Analysis of 2025 Trail Usage Patterns along the Great Allegheny Passage

Final Report to the Great Allegheny Passage Conservancy
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In addition, I would like to acknowledge the support of Somerset County Tourism Grant, which helps to fund this research project.

Executive Summary

- The Great Allegheny Passage is well used. I estimate the total number of visits to be in the range of 1,084,229 to 1,228,792 in 2025, with a mid-range estimate of **1,151,993**. This is a **16% increase** over 2024 and the highest estimate since 2021.

- Volunteers identified "bicyclists on a thru-ride" when conducting their synchronized counts. Based on this data, I estimate a total of **203,049** overnight travelers on the GAP in 2025.

- This is the eleventh 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 **0.7%** 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 2025: May 7 (Wed), June 8 (Sun), June 27 (Fri), July 12 (Sat), August 12 (Tue), September 8 (Mon), and October 2 (Thu). 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 2015–2024). 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 they 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 monthly TRAFx counts for each location (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 2025 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 2025, 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 (2025)

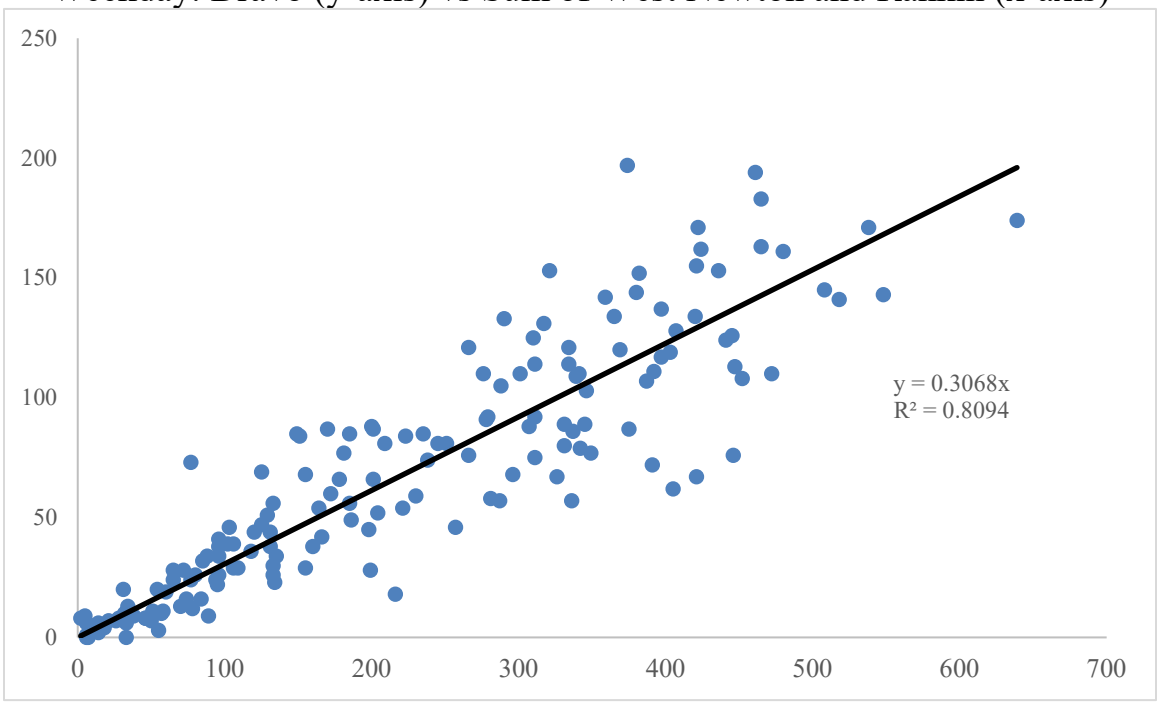
Location	Counter milepost	# Usable Count Days	First Date	Last Date
Cumberland	1.5	267	12-Mar	31-Dec
Frostburg	16.5	295	12-Mar	31-Dec
Deal	22.5	295	12-Mar	31-Dec
Garrett	34.5	295	12-Mar	31-Dec
Rockwood	45.5	183	12-Mar	31-Dec
Ohiopyle	69.0	295	12-Mar	31-Dec
Connellsville	85.0	295	12-Mar	31-Dec
Perryopolis	102.0	295	12-Mar	31-Dec
West Newton	111.5	295	12-Mar	31-Dec
Buena Vista	122.0	240	6-May	31-Dec
Rankin Bridge	138.0	365	1-Jan	31-Dec
Hot Metal Bridge	146.5	365	1-Jan	31-Dec

In 2025, the TRAFx counters provided a total of 3,485 usable count days, an average of 290 per location.

Below are some explanatory notes related to Table 1.

- The counters at Rankin and Hot Metal Bridge operated the entire year (Jan 1 – Dec 31). In future years, we plan to do the same for all locations.
- Except for Buena Vista, all other counters operated from March 12 through December 31. The Dravo counter operated from May 6 through December 31.
- I discarded 28 days of TRAFx data at the Cumberland counter.
    - 17 were days that the Polar Express train operated (Nov 21-23, Nov 28-30, Dec 5-7, Dec 12-14, and Dec 19-23). A quick look at the TRAFx counts for these days convinced me that the counter was picking up the train in its counts.
    - The other 11 days were days in which the Cumberland counter recorded "unusually high" counts. I designated a count as "unusually high" if it was more than two times higher than the count at Hot Metal Bridge on that day.
    - I replaced the discarded days with the average weekday (or weekend) count for Cumberland during the corresponding month.
- I discarded 112 days of TRAFx data at the Rockwood counter.
    - 108 were days when this section of the trail was closed due to a landslide (Jun 23–Oct 9). During the landslide closure, a shuttle bus transported (and recorded) trail users around the closed section. For the "landslide" days, I used transport counts plus TRAFx counts. Clearly, some trail users ignored the closure and passed by the Rockwood counter.
    - The other 4 days are days when the Rockwood counter recorded "unusually high" counts, defined as days when the count was higher than the Hot Metal Bridge count on that day. For these days, I replaced the TRAFx count with the average weekday (or weekend) Rockwood count during the corresponding month.
- I estimate April and May trail use for Buena Vista based on the sum of the counts at the two closest locations (West Newton and Rankin). I ran a correlation between Dravo count and the sum of West Newton and Rankin counts from May 6 through December 31, when all three locations had counts. The estimated counts at Dravo for each day in April and May are based on the sum of the counts at West Newton and Rankin on that day. The estimation equations are:
    - Weekday: Dravo count = 0.3068 x (sum of West Newton and Rankin counts).
    - Weekend: Dravo count = 0.2873 x (sum of West Newton and Rankin counts).
    - For May 1-5, we estimate the Dravo count as the average weekday (or weekend) count at Dravo for the entire month of May.

Weekday: Dravo (y-axis) vs Sum of West Newton and Rankin (x-axis)



Weekend: Dravo (y-axis) vs Sum of West Newton and Rankin (x-axis)

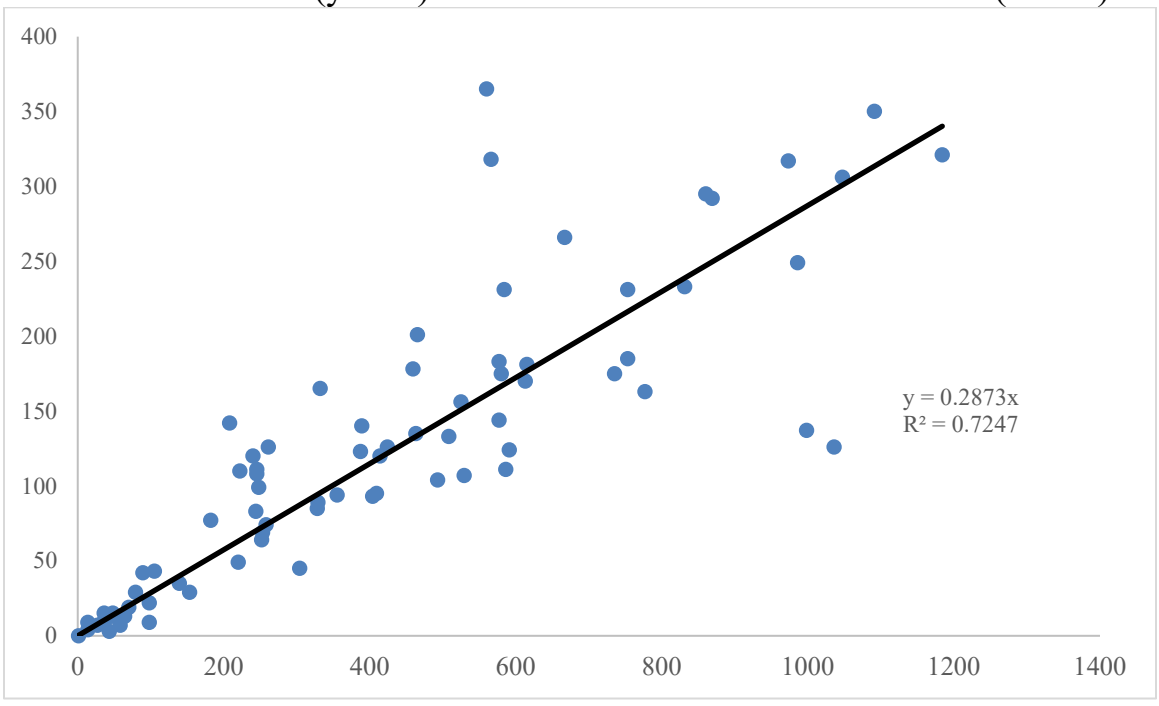


Table 2 displays estimated TRAFx counts by month at each counter location. I make these estimates by calculating an average weekday and weekend count for each month,[1] with slight modifications for days in which a counter registers no data, a count of 0, or a count that is unreasonably high or low. [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.

Also, note that GAP staff removed the TRAFx counters, except for Rankin and Hot Metal Bridge, in early December 2024. The Rankin and Hot Metal Bridge counters continued to operate continuously into 2025. The remaining counters were reinstalled in mid-March 2025. Thus, for January and February 2025, we have TRAFx counts at Rankin and Hot Metal Bridge only. Historically, we have used a "placeholder" value of 1,200 as the total trail use for winter months when we have no TRAFx data. For locations other than Rankin and Hot Metal Bridge, I use the historic methodology to estimate January and February trail use.

In the future, we plan to leave all counters operating the entire year, meaning that we will have TRAFx for all months at all locations. As a result, we will not need to estimate January and February TRAFx counts in future reports.

Synchronized Counts

Volunteers conducted synchronized counts on seven dates in 2025: May 7 (Wed), June 8 (Sun), June 27 (Fri), July 12 (Sat), August 12 (Tue), September 8 (Mon), and October 2 (Thu). 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 69 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 (14)[3]: Cumberland (June 8 and October 2, Frostburg (June 8 and September 8), Garrett (June 8), Rockwood (June 8, June 27, July 12, August 12, September 8, and October 2), Ohiopyle (June 8), West Newton (August 12), and Hot Metal Bridge (June 8).
- Missing/Unreliable TRAFx counts (1): Cumberland (July 12).

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.

[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 2025, I counted the following holidays as weekend days: Memorial Day, Labor Day, July 4th (a Friday), Thanksgiving day and the day after (Thursday and Friday), Christmas Day and the day after (Thursday and Friday), and New Year's Eve (a Wednesday).

[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] Two events account for 11 of the 14 missing manual counts. On June 8, there was severe thunderstorm that caused six volunteers to cancel their count, and five counts were canceled at Rockwood due to the landslide closure.

Table 2: Raw TRAFx Counts by Location and Month (2025)

Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Cumberland	164	164	4,007	3,920	4,741	9,976	10,590	6,804	5,627	5,815	2,540	1,124	**55,471**
Frostburg	52	52	1,445	1,893	2,597	2,351	2,030	1,321	1,179	2,540	1,464	752	**17,677**
Deal	16	16	120	244	593	468	368	895	1,313	1,223	45	11	**5,311**
Garrett	31	31	346	507	1,287	1,681	1,329	1,787	1,746	1,370	179	33	**10,326**
Rockwood	23	23	188	436	932	1,356	732	880	1,320	1,458	282	52	**7,682**
Ohiopyle	120	120	1,064	1,976	4,301	5,823	6,862	8,654	5,763	5,216	668	77	**40,645**
Connellsville	68	68	1,139	1,644	2,730	2,807	2,383	4,035	4,068	3,216	561	117	**22,835**
Perryopolis	53	53	1,076	1,304	2,385	2,265	1,935	2,476	2,796	2,666	735	241	**17,985**
West Newton	102	102	2,964	2,004	4,904	3,620	4,632	6,535	4,616	3,529	1,071	292	**34,370**
Buena Vista	75	75	2,208	1,897	3,023	2,723	2,662	4,308	4,223	2,859	1,049	214	**25,317**
Rankin Bridge	217	1,060	4,089	4,322	6,364	4,504	4,474	7,589	6,797	6,186	2,219	656	**48,477**
Hot Metal Bridge	3,585	5,613	14,134	13,423	16,291	14,081	12,816	15,464	13,205	10,915	5,913	3,029	**128,469**
Total	4,506	7,377	32,778	33,570	50,148	51,656	50,813	60,748	52,653	46,993	16,726	6,598	**414,565**

Table 3: Synchronized Trail Counts (2025)

	7-May-25		8-Jun-25		27-Jun-25		12-Jul-25		12-Aug-25		8-Sep-25		2-Oct-25		Total		
Location	Man	TRAFx	Man	TRAFx	Man	TRAFx	Man	TRAFx	Man	TRAFx	Man	TRAFx	Man	TRAFx	Man	TRAFx	CP
Cumberland	86	18			41	27			37	12	60	48			224	105	2.133
Frostburg	31	20			69	12	75	24	27	5			49	24	251	85	2.953
Deal	19	7	11	2	54	3	59	2	26	0	18	8	55	15	242	37	6.541
Garrett	8	6			27	12	27	4	22	1	37	23	35	6	156	52	3.000
Rockwood	22	13													22	13	1.692
Ohiopyle	45	27			51	40	204	144	69	44	18	15	80	68	467	338	1.382
Connellsville	27	21	24	16	14	6	78	26	56	27	35	29	44	30	278	155	1.794
Perryopolis	20	14	31	21	23	3	70	30	60	21	40	28	132	81	376	198	1.899
West Newton	51	35	21	3	33	7	143	42			79	25	118	47	445	159	2.799
Buena Vista	31	10	28	16	23	6	155	29	65	10	100	70	62	23	464	164	2.829
Rankin Bridge	62	50	28	13	44	10	164	27	61	30	47	31	83	58	489	219	2.233
Hot Metal Bridge	86	75			73	24	218	64	68	32	108	71	93	45	646	311	2.077
Total	**488**	**296**	**143**	**71**	**452**	**150**	**1,193**	**392**	**491**	**182**	**542**	**348**	**751**	**397**	**4,060**	**1,836**	**2.211**

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.

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 2010-2025.[4]

Table 4: Historic CP Factors (2010-2025)

Year	Manual	TRAFx	CP Factor
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
2025	4,060	1,836	2.211
Total	50,990	26,012	1.960

[4] No manual counts were conducted in 2014.

Table 5 lists the CP Factors by location for 2025. These factors range from 1.382 at Ohiopyle to 6.541 at Deal.[5]

Table 5: CP Factors by Location (2025)

Location	Manual	TrafX	CP Factor
Cumberland	224	105	2.133
Frostburg	251	85	2.953
Deal	242	37	6.541
Garrett	156	52	3.000
Rockwood	22	13	1.692
Ohiopyle	467	338	1.382
Connellsville	278	155	1.794
Perryopolis	376	198	1.899
West Newton	445	159	2.799
Buena Vista	464	164	2.829
Rankin Bridge	489	219	2.233
Hot Metal Bridge	646	311	2.077
Total	4,060	1,836	2.211

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. 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, Cumberland's CP Factor is **2.133**, and its Table 2 count for March is **4,007**. Thus, the Table 6 adjusted count for Cumberland in March is **8,547** (= 2.133 x 4,007). I calculate the other Table 6 counts in the same manner.[6]

Table 6 reports total adjusted trail use in 2025 of **921,594**. This is a **16.3% increase** compared to 2024, when total adjusted trail use was estimated at 792,272.

[5] Overall, CP Factors were substantially larger in 2025 compared to 2024. This particularly true at Deal. Its CP Factor of 6.541 indicates that for every 6-7 passersby, the TRAFx counter recorded only one pass. We are looking into why the Deal counter performed so poorly.

[6] Note that for all locations other than Rankin and Hot Metal Bridge, the January and February counts listed in Table 6 are the same as the corresponding counts listed in Table 2 (i.e. these counts are not multiplied by the CP Factors). This is because we have no TRAFx counts for these locations for January and February 2025. By using the same counts in Table 2 and Table 6, we are being consistent with historical practice. In the future, we plan to leave all counters operating the entire year, so we will not need to make this adjustment in future years.

Table 6: Adjusted Monthly TRAFx Counts (2025)

Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Cumberland	164	164	8,547	8,363	10,114	21,283	22,591	14,515	12,004	12,405	5,418	2,397	**117,966**
Frostburg	52	52	4,267	5,590	7,669	6,942	5,994	3,901	3,482	7,500	4,323	2,221	**51,994**
Deal	16	16	782	1,596	3,879	3,061	2,407	5,854	8,588	7,999	294	72	**34,562**
Garrett	31	31	1,038	1,521	3,861	5,043	3,987	5,361	5,238	4,110	537	99	**30,856**
Rockwood	23	23	318	738	1,577	2,295	1,239	1,489	2,234	2,467	477	88	**12,969**
Ohiopyle	120	120	1,470	2,730	5,943	8,045	9,481	11,957	7,962	7,207	923	106	**56,066**
Connellsville	68	68	2,042	2,949	4,896	5,034	4,274	7,237	7,296	5,768	1,006	210	**40,848**
Perryopolis	53	53	2,043	2,476	4,529	4,301	3,675	4,702	5,310	5,063	1,396	458	**34,058**
West Newton	102	102	8,294	5,609	13,725	10,131	12,964	18,290	12,919	9,877	2,997	817	**95,827**
Boston	75	75	6,247	5,368	8,554	7,704	7,532	12,188	11,948	8,089	2,968	605	**71,353**
Rankin Bridge	485	2,367	9,130	9,650	14,210	10,057	9,990	16,945	15,177	13,813	4,955	1,465	**108,243**
Hot Metal Bridge	7,447	11,659	29,359	27,882	33,839	29,249	26,621	32,121	27,429	22,672	12,282	6,292	**266,852**
Total	**8,635**	**14,730**	**73,537**	**74,472**	**112,796**	**113,147**	**110,754**	**134,561**	**119,586**	**106,970**	**37,577**	**14,830**	**921,594**

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 2025 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 921,594 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%.[7] 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 **1,151,993 = (921,594 ÷ 0.80)**. The low-range and high-range estimates are 1,084,229 = (921,594 ÷ 0.85) and 1,228,792 = (921,594 ÷ 0.75), respectively. Comparing these numbers to the previous year, I estimate that trail use along the GAP **increased by 16.3%** between 2024 and 2025.

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

Overnight Travelers

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 "bicyclists on a thru-ride." 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 overnight travelers. Some volunteers take the initiative to ask cyclists about the length of their trip as they pass by.

Table 7 summarizes the number of riders identified as an overnight traveler during manual counts for the years 2018-2025 and calculates a percentage of overnight travelers 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: Overnight Travelers Compared to All Users Weekday and Weekend (2018-2025), 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%
2025	802	2,724	29.4%	171	1,385	12.3%
Total	**4,184**	**18,595**	**22.5%**	**1,606**	**15,263**	**10.5%**

The data in Table 7 show that the percentage of overnight travelers is substantially larger during the week as compared to the weekend. This makes intuitive sense. By definition, overnight travelers have set aside more than one day for their 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 overnight travelers than weekend counts.

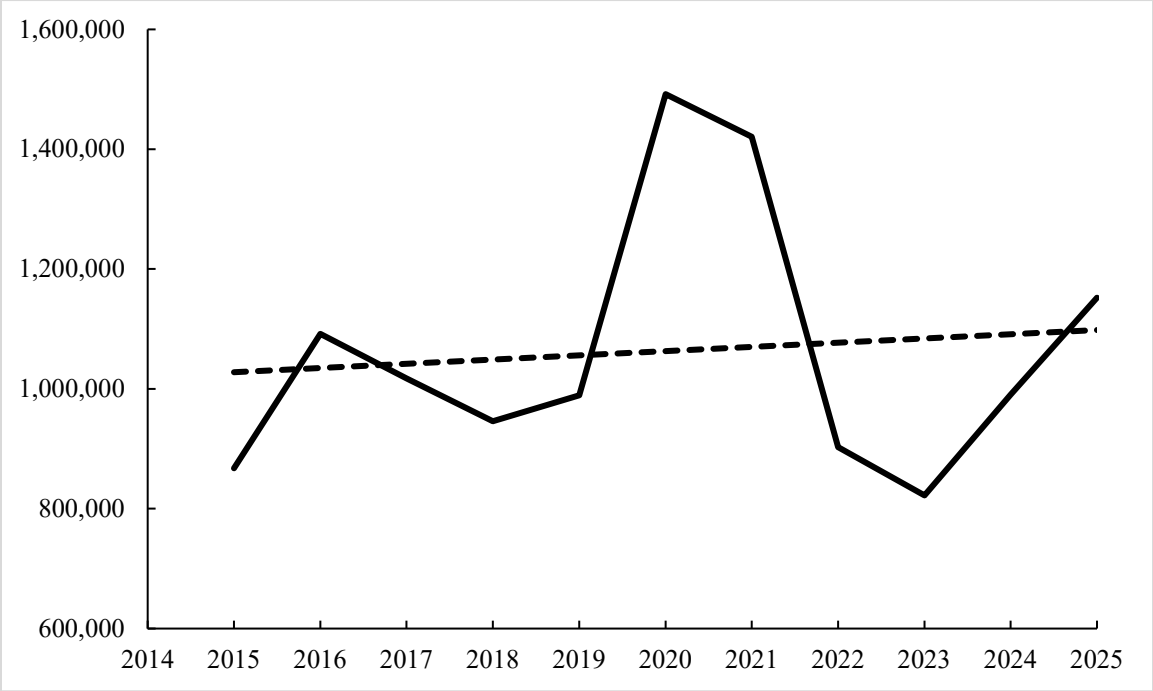
The mid-range estimate of 2025 total trail use is 1,151,993. The raw TRAFx count data indicates that 59.3% of trail use occurs during the week compared to 40.7% on the weekend. Applying these percentages, I estimate that total trail use in 2025 breaks down to 683,179 during the week and 468,814 on the weekend. Applying the average thru rider percentages (2018–2025) yields an estimate of 153,720 weekday overnight travelers and weekend 49,329 overnight travelers, for a total estimate of **203,049** overnight travelers in 2025.

Historical Perspective

This is eleventh 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 2015-2025 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 0.7% per year from 2015-2025**.

Figure 1: Total GAP Trail Use (2015-2025)



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
2025	1,151,993