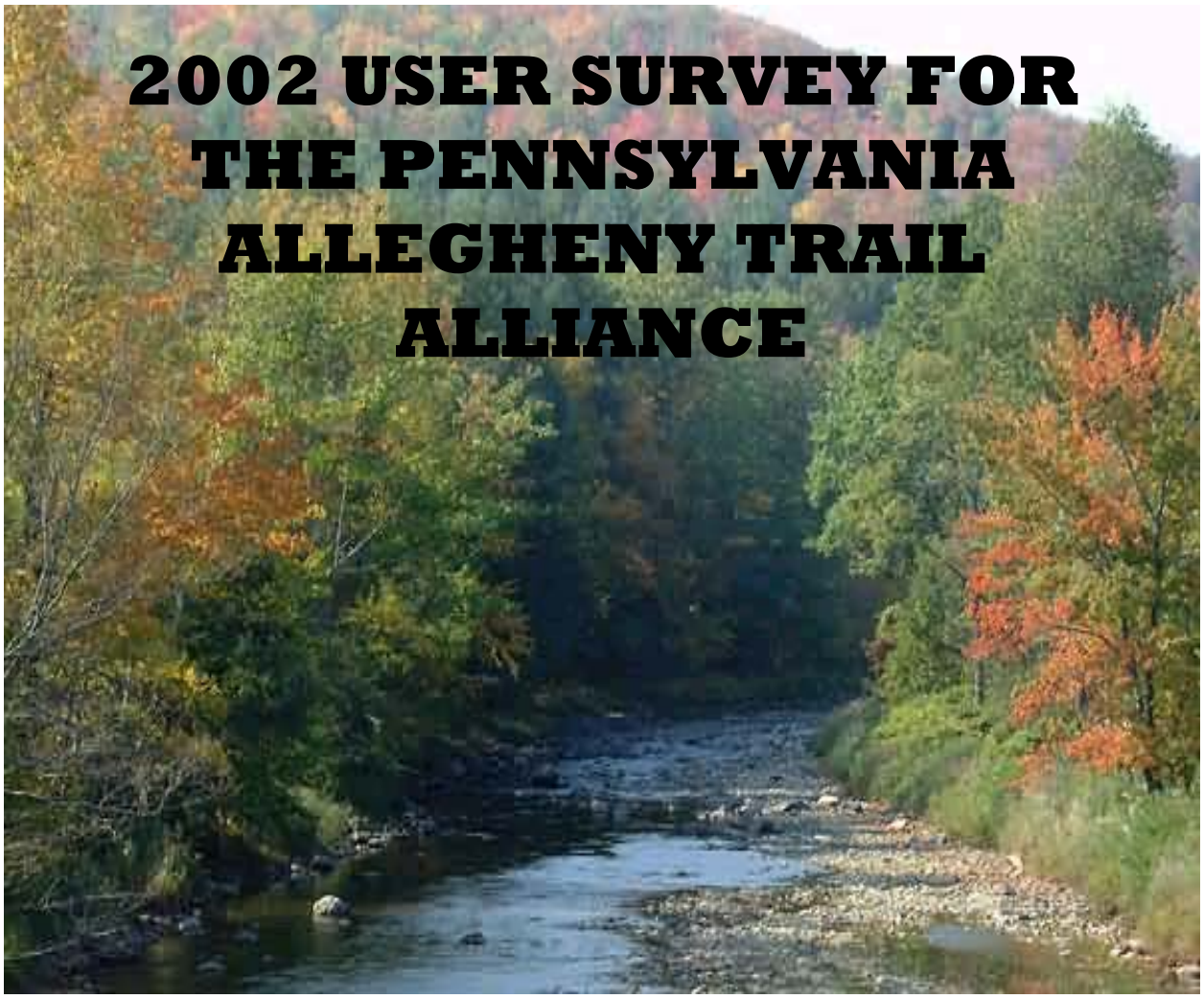
2002 USER SURVEY FOR THE PENNSYLVANIA ALLEGHENY TRAIL ALLIANCE



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Executive Summary

This study reports the analysis of the use of the Allegheny Trail Alliance system in Western Pennsylvania during the 2002 trail season, April 15 through November 15.

- A total of **5700 mail-in surveys** were placed on vehicles at seven strategic trailheads along the 100 continuous miles of the Great Allegheny Passage from Boston to Garrett, plus Montour Trail.
- The survey collected **2229 responses** by the cut-off date of December 18, 2002.
- This represents a **39% response rate**.

The user surveys asked for information on trail use, distances traveled, spending in local communities, and on bikes and equipment. In addition, the Allegheny Trail Alliance has positioned trail counters at 11 strategic locations along the trail. The counter information was coupled with the user survey information to obtain estimates of trail-related spending. Montour had to be excluded from the visit and total spending analyses because it had no functioning trail counters in the 2002 season.

The survey obtained information on small item purchases, such as food, clothing and gasoline, made in local trail-related communities:

- 59% of groups made some type of small item local purchases.
- The average person spent **$8.84 per person per trip locally on these small items ($9.64 if Montour is excluded)**.
- Spending varied significantly across trailheads, ranging from **$2.87** per person per trip at Montour to **$15.61** at Confluence.
- Spending varied substantially with distances traveled, ranging from **$4.03 per person per trip for those traveling less than 10 miles** one way to a trailhead to **$15.44 per person per trip for those traveling more than 60 miles**.

The user survey collected information on the overnight lodging costs and number of nights stayed:

- 13.3% of the visiting groups stayed overnight during their visit.
- The average number of nights stayed by groups who DID stay overnight was 2.4 nights; however, over the ENTIRE sample, the average number of nights stayed during a visit was only 0.31 nights.
- The average expenditure for groups who DID stay overnight was $21.36 per person per night; however, over the ENTIRE sample, the average lodging expenditure per night was $3.24 per person per night.
- This implies that over the ENTIRE sample, the average person spent **$1.00 per person per visit for lodging** (0.31 x $3.24).

The use survey collected information on bike and equipment expenditures during that past two years:

- The average spending on bikes and equipment over the entire sample was $117.47 per person per year.
- The percentage biking time on the Allegheny Trail system for all users combined was 47.2%.

- Therefore, we estimate that the average person **$55.45 per person per year on bikes and equipment** ($117.47 x 47.2%) in 2002 for use reasonably attributable to the trail system.

The trail counter readings at the eleven sites were analyzed to exclude outliers and an empirically based formula was used to convert these readings to number of persons visiting using the trails.

- The number of visits during the 2002 trail season along the Boston-Garrett trail section (Montour was excluded for lack of count data) was **347,053 visits**. The number of visits varied substantially across counters as Table E-1, Column 1, below shows.
- The average person made **6.8 trips per year** to this section of trail (excluding Montour).
- Therefore, we estimate that **51,342 different individuals** used this section of trail during the 2002 season (excluding Montour).

The visitation and spending estimates are combined to determine the three types of spending analyzed. These total spending estimates are shown in Table E-2:

- A total of **$3,188,990 was spent on small items in local communities** along the trail. We can be 95% confident that this type of spending was within the range from $2,615,143 to $3,762,238 (not shown in Table 2).
- A total of **$522,814 was spent on lodging**. We can be 95% confident that this type of spending was within the range from $338,322 to $707,592.
- A total of **$3,551,135 was spent on bikes and equipment reasonably related to trail use** in 2002. We can be 95% confident that this type of spending was within the range from $2,915,181 to $4,187,120.
- Therefore, the grand total spending estimate associated with trail use in 2002, combining the three spending categories above, was **$7,262,939**. The 95% confidence interval for this grand total was **$5,868,646 to $8,656,950**. This reflects direct spending only. It does not reflect indirect spending, such as purchases of food and material supplies of restaurants and shops along the trail system. The latter are considered below.

The study has considered the residential origins of trail users from information on the zipcodes of residence:

- Users traveled, on average, **43.7 miles one way** to reach trailheads.
- **Pennsylvania residents accounted for 90.3% of the visits** to the Boston-Garrett trail system.
- **Pennsylvania residents accounted for 87.9% of trail related spending**, including small items, lodging, and bikes and equipment.
- **Persons residing within 10 miles of the trail system accounted for 47.6% of the visits** to this trail system and **43.6% of the trail related spending**.
- Persons residing within 10 miles of the trail system were likely to make roughly **7 times** as many trips to the trail in a season as persons residing more than 30 miles from the trail.

The spending estimates above do not include the indirect spending associated with initial direct spending. In order to estimate the total spending effects, inclusive of the indirect spending, we have used multipliers based on other comparable area studies. After excluding the bike and equipment spending by persons residing outside Pennsylvania, under the presumption that they would make these purchases in their local communities, the study estimates:

- Total direct and indirect spending in Pennsylvania attributable to the trail system was **$12,096,285** in the 2002 trail season.
- Total direct and indirect spending in communities within 10 miles of the trail system was increased by **$3,174,593** due to trail related spending coming from outside those communities.

It is the spending from outside the local trail related communities that contributes to the economic development of these communities; more so than the spending that originates from within these communities. We could not determine the extent to which the trail system redirected spending by local residents from outside their communities back into their communities; this would also contribute to local economic development. The fact that persons traveling long distances spent roughly four times as much each trip as local visitors supports the argument that it is visitors from outside the communities that really contribute to economic development.

Comparisons of the current study with the study done for the Allegheny Trail Alliance in 1998 are complicated. First, the trail counters were not fully operable during the entire 1998 trial season. Second, there were difficulties in interpreting whether a non-response to spending questions meant a true $0 or simply missing data. Although there was evidence of increased trail usage, from an estimated 304,408 visits to the Boston-Garrett trail section in 1998 to an estimated 347,053 visits in 2002, interpreting this as a true increase in use may be problematic. In 1998 we had to estimate usage for the entire season based on, at most, one-half a season of trail counter data. Trail counts for the 2002 season are more reliable. At least these two years' estimates confirm usage rates ranging from 300,000 to 350,000 visits.

Estimated per person spending in 2002 is well below even the lowest estimates for the 1998 season. This may be for two reasons. The 2002 survey covered the entire trail season, while the 1998 survey covered only the last half of the season when spending is the highest. Also, there may be true reductions in spending in 2002 as economic conditions were considerably poorer in 2002 than 1998. Estimated total small item and lodging expenditures in trail communities due to trial use ranged from $5.4 to $14.1 million in the 1998 study; and from $2.9 to $4.5 million in the 2002 study. Similarly, the range of estimates for bike and equipment spending was from $8.9 to $12.2 million in 1998 and from $2.9 to $4.2 million in 2002.

The large range of spending estimates in the 1998 study was due to the inability to distinguish between a true $0 (low estimate) expenditure and missing data (high estimate). The 2002 study is much more reliable because it eliminated this data ambiguity. The range of estimates in 2002 is solely due to our attempt to establish a statistical range within which we can 95% confident that spending lies within that range,

and not to errors in data interpretation. We would conclude that the 2002 estimates for trail use and spending are much more reliable than the 1998 estimates.

We believe that the user survey in 2002 provides very reliable information on spending and usage patterns. These data can reasonably be used over the next several years to gauge the economic implications of trail use to Pennsylvania and local trail related communities. Where we see the greatest problems are in the use of trail counters to determine the number of visits and visitors. These problems include malfunctioning counters, as in the case of Montour and Greenock. But they also include the measurement difficulties in counting all users and avoiding double counting. The latter are much more difficult to solve, but may involve more effective placement of counters and more regular monitoring of counters for malfunctions.

While the focus of the study has been on spending, the survey did collect information on what things people would like to see improved on the trail system. Nearly a third of the respondents suggested more drinking water and toilet facilities. A smaller number suggested more snack shops.

Table E - 1
Estimated Number of Visits and Individuals Making
Visits to the Boston-Garrett Trail System in 2002
(Montour Excluded)

Trail Counter Location	Total Use (# Visits) During Season	Trailhead Used for Spending Estimates	Number of Trips per Person	Estimated Number of Individuals Making Visits (1/3)
	1	2	3	4
Garrett	9121	Rockwood	4.0	2280
Rockwood	10551	Rockwood	4.0	2638
Confluence	9484	Confluence	2.9	3270
RamCat	27883	Ohiopyle	3.5	7967
RR Station	27566	Ohiopyle	3.5	7876
Ferncliff	58616	Ohiopyle	3.5	16747
Connellsville-S	51224	Connellsville	9.7	5281
Connellsville-N	39879	Connellsville	9.7	4111
Outback	8482	W.Newton	12.0	707
Buddtown	55083	W.Newton	12.0	4590
Greenock	49163	Boston	12.1	4063
Total	**347053**	All Combined	6.8	**51342**

Table E - 2
Estimated Total Spending on Small Items, Lodging, and Bikes
and Equipment for the Boston-Garrett Trail System in 2002
(Montour Excluded)

Trail Counter Location	Total Local Spending on Small Items	Total Lodging Spending	Total Bike & Equipment Spending (B&E)	**Grand Total Spending**	% of Total
	1	2	3	**4**	5
Garrett	$ 89,573	$ 18,412	$ 164,478	**$ 272,462**	3.8%
Rockwood	$ 103,607	$ 21,296	$ 190,249	**$ 315,153**	4.3%
Confluence	$ 148,144	$ 47,865	$ 203,039	**$ 399,048**	5.5%
RamCat	$ 318,146	$ 90,810	$ 339,512	**$ 748,468**	10.3%
RR Station	$ 314,533	$ 89,778	$ 335,656	**$ 739,967**	10.2%
Ferncliff	$ 668,805	$ 190,900	$ 713,719	**$ 1,573,424**	21.7%
Connellsville-S	$ 462,550	$ 31,759	$ 484,100	**$ 978,408**	13.5%
Connellsville-N	$ 360,109	$ 24,725	$ 376,886	**$ 761,721**	10.5%
Outback	$ 69,975	$ 862	$ 60,284	**$ 131,121**	1.8%
Buddtown	$ 454,438	$ 5,596	$ 391,504	**$ 851,539**	11.7%
Greenock	$ 199,109	$ 811	$ 291,708	**$ 491,628**	6.8%
Total	$ 3,188,990	$ 522,814	$ 3,551,135	**$ 7,262,939**	100.0%

Chapter 1
Introduction and Methodology

The Allegheny Trail Alliance (ATA) has contracted with the University of Pittsburgh to undertake a user survey of the Alliance's trail system in Western Pennsylvania. This trail system is shown in Map 1-1 below. In addition, the University has taken data collected by the Alliance on trail usage and, using trail count and user survey data, made estimates of user spending associated with trail use during the period from April, 15, through November 15, 2002. This Introduction describes in some detail the user survey methodology. The analyses of trail usage and user survey data are presented in the following chapters.

1.1 The Trail Counters

The ATA has positioned electronic trail counters at various points along the trail systems. These counter points are shown in Map 1-1. There were a total of 11 counters installed. However, the Greenock counter appeared to malfunction during the entire project period, so its data cannot be used in this study. All counters on the Montour Trail are not functioning, so usage and spending estimates cannot be made for this portion of the trail system. Chapter 2 describes in detail how the trail counter data are converted into usage rates.

1.2 The User Surveys

The University of Pittsburgh developed a survey and sampling protocol for trail users during the period, April 15 through November 15, 2002. The survey was distributed by volunteers at regular intervals at seven trailheads along the trail system. The survey was in a self-addressed, stamped return envelope and was placed on vehicle windows at the trailheads at mid-morning of the sampling days. In case of rain, the surveys were administered the next day. Surveys were distributed on several weekdays, typically Wednesday and Friday, and weekends. A trailhead would be surveyed on a Wednesday, Friday, Saturday and Sunday of the same week. This would be repeated twice a month. The survey distribution points are shown in Map 1-1.

The number of surveys distributed and returned is shown in Table 1-1. A total of 5700 surveys were placed on vehicle windows at the sample trailheads during the April-November period. A total of 2229 had been returned by the cutoff date, December 18, 2002. This is a **39% response rate**, which is good for no follow-up procedures. The table shows that response rates ranged from 24% at Confluence to 53% at Montour. Response rates were highest during May-August, when they were roughly 45%, but fell to as low as 12% in November. This may be because people had already been surveyed and wished not to fill in another survey. Return rates for Wednesday and Friday were identical, 35%; while return rates for Saturday were 42% for Sunday were 39%.

Map 1-1
The Regional Trail System with Trail Counter
and User Survey Locations

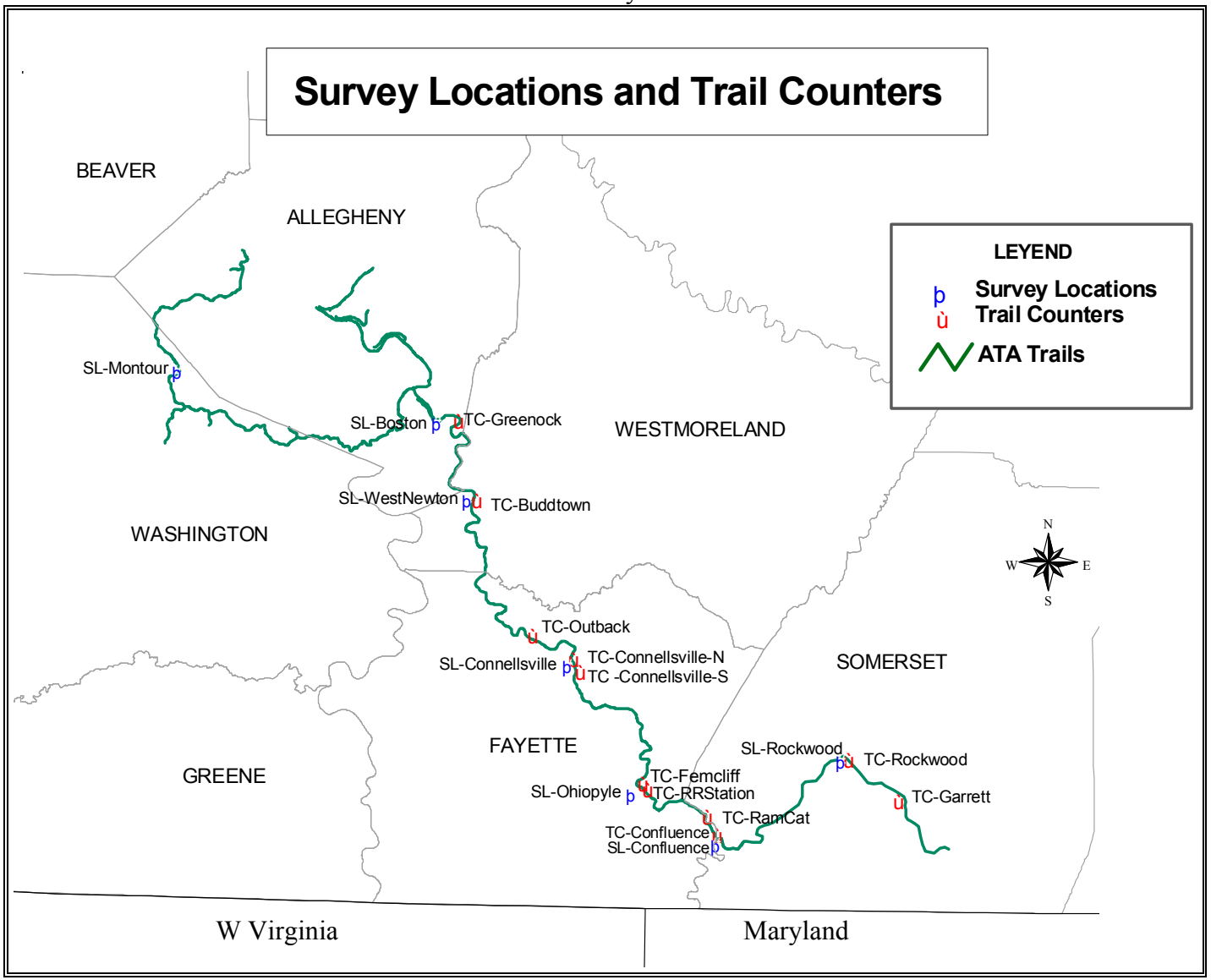


Table 1-1
Surveys Distributed and Returned, by Trailhead Location

	Montour	Boston	W. Newton	Connellsville	Ohiopyle	Confluence	Rockwood	Sent	Return	%
Month	1	2	3	4	5	6	7	8	9	10
April	0	0	0	80	105	55	0	240	64	27%
May	125	160	125	80	105	55	160	810	364	45%
June	95	120	95	160	210	110	120	910	431	47%
July	125	160	125	180	235	125	160	1110	493	44%
August	90	115	90	110	145	75	115	740	341	46%
September	75	95	75	190	250	130	95	910	323	35%
October	55	70	55	80	105	55	70	490	152	31%
November	55	70	55	80	105	55	70	490	61	12%
Sent	620	790	620	960	1260	660	790	**5700**	**2229**	**39%**
Return	330	356	279	289	487	160	328	**2229**		
%	53%	45%	45%	30%	39%	24%	42%	**39%**		

Chapter 2
Trail Usage

Trail counters have been placed at strategic points along the trail system. The locations of these counters are identified in Map 1-1. A counter registers when any object passes before it. In some cases fluttering leaves make false registrations of use. And the passage of large animals can make a false registration. In addition, even when correctly counting persons, a counter will register twice when the same person goes out and back from a trip; while other users may be going only one way and be registered once. If persons are close together, several persons can be counted as one. As a result of these problems in counting persons, it is necessary to make some adjustments to the raw trail count data.

There were no functioning trail counters on the Montour trail, so usage of that trail, and corresponding total spending related to its use, cannot be determined. Also, the counter at Greenock malfunctioned extensively during the course of the trail season. However, we could use the Buddtown counter to estimate the Greenock counts using a statistical analysis of counts at the two locations from data obtained in 1998. We estimated the following predictive equation for Greenock:

$$\text{Greenock Count} = 0.83\ \text{Buddtown} + 0.0002\ \text{Buddtown}^2,\ R^2 = .93,\ N=46$$

The equation fit the 46 observations we had for Greenock in 1998 very well. We used this equation to estimate the Greenock counts from the more reliable Buddtown counts. In order to deal with the "fluttering" leaves problem, we had to throw out very high counts; for example, one day registered 15,000 counts at one site.

A trail use study supervised by Bob McKinley has provided very important validation of counts. His study sought to determine how many different persons were associated with the number of counts registered by the counters. In July-August of 2002, accuracy tests were conducted for the counters at Boston, Buddtown, and Greenock. The actual number of persons and counter counts were recorded for three different days and different times of the day for each site. The number of persons going north was distinguished from the number going south. The empirical relationship between trail counter counts (TN) and the actual number of different persons (AN) was:

$$AN = 0.657 * TN$$

We have used this equation to translate counts to persons across the entire trail system. All the analysis of trail use that follows has been transformed with this equation. So the following data represent the number of actual person visits on the trail, and not trail counts.

4-1. Trail Use by Month and Day of Week

In Chapter 4 we will be combining data on trail use with spending information from the user survey. So in this chapter we report trail use in a manner that will be useful in Chapter 4. The trail counters, when functioning properly, register counts on an hourly

and daily basis when operating. These highly detailed counts were combined into daily averages by month and day of the week for each counter location.

Figure 2-1 shows the mean number of visits per day estimated at each counter location. The average number of visits across all trails was **147 visits per day**. Since there are 11 counter locations and 214 days in the trail season, April 15-November 15, we can use this average for a crude estimate of total seasonal trail use. We must exclude Montour Trial, and we must assume all persons pass by a counter and no person passes two counters. This crude total estimated use is 346,038 (147x11x214) trail visits in the season. A more accurate estimate is calculated below.

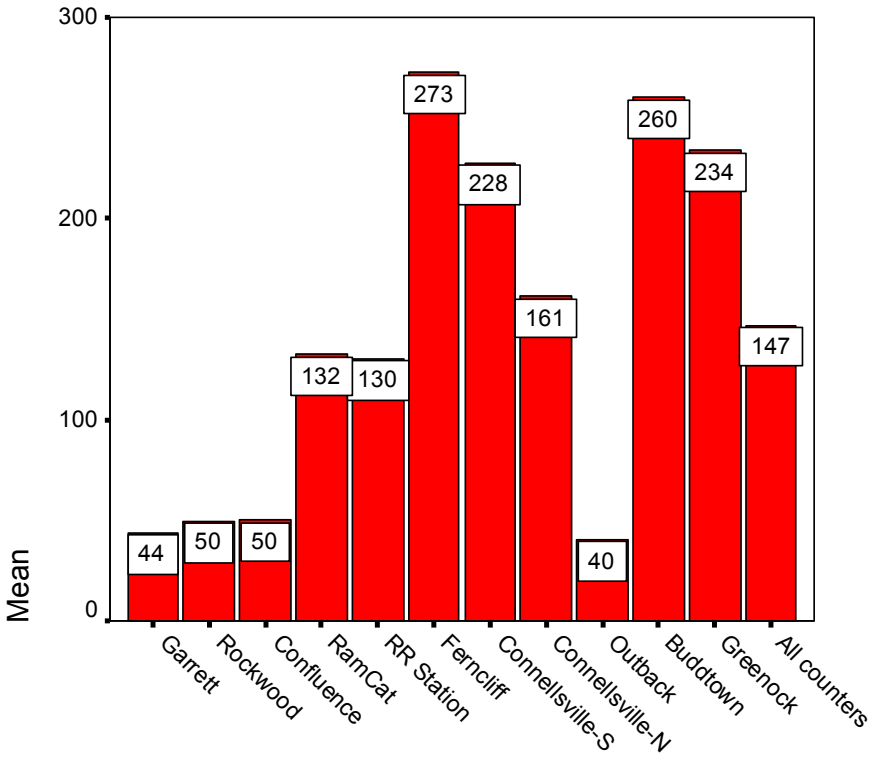


Figure 2-1
Mean Number of Visits per Day in 2002
Trial Season, by Counter Location

Trail use varied significantly across counter locations, as Figure 2-1 shows. Usage was highest at Ferncliff and Buddtown, at 273 and 260 visits per day, respectively. The trail system in and around Ohiopyle is represented by the RamCat, RR Station and Ferncliff counters.

Table 2-1 provides more detail about weekend differences in trail use across counter locations. Clearly Ferncliff is highly used on Saturdays, with an average of 616 visits per day during the trail season.

Table 2-1
Mean Number of Visits per Day in 2002 Trail Season,
by Counter Location and Day of Week

Trail Counter Location	Weekday 1	Saturday 2	Sunday 3	All Days 4
Garrett	32	62	86	44
Rockwood	38	66	90	50
Confluence	40	76	77	50
RamCat	84	272	240	132
RR Station	88	238	247	130
Ferncliff	167	616	487	273
Connellsville-S	199	341	266	228
Connellsville-N	158	343	179	161
Outback	30	58	75	40
Buddtown	208	366	422	260
Greenock	184	332	387	234
All	103	250	218	147

Trail use varies significantly over the trail season, as Table 2-2 illustrates. Several daily averages had to be estimated due to the lack of counter data. Usage is highest in June and July, with an average of 201 and 199 users per day respectively. Ferncliff and Connellsville-S are very heavily used in June, July and August.

In order to estimate spending, we had to generate a table that showed trail counts by counter location, month and day of the week. This is a complicated table and is shown in Appendix B. We estimated it by taking actual counts by Counter Location and Month, and assuming that the day of week pattern for a location would be the same for all months. For example, if Weekday counts at Garrett were 50% of Saturday counts over the entire trail season, we assume that every Weekday is 50% of Saturday counts for every month. This procedure was necessary since there were too many missing data to establish such a complex table from actual count data.

Appendix B tables were the basis for an estimate of the total number of visits to the trail system. Taking the number of weekdays, Saturdays and Sundays in each month, we can estimate total use. These estimates are shown in Table 2-3. We estimate a total of **347,053 visits** in 2002 to the trail system on which these counters were placed, Montour excluded. Ferncliff, Buddtown and Greenock comprised the highest shares of use; the three combined represented roughly one-half of the trail use.

Table 2-2
Mean Number of Visits per Day in 2002 Trail Season,
by Counter Location and Month

Trail Counter Location	April 1	May 2	June 3	July 4	August 5	September 6	October 7	November 8	All Months 9
Garrett	13	35	70	67	48	37	30	7	44
Rockwood	51	51	65	71	54	45	30	11	50
Confluence	12(a)	28(a)	50(a)	62	78	49	27	10	50
RamCat	41	93	166	220	180	141	68	24	132
RR Station	44	106	189	250	136	78	64	77	130
Ferncliff	127	194	303	384	300	196	256	362	273
Connellsville-S	98(b)	151	285	414	394	270(c)	60	66	228
Connellsville-N	98	149	209	161	154	180	147	128	161
Outback	20(d)	39	46	42	37	46	19	68	40
Buddtown	131	267	346	300	178	293	227	222	260
Greenock	113	240	314	267	154	263	208	199	234
All	75	139	201	199	135	134	109	113	**147**

(a) missing data = .3 x RamCat
(b) missing data = Connellsville-N
(c) missing data = 1.5 x Connellsville-N
(d) mission data = .15 x Buddtown

Table 2-3
Estimated Total 2002 Trail Season
Visits, by Trail Counter

Trail Counter Location	Total Use 1	PerCent of Total 2
Garrett	9121	2.6%
Rockwood	10551	3.0%
Confluence	9484	2.7%
RamCat	27883	8.0%
RR Station	27566	7.9%
Ferncliff	58616	16.9%
Connellsville-S	51224	14.8%
Connellsville-N	39879	11.5%
Outback	8482	2.4%
Buddtown	55083	15.9%
Greenock	49163	14.2%
Total	**347053**	100.0%

Chapter 3
The User Survey

Chapter 1 described the sampling protocol for the user survey. A total of 2229 responses were received by the cut-off date, December 18, 2002, for a response rate of 39%. Since there were, on average, 2.0 persons per group (see below), this implies that the survey obtained trip information on roughly 4400 individuals. This chapter describes the survey itself and analyses the survey responses.

A copy of the survey is shown in Appendix A. One user was responsible for completing the survey for their vehicle group. Users were asked questions about their frequency and intensity of usage, spending and residency. This chapter is organized by the survey question asked.

1. How many persons came with you in this vehicle today?

The mean number of persons accompanying a user was 1.0, implying 2.0 persons per vehicle, as respondents were asked how many persons CAME with them. The analysis in this section is based on the number accompanying the respondent. (Note: in a small number of cases it was clear from other responses in the survey that the respondent counted himself/herself. We adjusted responses in those cases.)

Figure 3-1.1 shows the variation in accompaniment rates across trailheads. They ranged from 0.6 persons at Montour, to 1.4 at Ohiopyle. Figure 3-1.2 shows these rates over

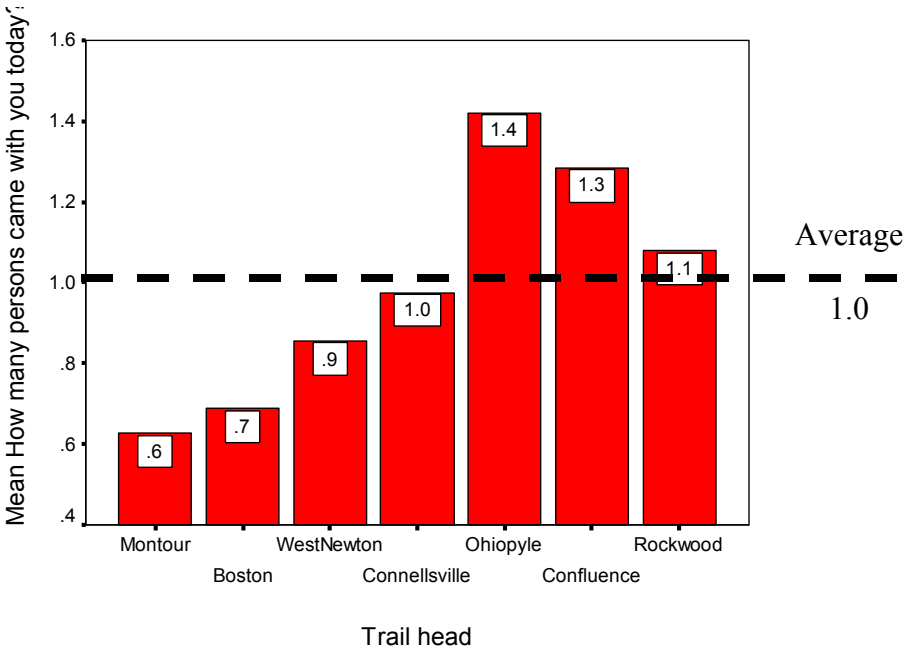


Figure 3-1.1
Number of Persons Accompanying Respondent,
by Trailhead Surveyed

the course of the sample period. There is a general increase in accompaniment rates over the summer and fall, peaking in October. Accompaniment rates by day of the week, Figure 3-

1.3, show weekends to be higher than weekdays, with Sunday rates the highest. Rates by type of usage, Figure 3-1.4, show that persons using the trails for river access have the highest accompaniment rates, 1.5 persons per respondent, followed by biking, 1.0.

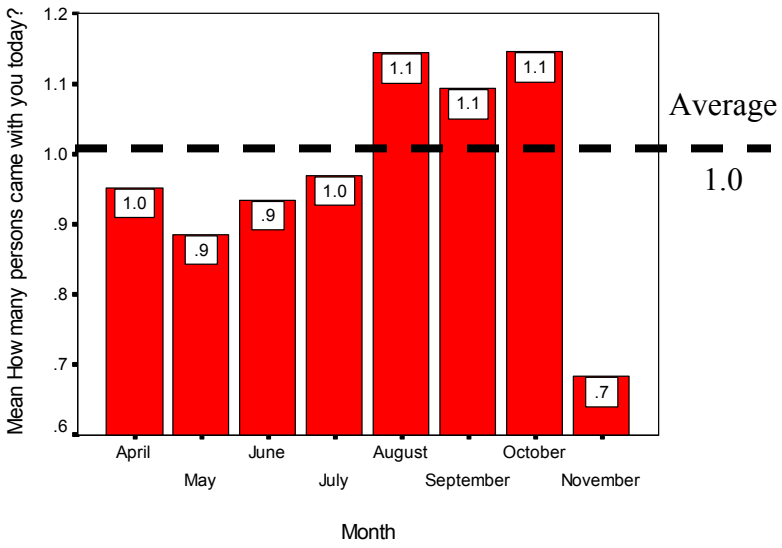


Figure 3-1.2
Number of Persons Accompanying Respondent, by Month

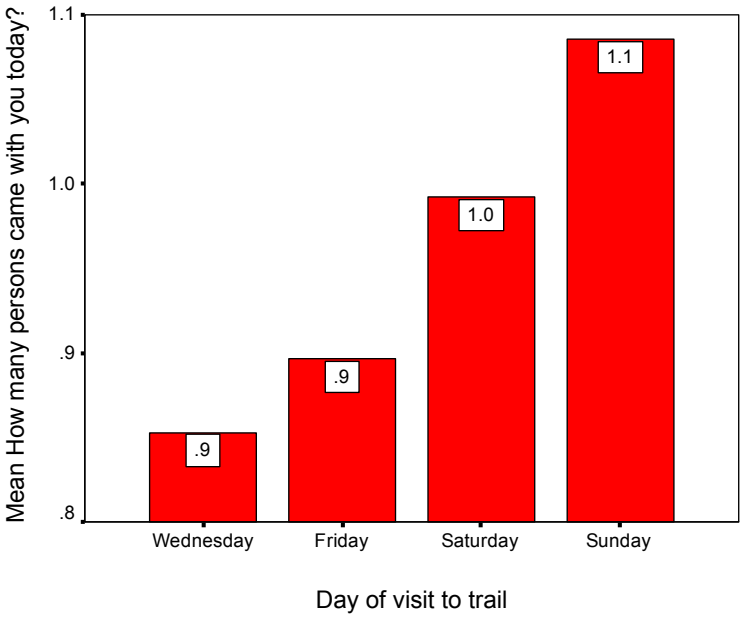


Figure 3-1.3
Number of Persons Accompanying Respondent, by Day of Week

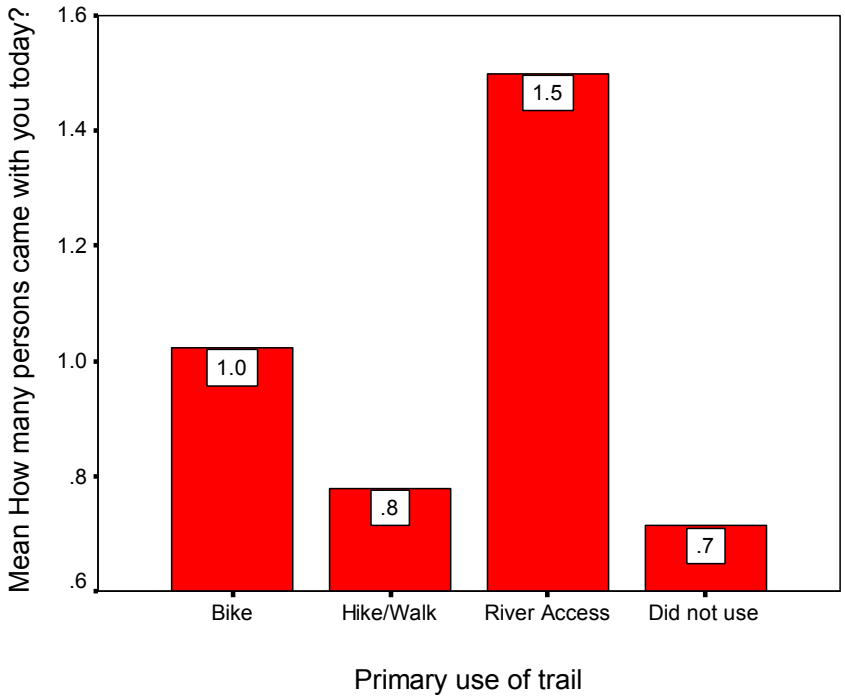


Figure 3-1.4
Number of Persons Accompanying Respondent, by Type of Use

2. What was your groups' primary use of the trail today (check only one)?

Figure 3-2.1 below illustrates the type of trail use by trailhead. It shows the percentages of use. Clearly the trails are used primarily for biking, with the percentage of biking use ranging from 53% at Montour to 89% at Boston. Hiking and Walking uses are high at Montour, while river access is an important use at Ohiopyle and Confluence.

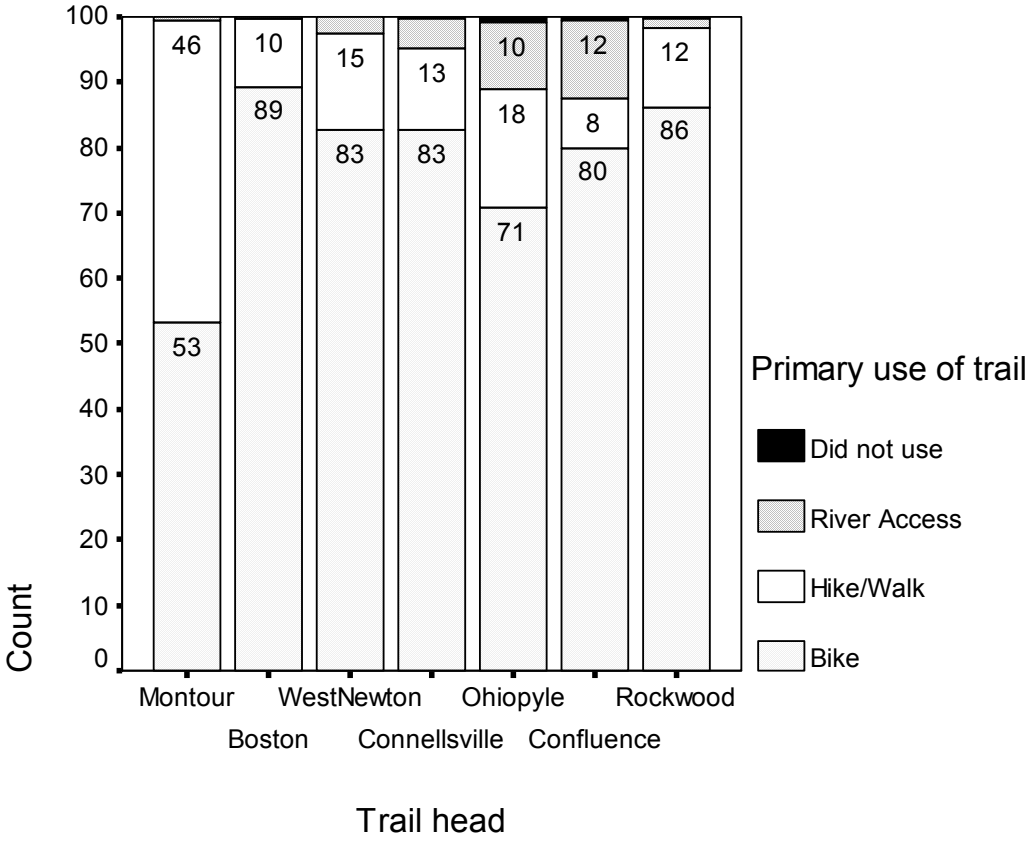


Figure 3-2.1
Types of Trail Use, by Trailhead

3. How far did you drive, **ONE WAY**, to come to this trailhead?

The distances that users traveled to reach their destination trailhead are shown in Figure 3-3.1 below. Over the entire trail system, the average distance traveled was 43.7 miles one way. The means of these distances ranged from only 9 miles at Montour to 72 miles at Ohiopyle. Clearly, Ohiopyle, Confluence, Rockwood and perhaps Connellsville are "destination" sites, while others are used more extensively by local users. This is not surprising as we expect the predominant use coming from persons residing in the Pittsburgh region. Figure 3-3.2 shows these travel distances by day of the week. Weekday users clearly travel shorter distances to use the trails than weekend users.

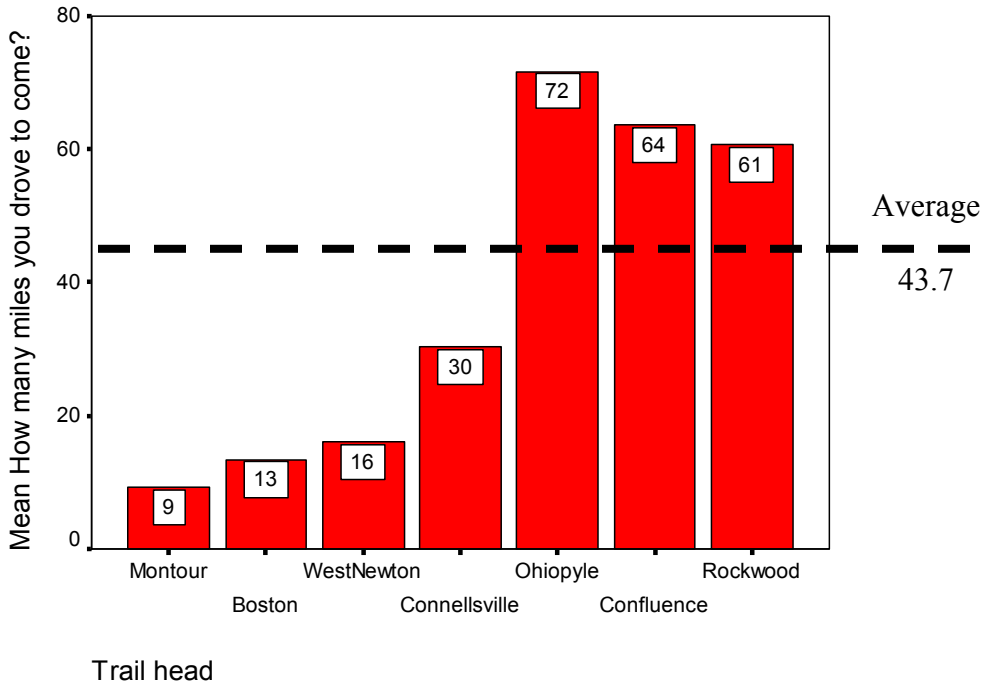


Figure 3-3.1
One-Way Distances (miles) Traveled to
Trailhead, by Trailhead

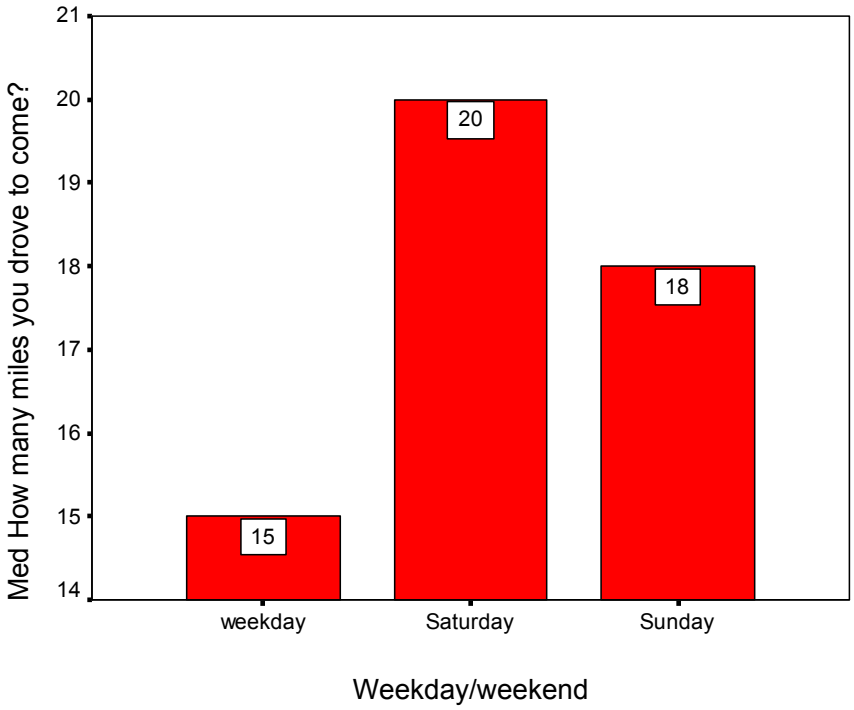


Figure 3-3.2
One-Way Distances (miles) Traveled to
Trailheads, by Day of Week

4. How many miles did you go, **ONE WAY**, on the trail today?

In order to assess the intensity of trail use, respondents were asked how far they traveled on the trail during their visit. The average over the entire trail system was 11.2 miles one way. Figure 3-4.1 below shows the means of these distances ranging from 6 miles, one way, at Montour, to 17 miles at Connellsville. Although it is not shown graphically, biking users traveled further, 11 miles, than walkers and hikers, 3 miles. River access users traveled the shortest distances, 1 mile. Weekday users traveled only slightly shorter distances on the trail, 8 miles, compared to weekend users, 10 miles.

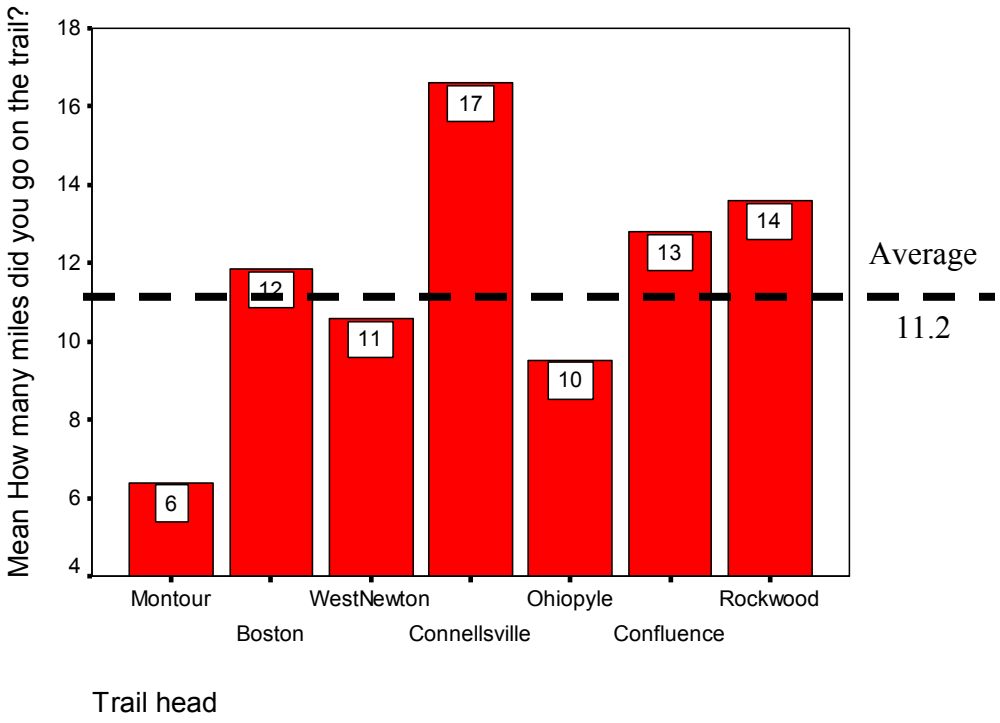


Figure 3-4.1
One-Way Distances (miles) Traveled on
the Trail, by Trailhead

5. How many hours were you on the trail today?

The mean number of hours a respondent spent on the trail during their visit is shown in Figure 3-5.1 below. The average over the entire trail system was 3.0 hours. This figure shows the time spent ranges from 1.8 hours at Montour to 3.7 hours at Connelsville. The longer time spent on the four "destination" trails is consistent with the greater distances traveled on those trails. Although not shown, bikers spent roughly twice as much time on the trail, 3 hours, as hikers and walkers, 1.5 hours.

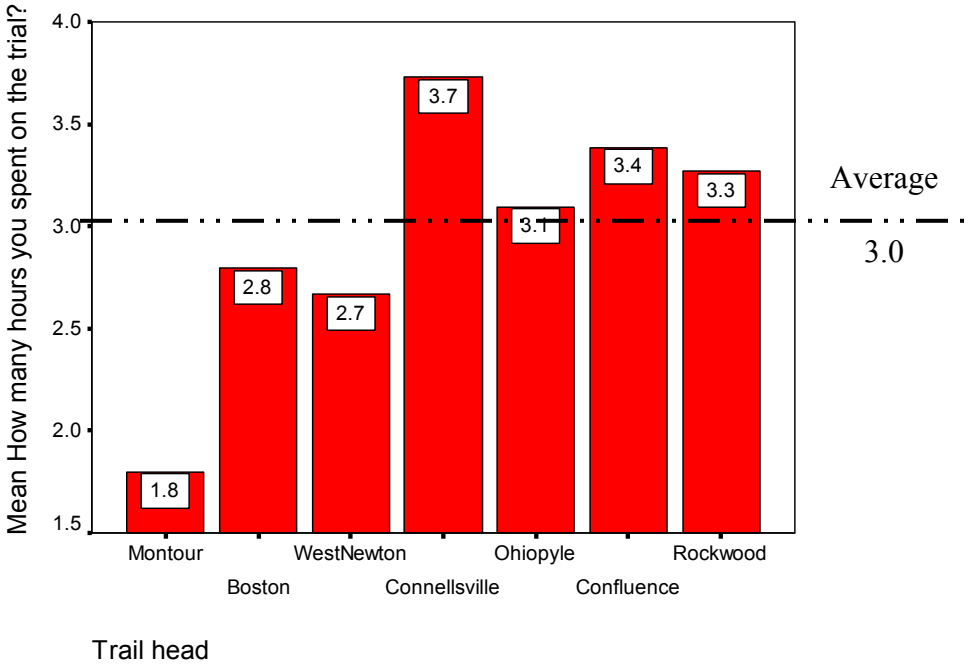


Figure 3-5.1
Hours Spent on the Trail, by Trailhead

6. If you came to bike, how many persons in your vehicle brought bikes?

Figure 3-6.1 shows the mean number of biking persons in each vehicle that brought bikes, rather than renting them at the site. When considering that the average number of persons in a biking group is only 2.0 (Figure 3-1.4), this suggest there are very few bike rentals among user groups. This is confirmed in the next question.

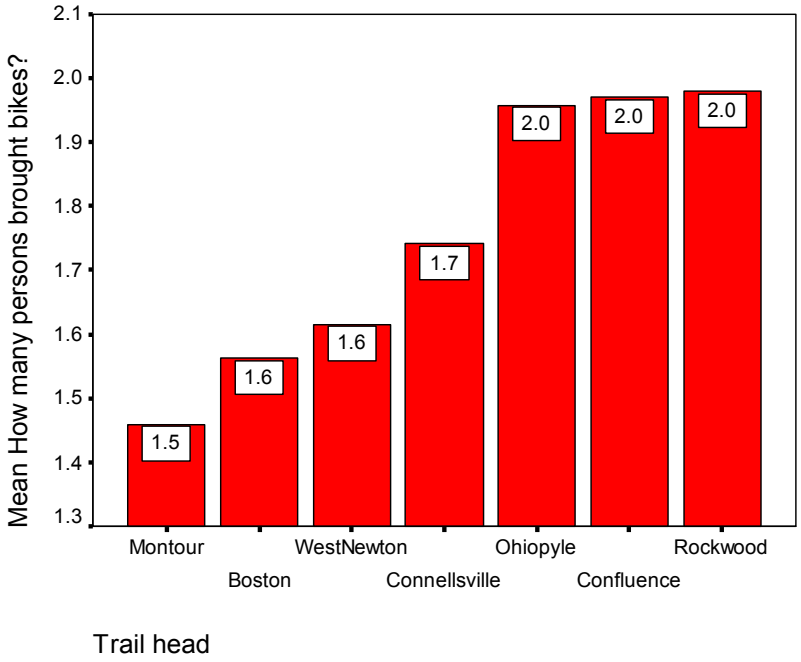


Figure 3-6.1
Number of Persons in Vehicle Group
Bringing Bikes to Trailhead, by Trailhead

7. How many persons in your vehicle rented bikes for this trip?

In contrast to question 6, this question determines the number of persons in each vehicle group that rented a bike during their visit. An average of only 0.17 persons per group rented bikes. This implies that out of 100 groups, 17 persons would rent bikes, which is not insubstantial. Figure 3-7.1 shows that this number ranged, on average, from zero at Montour to roughly 0.2 at Ohiopyle and Confluence. (These values are rounded off to one digit.) Comparing Figures 3-6.1 and 3-7.1 clearly suggests that bike renting is not very frequent among biking users. Although we show no figure to illustrate this, the number of biking rentals per group is higher for weekends than during the weekdays.

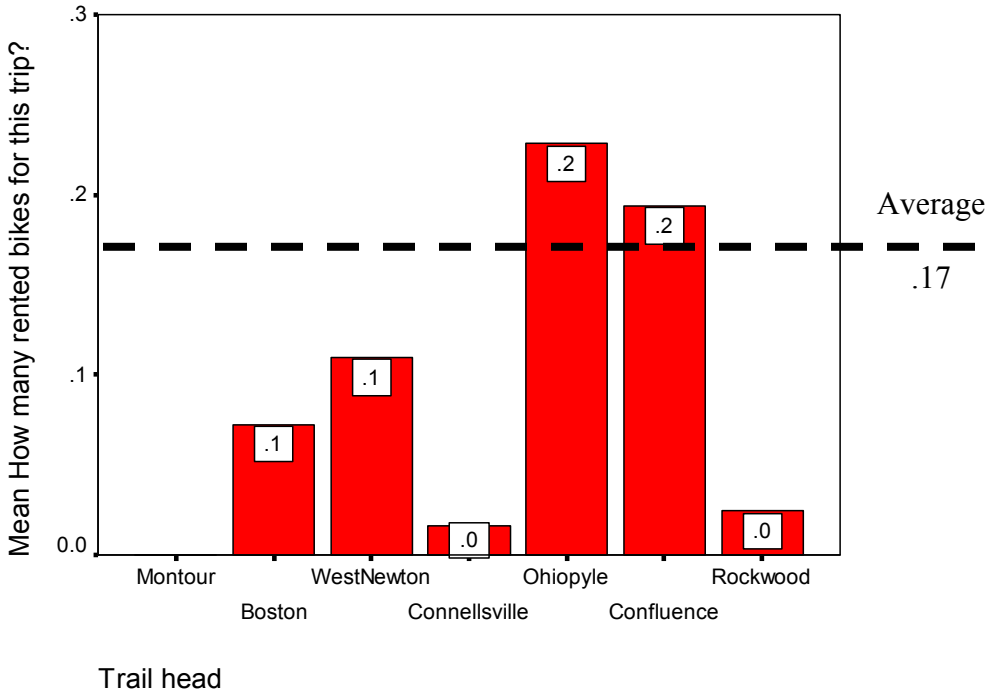


Figure 3-7.1
Number of Persons in Vehicle Group Renting
Bikes at Trailheads, by Trailhead

8. Did your group, or will your group, purchase food, gasoline, clothing, etc., in communities along the trail or trailhead today?

In order to distinguish between a true zero expenditure and a non-response to the spending question, 8a, respondents were initially asked whether their group had any spending in communities along the trail or trailhead. The responses are shown, by trailhead, in Figure 3-8.1. This figure shows the percentage of groups that had local spending for these small items during their visit. The percentage of non-responses (missing) is very low for this question. Overall, 59% of those groups who responded to this question had made such local expenditures. The percentage of respondent groups with some spending ranged from a low of 24% at Montour to 83% at Confluence. Clearly the percentage of groups making some expenditure in communities during their visits is higher for the four "destination" trails.

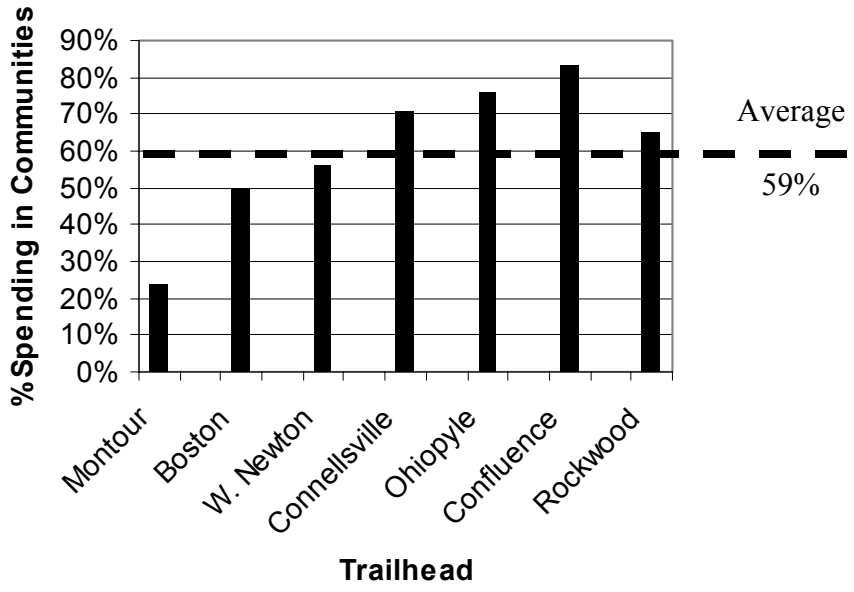


Figure 3-8.1
Percentage of Vehicle Groups Making Some Expenditure
in Communities Along the Trail, by Trailhead

8.a. If **YES**, what will be the total spending of your **whole group** in this community today?

If respondents signified that their group did or would make purchases in trail communities, they were asked to designate that level of spending for the entire group by spending category. The number of respondents that designated spending is shown in Table 3-8.1 below. This table also shows that across all trailheads, 59% (column 8) of the 2229 responding groups make some type of trail community expenditure. Out of a total of 330 respondents at the Montour trailhead, 56 (column 4) provided actual spending estimates for their groups' purchases of food and drink. This is 17.0% of Montour survey respondents. At the Montour trailhead, a total of 74 (column 8) respondents designated some group purchases; this is 22.4% of the 330 Montour respondents, and is consistent with the graph in Figure 3-8.1 above.

Table 3-8.1

Number of Surveyed Groups Making Purchases
in Trail Communities, by Trailhead and Spending Category

Trailhead	Total Respondents in Survey	Bike Rental	Biking Equipment	Food & Drink	Clothing	Gasoline	Other	Total
	1	2	3	4	5	6	7	8
Montour	330							
n		0	1	56	3	29	8	74
%		0.0%	0.3%	17.0%	0.9%	8.8%	2.4%	22.4%
Boston	356							
n		6	10	166	3	23	10	174
%		1.7%	2.8%	46.6%	0.8%	6.5%	2.8%	48.9%
W. Newton	279							
n		13	36	129	9	23	9	151
%		4.7%	12.9%	46.2%	3.2%	8.2%	3.2%	54.1%
Connellsville	289							
n		35	20	190	4	48	24	204
%		12.1%	6.9%	65.7%	1.4%	16.6%	8.3%	70.6%
Ohiopyle	487							
n		13	13	357	37	68	45	366
%		2.7%	2.7%	73.3%	7.6%	14.0%	9.2%	75.2%
Confluence	160							
n		3	4	123	9	39	22	131
%		1.9%	2.5%	76.9%	5.6%	24.4%	13.8%	81.9%
Rockwood	328							
n		1	6	207	27	53	19	216
%		0.3%	1.8%	63.1%	8.2%	16.2%	5.8%	65.9%
Total	**2229**							
n		71	90	1228	92	283	137	**1316**
%		3.2%	4.0%	55.1%	4.1%	12.7%	6.1%	**59.0%**

The bottom row of Table 3-8.1 shows that the most predominant type of purchase was for food and drink, with 55.1% of surveyed groups reporting some spending in this category. The next highest category was gasoline, with 12.7% designating some spending in this category. Only 3.2% of surveyed groups make bike rental purchases.

8.a.1 Group Spending

The average spending by groups is shown in Table 3-8.2 below. Recall that question 8 asked whether a group had, or was anticipating, spending in trail communities during their current trip. If the answer was "No," their expenditures are zero. If the answer was "Yes," the group should have registered some expenditure value for question 8a, but some spending categories could be blank, such as clothing. The means reported in Table 3-8.2 include zero expenditures for the "No" groups and whatever values listed for the "Yes" groups, assuming that a blank entry meant zero expenditures.

The mean total spending per group, across all trailheads and spending categories was $17.31 per group per trip, as shown in the bottom row of column 8. Columns 9 and 10 show that we have a 95% confidence that the mean lies within the range from $15.83 and $18.79.

Mean spending per group on a trip for the six different spending categories is shown in the last row of Table 3-8.2. For example, mean spending was highest for food and drink, with an average across all trailheads of $10.04.

Mean group spending varied across trailheads, as column 8 shows. In fact, the differences across trailheads were statistically significant, implying we should treat each trailhead separately. The highest spending was at the Confluence and Ohiopyle trailheads, while the lowest spending was at the Montour and Boston trailheads.

We tested to determine whether group spending differed between days of the week surveyed. Mean spending on Wednesdays ($14.11) and Fridays ($14.66) was not statistically significantly different between those two days. Similarly, although Saturday spending, $19.62, was higher than Sunday spending, $16.78, these differences were not statistically significant. However, the weekday spending was significantly different from Saturday spending. So we should consider weekdays separately from weekends.

Spending also varied across types of trail users. For example, biking users spent, on average, $18.63 per group per trip, while hikers/walkers spent only $6.73. Interestingly, river access users, who comprised only 4% of all users, spent the most per trip, $39.39. This may be purchases of fishing gear. These differences were statistically significant. These results suggest we should consider types of users separately.

We also tested to determine whether there was a difference in spending across months. A statistical test, using regression analysis with dummy variables for months, showed that spending was significantly different across months. Spending in the months of April, May, June, July and September were not significantly different from one another. However, spending in August and October was higher than these months, and spending in November was lower.

Table 3-8.2

Mean Trip Spending per **GROUP** in Trail Communities Across Entire Sample, by Trailhead and Spending Category

Trailhead	Total Respondents in Survey	Bike Rental	Biking Equipment	Food & Drink	Clothing	Gasoline	Other	**Total**	95% Lower Bound	95% Upper Bound
	1	2	3	4	5	6	7	**8**	9	10
Montour	330									
Mean		$0.00	$0.17	$1.99	$0.39	$1.29	$0.64	**$4.48**	$ 3.18	$ 5.78
Boston	356									
Mean		$0.38	$0.41	$4.24	$0.10	$0.91	$0.60	**$6.64**	$ 5.20	$ 8.09
W. Newton	279									
Mean		$0.67	$7.03	$4.76	$1.03	$1.13	$0.34	**$14.96**	$ 10.69	$ 19.23
Connellsville	289									
Mean		$0.24	$1.71	$11.80	$0.36	$2.45	$1.13	**$17.68**	$ 14.71	$ 20.65
Ohiopyle	487									
Mean		$2.03	$1.06	$17.59	$2.08	$2.29	$2.10	**$27.16**	$ 23.56	$ 30.75
Confluence	160									
Mean		$2.53	$2.27	$17.75	$1.75	$4.67	$6.07	**$35.06**	$ 24.91	$ 45.21
Rockwood	328									
Mean		$0.16	$1.68	$12.40	$1.64	$2.83	$1.50	**$20.21**	$ 15.95	$ 24.46
Total	2229									
Mean		**$0.83**	**$1.83**	**$10.04**	**$1.07**	**$2.05**	**$1.49**	**$17.31**	$ 15.83	$ 18.79

8.a.2 Spending per Person

Group spending in Table 3-8.2 can be converted to spending per person using the number of persons per group from question 1. This spending per person is used in Chapter 4, along with trail count data, to determine total spending by all user groups in 2002. Figure 3-8.2 and Table 3-8.3 show estimated spending per person across the sampled trailheads. The average across all trailheads was $8.84 per person per trip. Spending per person was highest at Confluence, $15.61, and lowest at Montour, $2.87. Statistical tests showed that the mean spending levels were significantly different across trailheads, implying we should treat these trailheads separately in determining spending. Table 3-8.3 shows these spending levels and the 95% confidence interval for estimated spending. For example, we can be 95% confident that the overall mean spending per person falls within the range, $8.11 to $9.56. The range for Confluence is quite large because of the small number of respondents at that trailhead.

Spending by month is shown in Figure 3-8.3 below. While the differences between months are statistically significant, only August and November stand out, the former being

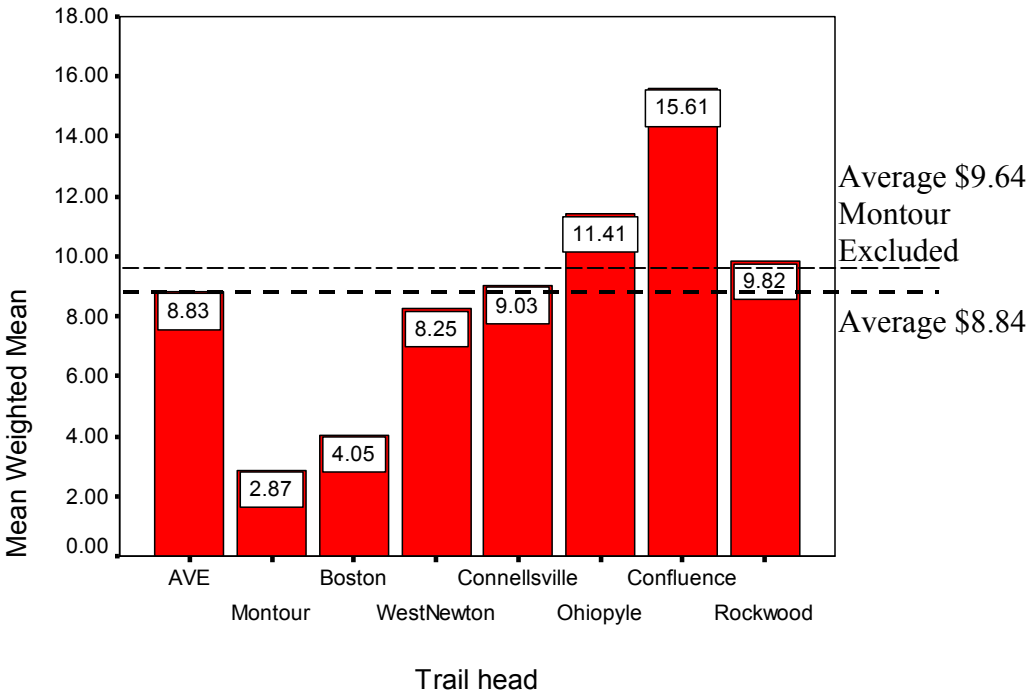


Figure 3-8.2

Mean (Weighted) Spending Per Person
Per Trip, by Trailhead

Table 3-8.3
Mean (Weighted) Spending Per Person Per Trip,
and 95% Confidence Interval, by Trailhead

Trailhead	**Total Spending Per Person 1**	95% Lower Bound 2	95% Upper Bound 3
Montour Mean	**$2.87**	$ 2.04	$ 3.71
Boston Mean	**$4.05**	$ 3.17	$ 4.93
W. Newton Mean	**$8.25**	$ 5.98	$ 10.53
Connellsville Mean	**$9.03**	$ 7.49	$ 10.57
Ohiopyle Mean	**$11.41**	$ 9.97	$ 12.84
Confluence Mean	**$15.61**	$ 11.15	$ 20.08
Rockwood Mean	**$9.82**	$ 7.82	$ 11.82
Total Mean	**$8.84**	$ 8.11	$ 9.56

higher than average, and the latter being lower than average. Figure 3-8.4 shows spending by day of the week. Statistical tests showed that Wednesday and Friday spending per person were the same, so they are grouped together as Weekday. Saturday spending was significantly higher than either weekday or Sunday spending.

Spending levels varied significantly between types of use. Figure 3-8.5 shows that spending for river access users is substantially higher than other uses. Biking users spent more money, on average, than hikers and walkers. (Less than 1% of users are in the "Did not use" category, so this category is not investigated in this study.)

Figure 3-8.6 shows that spending also varies substantially by distances traveled to reach the trailheads. While persons traveling less than 10 miles, one way, spent $4.03 per person per trip, individuals traveling more than 60 miles spent $15.44 per person per trip, nearly four times as much as the local visitors.

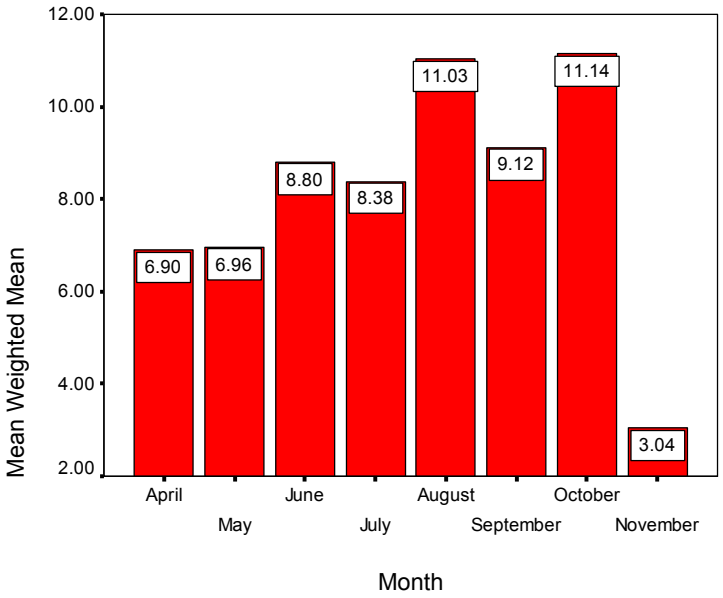


Figure 3-8.3
Mean (Weighted) Spending Per Person Per Trip, by Month

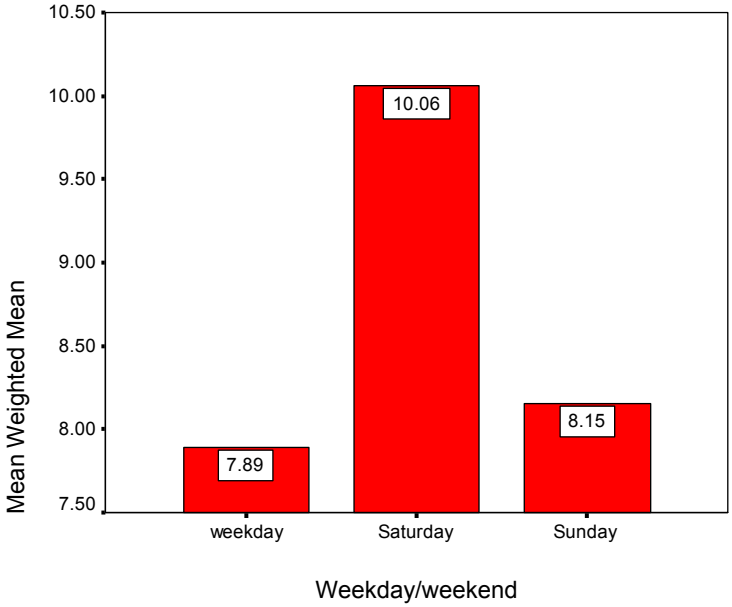


Figure 3-8.4
Mean (Weighted) Spending Per Person
Per Trip, by Day of Week

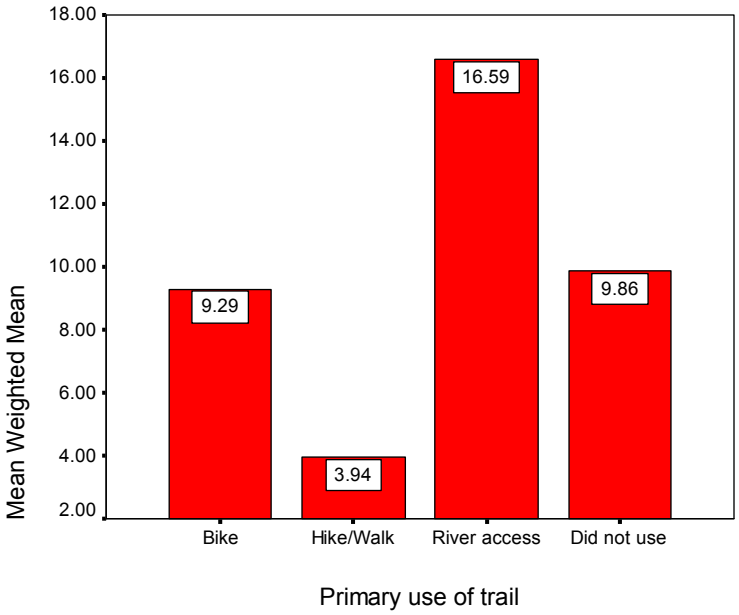


Figure 3-8.5
Mean (Weighted) Spending Per Person
Per Trip, by Type of Use

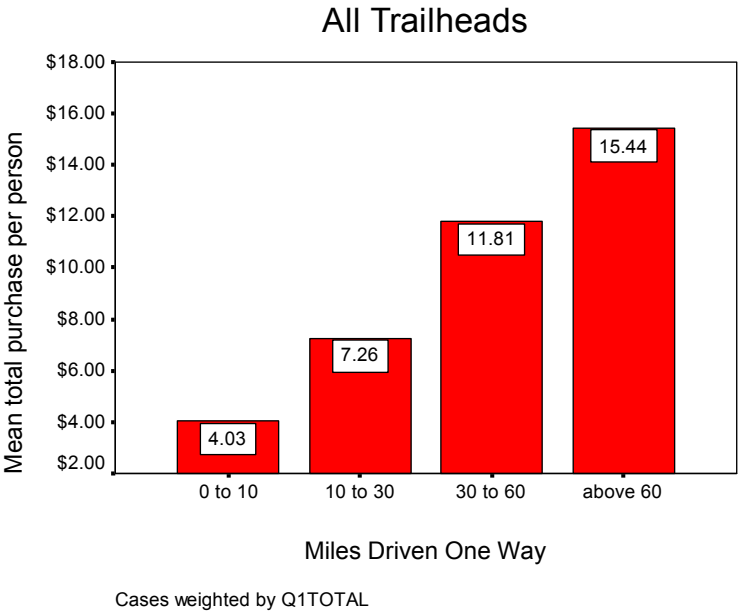


Figure 3-8.6
Mean (Weighted) Spending Per Person
Per Trip, by Miles Driven One Way to Trailheads

9. How many trips has each person in your vehicle made to this trailhead this calendar year?

This question asked for each person to list the number of times they visited the current trailhead during the current calendar year. Unfortunately, some persons may interpret this as the past 12 months, and others as the period since the beginning of the calendar year. If it is the latter, we should see an increase in the number of trips over the course of the sample period. Figure 3-9.1 below shows the weighted means by month of the sampling period. For the major biking period, May through September, there is no significant change

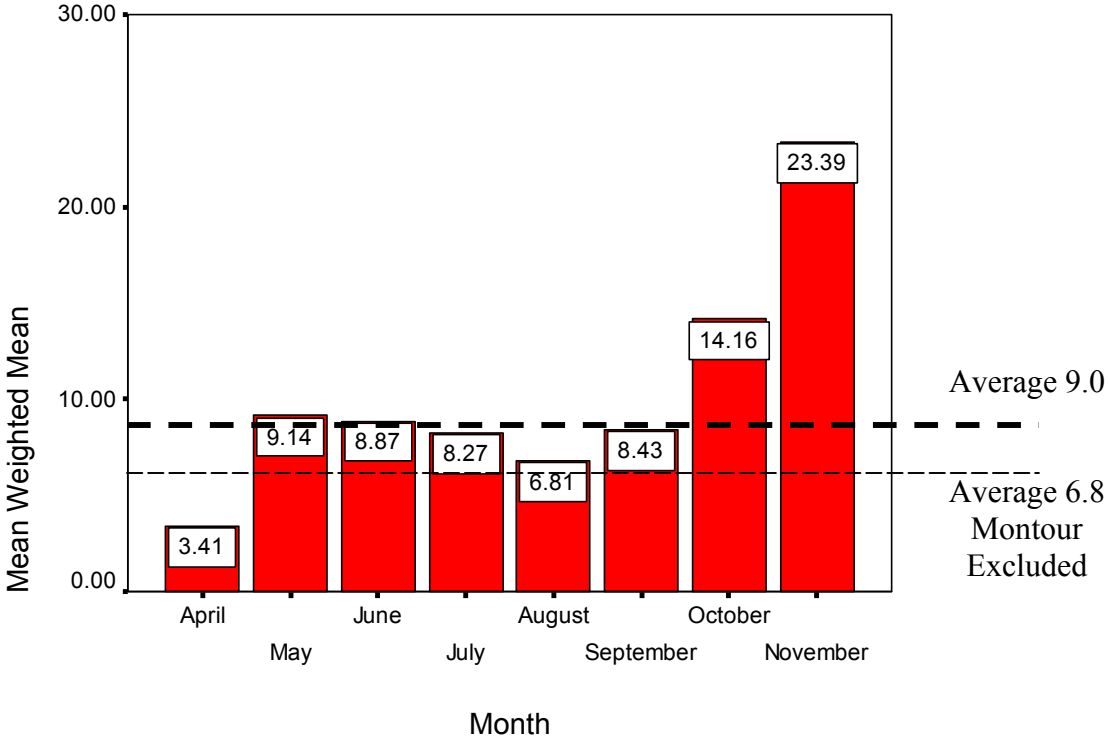


Figure 3-9.1

Mean (Weighted) Number of Trips Per Person to Trailhead
During the Calendar Year, by Month

in number of trips as the season progresses, suggesting that respondents primarily interpreted the question as trips during the past year. The rise in October and November may suggest otherwise, however. But it may also be true that trail users in these fall months are more avid than most. The average number of trips per person to the trailhead at which they were surveyed was 9.0. If Montour is excluded, this average is only 6.8 trips per year. However, the number of trips per person varied significantly across types of use, as Figure 3-9.2 shows. Hiking and walking users made significantly more trips than other users. Biking users made, on average, 5.7 trips per person per year to the trailhead at which they were surveyed. The number of trips per person varied significantly across trailheads, as Figure 3-9.3 shows. The destination trailheads, Ohiopyle, Confluence and Rockwood, were less frequently visited than trailheads such as Montour

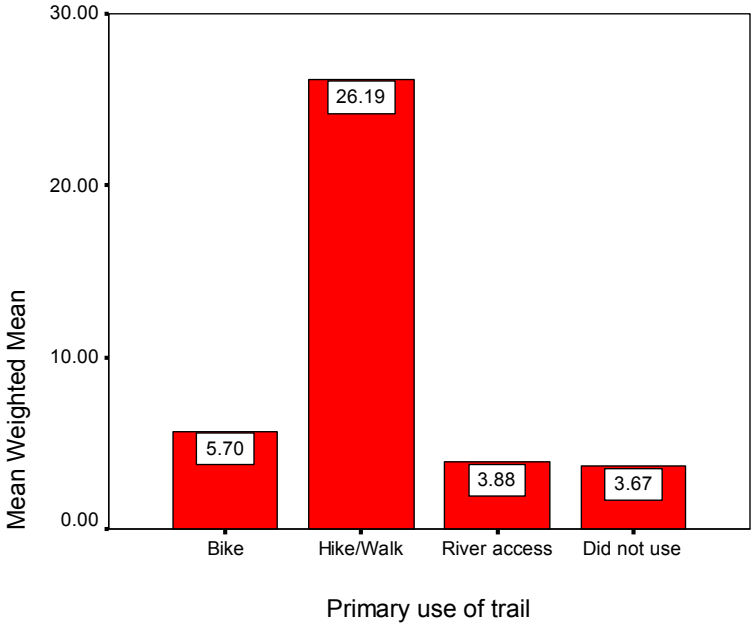


Figure 3-9.2
Mean (Weighted) Number of Trips Per Person
During Past Year, by Type of Use

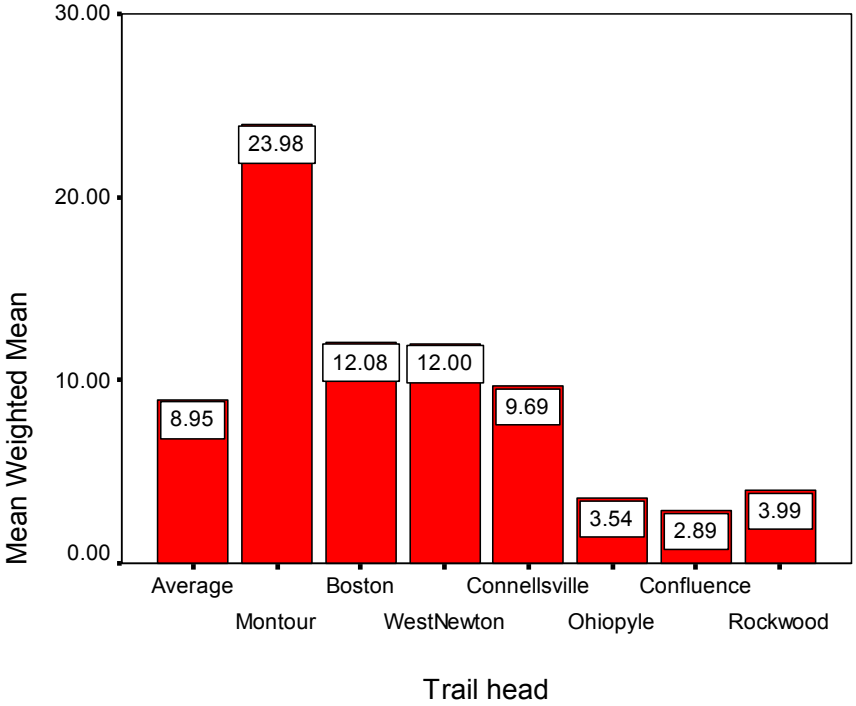


Figure 3-9.3
Mean (Weighted) Number of Trips Per Person
During Past Year, by Trailhead

The number of trips to a trailhead varied significantly with the distance traveled. Figure 3-9.4 shows that the average number of trips per person during the year to the trailhead where they were surveyed was roughly 17 if the person lived within 10 miles of the trailhead. However, the number of trips fell to less than 3 per year if the distance traveled exceeded 30 miles. (Note that Montour is excluded from these statistics.)

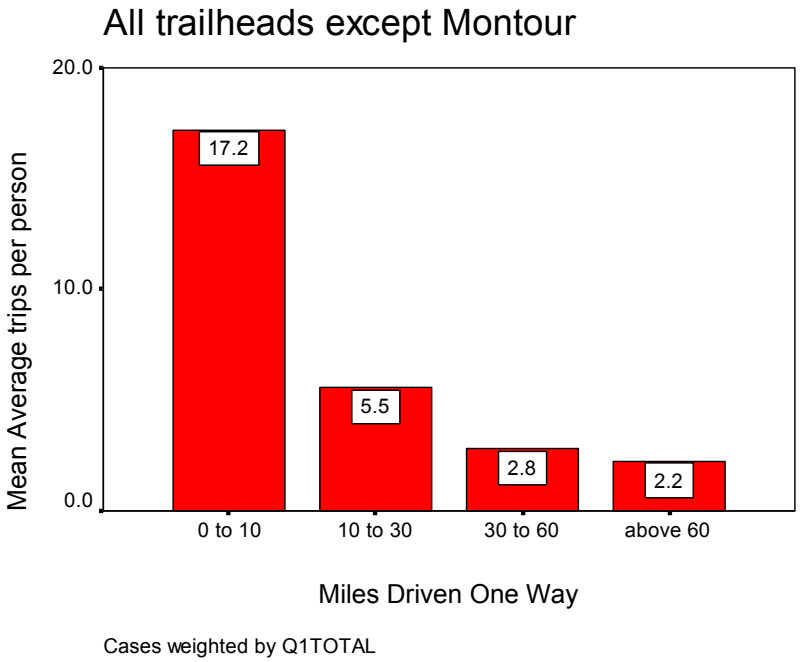
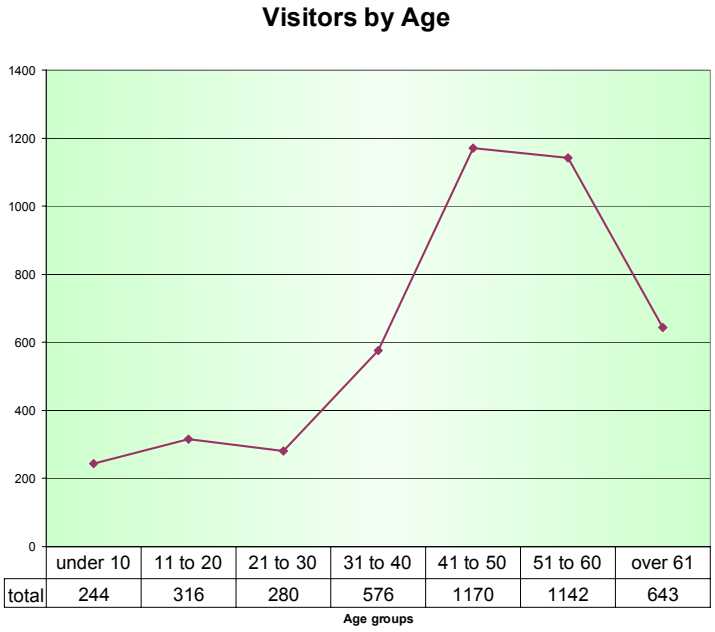


Figure 3-9.4
Average Trips per Year per Person, by
Miles Driven to the Trailhead

10. How many persons in your vehicle are in the following age categories?

The number of persons in each age category is shown in Figure 3-10.1 below. (Recall that while we surveyed 2229 groups, there were roughly 2 persons per group, for a total of over 4400 persons sampled.) It is clear from this figure that the largest number of users is between the ages of 41 and 60. This age group comprised 53% of total users in the sample.



	Under 10	11-20	21-30	31-40	41-50	51-60	Over 60
%	5.6%	7.2%	6.4%	13.2%	26.8%	26.1%	14.7%

Figure 3-10.1

Number of Persons Surveyed by Age Category

Using the midpoints of the age categories provided to respondents (under 10=5, 10-20=15,...over 60=65), the mean ages of users by trailhead are shown in Figure 3-10.2 below. The average age across the entire trail system is 44 years. Montour and Ohiopyle had the youngest users, with an average age of 43. Although not shown in a chart, weekday users were only slightly older (49 years) than weekend users (46 years). Bikers and hikers/walkers were the same age (47 years) while river access users were younger (38 years).

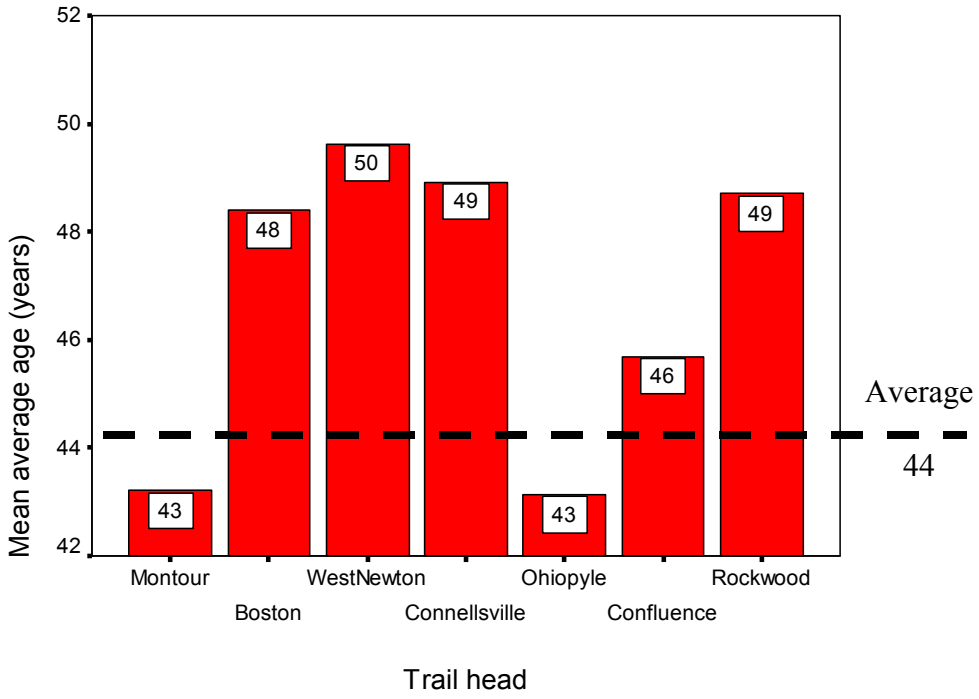


Figure 3-10.2

Mean Ages of Users by Trailhead

11. While it may be difficult to quantify exactly, roughly what percentage of "bike time" during the past 2001 calendar year was spent on various segments of this trail, which runs from Pittsburgh to Cumberland?

Biking on the Allegheny Trail system accounted for a large share of biking time for respondents. The average for all trail users was 47.2% during 2001. Figure 3-11.1 shows the mean percentage of their biking time by trailhead. This trail time ranged from 43% for Ohiopyle users to 65% for West Newton users. It is clear that a very substantial share of biking time is spent on the trail system. This percentage includes persons who were using the trail for other uses at the time of the survey, but may use the trail for biking at other times.

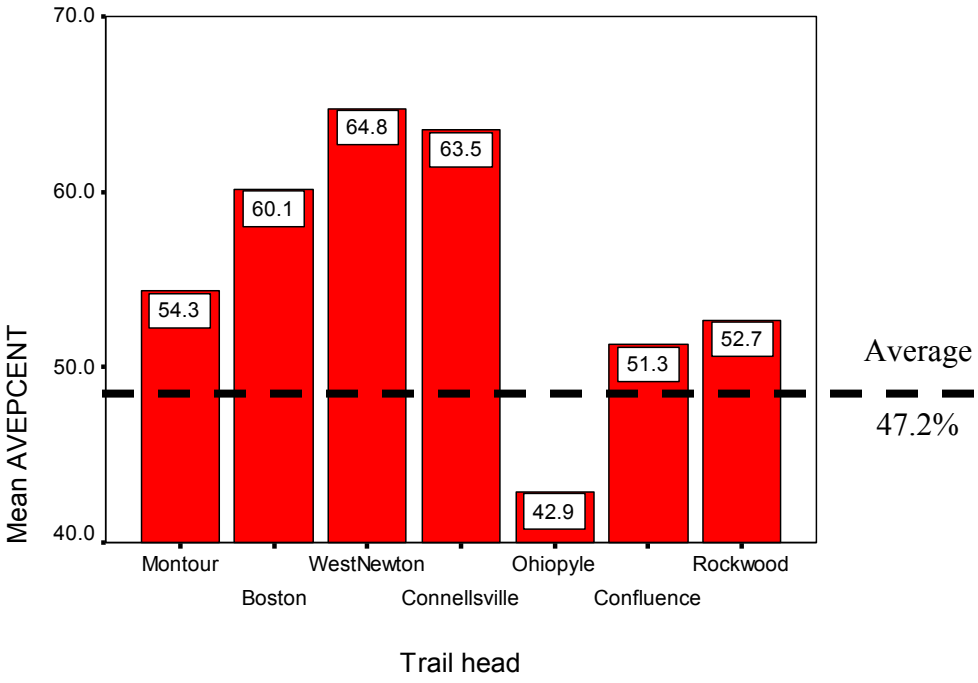


Figure 3-11.1

Mean (Weighted) Percent of Biking Time in 2001
Spent on Allegheny Trail System, by Trailhead

12. Have you, or members of your group today, bought bikes or biking equipment (racks, pumps, clothing, etc.) in the past two years?

The purpose of this question was to determine whether a blank in question 12a represented a true zero expenditure or missing data. Overall, 74% of the groups responded that they had made bike and equipment purchases. This varied across trailheads, from 57% at Montour, to 82% at Rockwood. These differences across trailheads were statistically significant. These percentages are shown in Figure 3-12.1 below.

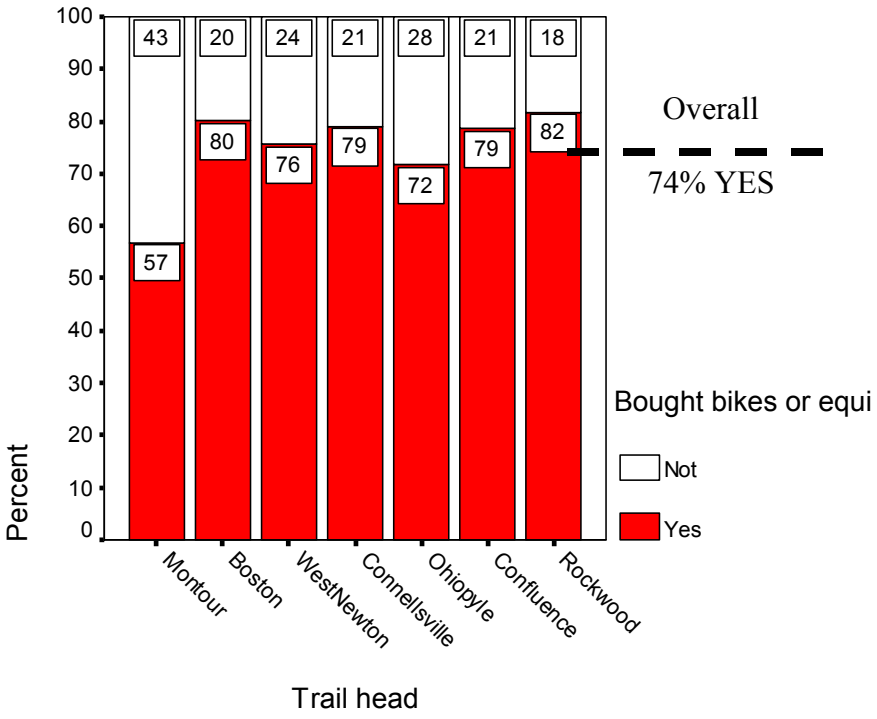


Figure 3-12.1
Percentage of Groups in Which at Least One
Person has Purchased Bikes or Biking Equipment
in the Past Two Years, by Trailhead

If a group designated that it did make bike or equipment purchases, question 12a asked for them to provide that spending information for each person. We used these responses to determine the average bike and equipment spending per person during the past two years. For those groups who DID designate some bike and equipment spending, the average spending was $485 on bikes and $188 on equipment per group, or a total of $673 per group. On a per person basis, this represents a total of $306 per person among those groups who made such expenditures.

We need to establish the spending per person across the entire sample, rather than among just those groups who did make these expenditures. These weighted means are shown in Table 3-12.1 below. Statistical tests showed that these average expenditures did

Table 3-12.1
Mean (Weighted) Spending on Bikes and Equipment per Person
During Past 2 Years, by Trailhead

Trailhead	**Bike Spending Per Person 1**	95% Lower Bound 2	95% Upper Bound 3	**Equipment Spending Per Person 4**	95% Lower Bound 5	95% Upper Bound 6	**Total Spending Per Person 7**	95% Lower Bound 8	95% Upper Bound 9
Montour Mean	**$126.12**	$ 89.93	$162.31	**$47.66**	$35.84	$ 59.48	**$173.78**	$129.57	$217.98
Boston Mean	**$164.26**	$132.52	$196.00	**$74.66**	$59.46	$ 89.86	**$238.92**	$198.64	$279.20
W. Newton Mean	**$197.70**	$153.50	$241.90	**$65.54**	$53.03	$ 78.04	**$263.24**	$215.27	$311.20
Connellsville Mean	**$197.01**	$154.26	$239.78	**$91.72**	$69.51	$113.93	**$288.73**	$235.19	$342.27
Ohiopyle Mean	**$145.92**	$119.40	$172.45	**$52.76**	$43.89	$ 61.64	**$198.68**	$166.30	$231.07
Confluence Mean	**$181.90**	$115.09	$248.71	**$60.14**	$44.85	$ 75.43	**$242.04**	$167.73	$316.34
Rockwood Mean	**$196.86**	$161.02	$232.69	**$76.87**	$62.65	$ 91.08	**$273.73**	$230.44	$317.01
Total Mean	**$169.11**	$154.86	$183.36	**$65.82**	$60.49	$ 71.15	**$234.93**	$217.83	$252.02

vary significantly across trailheads. Average bike plus equipment expenditures were $234.93 per person for all users combined (column 7); i.e., including groups that had no such expenditures. Average bike expenditures were $169.11 per person (column 1) and average equipment expenditures were $65.82 per person (column 4). This table also shows the 95% confidence intervals for these average estimates. For example, we can be 95% confident that the mean total bike and equipment spending will lie between $217.83 and $252.02 per person.

Table 3-12.1 shows that total spending per person was greatest among persons using the Connellsville trailhead, and lowest among those using the Montour trailhead. Figure 3-12.2 shows that average bike and equipment spending also varied significantly across types of trail users. Biking users had the highest such spending, $269.77 per person, followed by river access users, $185.37 per person, followed by hiking/walking users, $74.59 per person.

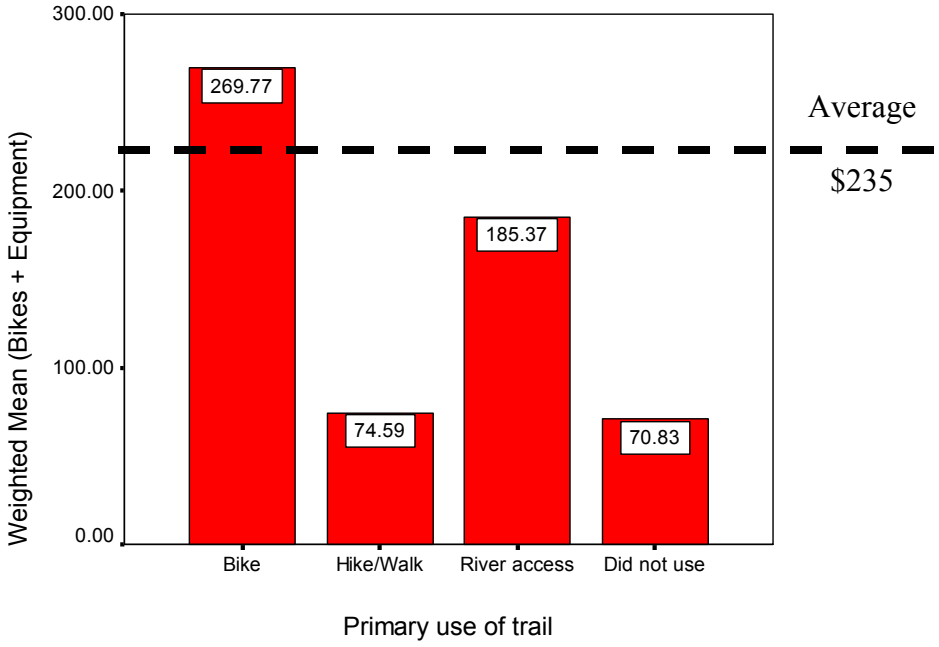


Figure 3-12.2

Mean (Weighted) Bike and Equipment Spending per Person
During the Past Two Years, by Type of Use

13. Is your group staying overnight in this area on this trip?

The percentage of groups staying overnight was 13.3%. Figure 3-13.1 shows that this percentage varies considerably across trailheads, as expected. Visitors to Ohiopyle, Confluence and Rockwood were more likely to stay overnight than visitors to other trailheads, which is consistent with their destination status. If a group DID stay overnight, it was most likely to be camping, with 43% of the groups designating this as their accommodation. Staying in a motel was the accommodation of choice for 21% of the groups; bed and breakfast for 16% and staying with friends for 19%.

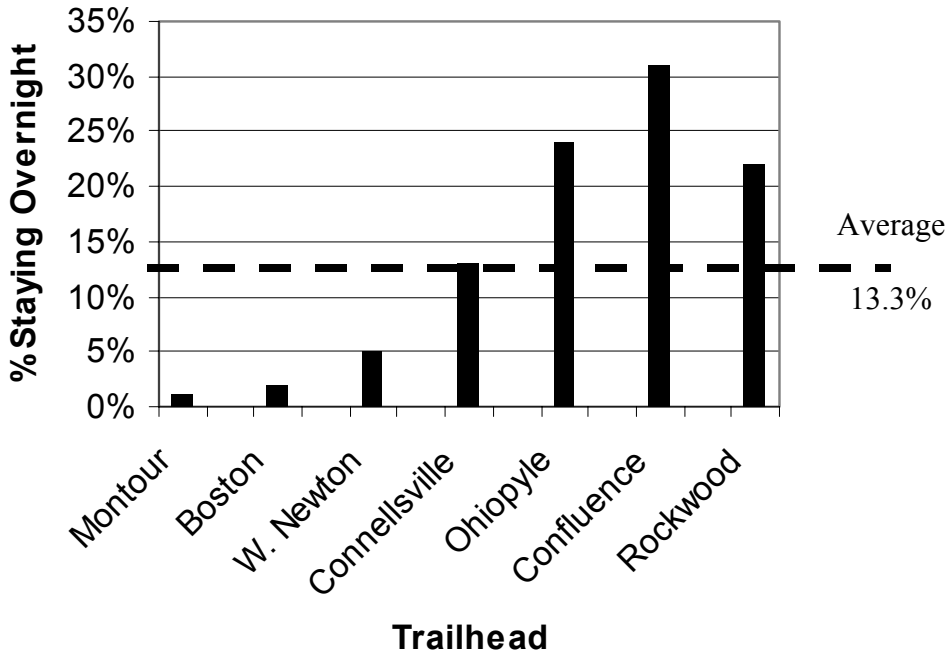


Figure 3-13.1
Percentage of Groups Staying Overnight, by Trailhead

If groups DID stay overnight, their average lodging expenditures were $57 per night, or $21.36 per person per night. If they DID stay overnight, they stayed, on average, 2.4 nights. However, in order to estimate lodging expenditures across the entire sample, we need to determine an average expenditure per person in the sample. These weighted means are shown, by trailhead, in Figure 3-13.1 below. The average spending across the entire sample was $3.24 per person per trip per night. Across the entire sample, the mean number of nights stayed per trip was 0.31 nights. This implies that across the entire sample, the average lodging spending was **$1.00 per person per trip** ($3.24 x 0.31).

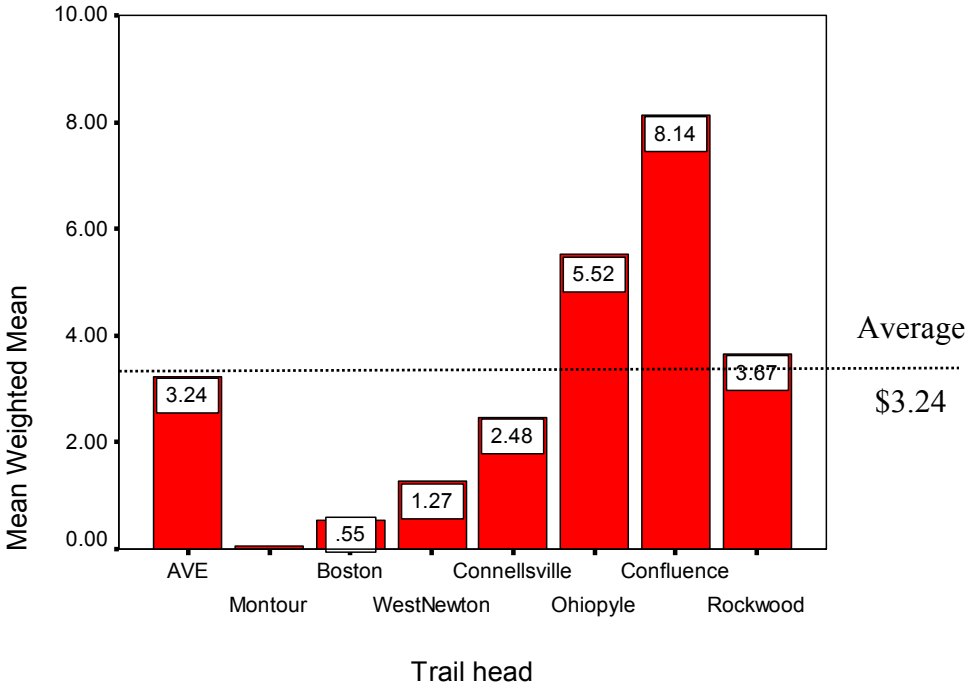


Figure 3-13.2

Mean (Weighted) Lodging Expenditures Per Person
Per Trip Per Night Across ENTIRE Sample, by Trailhead

In order to estimate lodging spending during the trail season, we will need to estimate the expected lodging spending per person per visit. This would equal the spending per person per night times the number of nights stayed per person across the ENTIRE sample. We show these estimates by trailhead in Table 3-13.1. For example, this table shows that an average visitor to Rockwood would spend $3.67 per night on lodging (this is across the entire sample of visitors to Rockwood, not just those who did stay overnight). The average visitor stayed 0.55 nights per visit. So the average lodging spending per visit to Rockwood was $2.02 per person per visit. The mean overall lodging spending per person is $1.00 per person per visit; and we can be 95% confident that this mean lies within the interval $0.80 to $1.21.

Although the data are not shown, the average lodging expenditures also varied significantly across types of users. River access users spent $4.77 per person per night across the entire sample of this type of user. Biking users spent $3.45 per person per night, and

hiking and walking users spent only $1.79 per person per night. (Note that these are average expenditures across the ENTIRE sample, not just among those groups who DID stay overnight.)

Table 3-13.1
Lodging Spending and Nights Stayed
on a per Person Basis for ENTIRE Sample, by Trailhead

Trailhead	Mean Lodging Spending per Person per Night	95% Lower Bound	95% Upper Bound	Mean Nights Stayed per Person per Trip	**Expected Spending per Person per Trip (1x4)**	95% Lower Bound	95% Upper Bound
	1	2	3	4	**5**	6	7
Montour	$0.05	$ -	$0.14	0.05	**$0.00**	$0.00	$0.01
Boston	$0.55	$ -	$1.10	0.03	**$0.02**	$0.00	$0.03
W. Newton	$1.27	$ 0.27	$2.26	0.08	**$0.10**	$0.02	$0.18
Connellsville	$2.48	$ 1.33	$3.62	0.25	**$0.62**	$0.33	$0.91
Ohiopyle	$5.52	$ 3.90	$7.15	0.59	**$3.26**	$2.30	$4.22
Confluence	$8.14	$ 3.21	$13.07	0.62	**$5.05**	$1.99	$8.10
Rockwood	$3.67	$ 2.34	$4.99	0.55	**$2.02**	$1.29	$2.74
Total	$3.24	$ 2.58	$3.91	0.31	**$1.00**	$0.80	$1.21

14. What is the ZipCode of residence for each person in your vehicle?

The distribution of persons by zipcode is analyzed extensively in Chapter 5 of this report. Please refer to that chapter.

15. We hope you had an enjoyable outing today. Were there some services or facilities you would have enjoyed, but were not available along the trail or trailhead, such as:...

This question listed several types of facilities that trail users may enjoy. Figure 3-15.1 below shows that a high percentage would like to see more availability of drinking water (27.9%) and toilets (24.1%). There was very low interest in shopping, lodging, and bike repair facilities. Figure 3-15.2 shows these suggested facilities by trailhead. For example, this figure shows that a large share of users of Montour, Boston, West Newton and Rockwood would like more snack shops. A very large share of users at Connellsville would like public toilets. Roughly one-third of respondents at all trailheads wanted better drinking water facilities. Although not shown on this figure, a small number of respondents suggested trash receptacles, benches and historic information.

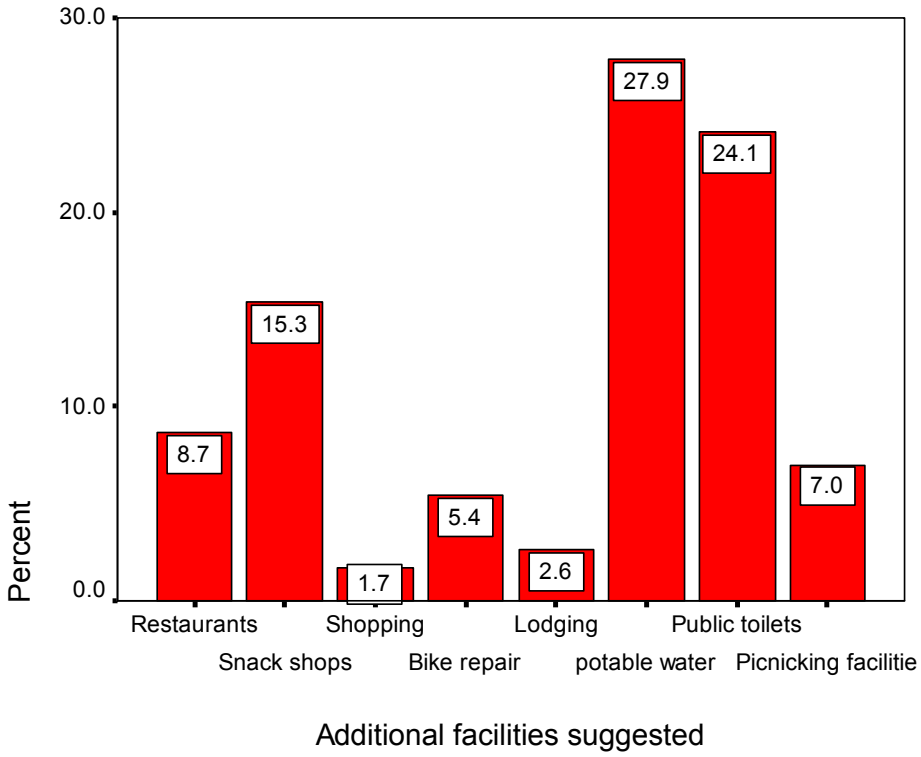


Figure 3-15.1

Percentage of Respondents Suggesting Additional Facilities Along the Trail, by Type of Facility

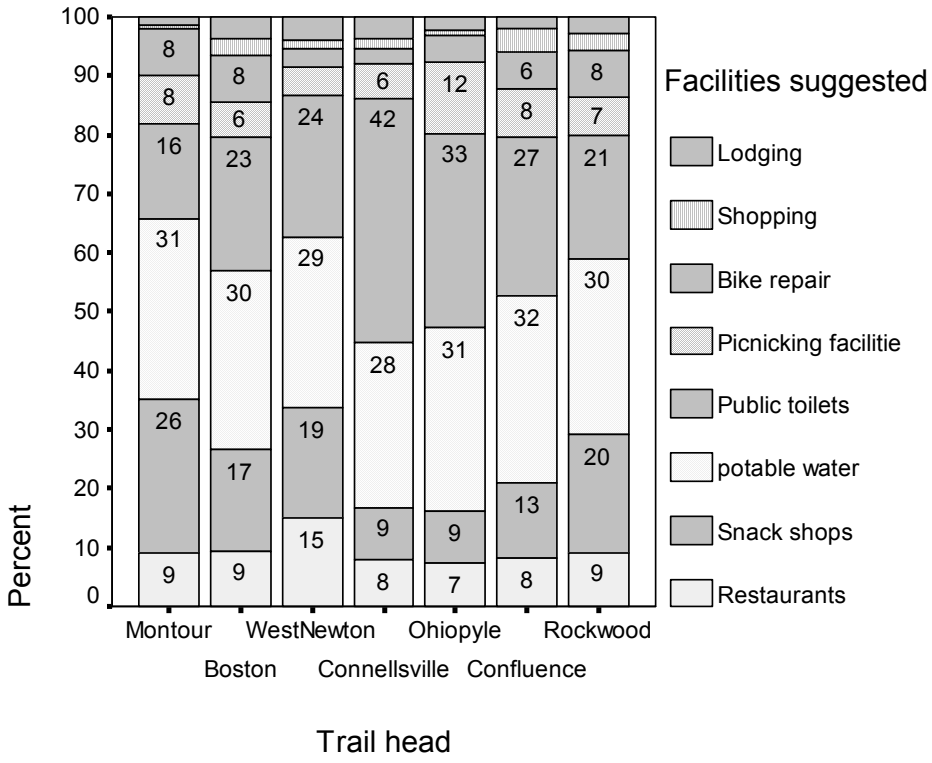


Figure 3-15.2

Percentage of Respondents Suggesting Additional Facilities Along the Trail, by Type of Facility and Trailhead

Chapter 4
Direct Spending Associated with the Allegheny Trail System in Neighboring Communities and the State of Pennsylvania in 2002

Chapter 2 provided estimates of trail usage from trail counters. Chapter 3 analyzed the user survey to determine the characteristics of user groups, frequencies of visitation, and spending during the trail use season, April through November. These spending behaviors reflected what we can call "direct" spending; local purchases, lodging and trail associated bike and equipment. This spending does not include "indirect," or induced spending, such as the local purchases of a B&B for labor and food.

This chapter combines the use and spending information from Chapters 2 and 3 to determine the direct economic implications of the trail system to communities along the trail and to the state. The user survey provides estimates of three different types of spending associated with trail use:

- Spending for small items (food, gasoline, bike rental, etc) in trailside communities.
- Spending for lodging during the trail visit.
- Expenditures for bikes and equipment that may be related to trail use.

This chapter establishes total spending estimates for these three types of expenditures.

4-1. Spending for Small Items in Trailside Communities

Chapter 3 determined that the average person spent **$8.84 per person per trip** in trailside communities for each visit to the trail system. A statistical analysis established that we could be 95% confident that the mean spending was in the range, **$8.11 to $9.56 per person per trip**. However, average spending differed significantly across trailheads and types of use. We can make spending estimates for the trail use season based upon increasingly complicated considerations of these trailhead and type of use differences. Each sub-section below increases the complexity of these considerations in the economic impact estimates.

4-1.a Spending Estimates: No Consideration for Trailhead and Types of Use Differences

A very simple, back-of-the-envelope estimate of local spending on small items is based on average spending per person per trip, $8.84, and the estimated total number of visits during the 2002 trail season, 347,053 (Chapter 2), which we assume runs from April 15 through November 15. This point estimate is $3,067,944 for the season. The 95% confidence interval ranges from $2,814,596 to $3,317,822.

4-1.b Spending Estimates: Consideration of Trailhead Differences Only

A more accurate estimate of local spending on small items is obtained by accounting for spending differences across trailheads. This estimate is shown in Table 4-1.1 below. This table shows a total local spending point estimate of **$3,188,990**, with a 95% confidence range from **$2,615,143 to $3,762,238** for the season.

Table 4-1.1
Estimated Total Spending in Local Trail Communities for
Small Items (Question 8), by Trail Counter Location

Trail Counter Location	Total Use (# Visits) During Season	Trailhead Used for Spending Estimates	Mean Spending per Person per Visit	95% Lower Bound	95% Upper Bound	**Total Annual Spending (using col 3)**	95% Lower Bound	95% Upper Bound
	1	2	3	4	5	**6**	7	8
Garrett	9121	Rockwood	$9.82	$7.82	$11.82	**$89,573**	$71,330	$107,816
Rockwood	10551	Rockwood	$9.82	$7.82	$11.82	**$103,607**	$82,506	$124,709
Confluence	9484	Confluence	$15.62	$11.15	$20.08	**$148,144**	$105,749	$190,444
RamCat	27883	Ohiopyle	$11.41	$9.97	$12.84	**$318,146**	$277,995	$358,019
RR Station	27566	Ohiopyle	$11.41	$9.97	$12.84	**$314,533**	$274,837	$353,953
Ferncliff	58616	Ohiopyle	$11.41	$9.97	$12.84	**$668,805**	$584,399	$752,626
Connellsville-S	51224	Connellsville	$9.03	$7.49	$10.57	**$462,550**	$383,666	$541,435
Connellsville-N	39879	Connellsville	$9.03	$7.49	$10.57	**$360,109**	$298,695	$421,523
Outback	8482	W.Newton[a]	$8.25	$5.98	$10.53	**$69,975**	$50,721	$89,314
Buddtown	55083	W.Newton	$8.25	$5.98	$10.53	**$454,438**	$329,399	$580,028
Greenock	49163	Boston	$4.05	$3.17	$4.93	**$199,109**	$155,846	$242,373
Total	347053					**$3,188,990**	**$2,615,143**	**$3,762,238**

[a] While the Outback trail counter is closer to Connellsville, this is a relatively remote section of trail, and does not have the urban spending opportunities of Connellsville. In this regard, it is more similar to West Newton; hence the assignment of West Newton spending behavior to Outback.

4-1.c Spending Estimates: Consideration of Trailhead and Day of Week Differences

An even more sophisticated estimate of spending can be made by distinguishing between trailheads, as in Table 4-1.1, but also considering differences in spending by days of the week. Figure 3-8.4 has shown that local spending varies significantly over days of the week. Weekday spending, $7.89 per person per visit, is 89% of average spending on all days, $8.84. Likewise, Saturday spending is 14% higher than average spending on all days; and Sunday spending is 92% of average spending. We can use these daily spending relationships to estimate spending per person per visit by days of the week. For example, Boston average spending is $4.05 (Table 3-8.3), so an estimate of weekday spending would be $3.60 per person per visit ($4.05 x 89%). Likewise, Saturday spending would be estimated to be $4.62. This procedure is used for all trailheads. Table 4-1.2 shows that the total spending estimate is $3,057,887 for the season. It is clear that this adjustment does not make much difference in the estimate, compared to the simpler estimate in Table 4-1.1.

4-1.d Spending Estimates: Consideration of Trailhead and Monthly Differences

Spending varied significantly over the trail season, as Figure 3-8.3 shows. We have accounted for these differences in a spending estimate based on the procedure described in 4-1.c above; i.e., adjust monthly spending at each trailhead by the overall relative spending. This consideration made very little difference in the estimated total spending. The point spending estimate was $3,165,654 for the season. The 95% confidence interval ranged from $2,830,038 to $3,453,111. It is apparent that such fine-tuning of spending estimates makes little difference to the estimates.

Table 4-1.2
Estimated Total Spending in Local Trail Communities for
Small Items (Question 8), by Trail Counter Location Accounting
for Differences in Spending by Day of Week

Trail Counter Location	Weekday Use	Saturday Use	Sunday Use	Trailhead Used for Spending Estimates	Weekday Spending per Person per Visit	Saturday Spending per Person per Visit	Sunday Spending per Person per Visit	**Total Annual Spending**
	1	2	3	4	5	6	7	**8**
Garrett	4768	1801	2553	Rockwood	$8.74	$11.19	$9.03	**$84,893**
Rockwood	5853	1985	2713	Rockwood	$8.74	$11.19	$9.03	**$97,883**
Confluence	5378	2031	2076	Confluence	$13.90	$17.81	$14.37	**$140,751**
RamCat	12671	8034	7178	Ohiopyle	$10.15	$13.01	$10.50	**$308,525**
RR Station	13180	7054	7332	Ohiopyle	$10.15	$13.01	$10.50	**$302,565**
Ferncliff	25266	18877	14473	Ohiopyle	$10.15	$13.01	$10.50	**$654,038**
Connellsville-S	31883	10821	8520	Connellsville	$8.04	$10.29	$8.31	**$438,406**
Connellsville-N	24123	10403	5353	Connellsville	$8.04	$10.29	$8.31	**$345,432**
Outback	4487	1792	2203	W.Newton	$7.34	$9.41	$7.59	**$66,519**
Buddtown	31624	11004	12455	W.Newton	$7.34	$9.41	$7.59	**$430,228**
Greenock	27858	9933	11372	Boston	$3.60	$4.62	$3.73	**$188,646**
Total	187089	83735	76228					**$3,057,887**

4-2 Spending on Lodging During Trail Visits

The user survey collected information on the overnight lodging costs and number of nights stayed. Overnight lodging is NOT included in Question 8, which was analyzed above. The survey determined that only 13.3% of the visiting groups stayed overnight during their visit. While the average number of nights stayed by groups who DID stay overnight was 2.4 nights, over the ENTIRE sample, the average number of nights stayed during a visit was only 0.31 nights. While the average expenditure for groups who DID stay overnight was $21.36 per person per night, over the ENTIRE sample, the average lodging expenditure per night was $3.24 per person per night. This implies that over the ENTIRE sample, the average spending for lodging on a visit was $1.00 per person per visit (0.31 x $3.24). A simple back-of-the-envelope estimate of lodging spending would be this $1.00 times the number of estimated person visits, 347,053, or $347,053 for the season.

Use of lodging and associated spending varied significantly across trailheads. Table 4-2.1 accounts for these differences. Column 3 of this table shows estimated lodging spending per person per visit, obtained from Table 3-13.1 in Chapter 3. This column is calculated by multiplying the spending per person per night for each trailhead by the average number of nights stayed per person at that trailhead. For example, among ALL the visitors to Rockwood, the average spending per person per night was $3.67 (see Figure 3-13.1); this is for ALL visitors to Rockwood, NOT just those staying overnight. The average number of nights stayed among ALL visitors to Rockwood (i.e., NOT just those staying overnight) was 0.55. So the estimated lodging spending per person per visit is $2.02, as shown in Table 4-2.1.

Using this procedure for estimating lodging spending, Table 4-2.1 shows a point estimate of total lodging spending during the trail season of **$522,814**. The table also shows the 95% confidence interval of the mean lodging spending to be between **$338,322 and $707,592**. This spending may or may not have been in trail related communities.

4-3 Expenditures on Bikes and Equipment Related to Trail Use

The survey collected information on persons' expenditures for bikes and biking equipment (rack, pumps, etc), i.e., "capital equipment," during the PAST TWO years. It also collected information on the percentage of biking time during the past year that was on the Allegheny Trail system. Under a traditional joint cost accounting procedure, we can allocate those expenditures to Allegheny Trail system use based on the percentage of biking time on the trail system. This estimation for all trail users during the trail season also requires an estimate of the number of "distinct" persons using the trail; and the survey permits us to determine that.

A statistical analysis determined that the bike and equipment spending varied significantly across trailheads. We make increasingly sophisticated estimates of the capital spending impacts below accounting for these differences.

Table 4-2.1
Estimated Lodging Spending (Question 13),
by Trail Counter Location

Trail Counter Location	Total Use (# Visits) During Season	Trailhead Used for Spending Estimates	Mean Lodging Spending per Person per Visit	95% Lower Bound	95% Upper Bound	**Total Lodging Spending (1x3)**	95% Lower Bound	95% Upper Bound
	1	2	3	4	5	6	7	8
Garrett	9121	Rockwood	$2.02	$1.29	$2.74	**$18,412**	$11,739	$25,034
Rockwood	10551	Rockwood	$2.02	$1.29	$2.74	**$21,296**	$13,579	$28,956
Confluence	9484	Confluence	$5.05	$1.99	$8.10	**$47,865**	$18,876	$76,855
RamCat	27883	Ohiopyle	$3.26	$2.30	$4.22	**$90,810**	$64,159	$117,625
RR Station	27566	Ohiopyle	$3.26	$2.30	$4.22	**$89,778**	$63,430	$116,289
Ferncliff	58616	Ohiopyle	$3.26	$2.30	$4.22	**$190,900**	$134,875	$247,270
Connellsville-S	51224	Connellsville	$0.62	$0.33	$0.91	**$31,759**	$17,032	$46,357
Connellsville-N	39879	Connellsville	$0.62	$0.33	$0.91	**$24,725**	$13,260	$36,091
Outback	8482	W.Newton	$0.10	$0.02	$0.18	**$862**	$183	$1,534
Buddtown	55083	W.Newton	$0.10	$0.02	$0.18	**$5,596**	$1,190	$9,959
Greenock	49163	Boston	$0.02	$0.00	$0.03	**$811**	$0	$1,622
Total	347053	All Combined				**$522,814**	$338,322	$707,592

The survey determined that the average bike and equipment expenditures during the past two years were $234.93 per person, with a 95% confidence range of $217.83 to $252.02 per person, as shown in columns 1-3 of Table 4-3.1. This implies an average of $117.47 per person per year over this two year period; and a 95% confidence range of $108.92 to $126.01 per person per year. The survey also determined that the percentage biking time on the Allegheny Trail system for all users combined was 47.2%. A simple analysis would then conclude that the average annual bike and equipment spending that is reasonably attributable to the trail system is **$55.45 per person per year** ($117.47 x 47.2%); and the 95% confidence range is **$51.41 to $59.48 per person per year**. These estimates are shown in columns 5-7 of Table 4-3.1.

Table 4-3.1
Mean Spending on Bike and Equipment in Past Two Years (Question 12),
Total and the Share Allocated to Trail Use, by Trailhead

Trailhead	Mean Total Spending Per Person In Past 2 Years	95% Lower Bound	95% Upper Bound	% Time Spent on Trails	**Allocated Spending per Person per Year (1x4)/2**	95% Lower Bound	95% Upper Bound
	1	2	3	4	**5**	6	7
Montour	$173.78	$129.57	$217.98	54.3%	**$ 47.18**	$ 35.18	$ 59.18
Boston	$238.92	$198.64	$279.20	60.1%	**$ 71.80**	$ 59.69	$ 83.90
W. Newton	$263.24	$215.27	$311.20	64.8%	**$ 85.29**	$ 69.75	$ 100.83
Connellsville	$288.73	$235.19	$342.27	63.5%	**$ 91.67**	$ 74.67	$ 108.67
Ohiopyle	$198.68	$166.30	$231.07	42.9%	**$ 42.62**	$ 35.67	$ 49.56
Confluence	$242.04	$167.73	$316.34	51.3%	**$ 62.08**	$ 43.02	$ 81.14
Rockwood	$273.73	$230.44	$317.01	52.7%	**$ 72.13**	$ 60.72	$ 83.53
Total	$234.93	$217.83	$252.02	47.2%	**$ 55.44**	$ 51.41	$ 59.48

In order to use these per person expenditure estimates to determine annual bike and equipment spending, we must convert the total number of persons visiting the trail system in 2002, 357,043, to the number of different INDIVIDUALS. That is why we asked for the number of trips to a trailhead (Question 9). Table 4-3.2, column 4, shows the estimated number of different individuals using the trails during the year. For the sample as a whole, excluding Montour, the average number of trips per person during the year was 6.8 (Figure 3-9.3). This implies a total of **51,342 individuals** using the trails in the year. A back-of-the-envelope estimate of total bike and equipment spending

allocable to the trail system is then $2,138,207 in 2002. The 95% confidence range of this estimate is $1,982,421 to $2,293,608.

Table 4-3.2
Estimated Number of INDIVIDUALS
Making Visits in 2002, by Trailhead

Trail Counter Location	Total Use (# Visits) During Season	Trailhead Used for Spending Estimates	Number of Trips per Person	**Estimated Number of Individuals Making Visits (1/3)**
	1	2	3	**4**
Garrett	9121	Rockwood	4.0	**2280**
Rockwood	10551	Rockwood	4.0	**2638**
Confluence	9484	Confluence	2.9	**3270**
RamCat	27883	Ohiopyle	3.5	**7967**
RR Station	27566	Ohiopyle	3.5	**7876**
Ferncliff	58616	Ohiopyle	3.5	**16747**
Connellsville-S	51224	Connellsville	9.7	**5281**
Connellsville-N	39879	Connellsville	9.7	**4111**
Outback	8482	W.Newton	12.0	**707**
Buddtown	55083	W.Newton	12.0	**4590**
Greenock	49163	Boston	12.1	**4063**
Total	347053	All Combined	6.8	**51342**

A more accurate estimate can be obtained by taking account of differences across trailheads. Table 4-3.3 shows these estimates. The point estimate for total trail allocated bike and equipment spending is **$3,551,135 for the season**, which is considerably larger than the back-of-the-envelope calculation. The 95% confidence interval ranges from **$2,915,181 to $4,187,120**.

Table 4-3.3
Estimated Total Bike and Equipment Spending, by Trailhead

Trail Counter Location	Trailhead Used for Spending Estimates	Estimated Number of Individuals Making Visits	Allocated Spending per Person per Year	95% Lower Bound	95% Upper Bound	**Estimated Total Bike & Equipment Spending**	95% Lower Bound	95% Upper Bound
	1	2	3	4	5	6	7	8
Garrett	Rockwood	2280	$ 72.13	$ 60.72	$ 83.53	**$ 164,478**	$ 138,466	$ 190,484
Rockwood	Rockwood	2638	$ 72.13	$ 60.72	$ 83.53	**$ 190,249**	$ 160,161	$ 220,329
Confluence	Confluence	3270	$ 62.08	$ 43.02	$ 81.14	**$ 203,039**	$ 140,703	$ 265,366
RamCat	Ohiopyle	7967	$ 42.62	$ 35.67	$ 49.56	**$ 339,512**	$ 284,180	$ 394,861
RR Station	Ohiopyle	7876	$ 42.62	$ 35.67	$ 49.56	**$ 335,656**	$ 280,952	$ 390,376
Ferncliff	Ohiopyle	16747	$ 42.62	$ 35.67	$ 49.56	**$ 713,719**	$ 597,400	$ 830,074
Connellsville-S	Connellsville	5281	$ 91.67	$ 74.67	$108.67	**$ 484,100**	$ 394,332	$ 573,868
Connellsville-N	Connellsville	4111	$ 91.67	$ 74.67	$108.67	**$ 376,886**	$ 306,999	$ 446,773
Outback	W.Newton	707	$ 85.29	$ 69.75	$100.83	**$ 60,284**	$ 49,299	$ 71,268
Buddtown	W.Newton	4590	$ 85.29	$ 69.75	$100.83	**$ 391,504**	$ 320,161	$ 462,833
Greenock	Boston	4063	$ 71.80	$ 59.69	$ 83.90	**$ 291,708**	$ 242,528	$ 340,888
Total	All Combined	51342				**$3,551,135**	$2,915,181	$4,187,120

4-4 Spending Summary

A summary of spending estimates for the trail from Boston to Garrett during the 2002 trail season is shown in Table 4-4.1. These are point estimates based on means of spending per person for small items, lodging and bike and equipment during the trail season of 2002. The estimated grand total is **$7,262,939**. This estimate excluded Montour, as we did not have any trail count data from that section of the trail. The Ohiopyle area, which includes the counters at RamCat, RR Station and Ferncliff, account for nearly $3.1 million, or one-third, of the total spending.

Table 4-4.1
Estimated Total Spending During the 2002
Trail Season, by Trail Counter Location

Trail Counter Location	Total Local Spending on Small Items	Total Lodging Spending	Total Bike & Equipment Spending (B&E)	**Grand Total Spending**	% of Total
	1	2	3	**4**	5
Garrett	$ 89,573	$ 18,412	$ 164,478	**$ 272,462**	3.8%
Rockwood	$ 103,607	$ 21,296	$ 190,249	**$ 315,153**	4.3%
Confluence	$ 148,144	$ 47,865	$ 203,039	**$ 399,048**	5.5%
RamCat	$ 318,146	$ 90,810	$ 339,512	**$ 748,468**	10.3%
RR Station	$ 314,533	$ 89,778	$ 335,656	**$ 739,967**	10.2%
Ferncliff	$ 668,805	$ 190,900	$ 713,719	**$ 1,573,424**	21.7%
Connellsville-S	$ 462,550	$ 31,759	$ 484,100	**$ 978,408**	13.5%
Connellsville-N	$ 360,109	$ 24,725	$ 376,886	**$ 761,721**	10.5%
Outback	$ 69,975	$ 862	$ 60,284	**$ 131,121**	1.8%
Buddtown	$ 454,438	$ 5,596	$ 391,504	**$ 851,539**	11.7%
Greenock	$ 199,109	$ 811	$ 291,708	**$ 491,628**	6.8%
Total	$ 3,188,990	$ 522,814	$ 3,551,135	**$ 7,262,939**	100.0%

We have also established the 95% confidence intervals for these estimates. As Table 4-4.2 shows, we can be 95% confident that the total spending lies between **$5,868,646 and $8,656,950**.

These confidence intervals are based upon the uncertainties associated with the mean spending estimates. They are not based upon any consideration of the uncertainties associated with the trail counts. Although we have adjusted for the counting errors at individual counters, we still have no way of knowing whether one person gets counted at more than one counter. If this were true, all our estimates are over-estimates. On the other hand, it is unlikely that the distribution of counters is capable of counting all persons. We have no way of knowing, at this time, the extent to which these counting errors are offsetting.

Table 4-4.1
95% Confidence Intervals for Total Spending Estimates

Trail Counter Location	Local 95% Lower Bound 1	Local 95% Upper Bound 2	Lodging 95% Lower Bound 3	Lodging 95% Upper Bound 4	B & E 95% Lower Bound 5	B & E 95% Upper Bound 6	Grand 95% Lower Bound 7	Grand 95% Upper Bound 8
Garrett	$ 71,330	$ 107,816	$ 11,739	$ 25,034	$ 138,466	$ 190,484	$ 221,535	$ 323,333
Rockwood	$ 82,506	$ 124,709	$ 13,579	$ 28,956	$ 160,161	$ 220,329	$ 256,246	$ 373,994
Confluence	$ 105,749	$ 190,444	$ 18,876	$ 76,855	$ 140,703	$ 265,366	$ 265,328	$ 532,665
RamCat	$ 277,995	$ 358,019	$ 64,159	$ 117,625	$ 284,180	$ 394,861	$ 626,333	$ 870,505
RR Station	$ 274,837	$ 353,953	$ 63,430	$ 116,289	$ 280,952	$ 390,376	$ 619,219	$ 860,618
Ferncliff	$ 584,399	$ 752,626	$ 134,875	$ 247,270	$ 597,400	$ 830,074	$ 1,316,674	$ 1,829,970
Connellsville-S	$ 383,666	$ 541,435	$ 17,032	$ 46,357	$ 394,332	$ 573,868	$ 795,029	$ 1,161,660
Connellsville-N	$ 298,695	$ 421,523	$ 13,260	$ 36,091	$ 306,999	$ 446,773	$ 618,954	$ 904,387
Outback	$ 50,721	$ 89,314	$ 183	$ 1,534	$ 49,299	$ 71,268	$ 100,203	$ 162,115
Buddtown	$ 329,399	$ 580,028	$ 1,190	$ 9,959	$ 320,161	$ 462,833	$ 650,750	$ 1,052,820
Greenock	$ 155,846	$ 242,373	$ -	$ 1,622	$ 242,528	$ 340,888	$ 398,374	$ 584,883
Total	$ 2,615,143	$ 3,762,238	$ 338,322	$ 707,592	$ 2,915,181	$ 4,187,120	$ 5,868,646	$ 8,656,950

Chapter 5
Geographic Origins of Use and Indirect Spending Effects

5-1. In-State and Out-State Use and Spending

Respondents to the survey were asked the zipcodes of residence of persons in their groups. These data permit us to make estimates of the geographic origins of visits and associated spending. Table 5-1 shows the origins of these visits and spending by state of residence. We were able to establish zipcodes of origin for at least 95% of the visits and spending. Column 2 shows that 90.3% of the visits come from Pennsylvania residents, with Ohio and Virginia accounting for roughly 3% each. Column 8 shows that the share of total trail related spending, including small item purchases, lodging, and bikes and equipment, from Pennsylvania residents is 87.9%. The share of spending from Ohio, Virginia and West Virginia residents ranges roughly between 3% and 4%. The fact that Pennsylvania residents account for slightly less spending than usage makes sense, as persons traveling greater distances tend to spend more.

5-2. Zipcodes of Origin for Use and Spending

The user survey permits us to determine the zipcodes of residence for trail system users. We have allocated the total estimated visits and spending across zipcodes based upon the percentages of users and spending from those zipcodes as revealed by the user survey. For example, if 0.5% of surveyed persons resided in zipcode 15101, we assume that 0.5% of the 347,053 estimated visits to the trail system came from that zipcode. Maps 5-1 through 5-6 show those distributions. For example, Map 5-1 shows the zipcode of origin for the number of visits throughout the five state area. Maps 5-2 and 5-3 show the distributions of bike and equipment spending, and trail community small item plus lodging spending, respectively. Maps 5-4 through 5-6 show a magnified view of just the Southwest Pennsylvania region.

5-3. Indirect Spending Effects of Trail Use

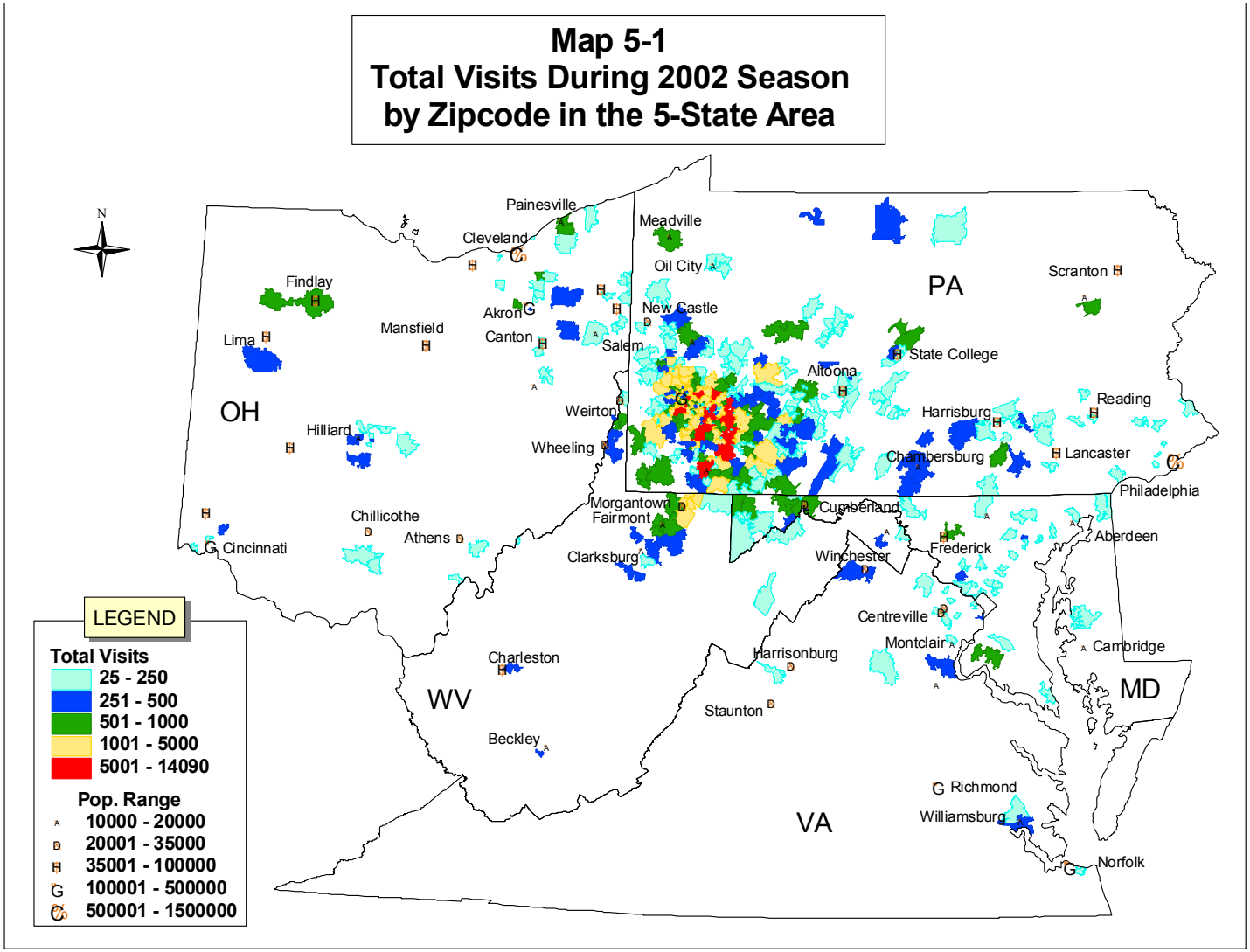
Chapter 4 has summarized the direct spending of trail users. This direct spending includes small item purchases in trail related communities, lodging in regions associated with the trails, and even bike and equipment purchases whose value can be allocated to trail use. However, that chapter did not assess the indirect spending effects, such as the purchases by restaurants of food from suppliers; i.e., the commercial linkages to the direct spending. In fact, one dollar spent directly has indirect effects, so that the total spending effects of one dollar is greater than one dollar; i.e., there is a multiplier effect of the direct spending. This is well-recognized in regional economics, and there are many different methods and programs available to determine these total effects.

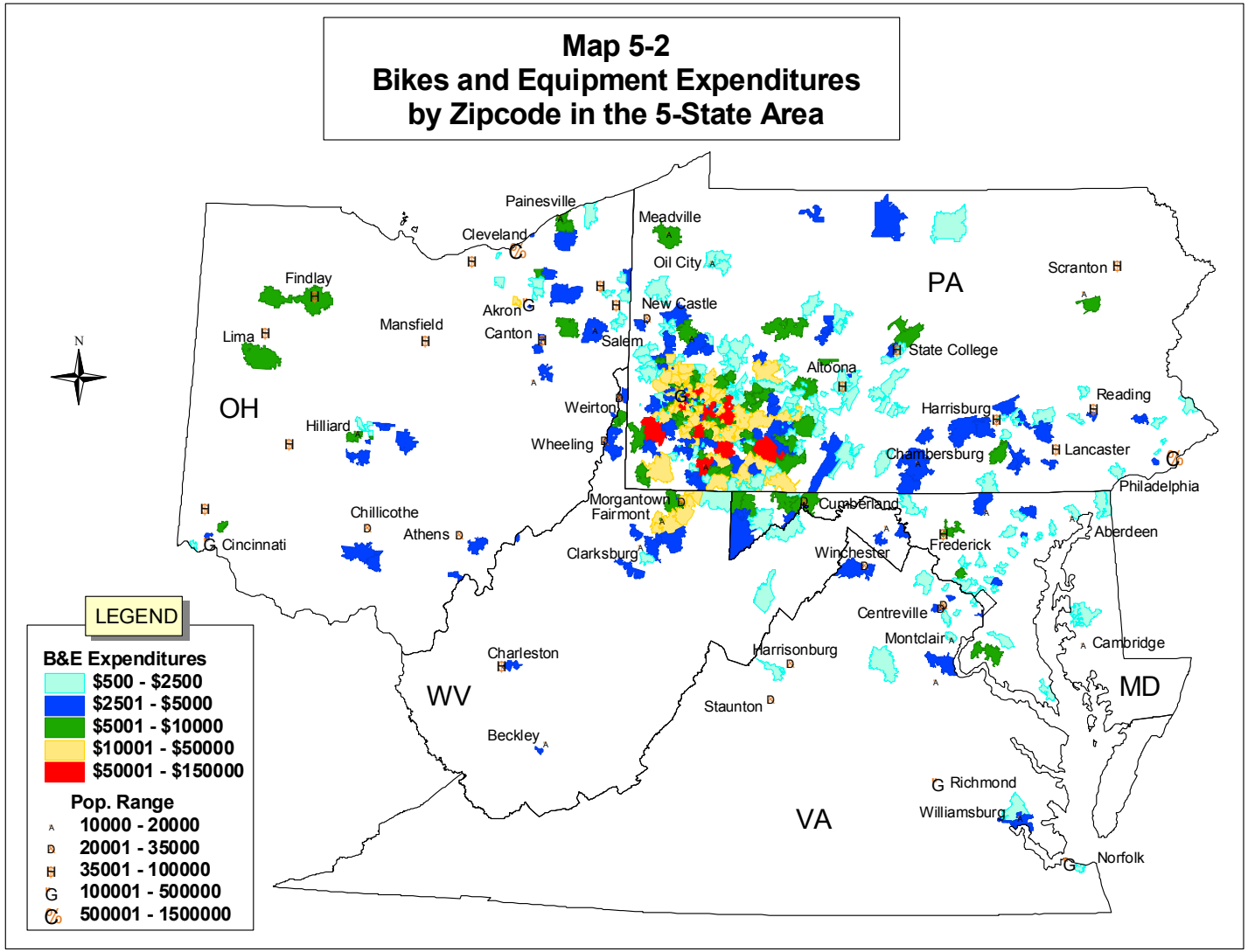
One program that is used extensively to estimate the total effects of spending, particularly in rural communities, is the IMPLAN model, initially developed by the US Forest Service to estimate the economic impacts for forest use. We did not have the funds in this study to obtain the model and estimate it. However, there are several studies of geographic areas that provide some insight into the potential indirect effects in the case of our more rural trail related communities. These studies are listed in Table 5-2. For

Table 5-1
Visits and Spending by State of Residence

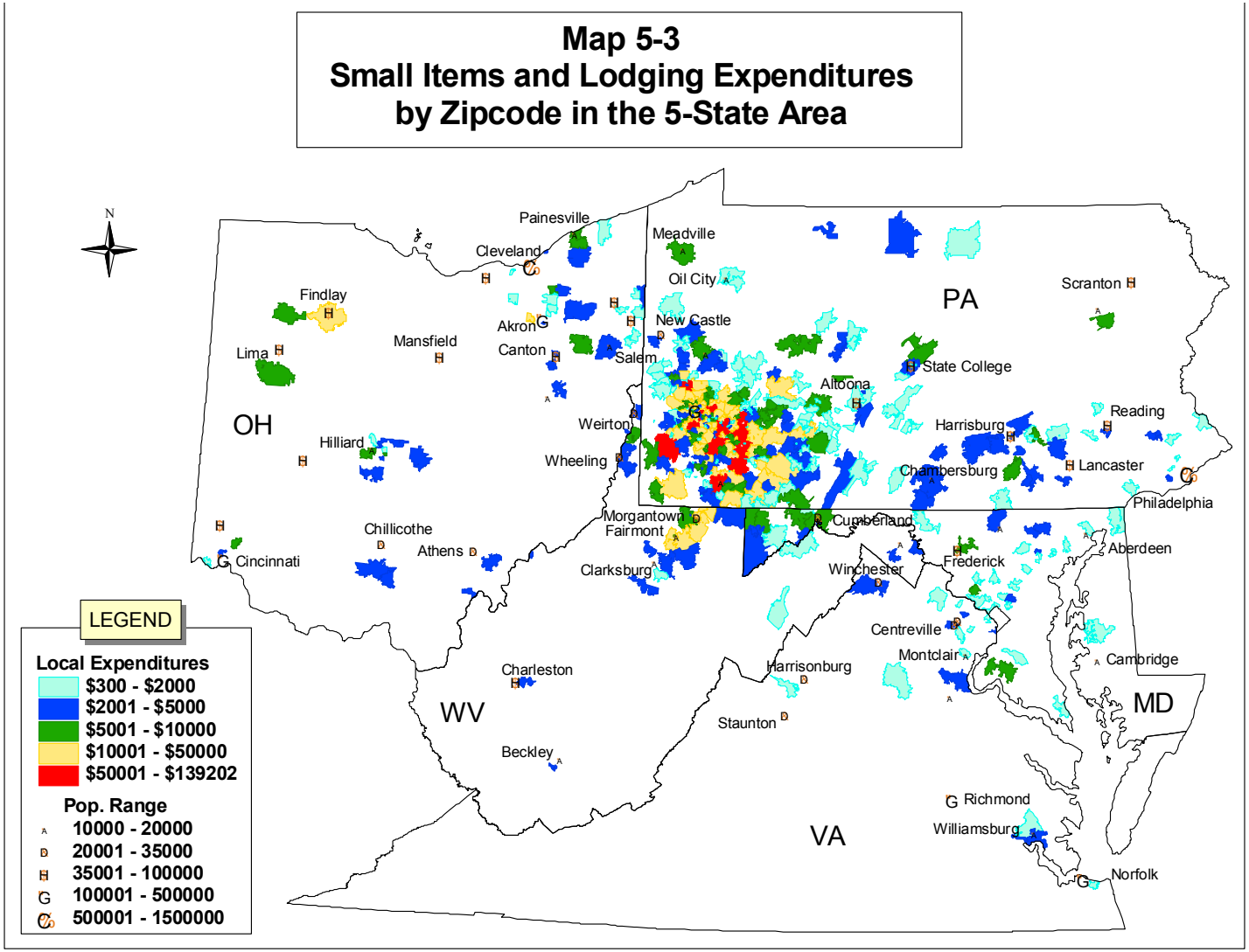
STATE	Number Of Visits	% By State	Local Small Item and Lodging	% by State	Bike & Equipment Spending	% by State	Total Spending	% by State
	1	2	3	4	5	6	7	8
PA	301887	**90.3%**	$3,116,793	87.6%	$3,008,355	88.2%	$6,125,147	**87.9%**
OH	11124	**3.3%**	$ 157,293	4.4%	$ 136,954	4.0%	$ 294,247	**4.2%**
VA	10364	**3.1%**	$ 133,415	3.7%	$ 118,926	3.5%	$ 252,341	**3.6%**
WV	8283	**2.5%**	$ 114,948	3.2%	$ 112,504	3.3%	$ 227,452	**3.3%**
MD	2723	**0.8%**	$ 35,525	1.0%	$ 33,444	1.0%	$ 68,968	**1.0%**
Total Assignable by Zipcode	334380	**100.0%**	$3,557,973	100.0%	$3,410,182	100.0%	$6,968,155	**100.0%**
Total Estimated from Study	347053		$3,711,804		$3,551,135		$7,262,939	
% of Total Accounted for by Zipcodes	96.3%		95.9%		96.0%		95.9%	

Map 5-1
Total Visits During 2002 Season by Zipcode in the 5-State Area

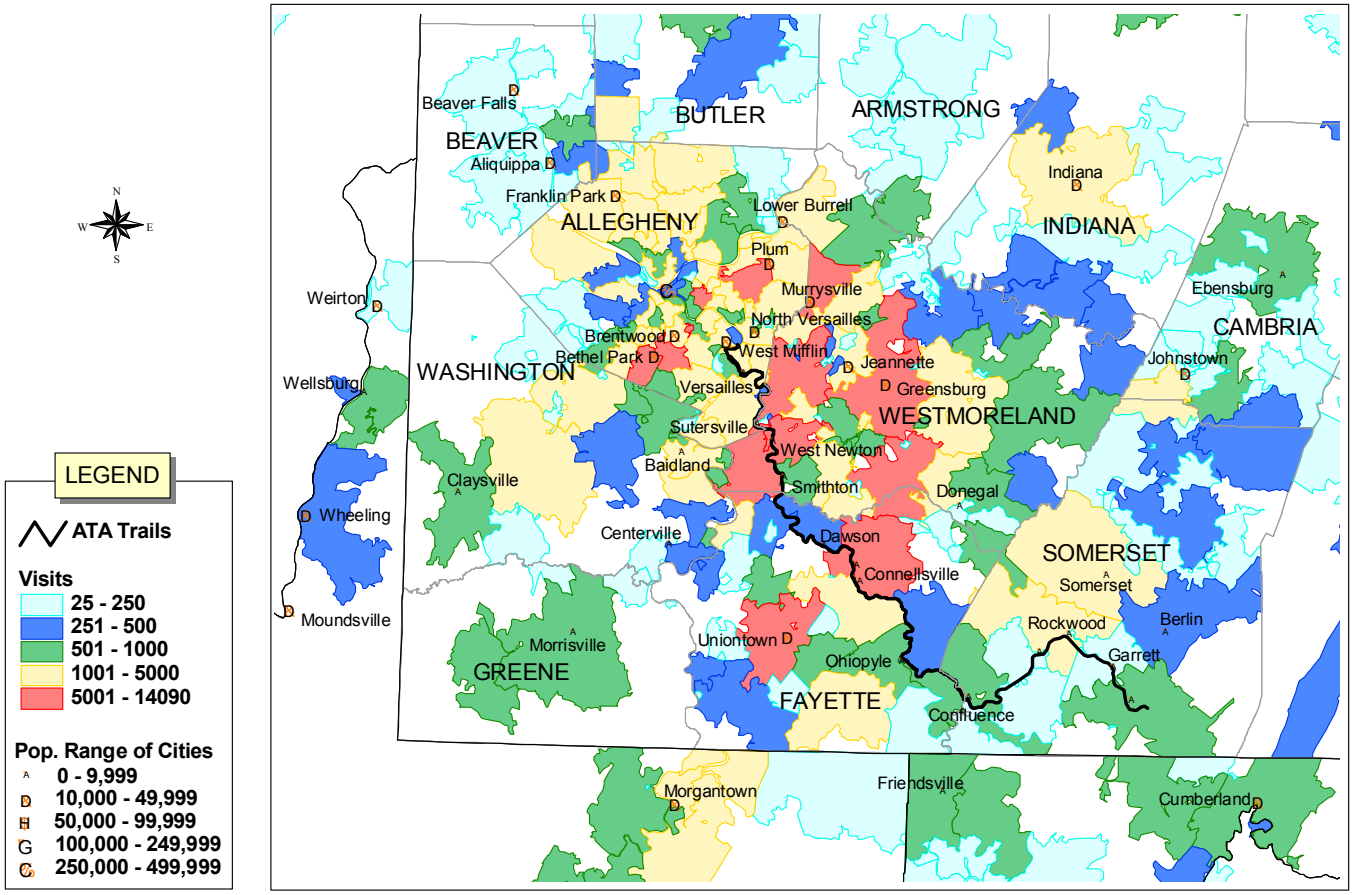



Map 5-2
Bikes and Equipment Expenditures
by Zipcode in the 5-State Area
N
OH
PA
WV
VA
MD
Painesville
Cleveland
Meadville
Oil City
Scranton
Findlay
Akron
New Castle
Lima
Mansfield
Canton
Salem
State College
Altoona
Reading
Weirton
Harrisburg
Hilliard
Wheeling
Lancaster
Chambersburg
Philadelphia
Chillicothe
Morgantown
Fairmont
Cumberland
Aberdeen
Cincinnati
Athens
Clarksburg
Winchester
Frederick
Centreville
Montclair
Cambridge
Charleston
Harrisonburg
Staunton
Beckley
Richmond
Williamsburg
Norfolk
LEGEND
B&E Expenditures
$500 - $2500
$2501 - $5000
$5001 - $10000
$10001 - $50000
$50001 - $150000
Pop. Range
10000 - 20000
20001 - 35000
35001 - 100000
100001 - 500000
500001 - 1500000

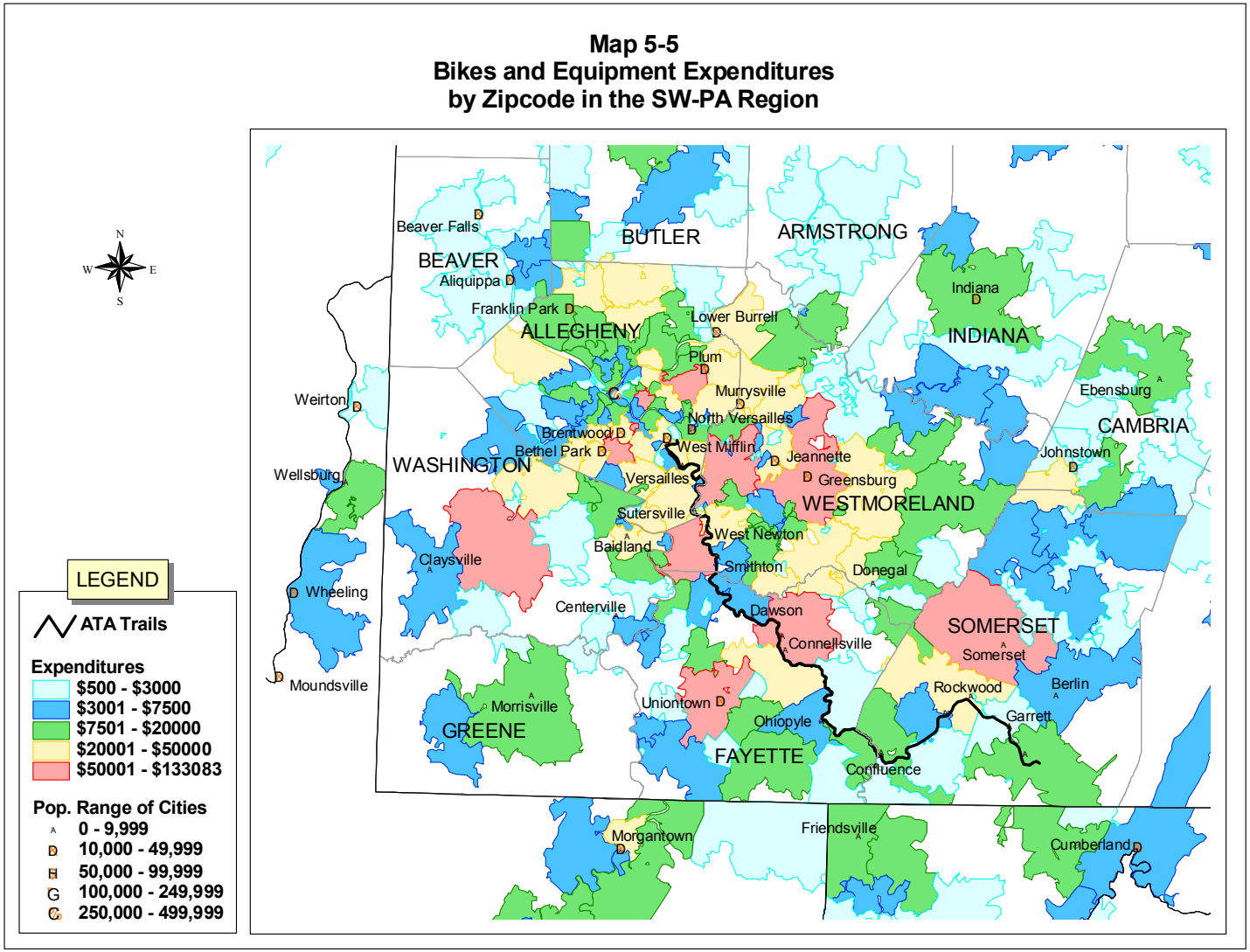
Map 5-3
Small Items and Lodging Expenditures by Zipcode in the 5-State Area



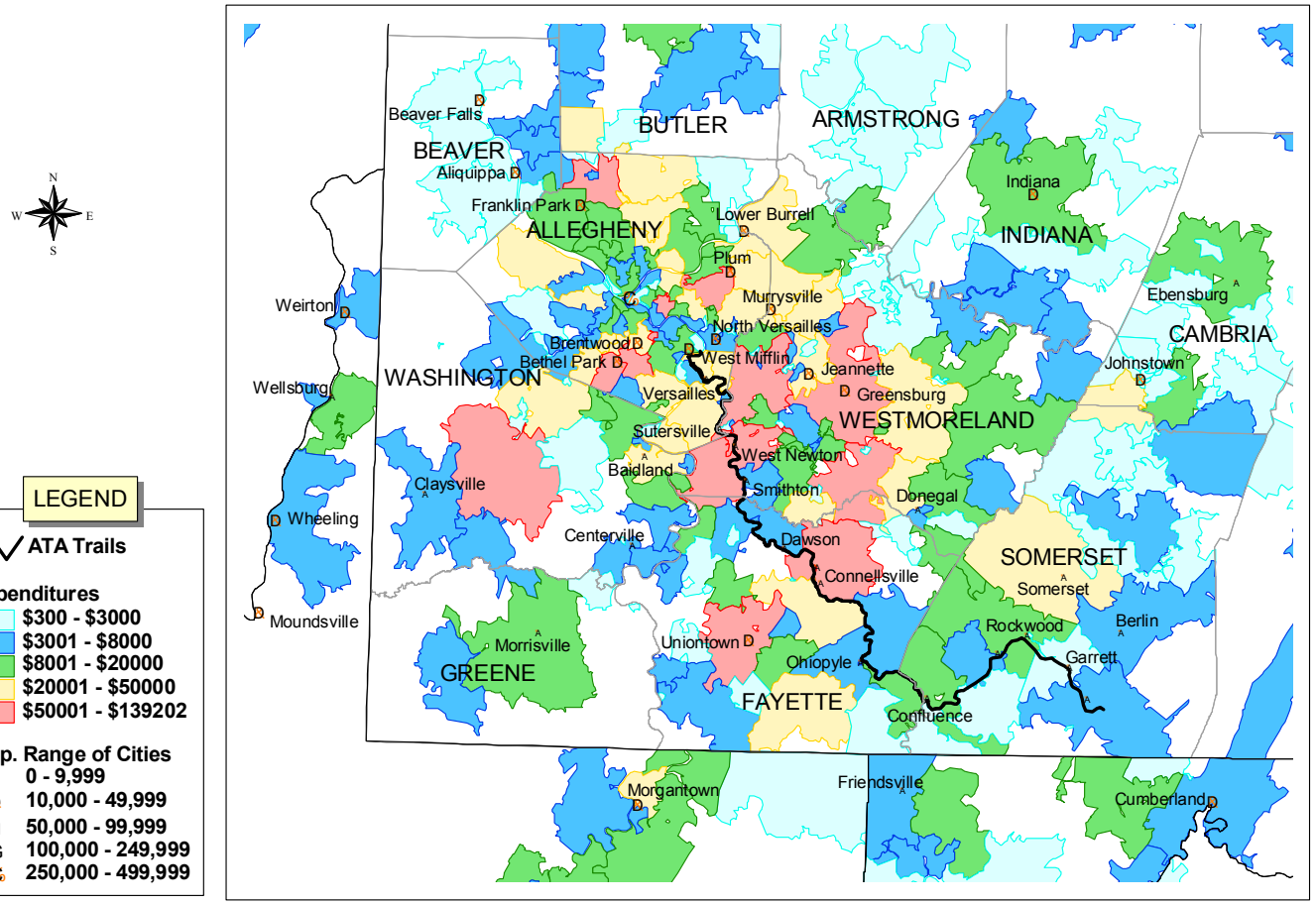
Map 5-4
Total Visits During 2002 Season
by Zipcode in the SW-PA Region



Map 5-5
Bikes and Equipment Expenditures
by Zipcode in the SW-PA Region



Map 5-6
Small Items and Lodging Expenditures
by Zipcode in the SW-PA Region



example, a study of tourism in Michigan estimated that the direct spending multiplier for tourism was 1.57. In other words, for each dollar spent directly by tourists within the state, another 57 cents of indirect spending occurred, for a total of $1.57. A study of local tourism in the Lansing, MI, region estimated that the direct spending multiplier was 1.45. Generally, the smaller the region of analysis the smaller the multiplier, as indirect spending is more likely to "leak" out of the region the smaller it is. A study of elk viewing in Pennsylvania concluded that the tourist spending multiplier was 1.8 for the state as a whole. Table 5-1 shows multipliers from other studies.

Table 5-2
Economic Impact Multipliers from Various Studies

Multiplier	Geographic Region	Economic Activity	Citation
1.57	Michigan	Tourism	Stynes, Daniel J., Michigan Statewide Tourism Spending and Economic Impact Estimates, 1998-2000, January 2002, website: www.msu.edu/course/prr/840/econimpact/
1.45	Lansing, MI	Tourism	Stynes, Daniel J., Estimating Economic Impacts of Tourist Spending on Local Regions: A Comparison of Satellite and Survey/I-O Approaches, website: www.msu.edu/course /prr/840/econimpact/
1.8	Pennsylvania	Elk Viewing	Strauss, Charles H., et al., Economic Impact of Pennsylvania's Elk Herd: Analysis of the Demographics, Pursuits, and Expenditures of a Recreational Audience, School of Forest Resources, Pennsylvania State University, September 1999
1.22	Southern Appalachians	Mountain Biking	Bowker, J.M. and D.B.K. English, 2002. Sustainable Recreation Development in the Southern Appalachians: The Case of Mountain Biking at Tsali, unpublished report for USDA Forest Service, Athens, GA
1.53	Rural Areas in US	Recreation	US Army Corps of Engineers, Recreation Economic Assessment Systems (REAS)
1.66	Georgia State Parks	Recreation	National Park Service, 1995. Economic Impacts of Protecting Rivers, Trails, and Greenway Corridors: A Resource Book. website: www.nps.gov/pwro/rtca/ econindx.htm.

In determining the economic development impacts of trail related spending on the trail related communities, it is important to distinguish between local residents' spending and non-local residents' spending. The latter provide a net influx of money to

communities, while the former essentially recirculate money within the communities and what they would not spend on trail related activities might otherwise be spent in these communities. We can provide estimates of the total dollars spent in communities, both directly and indirectly, that can be allocable to trail use. And we can provide estimates of the NET increase in spending in these communities as a result of the influx of "foreign" money. We do each of these estimates below.

5-3.1 Total Direct and Indirect Spending in Pennsylvania Allocable to Trail Use

Direct spending in Pennsylvania associated with trial use can be determined from Table 5-1. Pennsylvania and Non-Pennsylvania residents spending for small items and lodging has direct and indirect spending effects on Pennsylvania. Column 3 of Table 5-1 shows this estimate from the study to be $3,711,804 (only $3,557,973 could be allocated by zipcodes, but we want the full estimate in this case). However, spending on bikes and equipment is most likely in communities where people reside. So it would be reasonable to consider only the bike and equipment spending of Pennsylvania residents as impacting Pennsylvania. Column 5 of Table 5-1 shows this estimate to be $3,008,355. So we can consider the sum of these two, $6,720,159, to be direct spending in Pennsylvania associated with trail use.

Multipliers are specific to the economies studied. They vary with the types of direct spending, the structure of the economy, and the geographic size of the study area. We would want to use a Pennsylvania statewide multiplier for estimating the total effects of tourism spending in the state. We would want multipliers like the Pennsylvania elk study, 1.8, or Michigan's statewide tourism multiplier, 1.57, or the Georgian state parks multiplier, 1.66. Using the Pennsylvania multiplier, 1.8, implies a point estimate of the total direct and indirect spending effect attributable to the Boston-Garrett trail system of **$12,096,285** in 2002. (Recall no spending estimates are made for Montour.)

5-3.1 Net Spending in Trail Communities from Trail Use

In order to estimate the net economic stimulus, both direct and indirect, of trail related spending, we need to determine the direct spending that comes into the local economies from outside; i.e., excluding spending by persons living within the local economies. We also need to use multipliers that reflect the local indirect effects of that initial injection of direct spending. Local economy multipliers are generally smaller than those for larger economic areas, such as a state. This is because of spending leakages out of the local economy; e.g., the local restaurant buys its wholesale food supplies from outside the local economy. We would want to use multipliers developed for smaller, or more sparse, economies, such as the US Army Corps rural US multiplier of 1.53, or the Southern Appalachian multiplier of 1.22, or even the local Lansing, MI, multiplier of 1.45 (this multiplier would likely be higher than that of the rural communities we are considering, since Lansing is a complex urban economy, with many economic interconnections).

We have established different economic zones surrounding the trail system. A zone of 10 miles either side of the trail system would likely capture local economic effects of spending. Persons living within this zone may not contribute, in net, to economic activity when their local spending on Good A diminishes what they would spend on Good B within their local economy. They may be contributing to local

economic growth when they shift their spending from outside the local area to inside; this is like an influx of outside money that stimulates net economic activity. We cannot determine how much local people shift their purchases from outside the area to inside as a result of the trail system.

Certainly persons living outside this local zone add to net spending increases; their spending on Goods A does not reduce spending on Goods B. So we must determine how much spending comes into the 10 mile zone from outside. That spending becomes multiplied in the local economy for a net increase in economic activity. Table 5-3 shows visits and spending by zones of origin of trail users. For example, column 2 shows that **47.6%** of trail visits are from residents of the zone within 10 miles of the Boston to Garrett trail system (recall Montour is not included). Column 8 shows that **43.6%** of the total spending is by persons living within 10 miles of the trail system. Column 3 shows that $1,636,906, or 44.1%, in spending on small items and lodging in local trail related communities is by persons living within 10 miles of the trail. The remainder of this spending, **$2,074,898**, comes from persons outside this "local" 10 mile zone. It is this spending from "outside" that becomes multiplied through the local economy. We have to reasonably assume that bike and equipment spending most likely occurs in areas where people reside, so do not help stimulate the trail community economies. Using the US Army Corps of Engineers rural community recreational multiplier, 1.53, we estimate the total local community economic effects of the spending from outside to be **$3,174,593** in the 2002 trail season.

5-4. Visits and Spending by Counties of Residence

Table 5-4 shows the distribution of visits and spending by the county of residence of trail visitors during the 2002 trail season. The residences of a small number of visitors could not be determined, so the Grand Total of visits, 334,378, is slightly less than the total estimated visits, 347,053; the same is true for spending. This table shows, for example, that 90.3% of visits and 87.9% of total spending were by Pennsylvania residents. Column 1 shows that 38.5% and 24.8% of visits were by residents of Allegheny and Westmoreland counties, respectively. Column 8 shows that 35.1% and 23.1% of the total trail related spending, including small items, lodging, and bikes and equipment, was by residents of these two counties. The distribution of visits by Pennsylvania resident trail users in illustrated in Map 5-7.

Table 5 - 3
Visits and Spending by Distances from Trail System

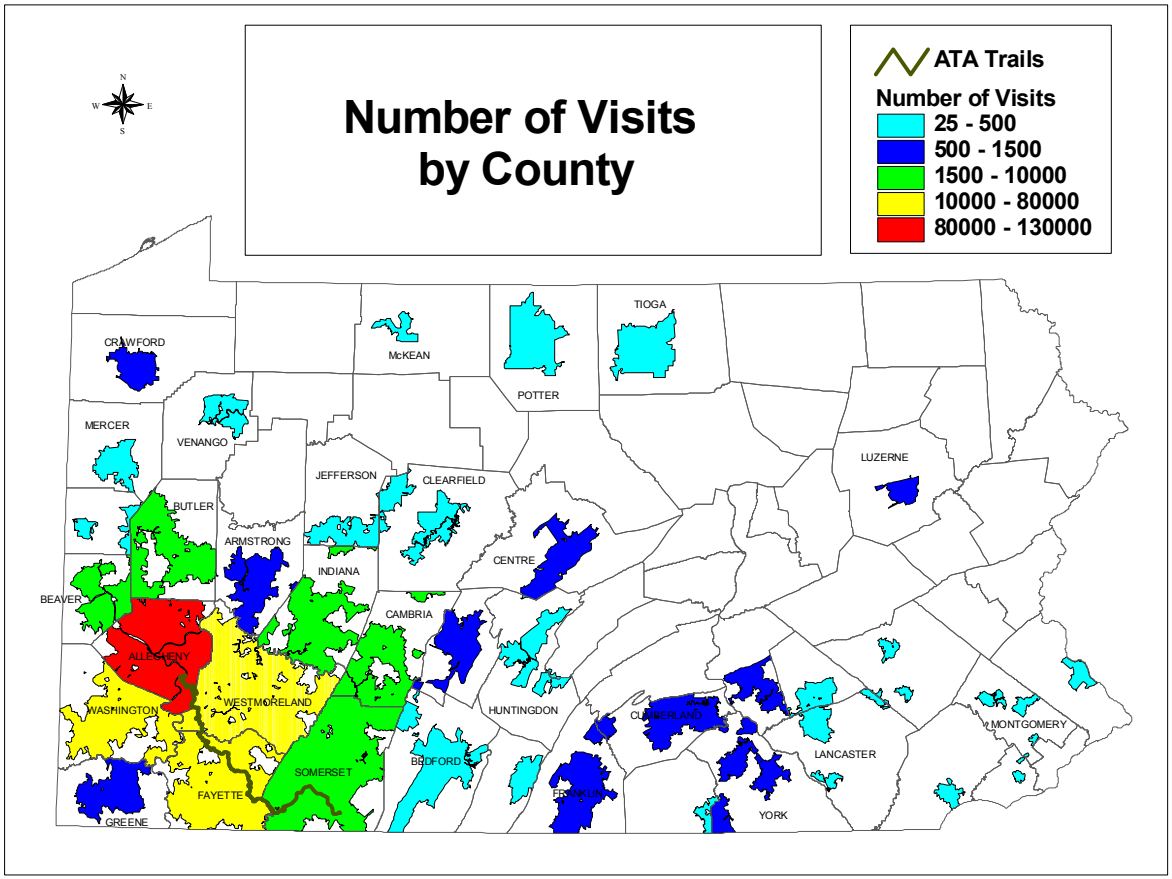
Zone of Origin	Visits	%	Local Small Item and Lodging	%	Bike and Equipment Spending	%	Total Spending	%
	1	2	3	4	5	6	7	8
Within 10 Miles	165197	47.6%	$1,636,906	44.1%	$1,530,539	43.1%	$3,167,445	43.6%
10 to 30 Miles	122163	35.2%	$1,447,604	39.0%	$1,303,267	36.7%	$2,750,870	37.9%
30 to 60 Miles	16311	4.7%	$ 218,996	5.9%	$ 202,415	5.7%	$ 421,411	5.8%
Beyond 60 Miles	43382	12.5%	$ 408,298	11.0%	$ 514,915	14.5%	$ 923,213	12.7%
Total	347053	100.0%	$3,711,804	100.0%	$3,551,135	100.0%	$7,262,939	100.0%

Table 5-4
Visits and Spending in 2002 by County and State of Residence

COUNTY	Total Visits	% by County/State	Local Small Item and Lodging	% by County/State	Bikes & Equipment Spending	% by County/State	Total Spending	% by County/State
	1	2	3	4	5	6	7	8
ADAMS	38	0.0%	$ 563	0.0%	$ 468	0.0%	$ 1,032	0.0%
ALLEGHENY	128672	38.5%	$ 1,234,709	34.7%	$ 1,209,795	35.5%	$ 2,444,495	35.1%
ARMSTRONG	1308	0.4%	$ 14,106	0.4%	$ 12,982	0.4%	$ 27,088	0.4%
BEAVER	1770	0.5%	$ 21,056	0.6%	$ 19,842	0.6%	$ 40,898	0.6%
BEDFORD	477	0.1%	$ 5,809	0.2%	$ 6,443	0.2%	$ 12,252	0.2%
BERKS	305	0.1%	$ 3,638	0.1%	$ 3,292	0.1%	$ 6,931	0.1%
BLAIR	814	0.2%	$ 10,375	0.3%	$ 10,668	0.3%	$ 21,043	0.3%
BUCKS	31	0.0%	$ 363	0.0%	$ 551	0.0%	$ 914	0.0%
BUTLER	3605	1.1%	$ 51,221	1.4%	$ 45,249	1.3%	$ 96,470	1.4%
CAMBRIA	3588	1.1%	$ 47,286	1.3%	$ 51,675	1.5%	$ 98,961	1.4%
CENTRE	1421	0.4%	$ 15,233	0.4%	$ 14,623	0.4%	$ 29,855	0.4%
CHESTER	103	0.0%	$ 1,514	0.0%	$ 1,258	0.0%	$ 2,772	0.0%
CLEARFIELD	326	0.1%	$ 4,379	0.1%	$ 4,419	0.1%	$ 8,798	0.1%
CRAWFORD	728	0.2%	$ 6,948	0.2%	$ 6,740	0.2%	$ 13,687	0.2%
CUMBERLAND	743	0.2%	$ 8,470	0.2%	$ 9,169	0.3%	$ 17,638	0.3%
DAUPHIN	1110	0.3%	$ 14,609	0.4%	$ 13,804	0.4%	$ 28,412	0.4%
DELAWARE	276	0.1%	$ 4,042	0.1%	$ 3,358	0.1%	$ 7,400	0.1%
FAYETTE	36073	10.8%	$ 395,435	11.1%	$ 364,844	10.7%	$ 760,277	10.9%
FRANKLIN	914	0.3%	$ 10,026	0.3%	$ 9,532	0.3%	$ 19,558	0.3%
FULTON	182	0.1%	$ 1,735	0.0%	$ 1,683	0.0%	$ 3,418	0.0%
GREENE	1625	0.5%	$ 21,714	0.6%	$ 19,266	0.6%	$ 40,980	0.6%
HUNTINGDON	291	0.1%	$ 2,752	0.1%	$ 3,081	0.1%	$ 5,833	0.1%
INDIANA	2397	0.7%	$ 29,326	0.8%	$ 28,588	0.8%	$ 57,914	0.8%
JEFFERSON	462	0.1%	$ 4,414	0.1%	$ 4,287	0.1%	$ 8,701	0.1%
LANCASTER	445	0.1%	$ 6,772	0.2%	$ 5,808	0.2%	$ 12,580	0.2%
LAWRENCE	243	0.1%	$ 4,264	0.1%	$ 4,163	0.1%	$ 8,427	0.1%
LEBANON	124	0.0%	$ 1,452	0.0%	$ 1,762	0.1%	$ 3,214	0.0%
LUZERNE	728	0.2%	$ 6,948	0.2%	$ 6,740	0.2%	$ 13,687	0.2%
McKEAN	363	0.1%	$ 3,474	0.1%	$ 3,370	0.1%	$ 6,844	0.1%
MERCER	86	0.0%	$ 356	0.0%	$ 514	0.0%	$ 870	0.0%
MIFFLIN	25	0.0%	$ 211	0.0%	$ 179	0.0%	$ 390	0.0%
MONTGOMERY	325	0.1%	$ 5,253	0.1%	$ 4,715	0.1%	$ 9,968	0.1%
POTTER	310	0.1%	$ 4,551	0.1%	$ 3,778	0.1%	$ 8,329	0.1%
SOMERSET	10071	3.0%	$ 126,441	3.6%	$ 162,967	4.8%	$ 289,403	4.2%
TIOGA	56	0.0%	$ 1,145	0.0%	$ 1,187	0.0%	$ 2,332	0.0%
VENANGO	104	0.0%	$ 1,517	0.0%	$ 1,260	0.0%	$ 2,776	0.0%
WASHINGTON	17296	5.2%	$ 191,427	5.4%	$ 174,719	5.1%	$ 366,146	5.3%
WESTMORELAND	83019	24.8%	$ 834,288	23.4%	$ 774,761	22.7%	$ 1,609,046	23.1%
YORK	1432	0.4%	$ 18,953	0.5%	$ 16,832	0.5%	$ 35,785	0.5%

PA TOTAL	**301886**	90.3%	**$ 3,116,777**	87.6%	**$ 3,008,368**	88.2%	**$ 6,125,125**	87.9%
MD	2723	0.8%	$ 35,525	1.0%	$ 33,444	1.0%	$ 68,968	1.0%
WV	8283	2.5%	$ 114,948	3.2%	$ 112,504	3.3%	$ 227,452	3.3%
VA	10364	3.1%	$ 133,415	3.7%	$ 118,926	3.5%	$ 252,341	3.6%
OH	11124	3.3%	$ 157,293	4.4%	$ 136,954	4.0%	$ 294,247	4.2%
GRAND TOTAL (Assignable by County or State)	**334378**	100.0%	**$ 3,557,958**	100.0%	**$ 3,410,195**	100.0%	**$ 6,968,132**	100.0%

Table 5-7
Visits from Pennsylvania Residents by Pennsylvania
County of Residence



Chapter 6
A Comparison of the Current Study with the 1998 Study

A similar trail user study was done for the Allegheny Trial Alliance in 1998 (An Economic Impact Study for the Allegheny Trail Alliance, Pennsylvania Economy League and Stephen Farber, January 1999). That study also used trail counts and a spending survey to estimate the economic impacts to trail related communities. However, there are two major differences between that study and the current one that make them somewhat incomparable. First, in the current study we have the advantage of an entire trail season's count of trail use. The 1998 study could utilize trail count data only after counters were installed midway or late in the season. Second, there was a problem in interpreting missing data from the spending questions. It was unclear what was implied when a respondent did not place any spending values in the survey: were these missing data or true $0 expenditures? The current study has remedied that problem. These are two fundamental differences that make any comparisons very problematic.

The 1998 trail counter analysis concluded there were an estimated 356,278 visits made to the Boston to Garrett trailheads, plus Montour. Montour accounted for 51,870 of these visits, implying **304,408 visits** to the Boston-Garrett trail section. The current study could not estimate Montour trail use, as that section did not have functioning trail counters. The current study estimates a total of **347,053 visits** to the Boston-Garrett section. Given the difficulties in obtaining accurate estimates of trail use, and the fact that the 1998 counts were obtained by extrapolating counts from only a portion of the trail season to the entire season, it is more reasonable to interpret these estimates as confirming the ballpark usage rate than as implying a 14% increase in use.

The 1998 study had difficulty interpreting a non-response to the spending questions. Given this difficulty, two estimates of per person spending were made; a Low estimate based on the assumption that a non-response meant $0 spending, and a High estimate based on the assumption that a non-response was missing data and was not included in the average estimates. The range of spending in trail related communities was from **$12.01 to $15.23 per person per visit**, using these two assumptions. These estimates include lodging expenditures, which accounted for roughly 16% of this spending.

The current study resolved the missing data ambiguity by first asking respondents whether their group had any trail related spending; and, if YES, asked them to provide a value. There were almost no cases where a group answered YES, but did not provide a value. So we feel quite confident that we are measuring true $0 expenditures. The current study found that we could be 95% confident that the average spending for small items in trail related communities in 2002 was between $8.11 and $9.56 per person per visit, with a point estimate of $8.84. These values do not include lodging. The average lodging expenditure over the entire 2002 sample was $1 per person per visit, with a 95% confidence interval of $0.80 to $1.21. So the sum of small item and lodging spending is an average of $9.84 per person per visit, with a 95% confidence interval of **$8.91 to $10.77 per person per visit**. These 2002 estimates are lower than the 1998 estimates.

We are much more certain of the validity of the 2002 estimates for the entire trail season, since we did survey over the entire trial season, including the initial 3 months when spending is lower (see Figure 3-8.3 of this report). The 1998 study surveyed only

July through October, the high spending months. There may also be some real reduction in spending due to the poor economic conditions prevailing throughout 2002.

The effects of a poor economy may be reflected in the bike and equipment spending of trial users. The 1998 study estimated that trail users of all types made average expenditures of **$302 to $373 per person over the prior two years**; these low and high estimates based on the same missing data assumptions described above. The current study estimates that this spending ranged from **$218 to $252 per person over the prior two years**, with an average of $235, using the statistical 95% confidence interval. This expenditure is also lower than the 1998 bike and equipment spending.

The 1998 study estimated that the total spending for small items and lodging in trail related communities ranged from **$5.4 to $14.1 million** during that season. This large range is attributable to the Low and High estimates that had to be made because of the missing data ambiguity. The current study estimated an average total spending for small items in trail related communities of $3.2 million, with a 95% confidence interval of $2.6 to $3.8 million. Lodging expenditures were estimated to be $0.5 million, with a range of $0.3 to $0.7 million. The 2002 spending estimates comparable to the 1998 spending, which included lodging, is then $3.7 million with a range of **$2.9 to $4.5 million**. These estimates are well below the 1998 range. This dramatic difference reflects four things: accurate accounting for missing data in the 2002 study; the 2002 study analyzed the entire trail season; the 2002 total spending estimates could not include Montour; possible adverse economic conditions of 2002 on spending.

If we use the Montour estimated usage from the 1998 study, 51,870 visits, and the 2002 estimates of trail related spending, $2.87 per person per visit, we would estimate that Montour total spending was $148,866 during the 2002 season. Adding this to the 2002 spending estimates given above still leaves the 2002 estimates below the 1998 estimates.

Bike and equipment spending that is allocable to trail use was estimated in the 1998 study to range from **$8.9 to $12.2 million per year**. The current study estimate this allocated spending to be $3.6 million per year, with a 95% confidence interval range from **$2.9 to $4.2 million per year**. This estimate is also considerably below the 1998 estimates and may reflect the missing data ambiguities of the 1998 study, the truncated trail season studies in 1998, and the poor economic conditions prevailing in 2002. The difference also reflects the exclusion of Montour from the 2002 study, although that could hardly explain the huge difference in estimates.

Appendix A
The User Survey

Dear Trail User:

The Allegheny Trail Alliance (ATA), a consortium of trail groups, has commissioned the University of Pittsburgh to do a use and impact study of the trail system. Would you please help the Alliance by filling out this short survey and mailing it in the self-addressed envelope provided? Check out the ATA web site, http://www.atatrail.org for current information on trail segments, parking, amenities, necessities, etc.

Thank you in advance,
Steve Farber, PhD
Trail Study Director

1. How many persons came with you in this vehicle today? ____ persons

2. What was your groups' primary use of the trail today (check only one)?
Bike ___ Hike/Walk ___ River Access ___ Did Not Use ___

3. How far did you drive, **ONE WAY**, to come to this trailhead? ____ miles

4. How many miles did you go, **ONE WAY**, on the trail today? ____ miles

5. How many hours were you on the trail today? _____ hours

6. If you came to bike, how many persons in your vehicle brought bikes? ____ persons

7. How many persons in your vehicle rented bikes for this trip? _____ persons

8. Did your group, or will your group, purchase food, gasoline, clothing, etc., in communities along the trail or trailhead today? Yes___ No___

8a. If **YES**, what will be the total spending of your **whole group** in this community today? Please use the following categories:

Bike rental	$_____	Clothing	$_____
Biking equipment	$_____	Gasoline	$_____
Food and drink	$_____	Other (sunscreen, film, etc)	$_____

9. How many trips has each person in your vehicle made to this trailhead this calendar year?
You____ Person 2___ Person 3___ Person 4___ Person 5___ Person 6___

10. How many persons in your vehicle are in the following age categories?

	under 10	10-20	21-30	31-40	41-50	51-60	over 60
Number	____	____	____	____	____	____	____

11. While it may be difficult to quantify exactly, roughly what percentage of "bike time" during the past 2001 calendar year was spent on various segments of this trail, which runs from Pittsburgh to Cumberland?

(Please try and distinguish this percentage for each person in your vehicle.)

You ___ % Person 2___% Person 3___% Person 4___% Person 5___% Person 6___%

12. Have you, or members of your group today, bought bikes or biking equipment (racks, pumps, clothing, etc.) in the past two years? Yes__ No___

12a. If **YES**, how much money was spent by or for each person in your vehicle for bikes and equipment during the past 2 years?

	Bikes	Equipment		Bikes	Equipment
You	$_____	$_____	Person 4	$_____	$_____
Person 2	$_____	$_____	Person 5	$_____	$_____
Person 3	$_____	$_____	Person 6	$_____	$_____

13. Is your group staying overnight in this area on this trip?

Yes ___ No ___

13a. If YES, check one:

___In a motel ___In a B&B ___Camping ___With friends

13b. If Yes, for how many nights? _____nights

13c. If Yes, how much is your group spending for lodging each night? $_____

14. What is the ZipCode of residence for each person in your vehicle?

You _____ Person 2_____ Person 3_____

Person 4_____ Person 5_____ Person 6_____

15. We hope you had an enjoyable outing today. Were there some services or facilities you would have enjoyed, but were not available along the trail or trailhead, such as:

Restaurants ____ Shopping ____ Lodging ___ Toilets ____

Snack shops ___ Bike repair ___ Water ___ Picnicking ___

Other (please note) _____

16. Other comments or suggestions to help us improve your next visit:

Appendix B
Tables for Estimating Visits

Appendix Table B-1

Trail Counter Location	April Weekday 1	April Saturday 2	April Sunday 3	May Weekday 4	May Saturday 5	May Sunday 6	June Weekday 7	June Saturday 8	June Sunday 9	July Weekday 10	July Saturday 11	July Sunday 12
Garrett	9	18	25	25	49	68	51	99	137	49	94	131
Rockwood	39	67	92	39	67	92	49	86	117	54	94	128
Confluence	10	18	18	22	43	43	40	76	77	50	94	95
RamCat	26	84	75	59	192	169	106	342	302	140	453	400
RR Station	30	81	84	72	194	201	128	346	359	169	458	475
Ferncliff	78	287	227	119	438	346	185	684	541	235	866	685
Connellsville-S	86	147	114	132	226	176	249	426	333	361	619	483
Connellsville-N	96	209	109	146	317	166	205	445	232	158	343	179
Outback	15	29	38	29	57	73	35	67	86	32	61	79
Buddtown	105	184	213	214	376	433	277	487	562	240	422	487
Greenock	89	160	187	189	341	397	247	446	519	210	379	442

Estimates of Number of Trail Visits per Day, by Trail Counter Location, Month and Day of Week[1]

[1] These estimates are made by using actual counts by Counter Location and Month, and assuming that the day of week pattern for a location would be the same for all months. For example, if Weekday counts at Garrett were 50% of Saturday counts over the entire trail season, we assume that every Weekday is 50% of Saturday counts for every month.

Table B-1 Continued

Trail Counter Location	August Weekday 13	August Saturday 14	August Sunday 15	September Weekday 16	September Saturday 17	September Sunday 18	October Weekday 19	October Saturday 20	October Sunday 21	November Weekday 22	November Saturday 23	November Sunday 24
Garrett	35	68	94	27	52	72	22	42	59	5	10	14
Rockwood	41	71	97	34	59	81	23	40	54	8	15	20
Confluence	62	119	120	39	74	75	22	41	42	8	15	15
RamCat	115	371	327	90	291	256	43	140	124	15	49	44
RR Station	92	249	258	53	143	148	43	117	122	52	141	146
Ferncliff	184	677	535	120	442	350	157	578	457	221	817	646
Connellsville-S	344	589	460	236	404	315	52	90	70	58	99	77
Connellsville-N	151	328	171	177	383	200	144	313	163	126	273	142
Outback	28	54	69	35	67	86	14	28	36	51	99	128
Buddtown	142	251	289	234	412	476	182	320	368	178	313	360
Greenock	121	218	255	207	373	435	164	295	344	156	282	329

Table B-2

Estimated Total Number of Visits During 2002 Trail Season, by Trail Counter Location and Day of Week

Trail Counter Location	Weekday Use 1	Saturday Use 2	Sunday Use 3	**Total Use 4**
Garrett	4768	1801	2553	9121
Rockwood	5853	1985	2713	10551
Confluence	5378	2031	2076	9484
RamCat	12671	8034	7178	27883
RR Station	13180	7054	7332	27566
Ferncliff	25266	18877	14473	58616
Connellsville-S	31883	10821	8520	51224
Connellsville-N	24123	10403	5353	39879
Outback	4487	1792	2203	8482
Buddtown	31624	11004	12455	55083
Greenock	27858	9933	11372	49163
Total	187089	83735	76228	**347053**