Analysis of 2024 Trail Usage Patterns along the Great Allegheny Passage

Report to the Great Allegheny Passage Conservancy
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Executive Summary

- The Great Allegheny Passage is well used. I estimate the total number of visits to be in the range of 932,084 to 1,056,362 in 2024, with a mid-range estimate of **990,339**. This is a **20% increase** over 2023 and the highest estimate since 2021.

- Volunteers identified "thru-riders" when conducting their synchronized counts. Based on this data, I estimate a total of **167,140** thru-riders on the GAP in 2024.

- This is the tenth report since 2015, when the TRAFx locations and synchronized count protocol changed substantially. Trail use estimates have varied year-to-year since 2015, but the overall trend is an **increase** in trail use of approximately **1.6%** per year.

Summary of Methodology

This report estimates trail use patterns along the Great Allegheny Passage (GAP), from Cumberland to Pittsburgh. These estimates are based on two primary data sources. The first is information gathered from TRAFx counters, infrared counters that track trail use at fixed locations along the trail. The second is information gathered from synchronized manual counts conducted at TRAFx counter locations. These counts occurred on seven dates in 2024: May 8 (Wed), May 30 (Thu), June 21 (Fri), July 14 (Sun), August 13 (Tue), September 21 (Sat), and October 7 (Mon). In each case, counts were conducted over a two-hour period (10-noon, 11-1, noon-2, or 1-3 pm).

I have conducted similar GAP trail use reports in previous years (2010–2013 and 2015–2023). The 2010-13 reports also relied heavily on information gathered from TRAFx counters and synchronized manual counts, but significant changes in data collection occurred in 2015. To start, three TRAFx counters were added, and several existing counters were relocated. In addition, the method for conducting synchronized counts changed substantially in 2015. Previously, synchronized counts were conducted close to trailhead locations, but the synchronized counts were moved to the TRAFx counter locations starting in 2015. As a result of different data collection methods, trail count numbers for 2015 and later years are not directly comparable to those of previous years.

I use the following methodology to estimate trail use along the GAP. First, I report raw TRAFx counts by location and month for February through December (Table 2). Next, I adjust these raw counts to account for the fact that the TRAFx counters typically under-count the actual number of people passing by the counters. I use the 2024 synchronized counts to derive a Count-to-Pass Factor (CP Factor) for each location (Tables 3 and 5). I then apply these CP Factors to derive adjusted TRAFx counts (Table 6) and use these adjusted TRAFx counts to derive low-, middle-, and high-range estimates of total trail use along the GAP.

TRAFx Data

In 2024, TRAFx counters collected data at 12 locations along the Great Allegheny Passage. Table 1 provides information on these counters and the data that they gathered.

Table 1: Summary of TRAFx Count Data (2024)

Location	Counter milepost	# Usable Count Days	First Date	Last Date
Cumberland	1.5	206	6-May	30-Nov
Frostburg	16.5	280	24-Feb	30-Nov
Deal	22.5	245	24-Feb	30-Nov
Garrett	34.5	278	24-Feb	30-Nov
Rockwood	45.5	277	24-Feb	30-Nov
Ohiopyle	69.0	240	24-Feb	30-Nov
Connellsville	85.0	230	23-Feb	30-Nov
Perryopolis	102.0	281	23-Feb	30-Nov
West Newton	111.5	281	23-Feb	30-Nov
Boston	122.0	268	8-Mar	30-Nov
Rankin Bridge	138.0	313	23-Feb	31-Dec
Hot Metal Bridge	146.5	313	23-Feb	31-Dec

In 2024, the TRAFx counters provided a total of 3,212 usable count days, an average of 268 per counter location.

Below are some explanatory notes related to Table 1.

- In 2024, the counters were installed on February 23-24, except for the Boston counter, which was installed on March 8. The February installation is earlier than previous years. Usually, counters have been installed during the first week of March. These additional counts allowed me to make a reasonable estimate of February trail use. In previous years, I had used a "placeholder" trail count of 1,200. The 2024 data reveals substantially higher trail counts. Specifically, I estimate a trail count of more than 15,500 for February 2024 (Table 6).
- We closely monitored the counts at Cumberland after the counter was installed on February 24. We did this because Cumberland TRAFx counts were consistently higher than expected in 2022 and 2023. We placed a new counter at Cumberland on February 23, 2024, but it returned data that seemed unreliable (both high spikes and low valleys). On May 5, 2024, we installed another new counter at Cumberland on May 5. For this reason, we discarded Cumberland data prior to May 6.
- We removed all counters on December 1 or 2, except for Rankin Bridge and Hot Metal Bridge. We left kept these counters in service for the entire month of December.

Table 2 displays estimated counts by month (February-December) at each counter location. I make these estimates by calculating an average weekday and weekend count for each month,[1] with slight modifications for days in which a counter registers no data, a count of 0, or a count that is unreasonably high or low. [2] On days in which a counter has missing or unreliable data, I insert the average count for that location and month. I multiply these daily averages by the number of week and weekend days for each month to determine the total count for that month.

Because we have only partial data for the months of February and December, these months warrant more explanation. In February, we have reliable counts for 10 of the 12 counter locations for the last six days of the month (February 24-29).[3] For each location, I calculated an average daily count for February 24-29. Given that weather conditions typically become warmer and more conducive for trail use as February progresses, I recognize that the average daily counts for February 24-29 are likely higher than the average counts for the entire month. To correct for this, I divided the February 24-29 average daily count by two and multiplied these "half averages" by 29, the number of days February 2024. As an example, the February calculation for Frostburg is as follows.

- Frostburg average daily count (February 24-29) = **36.5**
- Half of Frostburg daily count (February 24-29) = **18.3**
- Estimated Frostburg count in February = 29 x 18.3 = **529**

Historically, we have removed the TRAFx from early to December to early March. In 2024, we kept the counters at two locations (Rankin Bridge and Hot Metal Bridge) in place and operating throughout the winter. As a result, the December column of Table 2 reports the actual TRAFx counts for Rankin Bridge

[1] I define "weekday" as Monday through Friday and "weekend" as Saturday and Sunday. I also count holidays as "weekend" days, even if they occur during the week. In 2024, I counted the following holidays as weekend days: Memorial Day, Labor Day, July 4th and 5th (a Thursday and Friday), Thanksgiving day, and the day after Thanksgiving.
[2] Despite frequent testing, the TRAFx counters can return bad data due to moisture, spider webs, insect infestations, vandalism, battery failure, or a sweatshirt hanging over the lens.
[3] We have no reliable data for Cumberland and Dravo Cemetery for February. As a result, I estimated February counts for these locations using actual counts at neighboring counter locations (Frostburg for Cumberland and West Newton for Dravo Cemetery).

and Hot Metal Bridge. The December counts at all other locations are derived as a percentage of the Rankin and Hot Metal counts. Specifically, I apply a percentage to each other location equal to the percentage of that location's February count to the Estimated February (Rankin + Hot Metal) combined count.[4] As an example, the December calculation for Frostburg is as follows.

- Estimated Frostburg count in February = **529**
- Estimated Rankin (1,498) and Hot Metal (5,479) combined count in February = **6,977**
- Frostburg count as a percentage of combined count in February = (529)/(6,977) = **7.6%**
- Rankin (1,580) and Hot Metal (5,067) combined count in December = **6,647**
- Estimated Frostburg count in December = 7.6% of 6,647 = (0.076) x (6,647) = **504**

At four locations, I discarded counts for extended periods of time due to systematically "bad" data (Cumberland before May 6, Ohiopyle from March 30 to May 9, Connellsville from April 30 to June 20, and Deal from July 8 to August 9).[5] In addition, the Boston counter was not installed until March 8. I estimated the missing data for each location as follows.

Cumberland before May 6: I compared the counts at Cumberland to the counts at Frostburg from May 6 through November 28. Using this data, I derived separate regression equations for weekdays and weekends, expressing Cumberland counts as a function of Frostburg counts.[6] The weekday and weekend regression equations are:

- Weekday: Cumberland count = 1.61 x Frostburg count ($R^2 = 0.93$)
- Weekend: Cumberland count = 1.65 x Frostburg count ($R^2 = 0.93$)

I used these equations to estimate weekday and weekend Cumberland counts for February 24 through April 30. To estimate May 1-5 counts, I used actual Cumberland counts for May 6-31.

Ohiopyle (March 30 to May 9): I compared the counts at Ohiopyle to the counts at Connellsville from June 21 through December 1. Using this data, I derived separate regression equations for weekdays and weekends, expressing Ohiopyle counts as a function of Connellsville counts.[7] The weekday and weekend regression equations are:

- Weekday: Ohiopyle count = 1.41 x Connellsville count ($R^2 = 0.91$)
- Weekend: Ohiopyle count = 1.79 x Connellsville count ($R^2 = 0.95$)

I used these equations to estimate weekday and weekend Ohiopyle counts for April 1 through April 30. To estimate the March 30-31 counts, I used actual Ohiopyle counts for March 1-29, and to estimate May 1-9 counts, I used Ohiopyle counts for May 10-31.

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[4] I use February counts for this calculation because weather and trail conditions in December are similar to those in February.

[5] "Bad" data includes individual days with outlandishly large spikes and longer periods of time with missing or unreasonably low counts that indicated malfunctioning equipment.

[6] In estimating the regression equations, I required the intercept to equal 0. I did this because I used this regression equation to estimate Cumberland counts at the beginning of the season (prior to May 6), a period when Frostburg counts were low (often 10 or less). Including the intercept term would have artificially inflated the Cumberland count during "low count" days. Thus, in my judgment, setting the intercept = 0 provides a more accurate estimate of Cumberland counts during the prediction period.

[7] Again, I required the intercept to equal 0 for the reasons described in Footnote 5.

Connellsville (April 30 to June 20): I compared the counts at Connellsville to the counts at Ohiopyle from June 21 through December 1. Using this data, I derived separate regression equations for weekdays and weekends, expressing Connellsville counts as a function of Ohiopyle counts.[8] The weekday and weekend regression equations are:

- Weekday: Connellsville count = 0.65 x Ohiopyle count ($R^2 = 0.91$)
- Weekend: Connellsville count = 0.53 x Ohiopyle count ($R^2 = 0.95$)

I used these equations to estimate weekday and weekend Connellsville counts for May 1 through May 31. To estimate the April 30 count, I used actual Connellsville counts for April 1-29, and to estimate June 1-20 counts, I used Connellsville counts for June 21-30.

Boston (February 24 to March 7): I compared the counts at Boston to the counts at West Newton from March 8 through December 2. Using this data, I derived separate regression equations for weekdays and weekends, expressing Boston counts as a function of West Newton counts.[9] The weekday and weekend regression equations are:

- Weekday: Boston count = 0.83 x West Newton count ($R^2 = 0.92$)
- Weekend: Boston count = 0.85 x West Newton count ($R^2 = 0.88$)

I used these equations to estimate weekday and weekend Boston counts for February 24-29. To estimate the March 1-7 counts, I used actual Boston counts for March 8-31.

Deal (July 8 to August 9): Because I had some count data for Deal in July and August, I did not use regression analysis to estimate Deal counts. Instead, I estimated the July 8-31 counts using actual Deal counts for July 1-7 and August 1-9 counts using Deal counts for August 10-31.

Finally, it is worth noting that the counters are intentionally located a distance away from the trailheads, which reduces the number of walkers included in the count. With these caveats in mind, Table 2 summarizes the raw TRAFx counts for each location by month.

Synchronized Counts

Volunteers conducted synchronized counts on seven dates in 2024: May 8 (Wed), May 30 (Thu), June 21 (Fri), July 14 (Sun), August 13 (Tue), September 21 (Sat), and October 7 (Mon). In each case, counts were conducted over a two-hour period (10-noon, 11-1, noon-2, or 1-3 pm).

With 12 locations and 7 synchronized count dates, a full set of data would include 84 synchronized count observations. In fact, we have 74 observations. Below is a summary of the missing synchronized counts, when volunteers canceled, were "no shows," or when the TRAFx counter malfunctioned.

- Missing manual counts (7): Deal (June 21 and July 14), Garrett (June 21), Perryopolis (October 7), West Newton (October 7), Rankin Bridge (June 21), and Hot Metal Bridge (June 21).
- Missing/Unreliable TRAFx counts (3): Cumberland (May 30), Ohiopyle (May 8), and Connellsville (May 8)

[8] Again, I required the intercept to equal 0 for the reasons described in Footnote 5.
[9] Again, I required the intercept to equal 0 for the reasons described in Footnote 5.

Table 3 summarizes the Synchronized Count and TRAFx count at each counter for each count day. The last column calculates the overall Count-to-Pass Factor (CP Factor) for each location. The CP Factor equals the manual count divided by the TRAFx count.

Table 2: Raw TRAFx Counts by Location and Month (2024)

Location	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Cumberland	854	2,222	3,440	5,870	7,290	6,377	5,611	6,290	6,366	2,716	814	47,851
Frostburg	529	1,370	2,117	3,260	4,387	3,327	3,013	3,775	4,331	1,398	504	28,011
Deal	22	339	1,108	1,952	1,907	1,985	2,107	2,341	2,202	445	21	14,428
Garrett	41	319	771	1,887	2,601	1,966	1,706	2,023	1,874	190	39	13,418
Rockwood	68	328	817	1,985	2,531	1,798	1,668	2,394	2,030	289	64	13,973
Ohiopyle	48	592	1,778	5,550	6,770	7,303	6,970	6,590	5,934	931	46	42,512
Connellsville	184	778	1,127	3,320	4,213	4,330	4,114	4,284	3,892	898	175	27,315
Perryopolis	189	848	1,692	2,536	2,461	1,700	1,786	2,173	2,117	828	180	16,509
West Newton	604	2,684	2,941	5,919	5,716	3,676	3,928	4,969	3,529	1,629	576	36,171
Boston	512	1,599	2,524	4,138	5,145	3,792	3,965	4,970	3,688	1,360	488	32,180
Rankin Bridge	1,498	4,774	6,431	7,525	7,527	6,167	7,136	8,490	6,798	2,988	1,580	60,914
Hot Metal Bridge	5,479	14,816	15,315	19,801	17,105	13,888	15,020	15,776	16,123	8,944	5,067	147,334
Total	**10,028**	**30,669**	**40,061**	**63,743**	**67,655**	**56,309**	**57,024**	**64,075**	**58,884**	**22,616**	**9,553**	**480,616**

Table 3: Synchronized Trail Counts (2024)

	8-May-24		30-May-24		21-Jun-24		14-Jul-24		13-Aug-24		21-Sep-24		7-Oct-24		Total		
Location	Man	TRAFx	Man	TRAFx	Man	TRAFx	Man	TRAFx	Man	TRAFx	Man	TRAFx	Man	TRAFx	Man	TRAFx	CP
Cumberland	64	34			42	29	32	24	38	20	85	13	42	19	303	139	2.180
Frostburg	33	18	22	20	14	14	31	26	26	23	53	39	21	29	200	169	1.183
Deal	34	28	34	16					46	22	68	31	31	15	213	112	1.902
Garrett	11	6	23	12			33	19	23	9	37	15	20	8	147	69	2.130
Rockwood	10	12	47	32	31	8	37	13	11	10	39	26	37	26	212	127	1.669
Ohiopyle			43	36	81	54	113	38	80	64	133	95	36	28	486	315	1.543
Connellsville			40	16	28	21	72	37	40	35	77	56	40	28	297	193	1.539
Perryopolis	29	29	41	54	18	2	28	4	39	27	49	20			204	136	1.500
West Newton	55	54	90	60	33	12	81	10	69	36	79	17			407	189	2.153
Boston	33	31	88	63	36	6	43	8	56	40	58	20	32	20	346	188	1.840
Rankin Bridge	70	42	96	76			69	15	88	64	110	60	97	35	530	292	1.815
Hot Metal Bridge	93	79	100	90			164	88	66	55	55	43	69	60	547	415	1.318
Total	**432**	**333**	**624**	**475**	**283**	**146**	**703**	**282**	**582**	**405**	**843**	**435**	**425**	**268**	**3,892**	**2,344**	**1.660**

Count-to-Pass (CP) Factors

By their nature, the TRAFx counters do not count trail users perfectly. For example, when cyclists ride side-by-side, follow close behind one another, or travel in a group, TRAFx counters tend to undercount the number of riders, because they do not have enough time to reset themselves between cyclists. Thus, the accuracy of a TRAFx counter declines when trail use is heavy.

To gauge the accuracy of each TRAFx counter, volunteers have conducted manual counts at the TRAFx counters for many years. These manual counts can be compared to the counts registered by the TRAFx counters during the same time. I use this data to calculate a Count-to-Pass (CP) Factor by dividing the manual count by the TRAFx count and then use the CP Factors to derive adjusted TRAFx counts at each location. Table 4 exhibits this data for 2010-2024.[10]

Table 4: Historic CP Factors (2010-2024)

Year	Manual	TRAFx	CP
2010	2,564	1,524	1.682
2011	1,821	1,000	1.821
2012	882	468	1.885
2013	1,123	633	1.774
2014	NA	NA	NA
2015	2,345	1,324	1.771
2016	5,858	3,107	1.885
2017	3,169	1,593	1.989
2018	3,405	1,270	2.681
2019	4,893	2,538	1.928
2020	4,093	1,780	2.299
2021	3,554	1,336	2.660
2022	4,552	2,368	1.922
2023	4,779	2,891	1.653
2024	3,892	2,344	1.660
Total	46,930	24,176	1.941

[10] No manual counts were conducted in 2014.

Table 5 lists the CP Factors by location for 2024. These factors range from 1.183 at Frostburg to 2.180 at Cumberland.

Table 5: CP Factors by Location (2024)

Location	Manual	TrafX	2024 CP Factor
Cumberland	303	139	2.180
Frostburg	200	169	1.183
Deal	213	112	1.902
Garrett	147	69	2.130
Rockwood	212	127	1.669
Ohiopyle	486	315	1.543
Connellsville	297	193	1.539
Perryopolis	204	136	1.500
West Newton	407	189	2.153
Boston	346	188	1.840
Rankin Bridge	530	292	1.815
Hot Metal Bridge	547	415	1.318
Total	3,892	2,344	1.660

Adjusted TRAFx Counts

As mentioned previously, the TRAFx counters tend to undercount trail users. For this reason, it is appropriate to apply CP Factors to the raw TRAFx counts to obtain a more accurate estimate of actual trail use.

Table 6 lists the adjusted TRAFx counts by location and month after applying the CP Factors. Except for January counts, each count listed in Table 6 equals the corresponding count in Table 2 multiplied by the CP Factor for each location (Table 5). For example, Frostburg's CP Factor is **1.183**, and its Table 2 count for February **529**. Thus, the Table 6 adjusted count for Frostburg in February is **626** (= 1.183 x 529). I calculate the other Table 6 counts for February through December in the same manner.

GAP staff removed the TRAFx counters early in December 2023 and reinstalled them in February 2024. Thus, no TRAFx counters were operating in January 2024. In Table 6, I estimate January trail use by assuming total trail use at all locations of 1,200. This is the same assumption that I have made for several years in this report. I then allocate the trail use at each location according to the patterns observed during the February-December period. For example, during the months of February through December, Frostburg accounted for **4.2%** of total trail use. So, I estimate Frostburg's January trail use as **4.2%** of **1,200**, which is **50**. I calculate the other Table 6 counts for January in the same manner.

Table 6 reports total adjusted trail use in 2024 of **792,272**. This is a **20.4% increase** compared to 2023, when total adjusted trail use was estimated at 657,791.

Table 6: Adjusted Monthly TRAFx Counts (2024)

Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Cumberland	158	1,863	4,844	7,499	12,795	15,891	13,901	12,231	13,711	13,877	5,921	1,775	**104,466**
Frostburg	50	626	1,621	2,505	3,858	5,192	3,937	3,566	4,467	5,125	1,654	597	**33,199**
Deal	42	41	645	2,107	3,712	3,627	3,774	4,007	4,452	4,188	846	39	**27,481**
Garrett	43	88	680	1,643	4,020	5,542	4,188	3,635	4,310	3,992	405	83	**28,629**
Rockwood	35	113	548	1,364	3,314	4,226	3,001	2,784	3,996	3,389	482	108	**23,360**
Ohiopyle	99	75	914	2,743	8,563	10,445	11,267	10,754	10,167	9,155	1,436	71	**65,690**
Connellsville	64	283	1,197	1,734	5,109	6,484	6,663	6,331	6,592	5,989	1,382	269	**42,097**
Perryopolis	38	283	1,272	2,538	3,804	3,692	2,550	2,679	3,260	3,176	1,242	269	**24,801**
West Newton	118	1,301	5,780	6,334	12,746	12,309	7,916	8,459	10,700	7,599	3,508	1,240	**78,011**
Boston	90	942	2,942	4,645	7,616	9,469	6,979	7,297	9,147	6,787	2,503	897	**59,314**
Rankin Bridge	168	2,720	8,665	11,673	13,658	13,662	11,194	12,952	15,410	12,339	5,423	2,868	**110,731**
Hot Metal Bridge	295	7,221	19,529	20,186	26,099	22,546	18,305	19,797	20,794	21,251	11,789	6,679	**194,491**
Total	**1,200**	**15,554**	**48,636**	**64,971**	**105,294**	**113,084**	**93,677**	**94,492**	**107,008**	**96,868**	**36,593**	**14,895**	**792,272**

Interpreting the Adjusted TRAFx Counts

The adjusted TRAFx counts in Table 6 represent the best estimate of the number of times a trail user passes a TRAFx counter and are a good estimate of trail usage by those who enter at the trailhead closest to that counter.

Consider, for example, Ohiopyle. The TRAFx counter is located on the trail toward Confluence nearly 3 miles from the trailhead. A rider traveling from Ohiopyle to Confluence and back will pass the counter twice, and the adjusted TRAFx count would, on average, double-count this trail user. But other trail users at Ohiopyle will go the opposite direction, toward Connellsville. These trail users will not pass the TRAFx counter at Ohiopyle. Those who ride far enough might be counted by the Connellsville counter, but many will not be counted at all. In addition, most walkers who enter at Ohiopyle will not pass a TRAFx counter, even if they walk toward Confluence. As a result, we must balance those trail users who will double-counted with those who are not counted at all. It seems reasonable to assume that these two groups are roughly equal. If this is the case, then the adjusted TRAFx count provides a good estimate of trail usage at Ohiopyle.

Given the data available, I view the last column of Table 6 as the best estimate of 2024 trail use at each of the trailheads listed. These estimates will be better for some locations than others depending on how far the TRAFx counter is from the trailhead and the proportion of trail users who go in the direction toward the counter. These factors vary between trailheads, so the estimates in Table 6 likely overestimate trail use at some trailheads and underestimate at others.

Total Trail Use Estimate

The bottom row of Table 6 estimates that trail users passed by the 12 TRAFx counter locations a total of 792,272 times. As I have argued above, this number is a reasonable estimate of the number of trail usage by those who enter the trail at the trailheads closest to the TRAFx counters. But these 12 locations are not the only places where users may enter the trail. As such, this number likely *underestimates* total trail use.

The locations of the TRAFx counters were chosen to capture as many as possible while minimizing the occurrence of trail users passing multiple counters on a single trip. I assume as a midpoint estimate that 80% of trail visits begin at the trailheads closest to the TRAFx counters, with a range of 75% to 85%.[11] Put another way, I estimate that somewhere between 15% and 25% of trail visits begin at a trailhead other than the 12 trailhead locations where TRAFx counters are located.

If we assume the midpoint estimate of 80%, then the resulting mid-range estimate of total trail use is **990,339 = (792,272 ÷ 0.80)**. The low-range and high-range estimates are 932,084 = (792,272 ÷ 0.85) and 1,056,362 = (792,272 ÷ 0.75), respectively. Comparing these numbers to the previous year, I estimate that trail use along the GAP **increased by 20.4%** between 2023 and 2024.

[11] These estimates are based on input provided by the Great Allegheny Passage Conservancy.

Thru-Riders

The GAP offers the opportunity for cyclists to take lengthy, multi-day trips. Starting in 2018, the form that volunteers use to tally synchronized manual counts has included a section to mark "thru-riders." We provide volunteers with guidance on how to determine whether a passing cyclist is on an extended ride (such as a cyclist riding with a substantial pack, one with two loaded panniers, or one carrying camping gear) and ask them to use their judgment to identify thru-riders. Some volunteers take the initiative to ask cyclists about the length of their trip as they pass by.[12]

Table 7 summarizes the number of riders identified as a thru-rider during manual counts for the years 2018-2024 and calculates a percentage of thru-riders relative to the total number of trail users. The data is broken down by weekday manual counts (Mon-Fri) versus weekend manual counts (Sat and Sun).

Table 7: Thru Riders Compared to All Users, Weekday and Weekend (2018-2024) Calculated by Volunteer Judgment

	Weekday			Weekend		
Year	Thru	Total	% Thru	Thru	Total	% Thru
2018	121	783	15.5%	334	2,622	12.7%
2019	162	831	19.5%	208	4,064	5.1%
2020	351	2,918	12.0%	166	1,437	11.6%
2021	848	3,779	22.4%	NA	NA	NA
2022	539	2,235	24.1%	210	2,317	9.1%
2023	701	2,887	24.3%	253	1,892	13.4%
2024	660	2,438	27.1%	264	1,546	17.1%
Total	**3,382**	**15,871**	**21.3%**	**1,435**	**13,878**	**10.3%**

The data in Table 7 show that the percentage of thru riders is substantially larger during the week as compared to the weekend. This makes intuitive sense. By definition, thru-riders have set aside several days for their long trek. In contrast, day riders would more likely use the trail before work, after work, or on the weekend. Thus, it is reasonable to assume that weekday manual counts conducted in the middle of the day would count a higher percentage of thru riders than weekend counts.

The mid-range estimate of 2024 total trail use is 990,339. The raw TRAFx count data indicates that 59.6% of trail use occurs during the week compared to 40.4% on the weekend. Applying these percentages, I estimate that total trail use in 2024 breaks down to 590,176 during the week and 400,163 on the weekend. Applying the average thru rider percentages (2018–2024) from the bottom row of Table 7 (21.3% weekday and 10.3% weekend) yields an estimate of 125,763 weekday thru riders and weekend 41,377 thru riders, for a total estimate of **167,140** thru riders in 2024.

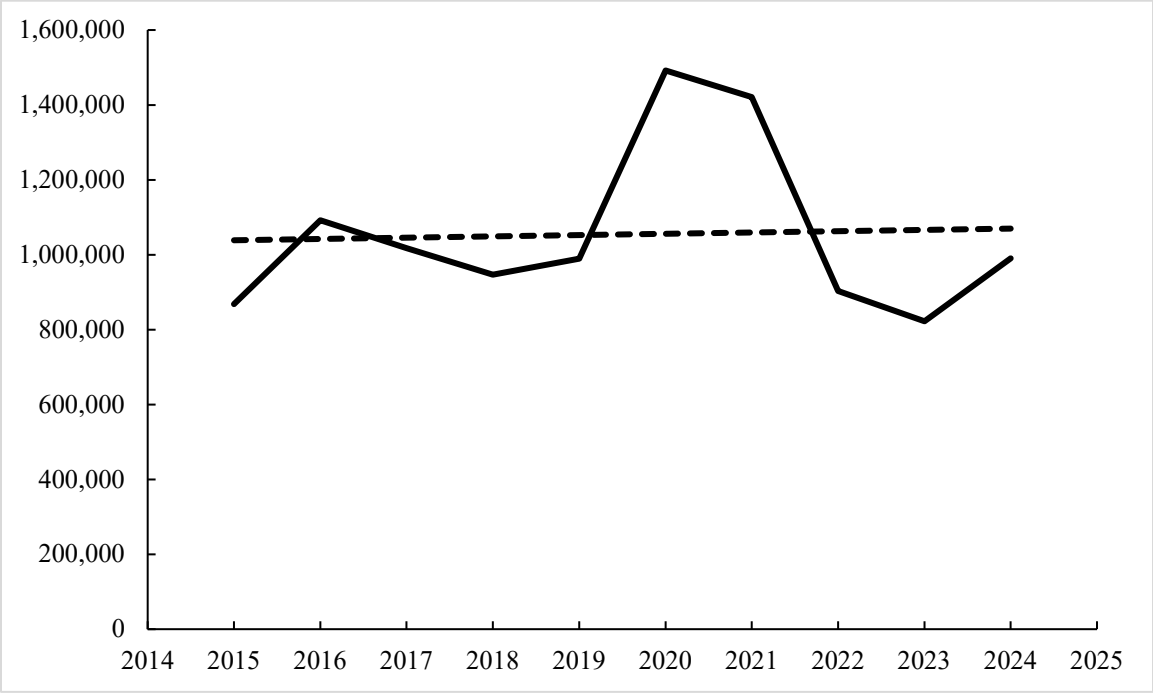
[12] It is likely that volunteers undercount thru riders, because shuttle services carry gear for some thru riders. A thru rider taking advantage of this service would appear to be a day rider.

Historical Perspective

This is tenth trail report since 2015, when the TRAFx locations and synchronized count protocol changed substantially.

Figure 1 shows the mid-range total trail use estimates for 2015-2024 along with a linear trendline. Clearly, trail use estimates have varied considerably year-to-year. Some of the variation is due to fluctuations in the quality of data generated by the TRAFx counters, while some is due to true year-to-year fluctuations caused by factors such as the weather. The dramatic increase in trail use in 2020 and 2021 undoubtedly reflects the impact of the COVID-19 pandemic, when people increasingly engaged in outdoor recreational activities. Overall, the linear trendline shows an increase in trail use of approximately 1.6% per year from 2015-2024.

Figure 1: Total GAP Trail Use (2015-2024)



Year	Total Trail Use
2015	867,719
2016	1,091,706
2017	1,017,662
2018	946,284
2019	989,455
2020	1,491,963
2021	1,421,042
2022	902,973
2023	822,238
2024	990,339