Who's on the Trail?

The Erie Canalway Trail User Count 2008

Prepared by:

Parks & Trails NEW YORK

29 Elk Street
Albany, NY 12207
518-434-1583
www.ptny.org

For the New York State Canal Corporation

December 2008

New York State Canal Corporation

Table of Contents

List of Tables

List of Figures

Executive Summary

Extending 524 miles across New York, the Canalway Trail system brings economic, public health, tourism, and quality of life benefits to the more than one million New Yorkers living in upstate canal communities. Anecdotal evidence suggests that the 366-mile Erie Canalway Trail is well used and popular with walkers and cyclists. To begin to quantify and characterize that use, New York State Canal Corporation and Parks & Trails New York instituted an annual Canalway Trail User Count in 2005. While interesting, the results obtained in 2005 and 2006 provided only a snapshot of trail use at the time counts were taken. No attempt was made to use the data to estimate weekly, monthly, or yearly trail traffic volume.

In 2007, the annual trail count was conducted following a protocol developed and tested by Greg Lindsey and colleagues at Indiana University. Trail user counts were conducted at the peak hour of weekday trail use at five different places within eastern Monroe County. Using Lindsey's coefficients and equations, the 12 miles of trail between Genesee Valley Park and Perinton Park were estimated to have between 100,000 and 200,000 annual users.

For 2008, it was decided to repeat the annual trail count at the same time and in the same eastern Monroe County locations. During six weeks in July and August, 24 volunteers generated data from 99 separate counts. This information was used to calculate annual traffic estimates ranging from approximately 102,000 trail users in Genesee Valley Park to up to 213,000 trail users at Schoen Place in the Village of Pittsford. This range of trail traffic volume is relatively unchanged from what was estimated in 2007. However, if the data from 2007 and 2008 are combined, it smoothes out the highs and lows, resulting in estimated annual traffic within this trail section ranging from 102,000 users at Genesee Valley Park to almost 176,000 trail users at JCC/Lock 33.

As has been consistently found for each of the counts taken since 2005, the greatest percentage of trail users overall were bicyclists. This year it was 52 percent, little changed from the 49 percent found in 2007. However, in two places, Pittsford's Schoen Place and Perinton Park at the edge of the Village of Fairport, walkers outnumbered bicyclists, which may be reflective of the village environment and proximity to the shopping district for each of these locations.

In subsequent years, Lindsey's methods and equations should be used to conduct counts and estimate annual trail traffic volume for other Erie Canalway Trail locations. To improve trail traffic predictions, year-round count data needs to be gathered using infrared counters to help develop more precise ratios for a range of environments specific to the Erie Canalway Trail.

Introduction

Extending 524 miles across New York, the Canalway Trail system brings economic, public health, tourism, and quality of life benefits to the more than one million New Yorkers living in upstate canal communities. The most popular leg of the system, the Erie Canalway Trail, is growing in popularity and is on its way to becoming a premier tourist destination for cyclists and other outdoor enthusiasts.

Decisions regarding design, funding, operation, and maintenance of the Erie Canalway Trail are based in large part on understanding the volume and nature of trail use. In these uncertain economic times, estimates of annual trail traffic are critically important to justifying current and future expenditures for construction and maintenance as well as gauging the impact that trail use can have on the economy of the counties, towns, villages, and cities along its length.

Anecdotal evidence suggests that the Canalway Trail is well-used and popular with walkers and cyclists, but very little information exists to substantiate those claims. To begin to quantify and characterize trail use, the New York State Canal Corporation and Parks & Trails New York instituted an annual Canalway Trail User Count in 2005 at 12 locations in Monroe County. Monroe County was selected because of its diverse rural, suburban and urban characteristics; trail usage was felt to be significant; and a strong network of trail supporters and adopters existed that could be drawn upon to help conduct the count. The effort was heavily volunteer-driven. No attempt was made to standardize the counting protocol or pre-determine count locations.

In 2006, counts were conducted in 14 places in Oneida, Herkimer, and Montgomery Counties, a more rural and less populated area than Monroe County. Volunteers were directed to obtain counts in one-hour intervals at the time of peak activity. Days for counting and time of peak activity were left to the volunteer's discretion.

While interesting, the results obtained from the 2005 and 2006 counts provided only a snapshot of trail use at the time the counts were taken. No attempt was made to use the data to estimate weekly, monthly, or yearly trail traffic volume.

In 2007, in an effort to generate data with greater validity and predictive value, a new approach to counting was undertaken using the methodology and equations developed by Lindsey et al. Lindsey has used infrared counts obtained on multi-use trails in the Indianapolis area to design a counting process that can both be easily undertaken by volunteers with a minimum of time expenditure, and also yield valid and highly accurate estimates of annual trail traffic volume. This new effort was launched in eastern Monroe County for all the same reasons that the first trail count was initiated there in 2005.

For 2008, it was decided to repeat the 2007 counting protocol, time for data collection, and count locations, resulting in a larger body of data on which to base annual trail volume predictions. The effort was aided by having a cadre of experienced volunteer trail counters who understood the need for multiple counts and standardized counting techniques and were eager to help get the data necessary to make reasonable annual trail traffic predictions.

Acknowledgments

Parks & Trails New York and the New York State Canal Corporation wish to thank the many volunteers who visited the trail on multiple occasions to conduct the user counts. Special thanks to Monroe Regional Canalway Trail Group member David Schaeffer for his help once again in organizing the volunteers and to Parks & Trails New York intern Jen Barkan who assisted with the data entry and report preparation.

Methodology

Data Collection

Counts were conducted during the six weeks between July 14 and August 22, 2008. Twenty-four volunteers, recruited by David Schaeffer, conducted 101 separate counts at four different Erie Canalway Trail locations in eastern Monroe County near the City of Rochester. As shown in Table One, with one exception, all weekdays were counted between three and six times at each location. On two occasions, two persons submitted count data for the same time, day and location. After communicating with these volunteers to substantiate the correct day and time, the duplicate counts were averaged and recorded as one, as reported in Table One. All data entered are available in spreadsheet format in Appendix D.

Table One. Counts by Day of Week and Location

	Monday	Tuesday	Wednesday	Thursday	Friday	Total
Genesee Valley Park	6*	5	5	5	4	**25**
JCC/Lock 33	6	5	4	4	3	**22**
Schoen Place	6	6	6	4	4	**26**
Perinton Park	6	5	4*	6	5	**26**
Total	*24*	*21*	*19*	*19*	*16*	***99***

As Table Two illustrates, more counts were conducted in August than July. There were seven more days available for counting in August and the weather was more favorable at this time.

Table Two. Number of Counts Conducted by Month & Location

	July	August	*Total*
Genesee Valley Park	9	16*	**25**
JCC/Lock 33	8	14	**22**
Schoen Place	11	15	**26**
Perinton Park	12	14*	**26**
Total	***40***	***59***	***99***

**These numbers include one date on which two counts were conducted and averaged to yield one set of data*

The volunteers were provided a count protocol identical to that developed for the 2007 count. See Appendix A.

A counting form (see Appendix B) was developed to standardize data collection. The form was unchanged from 2007. Information requested included: date, time, location, weather, trail surface, and the number and type of trail users. Trail users were separated into categories: bicyclists with

and without helmets, walkers, in-line skaters, joggers, equestrians, baby carriages/strollers, and wheelchair users. Some volunteer counters also made note of user categories not included on the form: scooters, bicyclists with child seats and child trailers, recumbent tricycles, and hand-powered cycles. See Appendix C for an explanation of how these users were included in the data.

Based on the work of Lindsey et al., data were collected in one-hour intervals at the time of peak weekday trail use. The hour of peak weekday use was determined to be between 6:30 p.m. and 7:30 p.m., based on the time used last year for data collection and conversations with persons familiar with the trail at each of the count locations.

Count Locations

- **Genesee Valley Park, City of Rochester.** Counts were conducted from a parking lot facing the paved trail to the east of the Genesee River within the 800-acre Olmsted-designed park. The parking lot serves the trail as well as multiple picnic pavilions. Surrounding the park, the neighborhood consists of University of Rochester academic and Medical Center buildings and parking facilities as well as residential housing. The trail is paved and meanders through the park. It is near, but not directly adjacent to, the canal at this location.
- **JCC/Lock 33, Edgewood Avenue, Town of Brighton.** Counts were conducted from the Jewish Community Center (JCC) parking lot facing the paved trail which is located on the banks of the canal. The JCC is a popular fitness center with a small theatre and day care center in the building. Lock 33 and another trail parking lot are located across Edgewood Avenue from the JCC. Many suburban residential streets make up the neighborhood.
- **Schoen Place, Village of Pittsford.** Counters were positioned at the end of a dead end street across the canal from the stone dust trail. The trail is located on the northern bank of the canal within a residential area. The back yards of homes open onto the trail and the canal. West of the count location is a complex of restaurants and boutique-style shops.
- **Perinton Park, Town of Perinton**. Counts were conducted from the suburban community park at the western edge of the Village of Fairport. The trail follows the northern bank of the canal and is paved in this location. To the west of the park are suburban residential homes and to the east of the park are village businesses.

These are the same locations where counts were conducted in 2007 except that in 2008 no counts were recorded at Winton Road in the Town of Brighton. Winton Road was not originally included in the 2007 study, but it was added when a volunteer submitted data from this location.

Trail Traffic Estimation

The data taken from the trail counts provide only a snapshot of the number of persons using the trail at a particular day, time and location. Until recently there was no reliable way to use that information to predict weekly, monthly, or annual trail use.

However, work by Lindsey et al. has resulted in a methodology that uses hour-long counts, taken during the hour of peak weekday use, to generate very accurate estimates of annual trail traffic. Lindsey's team set up infrared monitors to collect data 24 hours/day, seven days/week for one to four years on five different Indianapolis multi-use trails. He then created formulas to be applied to

hourly counts that produce annual estimates within 20 to 30 percent of those obtained from 24 hours/day infrared counters.

In 2007, Lindsey's step-by-step process was used to forecast annual Erie Canalway Trail traffic in eastern Monroe County as presented in *Who's On the Trail? The Annual Canalway Trail User Count 2007*. This methodology has been employed again to predict 2008 trail traffic volumes at the same locations.

Use of the Lindsey model is based on the assumption that the trail environments in Indianapolis and Rochester are similar enough in the following ways to not overly influence predictions:

- Location - The four eastern Monroe County counting sites were selected because they most closely paralleled Lindsey et al.'s urban-suburban Indianapolis locations.

- Climate – As shown in Table Three, Rochester's climate is less temperate but closer to that of Indianapolis than one might first imagine. Overall, average precipitation for Indianapolis is 40 inches, 8 inches more than Rochester (31.9 inches). However, Rochester's annual average snowfall of 92.3 inches is significantly more than that of Indianapolis (23.6 inches). As also might be expected, Rochester's yearly average mean temperature is 47.5 ºF, five degrees lower than the yearly average mean for Indianapolis of 52.5 ºF.

No attempt has been made to adjust Lindsey's ratios to account for temperature and precipitation differences but it can be assumed that they may generate an overestimate of Rochester-area trail usage from December through March because of Rochester's much higher snow volume.

Table Three. Temperature and Precipitation Data for Indianapolis, IN and Rochester, NY

Indianapolis Weather

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg. High	34°	38°	50°	64°	74°	82°	85°	84°	77°	65°	51°	38°
Avg. Low	17°	20°	31°	41°	51°	61°	65°	62°	55°	44°	34°	24°
Mean	26°	30°	41°	52°	64°	72°	75°	74°	67°	55°	44°	31°
Avg. Precip.	2.3 in	2.5 in	3.8 in	3.7 in	4.0 in	3.5 in	4.5 in	3.6 in	2.9 in	2.6 in	3.3 in	3.3 in

Rochester Weather

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg. High	30°	32°	42°	55°	67°	75°	80°	78°	71°	60°	47°	35°
Avg. Low	16°	16°	25°	35°	46°	54°	58°	57°	51°	41°	34°	22°
Mean	24°	25°	34°	46°	57°	65°	70°	68°	62°	51°	41°	28°
Avg. Precip.	2.1 in	2.1 in	2.3 in	2.6 in	2.7 in	3.0 in	2.7 in	3.4 in	3.0 in	2.4 in	2.9 in	2.7 in

Extrapolation of Estimated Trail Use from Trail Count Data

Estimates of annual trail traffic were derived by following the six steps outlined by Lindsey et al.

1. Sampling of trail traffic during weekday peak hour periods

Multiple counts of trail traffic were conducted during the one-hour period of peak weekday activity whose timing was determined based on recommendations of persons familiar with the trail. The peak hour was chosen to be 6:30 p.m. to 7:30 p.m. as in 2007.

2. Estimate of average weekday daily traffic based on Lindsey's grand median peak hour proportion

To even out any variability resulting from very high or very low counts, Lindsey (Lindsey, personal communication) advised using median peak hourly counts as the basis for the calculations of average weekday daily traffic.

As in 2007, median hourly counts were divided by 0.137, the grand median peak hour proportion presented in Lindsey et al. The grand median peak hour proportion of 13.7 percent is the median value of the percentages of total weekday daily trail traffic represented by the counts obtained during the hour of peak activity.

3. Estimate of average weekend daily traffic based on Lindsey's weekend-weekday traffic ratios

The estimate of average weekend daily traffic was based on multiplying the calculated average weekday traffic by the grand median weekend-weekday trail traffic ratio of 1.6 as presented in Lindsey et al. The ratio of 1.6 indicates that Lindsey's data has shown that weekend traffic is about 60% greater than weekday traffic.

4. Estimate of monthly traffic for July and August

Monthly traffic calculations for July and August represent the sum of 1) the average weekday traffic estimate multiplied by the number of weekdays in the month in which the counts were taken and 2) the average weekend traffic estimate multiplied by the number of weekend days within the month in which counts were taken.

5. Estimate of monthly traffic for September through June

From the data Lindsey obtained over several years from infrared counters located at multiple Indianapolis locations, he calculated monthly traffic ratios that represented the total monthly traffic for each month as a factor of the total monthly traffic for the month of January. Lindsey set January as his baseline and assigned it the value of 1.0. Lindsey's median monthly traffic ratios were used to calculate monthly traffic for all months where counts were not taken, September through June. Separate monthly estimates were obtained by using the July and August monthly estimates in the equations.

6. Estimate of annual trail traffic volume

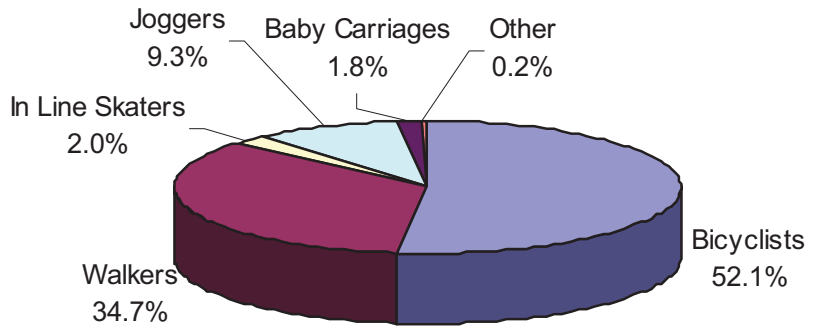
An estimate of annual trail traffic was obtained by summing the estimates for each of the 12 months of the year.

Results

Modes of Use

Figure One represents the proportion of different types of trail users based on a sum of all 99 counts from the four survey locations. As Table Four illustrates, the counts conducted since 2005 have consistently shown that overall the greatest number of trail users are bicyclists, followed by walkers and then joggers. The percentage of baby carriages and in-line skaters have varied among years and counting locations. New this year were the six scooters and the four hand-powered cycles counted at JCC/Lock 33 (see Appendix C for an explanation of how these users were included in the data). Hopefully, this signals a growing awareness that the flat, paved, and even surface of the Erie Canalway Trail presents an opportunity for persons with disabilities to enjoy the out-of-doors.

Figure One. Trail Usage as a Percentage of Total Count



User Type	Users Counted
Bicyclists	4,298
Walkers	2,865
In Line Skaters	163
Joggers	765
Baby Carriages	148
Wheelchair Users	7
Equestrians	4
Scooters	6
Total Users	*8,256*

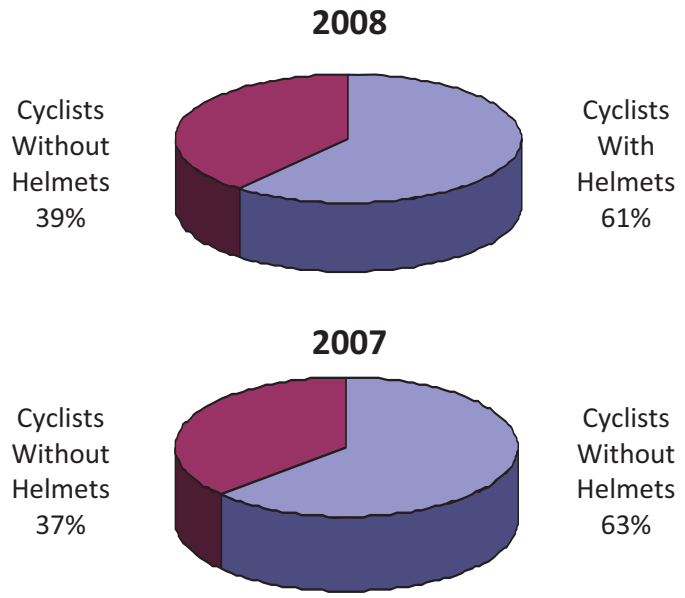
Table Four. Modes of Trail Use Comparison, 2005-2008

	Percentage of Total Trail Users Counted			
Type of Trail User	**2005**	**2006**	**2007**	**2008**
Bicyclists	64%	43%	49%	52%
Walkers	24%	36%	38%	35%
Joggers	8%	20%	8%	9%
In Line Skaters	2%	0%	2%	2%
Baby Carriages	2%	2%	3%	2%
Wheelchair Users	n/a	0%	0%	0.1%
Equestrians	0%	0%	0%	<0.1%
Scooters	n/a	n/a	n/a	0.1%

Cyclists' Helmet Usage

While by law adult cyclists are not required to wear helmets, the majority of bicyclists observed in this survey were wearing helmets. Counters were not asked to estimate the age of the persons they counted so there is no indication of how many of these helmets wearers were adults or children. The law requires a helmet for children 14 and under. The number of riders using helmets (61 percent) was little changed from that observed in 2007.

Figure Two. Percent of Helmet Usage Among Cyclists



Effects on Median Peak Hourly Trail Count

Temperature

Counters were asked to record the air temperature to better understand whether temperature may affect trail use. With a mode (greatest frequency) of 80 °F and a median temperature of 75 °F, it appears that temperature conditions were ideal most of the times that counts were taken. As Figure Three indicates, changes in trail use could not be directly tied to changes in temperature. The lowest peak hourly trail count was recorded when the temperature was a very moderate 70-79 °F while higher and very similar peak hourly trail counts were recorded when temperatures were between 60 and 69 °F and 80 and 89 °F. This contrasts with 2007 results in which usage increased as temperatures climbed from 60 °F to the 80 and 89 °F range and dropped off at 90 °F and above.

Figure Three. Median Peak Hourly Trail Count by Temperature Range

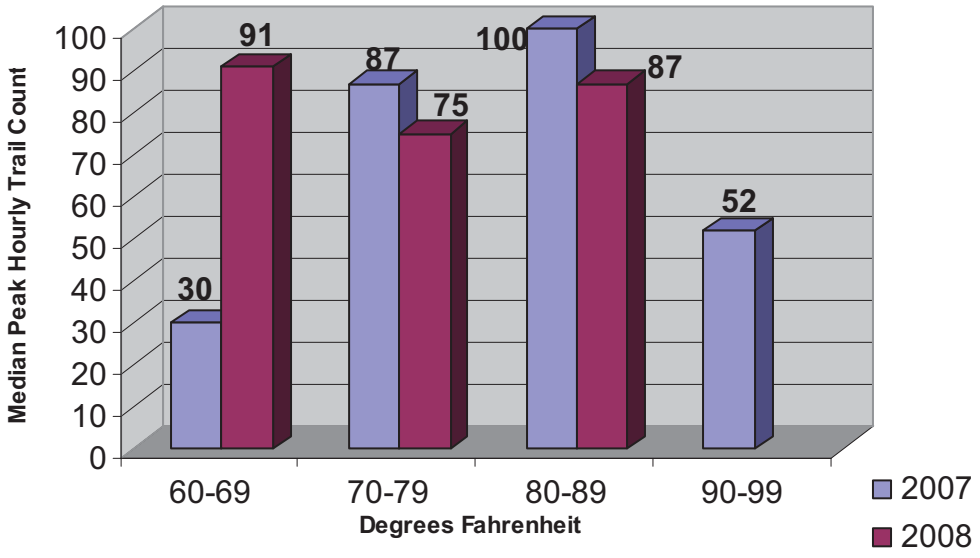
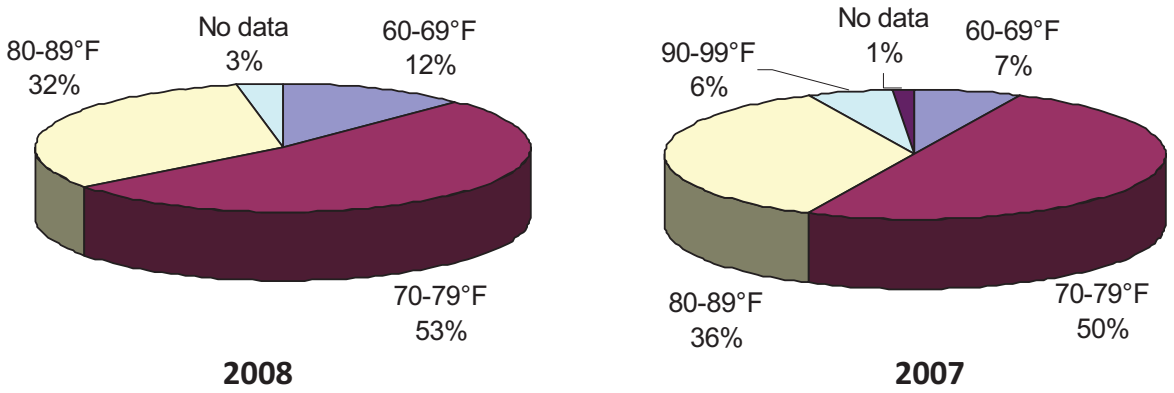


Figure Four. Percentage Trail Counts Conducted by Temperature Range



Weather Conditions

Counters were asked to record the weather (*sunny*, *cloudy, partly cloudy*, or *rain*) during the time they conducted their counts to see if weather had an impact on trail use**.** If counters selected more than one category, such as rain and cloudy or rain and sunny, the weather condition was described as rain.

As Figure Five indicates, the greatest numbers of surveys, 46 %, were conducted under sunny conditions. The distribution of types of weather during the time when counts were taken was not unlike that found in 2007.

Figure Five. Percentage Trail Counts Conducted by Weather Condition

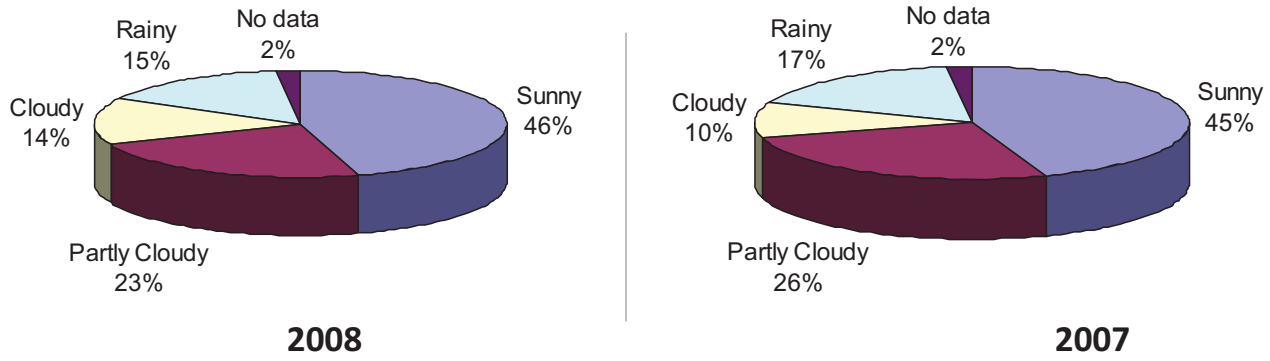
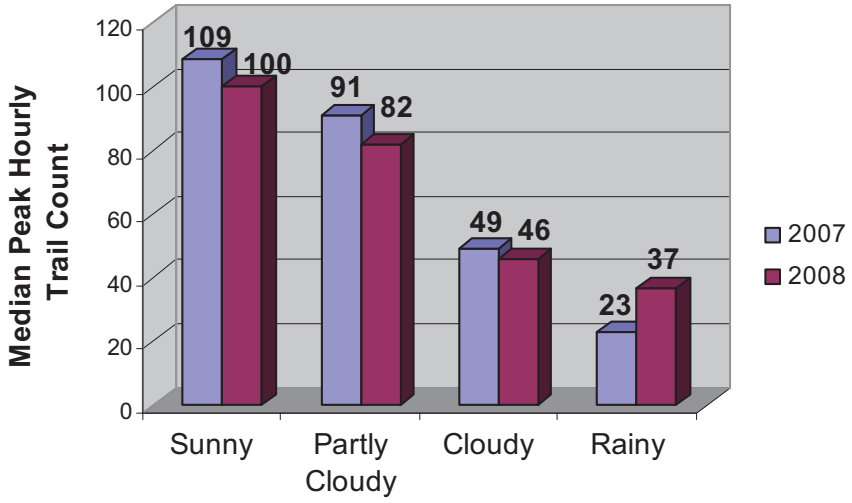


Figure Six. Median Peak Hourly Trail Count by Recorded Weather Condition



Not surprisingly, the highest median hourly counts were recorded when it was sunny. In the future it may be advisable to separate the rain category into rain and intermittent rain. A fine mist or a sprinkle is a very different environment for walking or bicycling than a steady rain. Some trail counters modified their weather description by selecting more than one category – rain and cloudy or rain and sunny. As this represented a modification of the count form that was not known to everyone, these counts were all included as being taken during rain.

Month

Great differences in counts were found between July and August, with the exception of the Genesee Valley Park location; see Figure Seven. August counts were 30 to 50 percent higher than July. As shown in Figure Eight, August weather was better than July; half as many counts were taken under rainy conditions and twice as many counts were taken when it was sunny, which may have accounted for the higher trail use during this time.

Figure Seven. Median Peak Hourly Trail Count by Month

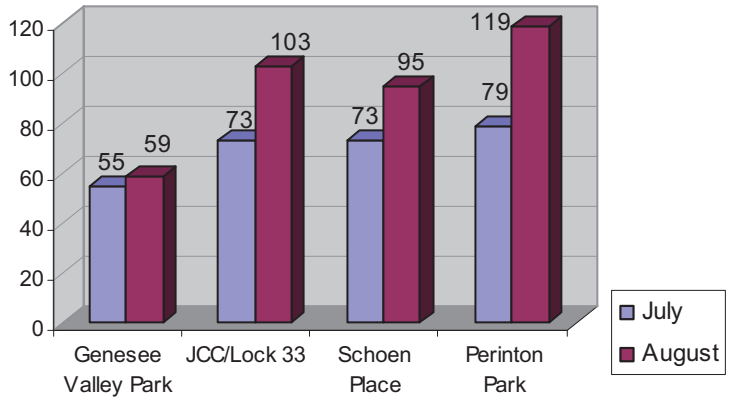
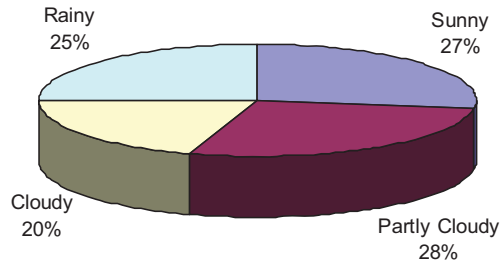
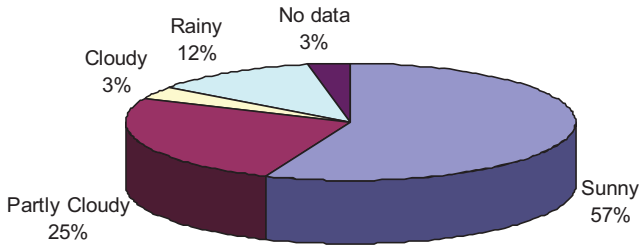


Figure Eight. Percentage of Counts Conducted by Weather Condition and Month



July 2008



August 2008

Analysis and Comparison by Location

Trail count data was also examined to determine if the type and volume of use varied by location and from 2007 to 2008. While there are only 12 miles of Erie Canalway Trail between Genesee Valley Park and Perinton Park, within that relatively short distance it is clear there are variations in types of trail usage and traffic volume.

Table Five. Modes of use by location

	Genesee Valley Park	JCC/ Lock 33	Schoen Place	Perinton Park
Bicyclists	75%	66%	38%	42%
Walkers	13%	18%	48%	47%
In Line Skaters	2%	7%	0%	0%
Joggers	10%	8%	11%	9%
Baby Carriages	1%	1%	3%	2%
Wheelchair Users	0.2%	0.2%	0%	0%
Equestrians	0%	0%	0%	0.2%
Scooters	0%	0.3%	0%	0%
Total Users	*100%*	*100%*	*100%*	*100%*

Genesee Valley Park

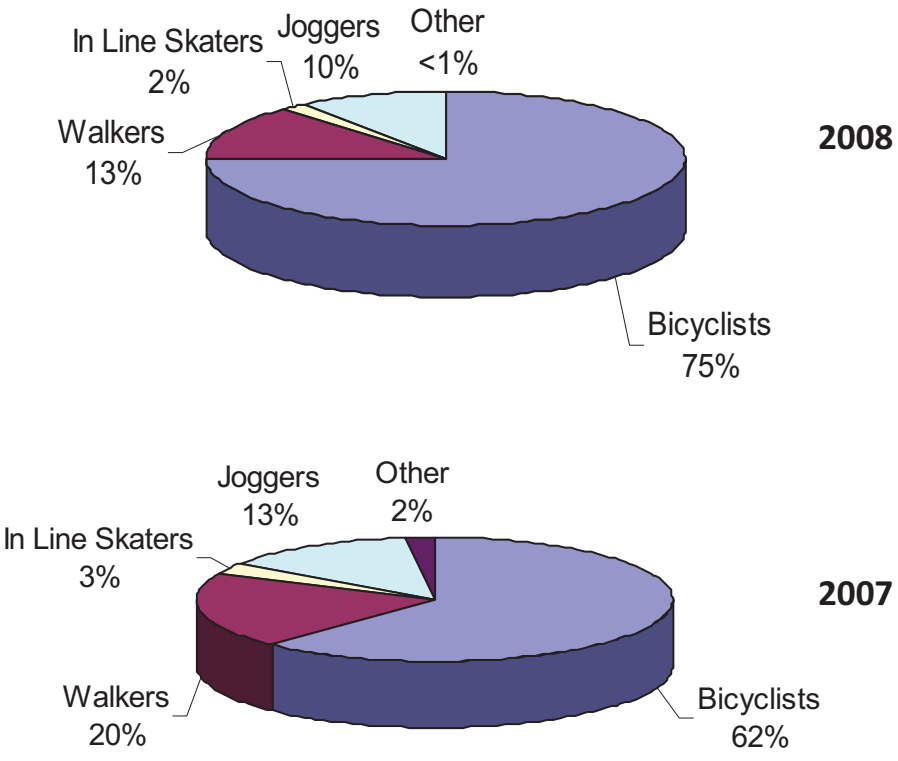
From 2007 to 2008, the percentage of walkers observed at Genesee Valley Park decreased and bicyclists increased significantly for some unknown reason. In 2008, wheelchair users were counted at this location for the first time.

The median peak hourly counts for Genesee Valley Park were the lowest numbers of any of the four counting locations. However, they did not vary between 2007 and 2008 and between July and August.

The lower counts may be influenced by a less inviting, more industrialized trail environment to the west of the park. Knowing that they do not plan to continue west through the park, people approaching from the east may turn back before entering the park. For the same reason, if people are using the trail west of the park, they may never reach the park because they decide to end their visit when they encounter the less appealing trail section.

Figure Nine. Distribution of User Types at Genesee Valley Park

User Type	Number Counted, 2008
Bicyclists	1018
Walkers	171
In Line Skaters	31
Joggers	134
Baby Carriages	7
Wheelchair Users	3
Equestrians	0
Scooters	0
Total Users	***1364***



JCC/Lock 33

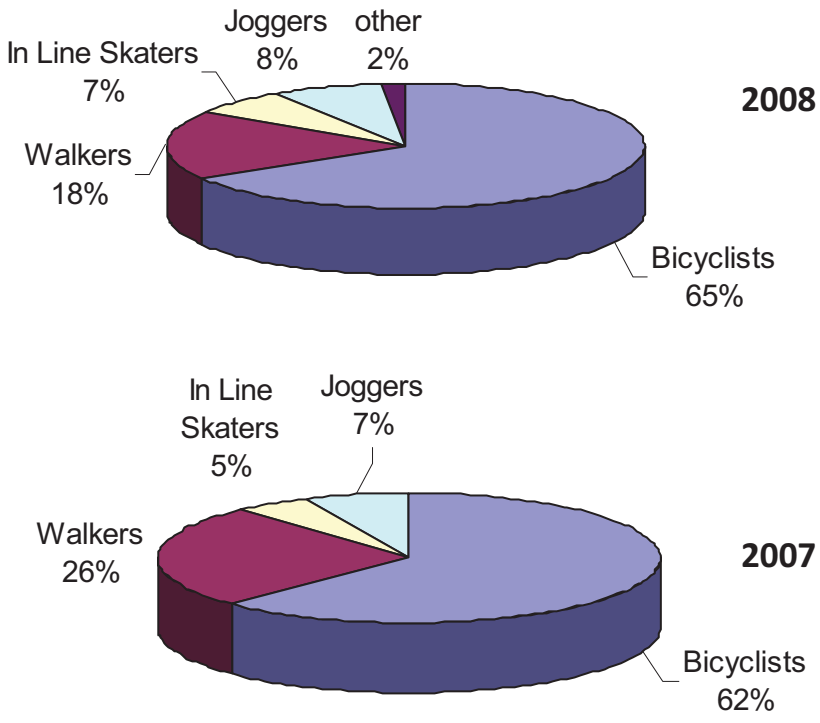
The percentage of bicyclists using the trail at the JCC was similar to 2007, but other types of users were noted for the first time. A hand-powered cyclist, possibly the same individual, was noted on four different occasions. Similarly, this is the first time that scooter use was recorded at any location. However, it is unclear whether scooters may have been observed at other locations but not recorded because there was not a category for this type of trail use on the form. See Appendix C for more information on these and other user types not included on the counting form.

Also of note is the relatively large number of in-line skaters counted at Lock 33 compared to other locations. It is not clear whether these persons may be members of the adjacent health club who are including this activity as part of their fitness regimen.

Although JCC is situated only about four miles further east than Genesee Valley Park, there were at least 50% more trail users counted at JCC than at the park. The August counts from 2007 and 2008 were almost identical and also consistent with the counts for July 2007. The low counts for July 2008, which interestingly were identical to the July 2008 counts from Perinton Park, may be due to poorer weather conditions.

Figure Ten. Distribution of User Types at JCC/Lock 33

User Type	Number Counted, 2008
Bicyclists	1305
Walkers	350
In Line Skaters	129
Joggers	148
Baby Carriages	22
Wheelchair Users*	4
Equestrians	0
Scooters	6
Total Users	***1964***



** Hand-powered cyclists were included in the Wheelchair User category.*

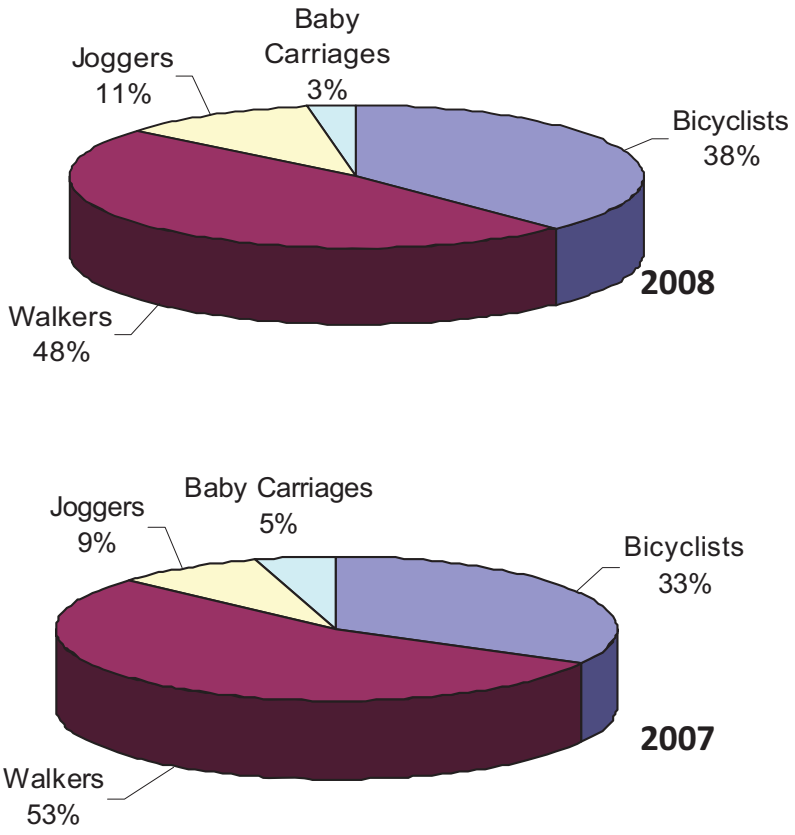
Schoen Place

While overall bicyclists represented the largest percentage of trail users, this was not the case for Schoen Place and Perinton Park, both of which are village locations. The large number of Schoen Place walkers most likely includes persons who visited the trail while frequenting the restaurants and shops to the west.

As in 2007, counts showed wide variability between July and August. In 2007, the July count was the highest of all locations and the largest recorded for 2007 or 2008. In August 2008, Schoen Place had a higher count than the other three locations. The high counts at Schoen Place are not unexpected because the Village of Pittsford has actively sought to create a canal and trailside environment that offers well-maintained historic homes and restaurants, concerts, and shopping within pleasant surroundings.

Figure Eleven. Distribution of User Types at Schoen Place

User Type	Number Counted, 2008
Bicyclists	861
Walkers	1106
In Line Skaters	0
Joggers	256
Baby Carriages	61
Wheelchair Users	0
Equestrians	0
Scooters	0
Total Users	***2284***



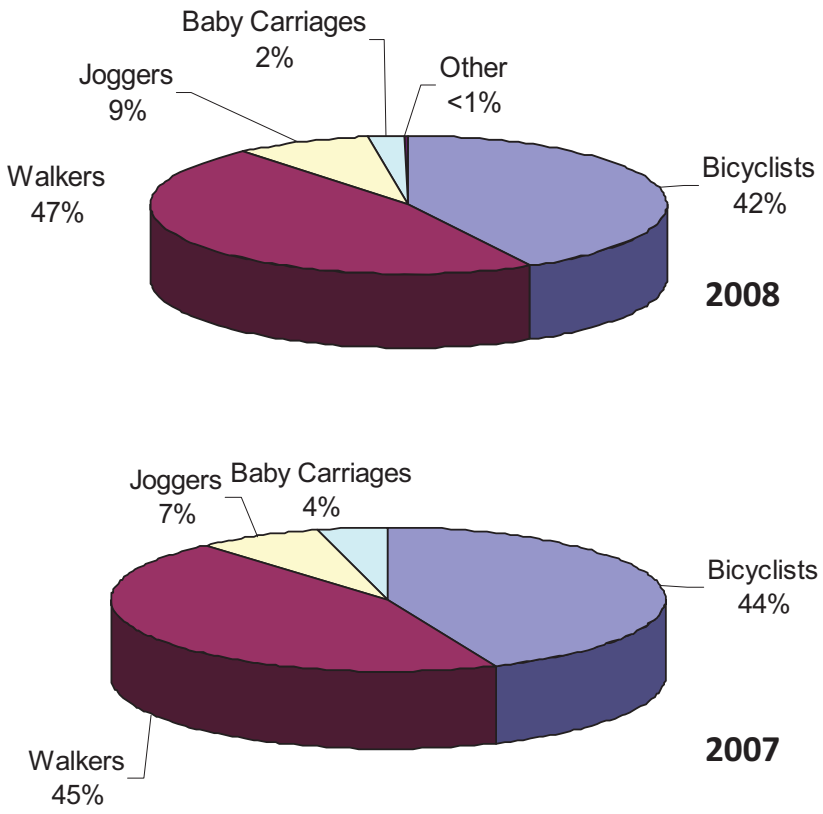
Perinton Park

At Perinton Park the percentage of walkers was only slightly greater than the percentage of bicyclists. The number of walkers could represent people who were using the trail after visiting one of the restaurants or stores within the Village of Fairport to the east. The four equestrians were a surprise because of the village location.

Distribution of users at Perinton Park was similar to that found in 2007. In 2008, counts did not show the wide variability between July and August as seen in 2007 and were similar to that found at JCC/Lock 33.

Figure Twelve. Distribution of User Types at Perinton Place

User Type	Number Counted, 2008
Bicyclists	1114
Walkers	1238
In Line Skaters	3
Joggers	227
Baby Carriages	58
Wheelchair Users	0
Equestrians	4
Scooters	0
Total Users	***2644***



Estimating Daily, Monthly, and Annual Use

Estimates of Trail Traffic Volume

Estimates of weekday, weekend day, monthly and annual trail traffic volume were calculated for all four locations following the six steps outlined in Lindsey et al., and summarized in the Methodology section (see page 9). All estimates were derived directly from the median peak hourly counts and the coefficients recommended by Lindsey et al.

Table Six. Average Weekday and Weekend Daily Traffic Estimates

	Median weekday peak hour traffic	Estimated average weekday daily traffic	Estimated average weekend daily traffic
Genesee Valley Park *July*	*55.0*	401	642
Genesee Valley Park *August*	*59.0*	431	689
JCC/Lock 33 *July*	*73.0*	533	853
JCC/Lock 33 *August*	*102.5*	748	1,197
Schoen Place *July*	*78.5*	573	917
Schoen Place *August*	*119.0*	869	1,390
Perinton Park *July*	*73.0*	533	853
Perinton Park *August*	*95.0*	693	1,109

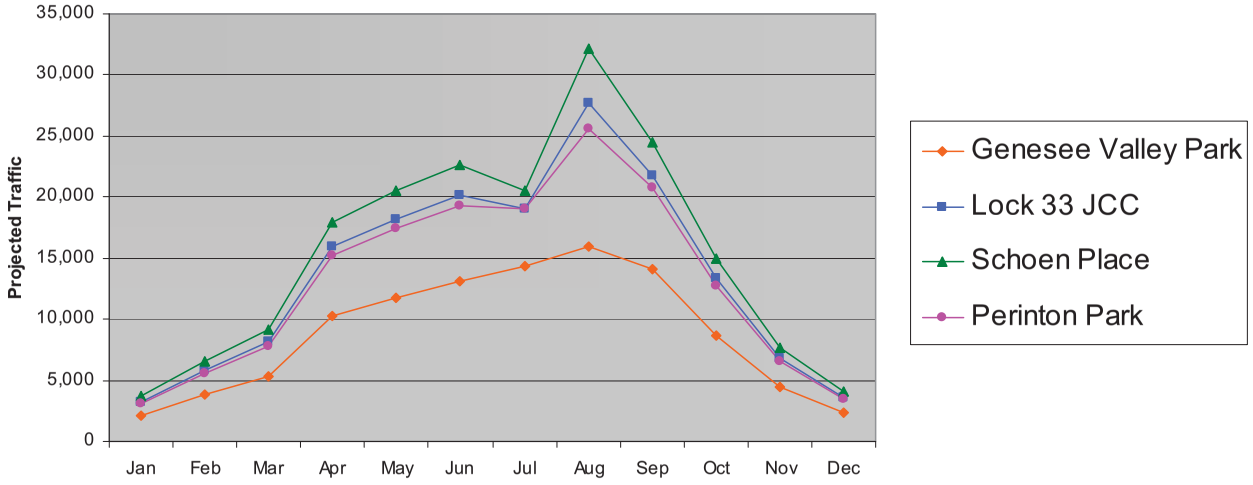
Table Seven. Estimated Monthly Traffic for July and August

	July 2008 Estimated Monthly traffic	August 2008 Estimated Monthly traffic	July 2007 Estimated Monthly traffic	August 2007 Estimated Monthly traffic
Genesee Valley Park	14,372	15,934	14,480	13,588
JCC/Lock 33	19,076	27,682	27,366	26,393
Schoen Place	20,513	32,139	21,009	19,468
Perinton Park	19,076	25,657	30,289	14,895

Table Eight. Estimated Daily, Monthly, and Annual Traffic for One Year

	Total Users Counted, 2008	Median weekday peak hour traffic	Est. Average daily traffic, weekday	Est. Average daily traffic, weekend	Monthly Traffic												Estimated Annual traffic	Estimated Annual Visits
					July	August	September	October	November	December	January	February	March	April	May	June		
Genesee Valley Park *July*	436	55	401	642	14,372	15,934	13,374	8,184	4,192	2,196	1,996	3,593	4,990	9,781	11,178	12,376	102,168	51,084
Genesee Valley Park *Aug*	928	59	431	689	14,372	15,934	14,828	9,074	4,648	2,434	2,213	3,984	5,533	10,844	12,393	13,721	109,978	54,989
JCC/Lock 33 *July*	550	73	533	853	19,076	27,682	17,751	10,863	5,564	2,914	2,649	4,769	6,624	12,982	14,837	16,426	142,138	71,069
JCC/Lock 33 *August*	1414	1025	748	1,197	19,076	27,682	25,760	15,764	8,074	4,229	3,845	6,921	9,612	18,839	21,531	23,838	185,171	92,585
Schoen Place *July*	934	78.5	573	917	20,513	32,139	19,089	11,681	5,983	3,134	2,849	5,128	7,123	13,960	15,955	17,664	155,218	77,609
Schoen Place *August*	1350	119	869	1,390	20,513	32,139	29,907	18,301	9,374	4,910	4,464	8,035	11,159	21,872	24,997	27,675	213,345	106,673
Perinton Park *July*	1135	73	533	853	19,076	25,657	17,751	10,863	5,564	2,914	2,649	4,769	6,624	12,982	14,837	16,426	140,112	70,056
Perinton Park *August*	1509	95	693	1,109	19,076	25,657	23,875	14,610	7,483	3,920	3,563	6,414	8,909	17,461	19,955	22,093	173,018	86,509

Figure Thirteen.
Projected Monthly Traffic based on 2008 Data



Annual trail traffic volume was calculated by applying Lindsey's monthly ratios first to the monthly count for July, which was based on July's median peak hourly counts, and then to the monthly count for August, which was based on August's median peak hourly count. See Table Eight. Theoretically, the annual counts should be about the same but this was the case only for Genesee Valley Park where the monthly counts were nearly identical. Even with such a difference between values obtained using counts from July and August, it was decided to continue to average the annual estimates from July and August, as was done in 2007, to arrive at an approximate estimation of trail traffic volume for each location as presented in Table Nine.

Table Nine. Estimated Annual Traffic by Location from July and August Data

	Estimated Annual Traffic based on July 08	Estimated Annual Traffic based on Aug 08	*2008 Average*	Estimated Annual Traffic based on July 07	Estimated Annual Traffic based on Aug 07	*2007 Average*	Estimated Annual Traffic (Average of 07-08)
Genesee Valley Park	102,168	109,978	*106,073*	100,470	96,010	*98,240*	**102,156**
JCC/Lock 33	142,138	185,171	*163,654*	190,591	185,723	*190,591*	**175,906**
Schoen Place	155,218	213,345	*184,281*	145,520	137,816	*145,520*	**162,975**
Perinton Park	140,112	173,018	*156,565*	196,629	119,658	*158,144*	**157,354**

Between 2007 and 2008, the annual estimate for Genesee Valley Park increased slightly by 8 percent. For Perinton Park, the annual estimate was almost identical to that calculated in 2007. For JCC/Lock 33, trail traffic volume was estimated to have decreased by almost 30,000 users or 14 percent. For Schoen Place, the estimated annual users increased by 40,000 or 26 percent. No information exists to explain why trail traffic may have increased or decreased at the different count locations.

As Table Nine indicates, when data from both 2007 and 2008 are combined, the average annual traffic was found to range from 102,000 users at Genesee Valley Park to almost 176,000 trail users at JCC/Lock 33.

Estimates of annual visits

Lindsey divided his trail traffic estimates by two to get an estimate of the number of visits. His reasoning is based on his data that indicates that 95 percent or more of all users make return trips and therefore would be counted twice. As Table Ten indicates, annual visits would range from just more than 50,000 to just over 90,000, based on 2008 data.

Table Ten. Estimated Annual Visits by Location

	Estimated annual visits based on 2008 data	Estimated annual visits based on 2007 data	Average Annual Visits based on both years' data
Genesee Valley Park	53,036	49,120	51,078
JCC/Lock 33	81,827	95,296	87,953
Schoen Place	92,141	72,760	81,488
Perinton Park	78,282	79,072	78,677

However, an assumption that 95 percent of users make return trips during the hour of counting may not be representative of Canalway Trail field conditions. Based on trail counters' observations, while some people are clearly counted twice as they pass in both directions, this most likely represents *less* than 95 percent of users. If so, the number of annual visits may be higher.

Conclusions

This report represents a second year of using trail count data to predict the amount of trail traffic on the Erie Canalway Trail in eastern Monroe County between Genesee Valley Park and Perinton Park. This year's estimates of 102,000 users at Genesee Valley Park, based on counts taken in July, to more than 213,000 persons at Schoen Place, based on count data from August, were similar to the range of usage found in 2007. Combining the data from 2007 and 2008 smoothes out the highs and lows and produces a slightly more conservative estimate of annual trail traffic of 100,000 to more than 175,000 persons within this 12-mile trail section.

Recommendations for Next Steps

Changes to Survey Form

To ensure that all types of users are identified and properly counted, the survey form needs updating. For example, counters expressed confusion as how to count a bicyclist carrying a child either in a separate seat or in a trailer. In addition, when baby carriages were counted it was also unclear whether the counter was including the child, the child and the adult pushing the device, or just the adult. The 2009 counting form needs to provide directions for accurately counting children in bicycle seats, bicycle trailers, baby carriages and strollers.

To reflect expanded types of trail use, consideration should be given to adding new categories to the 2009 counting form such as:

- scooters
- recumbent tricycles
- hand-powered cycles
- tandem bicycles

In each of the new bicycle-related categories the subcategory of with and without helmets should be provided.

The form should also include an "Other" category for describing additional types of trail use.

To prevent the confusion over selection of weather condition, the range of weather conditions should be expanded to include partly rainy.

Further Counts

It is recommended that all further Canalway Trail counts be undertaken using the Lindsey methodology. Counts can be conducted with a minimum of volunteer effort using a standardized counting process that aids in comparing data between years and counting locations. To build a greater and more diverse body of field data, counts could be undertaken in the same eastern Monroe County location but in other months such as May and June or September and October.

Installation of Automated Counters

Automated counters should be installed along the trail in rural, suburban and urban locations. Such tools provide accurate and efficient means of counting number of users over a long term. They can also be used to better determine time of peak hourly weekday use and generate ratios that are more accurate than those provided by Lindsey for predicting weekday, weekend traffic and monthly trail traffic volume.

Gathering of Demographic and Economic Data

Gathering information about trail users is equally as important as determining how many people are on the trail. Future counting efforts should include a means of also collecting demographic information on individuals who use the trail.

Presently, the New York State Canal Corporation's biennial Customer Satisfaction Survey solicits data from trail users on residency, location of use, principal use, and use frequency. Surveys are distributed by volunteers and made available on the Canal Corporation website. To learn more about the trail users being counted, volunteers should be recruited to distribute the 2010 Customer Satisfaction Survey, or an updated version, in conjunction with the trail counts.

In 2008, the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) also undertook a user survey aimed at learning more from trail users about the nature of their visit and its impact on the local economy. Surveys were placed in a box erected on a kiosk at Lock 32 in the Town of Pittsford, between the Lock 33 and Schoen Place trail count locations. It was left up to trail users to see the surveys, fill them out, and mail them to OPRHP in a postage paid envelope. The data from this survey is still being processed. When it is available, information on the amount of money spent per day can be combined with the 2008 annual trail traffic estimates to generate an approximation of how much visitors to the Erie Canalway Trail in eastern Monroe County may be adding to the local economy.

Appendix A. Trail Count Protocol

Who's On the Trail?
Canalway Trail User Count – 2008

Count Protocol

Location

1. Genesee Valley Park – east side of Waldo Nielson Bridge - Drive in on Moore Road
2. Lock 33 – JCC, Edgewood Avenue
3. Schoen Place – east of commercial area – south side of canal
4. Perinton Park, Fairport – Village side of the park

Time

1. Counts must be taken on week days only.
2. At least one count should be taken on each week day, i.e., Monday, Tuesday, Wednesday, Thursday, and Friday.
3. Each count must be taken during the time of peak usage. It has been estimated that this time will be from **6:30 – 7:30 p.m.** If experience indicates that another time is more representative of peak usage, please inform Parks & Trails New York.

Conducting Counts

1. **Counts should be conducted between July 14 and August 22.**
2. Count for one full hour at a time
3. A minimum of 5 counts should be taken at each location. Additional counts will add to the validity of the data.
4. Do not worry if you count someone twice because they pass you going in both directions. The formulas used at the end will take that into consideration.

Personnel Required

1. One person can conduct the counting. If you are counting at a location with significant trail traffic, it may be advisable to have two people conduct counts and average their results.

Conducting the count

1. Use a new sheet each time you count.
2. Make a tick in the boxes for the type of trail user that passes by.
3. Stand where you do not block the trail but can easily observe users as they pass.
4. If possible, send us some pictures of volunteers taking the count and persons using the trail that we can include in publications and presentations.

Returning the Forms

Please mail all forms to:

Canalway Trail User Count 2008
Parks & Trails New York
29 Elk Street
Albany, NY 12207

Or FAX to 518-427-0067

For more information

Contact Fran Gotcsik at Parks & Trails New York at 518-434-1583 or fgotcsik@ptny.org.

Appendix B. Trail Count Form

Who's on the Trail?
The Canalway Trail User Count – 2008

Surveyor Name: _____ **Phone:** _____ **Email:** _____

Date: _____ **Time conducted:** ____ to ____ p.m. **Location:** _____ **Town/Village:** _____

Trail surface: asphalt □ stone dust □ **Weather Conditions:** sunny □ partly cloudy □ cloudy □ rain □ **Approximate temperature:** _____

Make one "tic mark" for each person passing by in either direction engaged in each activity.

User Type	Counts	
	With helmets	Without helmets
Bicyclists		
Walkers		
In-line skaters		
Joggers		
Equestrians		
Baby carriages/ strollers		
Wheelchair users		

Thanks for you help!!! Please return the form(s) to:
Canalway Trail User Count 2008, Parks & Trails New York, 29 Elk Street, Albany, NY, 12207, 518-434-1583, FAX 518-427-0067

Appendix C. Notes on New User Types

Recumbent Tricycles. Two different observers noted 16 recumbent tricycles in addition to bicycles, 14 of which were at JCC/Lock 33 and 2 at Genesee Valley Park. We have included these numbers under the Bicycle category, as they are a foot-powered cycle. There may have been more recumbent tricycles that were not noted; an additional category will be added next year.

Children in tow. The Bicycle category counts only persons pedaling. Two observers recorded several instances of children riding with an adult on a bicycle; the child riders are not included as additional bicyclists. There may have been more children in tow who were not recorded; an additional category will be added next year.

Hand-powered Cycles. At JCC/Lock 33, one observer noted a hand-powered tricycle on each of four Mondays, assumed by the observer to be a person with a physical disability. This trail user is included on four separate occasions in the wheelchair count.

Scooters. One observer recorded users riding on scooters ("razor scooter" was the brand name noted). Scooters do not seem to fit into any existing category, so a new category was created for this report. An additional category will have to be added to the counting form next year so that all observers can note scooter riders in the trail count.

Appendix D. Count Data

For all sites and dates, data was collected from 6:30-7:30pm and trail surface was asphalt.
For weather conditions, 1=sunny, 2=partly cloudy, 3=cloudy, 4=rain

Genesee Valley Park

Name	Date	Day	Weather Conditions	Approx. temp.	Bicyclists	With Helmets	Without helmets	Walkers	In Line Skaters	Joggers	Equestrians	Baby Carriages	Wheelchair users	**Total Users**
Dave Schaeffer	7/14	Monday	2	73	43	31	12	5	1	6	0	0	0	**55**
Dave Schaeffer	7/16	Wednesday	4	80	33	26	7	5	0	3	0	0	0	**41**
Keith Kroon	7/21	Monday	1	78	49	31	18	22	1	8	0	1	2	**83**
Dave Schaeffer	7/22	Tuesday	4	73	33	20	13	3	1	0	0	0	0	**37**
Mark Johns	7/24	Thursday	3	64	3	1	2	0	0	1	0	0	0	**4**
Chris Centola	7/28	Monday	4	71	16	11	5	5	0	10	0	0	0	**31**
Chris Centola	7/29	Tuesday	1	78	59	36	23	4	0	4	0	0	0	**67**
Chris Centola	7/30	Wednesday	4	81	44	31	13	7	1	8	0	0	0	**60**
Ted Liddell	7/31	Thursday	1	79	40	27	13	6	5	7	0	0	0	**58**
Mark Johns	8/1	Friday	2	83	43	21	22	5	0	9	0	0	0	**57**
Allison Thurnherr	8/4	Monday	2	80	69	42	27	13	2	2	0	0	1	**87**
Dave Thurnherr	8/5	Tuesday	4	77	9	5	4	0	0	3	0	0	0	**12**
Allison Thurnherr	8/6	Wednesday	1	80	70	49	21	8	1	6	0	2	0	**87**
Mark Johns	8/7	Thursday	2	76	44	24	20	11	0	1	0	0	0	**56**
Ted Liddell	8/8	Friday	4	71	13	9	4	3	2	2	0	0	0	**20**
Allison Thurnherr	8/11	Monday	3	78	25	16	9	6	2	6	0	0	0	**39**
Chris Centola	8/11	Monday	3	71	33	21	12	8	3	6	0	0	0	**50**
Allison Thurnherr	8/12	Tuesday	1	x	54	43	11	3	0	4	0	1	0	**62**
Michael Sorensen	8/13	Wednesday	2	70	50	40	10	5	1	1	0	0	0	**57**
Michael Sorensen	8/14	Thursday	1	75	53	28	25	12	3	11	0	0	0	**79**
Ted Liddell	8/15	Friday	1	70	22	14	8	5	1	4	0	1	0	**33**
Kiya L. Brown	8/18	Monday	2	73	44	24	20	7	1	9	0	0	0	**61**
Betsy Thurnherr	8/19	Tuesday	1	66	51	33	18	16	1	9	0	1	0	**78**
Michael Sorensen	8/20	Wednesday	1	75	61	39	22	2	2	8	0	1	0	**74**
Ted Liddell	8/21	Thursday	x	81	51	31	20	10	2	2	0	0	0	**65**
Fran Gotcsik	8/22	Friday	1	80	34	19	15	7	3	10	0	0	0	**54**

JCC/Lock 33

Name	Date	Day	Weather Conditions	Approx. temp.	Bicyclists	With Helmets	Without helmets	Walkers	In Line Skaters	Joggers	Equestrians	Baby Carriages	Wheelchair users	**Total Users**
Richard DeSarra	7/14	Monday	2	74	58	37	21	13	4	25	0	2	0	**102**
Dave Schaeffer	7/15	Tuesday	1	77	99	65	34	28	7	4	0	0	0	**138**
Dave Schaeffer	7/17	Thursday	1	84	68	45	23	15	11	4	0	2	0	**100**
Dave Schaeffer	7/18	Friday	3	83	18	14	4	4	1	1	0	0	0	**24**
Richard DeSarra	7/21	Monday	2	80	91	69	22	15	4	17	0	2	0	**129**
Nick Onody	7/23	Wednesday	4	75	1	1	0	2	0	0	0	0	0	**3**
Richard DeSarra	7/28	Monday	3	78	35	29	6	5	2	3	0	0	1	**46**
Nick Onody	7/29	Tuesday	3	80	2	0	2	4	0	1	0	0	0	**7**
Richard DeSarra	8/4	Monday	1	80	98	72	26	16	13	5	0	3	1	**136**
Ted Liddell	8/5	Tuesday	4	74	7	6	1	3	0	2	0	0	0	**12**
Ted Liddell	8/6	Wednesday	1	80	110	84	26	23	12	12	0	4	0	**161**
Dave Schaeffer	8/7	Thursday	1	75	71	45	26	24	1	9	0	1	0	**106**
Richard DeSarra	8/11	Monday	2	68	51	39	12	24	7	5	0	0	1	**88**
Michelle Sommerman	8/12	Tuesday	1	74	114	79	35	30	21	12	0	2	0	**179**
Allison Thurnherr	8/13	Wednesday	2	x	38	27	11	10	2	4	0	0	0	**54**
Dave Schaeffer	8/14	Thursday	1	72	88	57	31	23	11	6	0	1	0	**129**
Fran Gotcsik	8/15	Friday	1	75	43	31	12	12	3	1	0	0	0	**59**
Richard DeSarra	8/18	Monday	x	x	70	49	21	26	0	9	0	0	1	**106**
Michelle Sommerman	8/19	Tuesday	1	66	62	44	18	17	8	7	0	0	0	**94**
Ted Liddell	8/20	Wednesday	1	69	55	39	16	16	12	14	0	2	0	**99**
Dave Schaeffer	8/21	Thursday	1	81	80	49	31	27	8	5	0	3	0	**123**
Alex Adekoya	8/22	Friday	1	80	46	29	17	13	2	2	0	0	0	**63**

Schoen Place

Name	Date	Day	Weather Conditions	Approx. temp.	Bicyclists	With Helmets	Without helmets	Walkers	In Line Skaters	Joggers	Equestrians	Baby Carriages	Wheelchair users	**Total Users**
Greg Svenheim	7/14	Monday	2	72	38	25	13	27	0	3	0	5	0	**73**
Phil Ashley	7/15	Tuesday	1	80	56	40	16	93	0	20	0	10	0	**179**
Greg Svenheim	7/16	Wednesday	4	85	28	11	17	21	0	6	0	1	0	**56**
Phil Ashley	7/17	Thursday	1	85	54	35	19	29	0	13	0	1	0	**97**
Phil Ashley	7/21	Monday	2	74	30	12	18	43	0	9	0	1	0	**83**
Greg Svenheim	7/22	Tuesday	3	75	16	13	3	41	0	9	0	5	0	**71**
Phil Ashley	7/23	Wednesday	4	67	18	12	6	32	0	10	0	0	0	**60**
Greg Svenheim	7/28	Monday	3	75	19	17	2	22	0	10	0	0	0	**51**
Sue Steele	7/29	Tuesday	1	77	52	30	22	48	0	11	0	4	0	**115**
Greg Svenheim	7/30	Wednesday	2	81	20	11	9	35	0	12	0	2	0	**69**
Jason Babcock-Stiner	7/31	Thursday	2	80	21	14	7	51	0	7	0	1	0	**80**
Fran Gotcsik	8/1	Friday	1	85	49	33	16	57	0	6	0	3	0	**115**
Greg Svenheim	8/4	Monday	2	81	56	36	20	73	0	9	0	3	0	**141**
Sue Steele	8/5	Tuesday	5	74	12	1	11	8	0	1	0	0	0	**21**
Greg Svenheim	8/6	Wednesday	1	80	30	22	8	42	0	18	0	1	0	**91**
Sue Steele	8/7	Thursday	2	74	40	19	21	26	0	7	0	2	0	**75**
Dave Schaeffer	8/8	Friday	4	68	1	1	0	11	0	8	0	0	0	**20**
Tom Bailey	8/11	Monday	3	72	31	18	13	41	0	7	0	1	0	**80**
Dave Schaeffer	8/12	Tuesday	1	72	37	21	16	66	0	21	0	2	0	**126**
Tom Bailey	8/13	Wednesday	2	74	21	10	11	36	0	16	0	2	0	**75**
Jason Babcock-Stiner	8/14	Thursday	1	73	30	20	10	41	0	9	0	5	0	**85**
Dave Schaeffer	8/15	Friday	1	72	13	6	7	82	0	6	0	6	0	**107**
Alex Adekoya	8/18	Monday	1	72	43	23	20	43	0	8	0	1	0	**95**
Dave Schaeffer	8/19	Tuesday	1	65	47	26	21	38	0	13	0	2	0	**100**
Katie Clegg	8/20	Wednesday	1	68	54	34	20	50	0	15	0	2	0	**121**
Dave Schaeffer	8/22	Friday	1	85	45	21	24	50	0	2	0	1	0	**98**

Perinton Park

Name	Date	Day	Weather Conditions	Approx. temp.	Bicyclists	With Helmets	Without helmets	Walkers	In Line Skaters	Joggers	Equestrians	Baby Carriages	Wheelchair users	**Total Users**
Milly Blaylock	7/14	Monday	2	77	78	34	44	42	0	16	0	4	0	**140**
Milly Blaylock	7/15	Tuesday	1	79	78	35	43	75	0	9	0	1	0	**163**
Milly Blaylock	7/16	Wednesday	4	84	37	11	26	22	0	7	0	3	0	**69**
Milly Blaylock	7/17	Thursday	1	86	44	15	29	26	0	6	0	2	0	**78**
Milly Blaylock	7/18	Friday	2	86	26	8	18	22	0	5	0	0	0	**53**
Milly Blaylock	7/21	Monday	2	79	46	19	27	76	0	18	0	3	0	**143**
Milly Blaylock	7/22	Tuesday	4	75	40	21	19	25	2	10	0	2	0	**79**
Milly Blaylock	7/23	Wednesday	3	69	11	2	9	26	0	8	0	0	0	**45**
Greg Svenheim	7/24	Thursday	3	70	7	1	6	24	0	11	0	6	0	**48**
Milly Blaylock	7/25	Friday	1	82	55	25	30	52	0	7	0	6	0	**120**
Sue Steele	7/28	Monday	4	70	28	17	11	26	0	8	0	0	0	**62**
Andrew Raus	7/31	Thursday	2	78	50	24	26	66	0	17	0	2	0	**135**
Sue Steele	8/4	Monday	2	78	44	22	22	52	0	9	0	0	0	**105**
Joseph J. Istvan	8/5	Tuesday	4	76	12	6	6	8	0	4	0	0	0	**24**
Milly Blaylock	8/6	Wednesday	2	81	72	50	22	63	0	8	0	6	0	**149**
Sue Steele	8/6	Wednesday	2	79	47	31	16	49	0	6	0	6	0	**108**
Milly Blaylock	8/7	Thursday	2	73	34	20	14	65	0	14	0	4	0	**117**
Milly Blaylock	8/8	Friday	2	70	5	1	4	30	1	0	0	0	0	**36**
Milly Blaylock	8/11	Monday	4	70	34	20	14	24	0	9	0	0	0	**67**
Milly Blaylock	8/12	Tuesday	2	72	69	32	37	87	0	17	0	6	0	**179**
Milly Blaylock	8/14	Thursday	1	75	59	29	30	50	0	7	0	7	0	**123**
Milly Blaylock	8/15	Friday	1	74	52	26	26	53	0	10	4	0	0	**119**
Milly Blaylock	8/18	Monday	1	84	56	31	25	58	0	5	0	0	0	**119**
Milly Blaylock	8/19	Tuesday	1	66	66	32	34	71	0	6	0	2	0	**145**
Milly Blaylock	8/20	Wednesday	1	69	62	39	23	86	0	9	0	2	0	**159**
Milly Blaylock	8/21	Thursday	1	80	48	19	29	63	0	8	0	1	0	**120**
Milly Blaylock	8/22	Friday	1	85	13	5	8	53	0	0	0	1	0	**67**

References

Lindsey, Greg, Wilson, Jeff, Rubchinskaya, Elena, Yang, Jihui, Han, Yuling, "Estimating urban trail traffic: Methods for Existing and Proposed Trails," Landscape Urban Planning (2007), doi 10.1016/j.landurbanplan.2007.01.004

Lindsey, Greg, personal communication, September 25, 2007.