
- 40.5% Biking
- 8.4% Jogging/running
- 0.0% Horseback riding
- 1.9% Cross-country skiing/snowshoeing
- 1.1% Geocaching
- 6.4% Other: Dog walking, fishing access, inline skating and photography

### Question 7

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

- 84.9% Yes
- 15.1% No

### Question 8

Generally, when do you use the trail?

- 16.1% Weekdays
- 12.6% Weekends
- 71.3% Both

### Question 9

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

- 1.7% Less than 30 minutes
- 41.0% 30 minutes to 1 hour
- 40.3% 1 to 2 hours
- 16.9% More than 2 hours

### Question 10

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

- 30.8% Recreation
- 59.3% Health and exercise
- 0.9% Training
- 4.8% Commuting
- 0.6% Walk to school
- 3.6% Other: Gym class, walk the dog, shopping

### Question 11

During your visit to the trail, did you...

- 2.0% Fish
- 2.0% Go boating
- 21.9% Bird watching
- 30.7% Watch wildlife
- 22.2% Study wildflowers
- 2.3% Geocache
- 2.6% Walk the dog
- 16.5% Other: Socialize

### Question 12

How did you find out about the trail?

- 36.3% Word of mouth
- 3.6% Roadside signage
- 12.9% Driving past
- 6.9% Newspaper
- 0.8% Bike shop
- 3.3% Tourist bureau
- 9.1% Armstrong Trail brochure
- 1.4% [www.explorePAtrails.com](http://www.explorePAtrails.com)
- 1.9% [www.Traillink.com](http://www.Traillink.com)
- 1.6% Other website
- 18.7% Live next to or near the trail
- 3.6% Other: Guidebooks, gym class

### Question 13

Has your use of the trail influenced your purchase of...?

- 22.2% Bike
- 18.2% Bike supplies
- 1.9% Auto accessories (bike rack, etc.)
- 22.4% Footwear
- 15.2% Clothing
- 20.1% 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 \$194.69 (n=141).

### Question 15

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

- 29.4% Beverages
- 11.1% Candy/snack foods
- 6.1% Sandwiches
- 6.4% Ice cream
- 10.8% Meals at a restaurant along the trail
- 0.0% Bike rental
- 1.4% Other
- 34.9% 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 \$8.35 (n=145).

*Note that 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=35)?

- 5.7% Motel/hotel
- 2.9% Bed-and-Breakfast
- 71.4% Friend or relative's home
- 11.4% Campground
- 8.6% Other

### Question 18

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

Average number of nights per stay was 2.4.

### Question 19

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

Average expenditure per night for those who provided an amount was \$52.00 (n=9).

### Question 20

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

- 22.2% Excellent
- 56.3% Good
- 17.4% Fair
- 4.2% Poor

### Question 21

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

- 18.7% Excellent
- 56.7% Good
- 19.7% Fair
- 4.9% Poor

### Question 22

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

- 16.6% Excellent
- 61.2% Good
- 17.6% Fair
- 4.5% Poor

### Question 23

Would you be willing to donate a voluntary annual usage fee to help maintain the trail?

- 51.8% Yes
- 48.2% No

### Question 24

If yes, how much would you be willing to pay...?

- 55.1% \$10
- 19.9% \$15
- 17.6% \$25
- 7.4% Other amounts

### Question 25

Are you aware of the Erie-to-Pittsburgh Trail project?

- 50.5% Yes
- 49.5% No

### Question 26

Which portion of the trail do you use most often?

- 51.9% Ford City to Kittanning
- 24.9% Kittanning to Cowanshannock
- 10.7% Cowanshannock to Mosgrove
- 7.7% Mosgrove to Templeton
- 4.8% Templeton to East Brady

### Question 27

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

- 8.7% Rosston
- 41.7% Ford City
- 32.5% Kittanning
- 6.0% Cowanshannock
- 1.3% Lock & Dam #8
- 4.2% Templeton
- 5.5% 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 AVLT, which manages the Armstrong Trail. The sample was self-selecting, meaning trail users could pick up survey forms that were available at each of the trail's primary trail-heads between Ford City and Templeton, Pa. The survey forms were folded into a postage-paid self-mailer that was addressed to RTC. Survey collection was conducted from the end of May 2010 through the beginning of November 2010. Approximately 950 survey forms were distributed.

For the purpose of this analysis, 296 survey forms were completed and analyzed.

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 Armstrong Trail User Survey will be compared with data collected in a 2008 survey of users on the Perkiomen Trail in Montgomery County, Pa., and a 2009 survey of users on the Ghost Town Trail in nearby Indiana and Cambria counties. 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 Armstrong Trail survey.

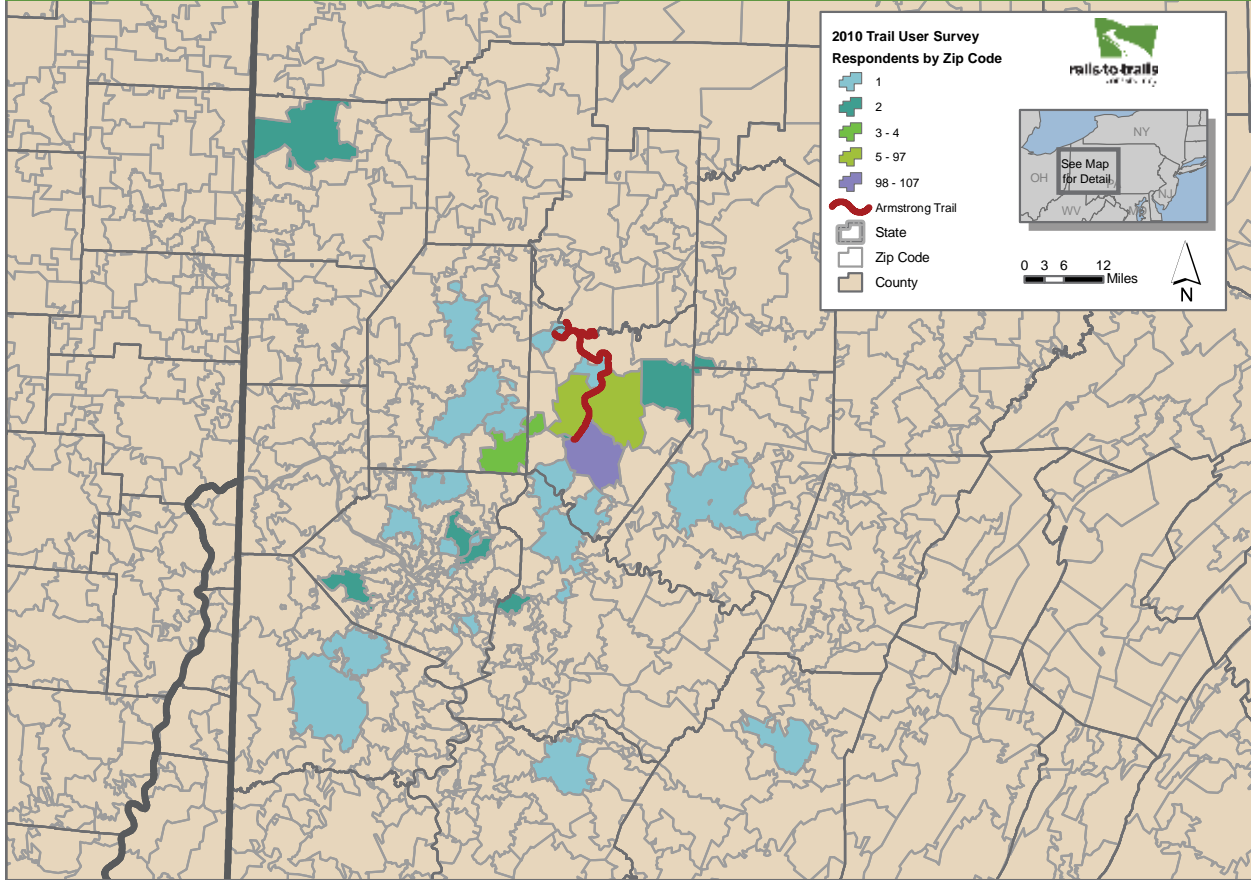
The Ghost Town Trail and the Perkiomen Trail were chosen for comparison because they share similar characteristics of size and type of surrounding. The Ghost Town Trail is a multi-use trail that runs 36 miles east to west between Ebensburg in Cambria County and Black Lick in Indiana County. The Ghost Town Trail is co-managed by Indiana County Parks and the Cambria County Conservation Authority. The trail is primarily rural, running parallel to Blacklick Creek and game lands and 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 the southeast section of Pennsylvania that runs along the banks of Perkiomen Creek. The Perkiomen Trail is managed by the Montgomery County Parks Department. Surrounded by dense suburban communities and interstate highways, the trail passes through several small towns as well as rural areas, all within 30 miles of Philadelphia.

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



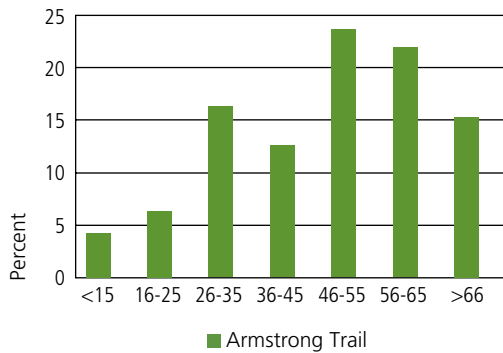
### 2010 Trail User Survey Respondents by ZIP Code — Armstrong Trail



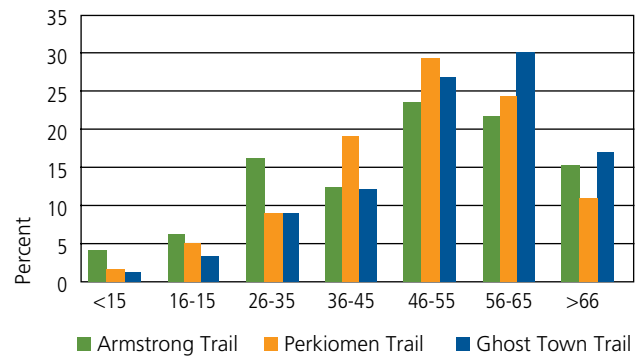
# Comparative Analysis

There is a much higher percentage of young adults using the Armstrong Trail than the other trails in our comparison. The Armstrong Trail runs directly through the town of Kittanning and connects to secondary schools. The connection to the schools and the trail's proximity to a large number of homes directly beside the trail are factors that increase the percentage of youth on the trail. Based on visual observations of the trail, an intercept survey would likely produce a much larger percentage of users in the range of 15 to 25 years old.

What is your age group?

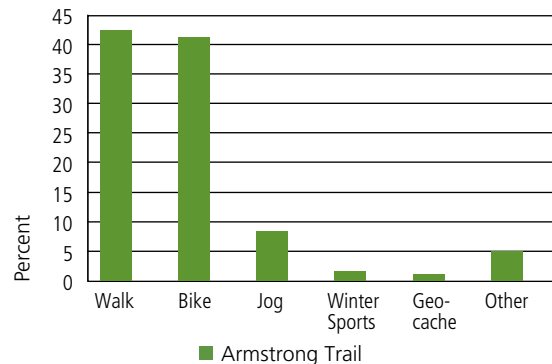


Comparison with other trails

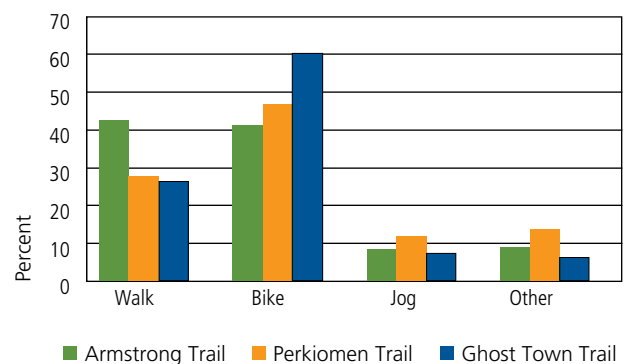


Walking is the predominant activity on the Armstrong Trail. Winter activities include cross-country skiing and snowshoeing. Geocaching was listed by a little more than 1 percent of respondents, and 5 percent replied that they participated in other activities such as inline skating and photography (included in the category of "Other"). Notice that compared to users on the Ghost Town and Perkiomen trails, a much larger percentage of respondents walk on the Armstrong Trail. This disparity is likely due to two factors. First, the Armstrong Trail lies directly adjacent to homes in the population centers of Kittanning and Ford City, allowing easy access for routes to school and shopping. And second, Armstrong County strongly promotes walking for health through its program HEALTHY Armstrong ([www.healthyardstrong.org](http://www.healthyardstrong.org)).

What is your primary activity?



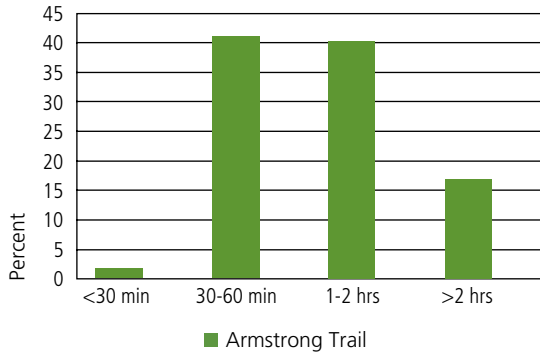
Comparison with other trails



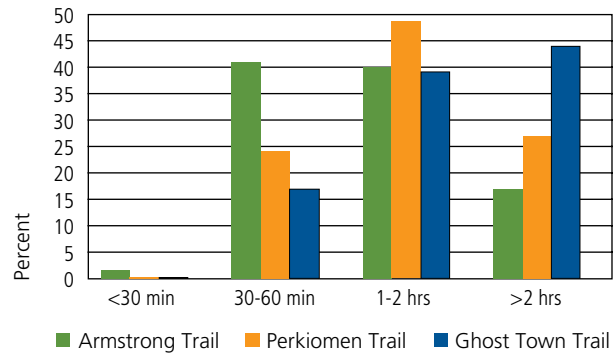


All three trails in this comparison pass through a combination of natural ‘wilderness’ areas as well as residential and retail areas. But the most dramatic difference in time spent by users of all three trails can be seen in the number of people who are on the trail for less than one hour. Survey responses for the Armstrong Trail indicate the largest numbers of people are on the trail for just 30 to 60 minutes. Of the three trails, only the Armstrong passes directly in front of and between homes (a combination of detached single family homes as well as duplexes). A shorter amount of daily time spent on the trail also correlates to walking as a predominant activity, as opposed to longer bicycle rides, for instance.

How much time did you spend on each trail visit?

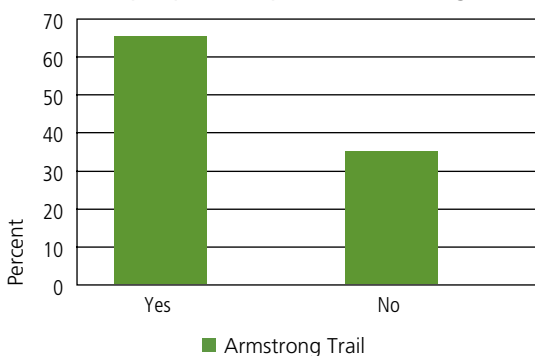


Comparison with other trails

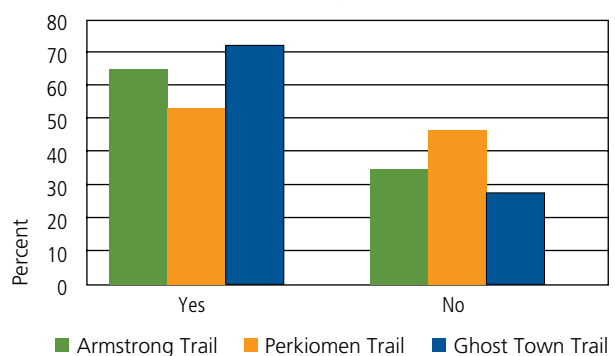


Sixty-five percent of Armstrong Trail users purchased consumable items in conjunction with their trail visit; for the purpose of this survey, those items included such purchases as snacks, water, ice cream and meals. The percentage of purchases relates to the length of the trail and the environment through 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). The Ghost Town Trail is isolated from services in many places while the Perkiomen is always within easy distance of food and water. The Armstrong Trail is somewhere in the middle in terms of available retail establishments from which to purchase items.

Number of people who purchased “soft goods”



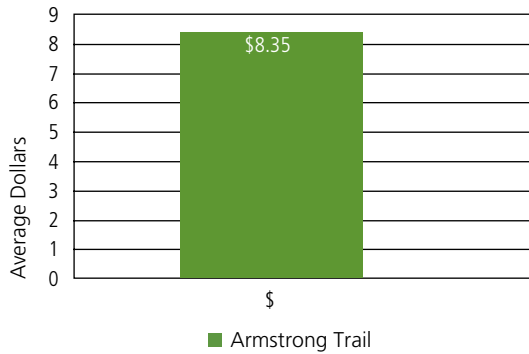
Comparison with other trails



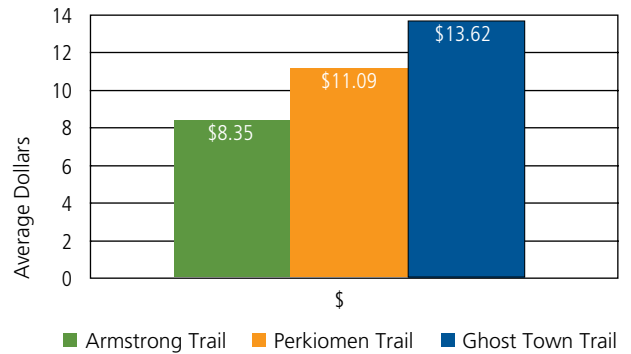


Respondents to the Armstrong Trail Survey reported spending an average of \$8.35 per visit to the trail, somewhat less than users on the Ghost Town and Perkiomen trails. Again, the distance traveled on the trail, the amount of time spent and the environment which the trail passes through all influence 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).

Average \$ spent per person on "soft goods"

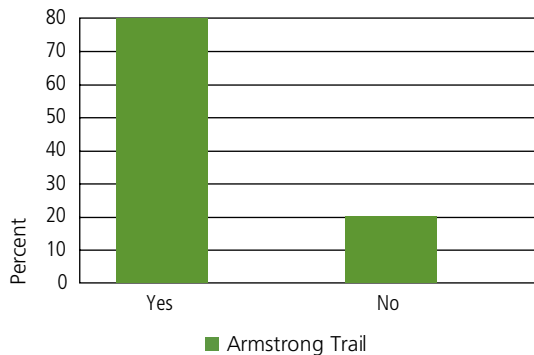


Comparison with other trails

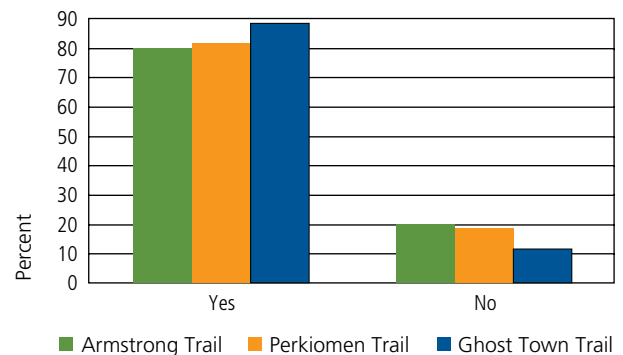


In the case of all three of these studies, use of the rail-trail has influenced purchase of durable goods by 80 percent or more of the respondents. For the purpose of these three studies, durable or "hard goods" included bikes, bike supplies, auto accessories (bike racks, etc.), footwear and clothing.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

Number of people who purchased "hard goods"



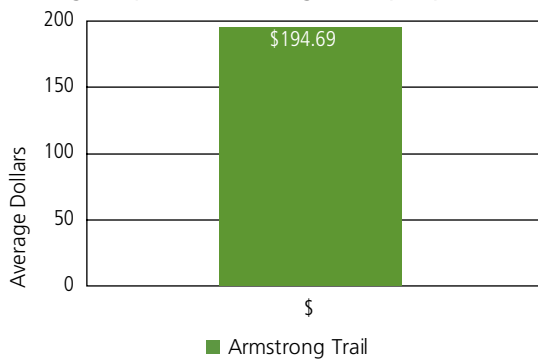
Comparison with other trails



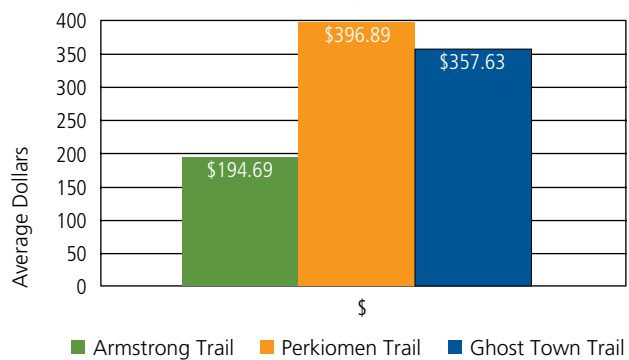


The amount respondents reported spending on durable goods such as bicycles and clothing is averaged at \$194.69 per respondent on the Armstrong Trail. The data collected indicates a higher number of users purchased expensive high-end bicycles more often in the Philadelphia metropolitan area, where the Perkiomen Trail is located, than users of the Armstrong or Ghost Town trails. The percentage of respondents who reported purchasing non-durable goods varies less than 10 percent between the three trails (Armstrong, 80 percent; Perkiomen, 81.5 percent; and Ghost Town, 88.4 percent).

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



Comparison with other trails



# Armstrong Trail User Estimate

During the spring, summer and fall of 2010, passive infrared counters were placed at four locations along the Armstrong Trail between Ford City and Templeton, 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 Armstrong Trail at Ford City, at two locations in Kittanning, and at the Cowanshannock junction, near the Bernard Snyder Picnic Area.

In order to develop an annual user estimate for the Armstrong Trail, the data collected from May through October 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 Missing Counts	Adjusted for Out-&-Back Trips
Cowanshannock	22,505	32,000	38,400	20,210
Kittanning Picnic Pavilion	13,452	22,822	27,386	14,413
Kittanning Water Treatment	18,489	27,265	32,718	17,219
Ford City	30,921	45,595	54,714	28,796
Total Estimated Annual Trail User Visits				80,638*

\* 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 Armstrong Trail 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. Most respondents also indicated how much they spent on these types of purchases during the past 12 months.

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

Bike	22.2%
Bike supplies	18.2%
Auto accessories	1.9%
Running/walking/hiking shoes	22.4%
Clothing	15.2%
Nothing	20.1%

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

Average hard goods purchase	\$194.69
-----------------------------	----------

## 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 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	29.4%
Candy/snack foods	11.1%
Sandwiches	6.1%
Ice cream	6.4%
Meals at a restaurant along the trail	10.8%
Bike rental	0.0%
Other	1.4%
None of these	34.9%

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

Average consumable goods purchase	\$8.35
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## Lodging

The third factor included in the estimate of trail user economic impact is overnight lodging.

The number of overnights and average amount paid for rooms is determined directly from the survey responses

Did your visit to the trail involve an overnight stay in one of the following types of accommodations? (circle one response)

Motel/hotel	5.7%
Bed-and-Breakfast	2.9%
Friend or relative's home	71.4%
Campground	11.4%
Other	8.6%

A little less than 12 percent of respondents to the Armstrong Trail User Survey indicated an overnight stay was part of their trail experience. However, a majority of those respondents indicated they had stayed with friends or relatives, and therefore those stays do not impact lodging dollars. Also, several seasonal trailer/cabin camps, which offer weekly rentals, line the banks of the Allegheny River. In all, only 3 percent of respondents indicated they had made any expenditure for lodging during their visit to the trail. The average amount spent was calculated to be \$52 per night.

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

Average: 2.4 nights

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

Average \$52.00





The following chart takes the data collected from the three categories of soft goods, hard goods and lodging 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. Likewise, spending on overnight accommodations can be anticipated to occur year after year.

Armstrong Trail Economic Impact Analysis					
					Annual User Est. (Rounded)
					80,638
Category	% Usage	Avg. \$	Avg. Life	Avg. # of trips**	Avg. # of nights
Hard Goods*	79.9%	\$194.69	6 years	13.3	\$157,192
Soft Goods	65.1%	\$8.35			\$438,341
Overnight Accommodations	3.0%	\$52.00			2.4 \$301,909

Hard Goods = (% Usage X (Avg. \$ ÷ Avg. Life) X # Users ÷ Avg. Number of Trips)\*

In the above example, the calculation would look like this:

$$((.799 \times (\$194.69 \div 6)) \times (80,638 \div 13.3)) = \$157,192.$$

Soft Goods = (% Usage X Users Avg. \$ X # Users)

In the above example, the calculation would look like this:

$$(.651 \times \$8.35 \times 80,638) = \$438,336.$$

Overnight Accommodations = (% Usage X User Avg. \$ X Avg. # of Nights X # Users)

$$(.030 \times \$52.00 \times 2.4 \times 80,638) = \$301,909.$$

\*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.

# Armstrong Trail Acquisition, Construction and Maintenance

In 1992, the Allegheny Valley Land Trust (AVLT) paid \$250,000 to Conrail for the 52.5-mile corridor. Sixteen miles of the corridor were developed in Armstrong County at a total cost of \$1,720,000 for engineering, design and construction. (The largest portion of this cost was paid for with a federal Transportation Enhancement grant.)

The annual costs for maintenance supplies and tools are budgeted at \$2,000 per year.

Three miles of the corridor were sold to Ford City Borough, and three miles are in a 99-year trail lease to Kittanning Borough. While the boroughs maintain the deeded and leased sections, cooperative projects have extended previous boundaries. Litter clean-ups, tree pruning and other volunteer tasks have been exchanged for tasks such as equipment assistance; in the process, these projects may have exceeded beyond each municipality's boundary.

The vast majority of trail maintenance is performed by volunteers and one part-time paid staff member with AVLT. Weed control, bridge decking, clearing drains, building rain gardens, planting trees, installing mile markers, spreading mulch, mowing

and clearing the trail of debris are all performed by volunteers. AVLT and the Armstrong Rails to Trails Association (ARTA) combine resources with members who volunteer to do the maintenance work and supervise other volunteers. Additional volunteers come from the county probation and magistrate's office, which provides individuals required to perform community service in lieu of jail time. Community service projects provide 400 to 500 hours of labor annually.

AVLT has also partnered with CareerTRACK and Adelphi Village for specific projects. CareerTRACK is a program that enables young, disadvantaged adults to develop skills that can be used in the job market. In 2009, a crew from these agencies provided 3,000 hours of work to re-deck a bridge, install fencing and perform other repairs under direction of the AVLT staff.



# 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. The 2010 Armstrong Trail User Survey can serve as a benchmark against which future maintenance, security and cleanliness issues can be compared. The management of the trail will receive documentation of all of 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 Armstrong Trail, the responses from those studies have been included in this section of the analysis.

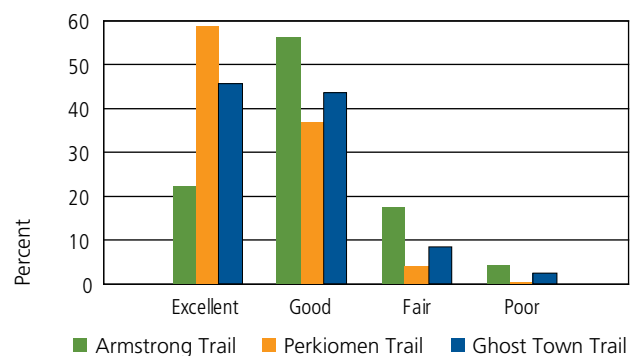
According to survey respondents, the Armstrong Trail is well maintained, with the majority of respondents replying that maintenance was good to excellent. This feedback is significant because virtually all maintenance for the trail is taken care of by one part-time paid staff member of the AVL, along with an all-volunteer board and membership of the ARTA.

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



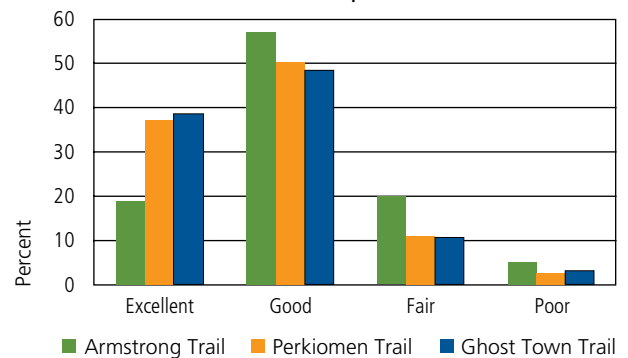


The feeling of security that trail users have is influenced by the presence of other trail users, familiarity with the trail, the users' general perception of how safe their overall environment is, and the overall appearance of the trail and any amenities (benches, signs, etc.). From the Armstrong Trail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

Opinion of trail safety and security



Comparison with other trails



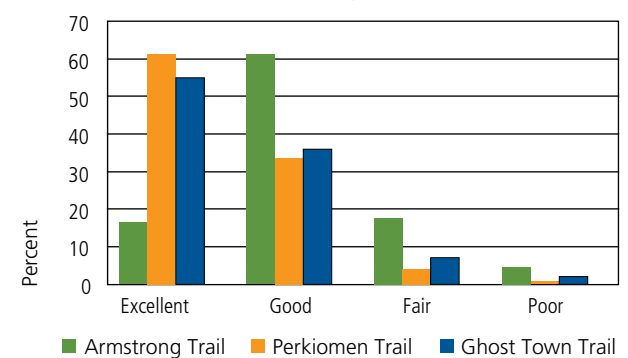
The majority of survey respondents gave the cleanliness of the Armstrong Trail an overall good rating. The decision to make the trail a “pack out what you pack in” facility normally results in a much cleaner environment than those areas using trash cans, which can be misused and are costly to maintain. Trails that bisect urban neighborhoods can have difficulty with trash pick-up due to the proximity of nearby streetscapes and business venues.

The majority of general comments received on the Armstrong survey can be categorized within two overarching categories: compliments or suggested amenities. The most-requested amenity on the Armstrong Trail was restrooms, with water fountains and benches being next in line.

Opinion of trail cleanliness



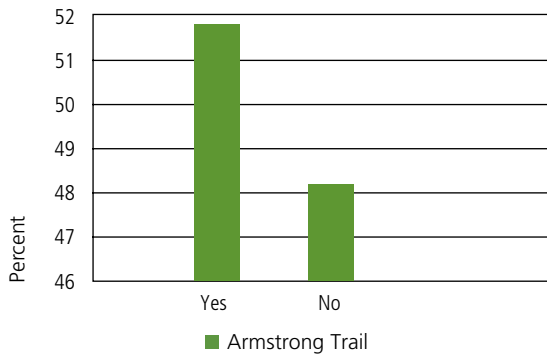
Comparison with other trails



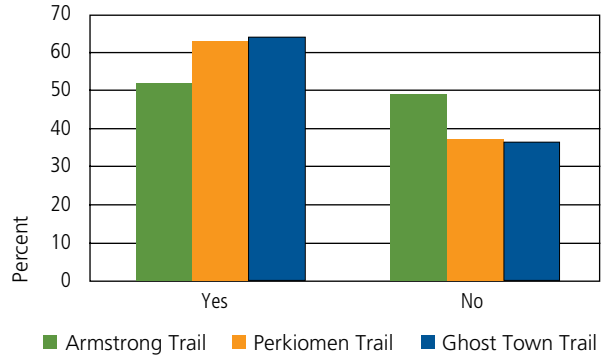


Funds for trails, both for development and for maintenance, continue to be a difficult hurdle for most communities to surmount. Users of the Armstrong Trail, much like users on other trails, do support the use of a voluntary annual fee. Most trails would not consider actually charging a user fee in Pennsylvania due to the implication it would have for protection under the Pennsylvania Recreational Use Statutes, but the responses to this question may indicate community support for volunteer assistance as well as funding. Voluntary community bike permits are one way communities could add to a trail maintenance fund without actually charging a fee to use the trail.

Willing to donate an annual fee



Comparison with other trails



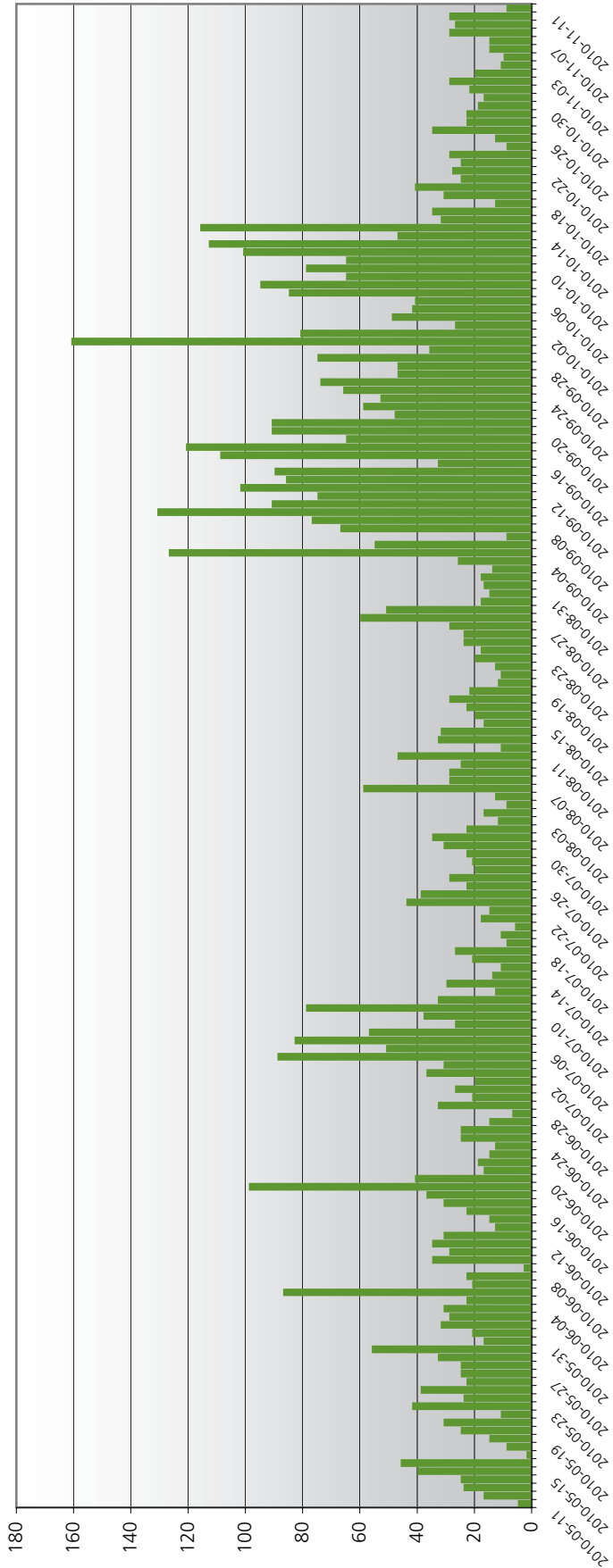
# Appendix A—Trail Counter Data

**TRAFx REPORT:**

**Project:** Armstrong Trail User Count  
**Counter:** Armstrong Picnic May-Nov

**Start:** 2010-05-11  
**Finish:** 2010-11-11

**Location:** Hazel Street Picnic Pavilion  
**Comment:** Divide by 2 applied.



<b>Total Counts:</b>	<b>6,736</b>	Daily Mean Weekday:	33.6	Total (1) :	6,736
<b>Total Periods:</b>	<b>185</b>	Daily Mean Weekend:	43.7	Total (2) :	0
<b>Period Length:</b>	<b>1 day</b>	Mean Monday	31.7	Percentage (1) :	100.0
<b>Mean:</b>	<b>36.4</b>	Mean Tuesday	30.1	Percentage (2) :	0.0
<b>Mode:</b>	<b>28.0</b>	Mean Wednesday	35.4	Mean (1) :	36.4
<b>Median:</b>	<b>28.0</b>	Mean Thursday	28.9	Mean (2) :	0.0
<b>Standard Deviation:</b>	<b>28.9</b>	Mean Friday	42.3	Max/Min (1) :	160 / 1
<b>Maximum:</b>	<b>160</b>	Mean Saturday	42.8	Max/Min (2) :	0 / 0
<b>Minimum:</b>	<b>1</b>	Mean Sunday	44.4		
Total Weekday:	4,466				
Total Weekend:	2,270				
Daily Max/Min Weekday:	160 / 1				
Daily Max/Min Weekend:	126 / 10				

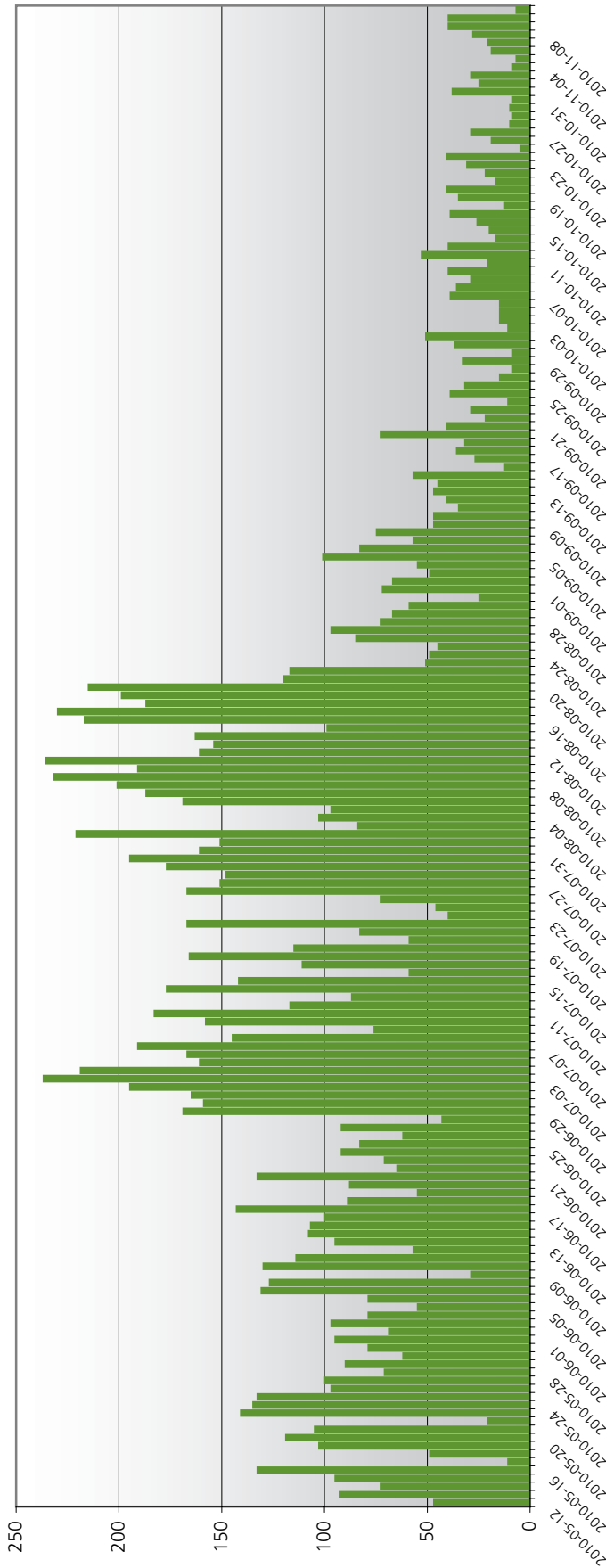
FIVE PEAK PERIODS: 2010-10-01 (160), 2010-09-10 (130), 2010-09-05 (126), 2010-10-18 (120), 2010-10-15 (115)

**TRAFx REPORT:**

**Project:** Armstrong Trail User Count  
**Counter:** Ford City May-Nov

**Start:** 2010-05-12  
**Finish:** 2010-11-11

**Location:** Ford City  
**Comment:** Divide by 2 applied.



**Total Counts:** 15,369  
**Total Periods:** 184  
**Period Length:** 1 day  
**Mean:** 83.5  
**Mode:** 28.0  
**Median:** 70.5  
**Standard Deviation:** 60.9  
**Maximum:** 236  
**Minimum:** 4  
 Total Weekday: 11,066  
 Total Weekend: 4,303  
 Daily Max/Min Weekday: 235 / 4  
 Daily Max/Min Weekend: 236 / 8

**Daily Mean Weekday:**  
 Daily Mean Weekend:  
 Mean Monday  
 Mean Tuesday  
 Mean Wednesday  
 Mean Thursday  
 Mean Friday  
 Mean Saturday  
 Mean Sunday

83.8  
 82.8  
 88.0  
 80.8  
 84.1  
 87.0  
 78.9  
 76.7  
 88.8

**Total (1):** 15,369  
**Total (2):** 0  
**Percentage (1):** 100.0  
**Percentage (2):** 0.0  
**Mean (1):** 83.5  
**Mean (2):** 0.0  
**Max/Min (1):** 236 / 4  
**Max/Min (2):** 0 / 0

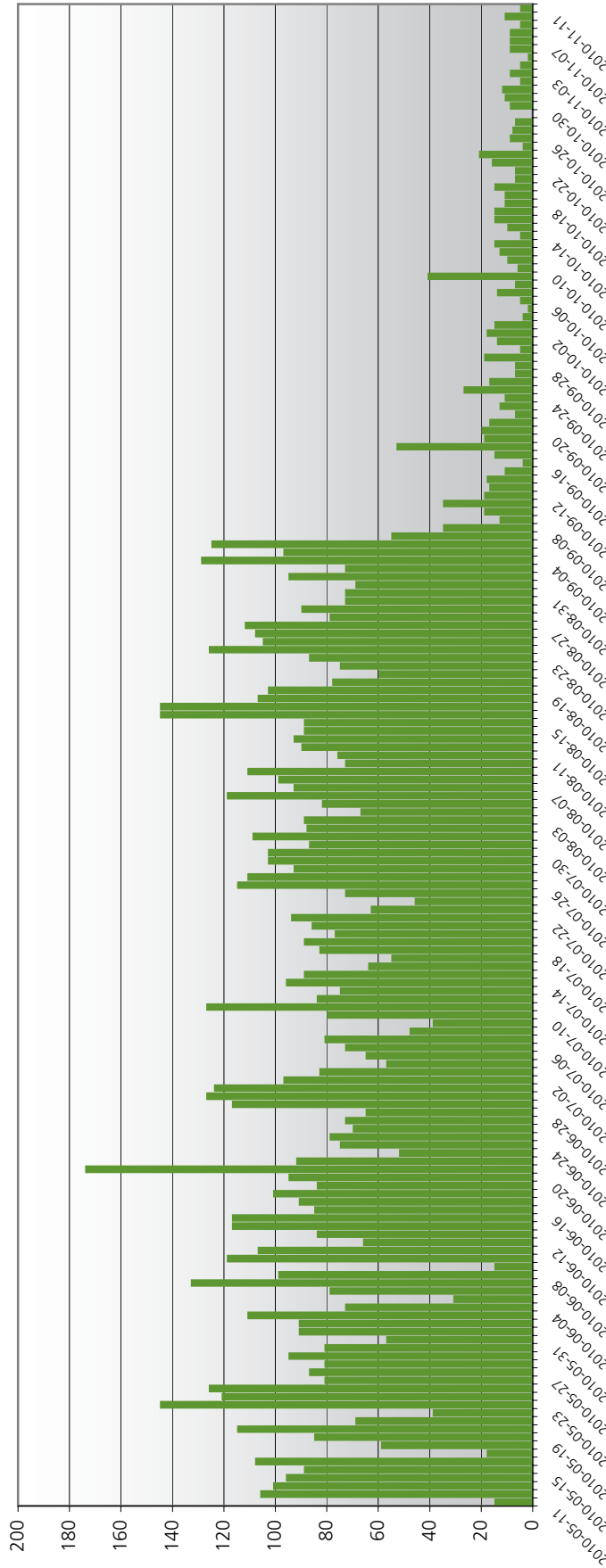
FIVE PEAK PERIODS: 2010-07-03 (236), 2010-08-11 (235), 2010-08-09 (231), 2010-08-17 (229), 2010-08-02 (220)

**TRAFx REPORT:**

**Project:** Armstrong Trail User Count  
**Counter:** Cowanshannock May-Nov

**Start:** 2010-05-11  
**Finish:** 2010-11-11

**Location:** Cowanshannock Trailhead  
**Comment:** Divide by 2 applied.



<b>Total Counts:</b>	<b>11,273</b>	<b>Total (1) :</b>	11,273
<b>Total Periods:</b>	<b>185</b>	<b>Total (2) :</b>	0
<b>Period Length:</b>	<b>1 day</b>	<b>Percentage (1) :</b>	100.0
<b>Mean:</b>	<b>60.9</b>	<b>Percentage (2) :</b>	0.0
<b>Mode:</b>	<b>14.0</b>	<b>Mean (1) :</b>	60.9
<b>Median:</b>	<b>72.0</b>	<b>Mean (2) :</b>	0.0
<b>Standard Deviation:</b>	<b>42.4</b>	<b>Max/Min (1) :</b>	173 / 0
<b>Maximum:</b>	<b>173</b>	<b>Max/Min (2) :</b>	0 / 0
<b>Minimum:</b>	<b>0</b>		
Total Weekday:	8,131		
Total Weekend:	3,142		
Daily Max/Min Weekday:	173 / 0		
Daily Max/Min Weekend:	144 / 5		
<b>Daily Mean Weekday:</b>	61.1		
<b>Daily Mean Weekend:</b>	60.4		
Mean Monday	66.7		
Mean Tuesday	62.0		
Mean Wednesday	56.8		
Mean Thursday	62.4		
Mean Friday	58.0		
Mean Saturday	56.5		
Mean Sunday	64.2		

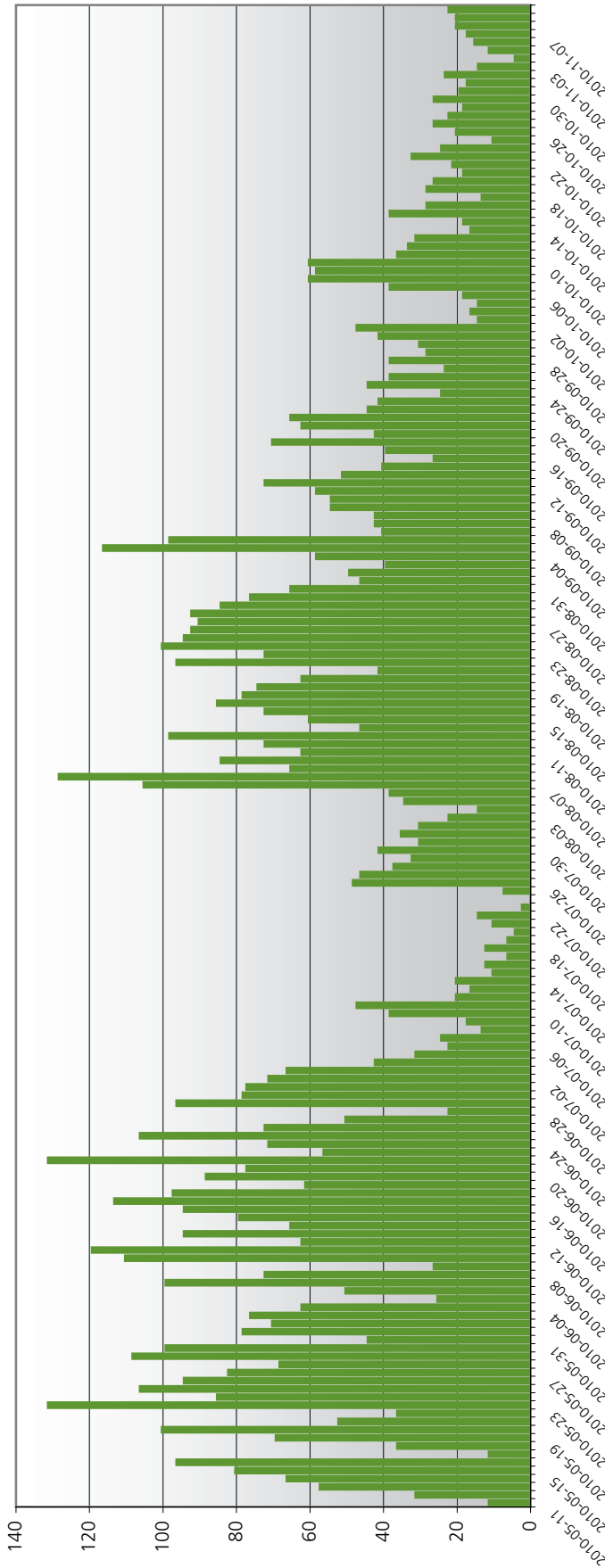
FIVE PEAK PERIODS: 2010-06-21 (173), 2010-05-23 (144), 2010-08-16 (144), 2010-08-17 (144), 2010-06-07 (132)

**TRAFx REPORT:**

**Project:** Armstrong Trail User Count  
**Counter:** Water treatment plant

**Start:** 2010-05-11  
**Finish:** 2010-11-10

**Location:** Kittanning Water Treatment  
**Comment:** Divide by 2 applied.



**Total Counts:** 9,253  
**Total Periods:** 184  
**Period Length:** 1 day  
**Mean:** 50.3  
**Mode:** 72.0  
**Median:** 43.0  
**Standard Deviation:** 31.4  
**Maximum:** 131  
**Minimum:** 0  
 Total Weekday: 6,408  
 Total Weekend: 2,845  
 Daily Max/Min Weekday: 131 / 2  
 Daily Max/Min Weekend: 131 / 0

**Total (1):** 9,253  
**Total (2):** 0  
**Percentage (1):** 100.0  
**Percentage (2):** 0.0  
**Mean (1):** 50.3  
**Mean (2):** 0.0  
**Max/Min (1):** 131 / 0  
**Max/Min (2):** 0 / 0

**Daily Mean Weekday:** 48.5  
**Daily Mean Weekend:** 54.7  
**Mean Monday:** 45.8  
**Mean Tuesday:** 51.3  
**Mean Wednesday:** 44.3  
**Mean Thursday:** 50.5  
**Mean Friday:** 51.0  
**Mean Saturday:** 50.3  
**Mean Sunday:** 59.2

FIVE PEAK PERIODS: 2010-05-23 (131), 2010-06-22 (131), 2010-08-08 (128), 2010-06-11 (119), 2010-09-05(116)





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