# Connecticut Trail Census Statewide multi-use trail user study 

## 2022 Trail Use Count Data Report

May 2023

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## Acknowledgements

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## Volunteers

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## Advisory Committee

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## Funders

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## Overview

This report includes the final adjusted infrared (IR) counter data from 21 multi-use path locations in Connecticut at which counts were conducted for 2022.


Figure 1. Trail Counter Sites
This user count summary is part of a larger multi-use trail data collection effort, the Connecticut Trail Census ${ }^{1}$, which is a statewide volunteer data collection program intended to inform a better understanding of multi-use trail use and to make the information available to trail user groups, administrators, government agencies, and the public. In addition to this report, the team also publishes data through an online data dashboard that allows users to explore count data across sites and years, accessible through the CT Trail Census website.

The project is funded by the Connecticut Department of Energy and Environmental Protection (CTDEEP) Recreational Trails Program and the CT Department of Transportation. Project partners include the Connecticut State Greenways Council and the Naugatuck Valley Council of Governments.

[^0]
## Connecticut Trail Census Goals

1. Understand when, who, how, and why people use Connecticut's trails.
2. Educate trail user groups, administrators, state and local government agencies, and the public about trails and their impacts.
3. Obtain multi-year information about trail use, user demographics, economic impacts, and trail amenities for identification of patterns and trends.
4. Promote citizen participation in monitoring and understanding the value of trails and to encourage data-based trail design, construction, and management.

## Understanding the Data

## TRAFx Infrared Counters

The CT Trail Census employs TRAFx brand infrared (IR) pedestrian counters to track trail use. These IR counters register a temperature differential between background levels and that of a person or object passing by the IR scope, and compile these "hits" into hourly totals. They collect data 24 hours per day for as long as they are installed. While they work well, the counters do have some limitations. They cannot distinguish between different types of users (like pedestrians vs. cyclists) and cannot determine direction of travel. Two or more individuals passing the counter simultaneously or in rapid succession may only register as one "hit" by the counter, referred to as "occlusion error." Fast moving cyclists might not be registered by the counter. Some overcounting may occur in certain instances, pets or even wild animals passing the counter may be counted, for instance, but typically, TRAFx IR pedestrian counters undercount trail users.

## Calibration Factors

To account for typical undercounting and to provide more accurate use figures, the raw count data is adjusted, or calibrated, using manual counts conducted by volunteers and CT Trail Census staff. Manual counts conducted at the trail counter location are then compared to the count registered by the IR counter in that location for the same time period. Previously, annual correction factors were developed from manual counts conducted each year and a minimal factor was applied to trail locations where manual counts were not conducted during that year. This year, however, we developed calibration factors differently. To maximize the number of manual counts from which we developed factors and to eliminate the application of an arbitrary minimal factor, factors were developed from all previous manual counts conducted on each trail going back, in some cases, to 2017. This approach should more accurately correct for undercounts and help avoid both swings in estimates caused by sometimes drastic shifts in calibration factors from year to year and the imposition of minimal factors where no manual counts were conducted each year.

## Uses vs. Users

The count data presented in this report shows the number of uses, not individual visits or visitors. Trail users who travel out and back on the same route will pass the counter twice and be counted twice. For trails with primarily out and back traffic, trail visits can be estimated at $1 / 2$ of the count total. The count data in this report only reflects use at the point on a trail where the counter is installed. The figures are not indicative of use of an entire trail or trail network.

## Missing Data

There were issues with several counters that resulted in missing or corrupted data and therefore incomplete datasets for the year. Issues resulting in missing or corrupted data can include moisture in the IR scope, heated vegetation within view of the IR scope, nesting insects or vegetation obstructing the IR scope, or counter malfunction. These issues are usually very apparent in the data with either zeroes, no data, or wildly high or inconsistent numbers being recorded by the counter. In those cases, the data was eliminated from the dataset. To account for missing data on annual use estimates, the annual totals were calculated by multiplying the average daily use for days with valid data on each trail by 365 . All other breakdowns are based on the adjusted (calibrated) counts, but still reflect the missing or removed data unless otherwise noted. More detailed information about methodology can be found on the website.

## 2022 Overall Trail Use: Key Takeaways

- Summary. Trail use in 2022 was similar to that in 2021, both of which were lower than that of 2020 when there was a surge of trail use during the Covid-19 shutdown. 2021 and 2022 trail use was slightly higher than 2019 pre-COVID levels.
- Trail Specific Trail Use Patterns. 2022 Monthly, Day of Week, and Hour of Day trail use patterns vary between trails.
- Weather Rules! Weather appears to have a major influence on the volume of trail use. On days with mild to warm temperatures and clear conditions, trails see higher use volumes overall. Although most of the trail use occurs in the summer/spring and fall, roughly $12 \%$ of use in 2022 occurred in December, January, and February. Even on rainy cold days, most trails still saw some use.


## 2022 Yearly Count Estimate by Trail

The most heavily used trails in the study in 2022 were the Naugatuck River Greenway Trail in Derby, Bluff Point State Park in Groton, the Still River Greenway in Brookfield, and the Farmington Canal Heritage Trail in Cheshire. The Air Line Trail counters in Thompson and Portland recorded the lowest number of uses. A total of 2,070,766 counts were recorded across the 21 sites in 2022, for which data was available. Using average daily counts to account for missing data, the 21 sites had an estimated 2,103,863 uses in 2022 (Table 1).

Table 1: 2022 total IR counts, daily averages and estimated annual use by trail location. Total counts are adjusted for undercount with trail specific calibration factors. Red values indicate sites where fewer than 365 days of data were collected and where annual estimate was derived using the daily average for days with data multiplied by 365. The Estimated total use is the Average Daily Total multiplied by 365.

|  | Counter Location | Total count (adjusted) | Days with data | Average Daily Total | Estimated total use |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Air Line Trail - East Hampton | 78,442 | 365 | 214.910 | 78,442 |
| 2 | Air Line Trail - Portland | 21,512 | 365 | 58.937 | 21,512 |
| 3 | Air Line Trail - Thompson | 23,453 | 365 | 64.255 | 23,453 |
| 4 | Charter Oak Greenway - Manchester | 69,708 | 365 | 190.981 | 69,708 |
| 5 | CTFastrak Trail - New Britain | 35,002 | 365 | 95.896 | 35,002 |
| 6 | Farmington Canal Heritage Trail - Cheshire | 161,894 | 365 | 443.545 | 161,894 |
| 7 | Farmington Canal Heritage Trail - Hamden | 129,216 | 362 | 356.950 | 130,287 |
| 8 | Farmington Canal Heritage Trail - New Haven | 108,994 | 365 | 298.614 | 108,994 |
| 9 | Groton - Bluff Point | 253,100 | 365 | 693.425 | 253,100 |
| 10 | Groton - G\&S Trolley Trail | 31,795 | 365 | 87.110 | 31,795 |
| 11 | Hop River Trail - Bolton | 82,264 | 365 | 225.381 | 82,264 |
| 12 | Hop River Trail - Vernon | 143,501 | 365 | 393.153 | 143,501 |
| 13 | Larkin State Bridle Trail - Oxford | 28,484 | 365 | 78.038 | 28,484 |
| 14 | Middlebury Greenway | 64,869 | 365 | 177.723 | 64,869 |
| 15 | Naugatuck River Greenway Trail - Derby | 251,743 | 350 | 719.266 | 262,532 |
| 16 | Norwalk River Valley Trail - Wilton | 110,960 | 365 | 304.000 | 110,960 |
| 17 | Riverfront Recapture - East Hartford | 64,164 | 365 | 175.792 | 64,164 |
| 18 | Riverfront Recapture - Hartford | 94,257 | 365 | 258.238 | 94,257 |
| 19 | Shoreline Greenway Trail - Madison | 77,868 | 365 | 213.337 | 77,868 |
| 20 | Still River Greenway - Brookfield | 170,643 | 365 | 467.515 | 170,643 |
| 21 | Sue Grossman Trail - Torrington | 68,897 | 279 | 246.943 | 90,134 |
|  | Totals: | 2,070,766 |  | 5,764.008 | 2,103,863 |

## 2022 Counts by Month

Tables 2 and 3 present the 2022 CT Trail Census Count data by month (count and percent), while Figure 2 presents monthly trail count data since 2018 on trails that have had consistent data recorded for all years.

## Key Takeaways

- Summer Peak. As observed in previous years, the heaviest trail use occurred, in general, between the months of March and October. June had the highest total recorded trail use statewide with $12 \%$ of recorded 2022 use, followed by September, August, and July with $11 \%$ each, and May and October with $10 \%$ of trail use each. Only $3 \%$ of the annual total statewide was recorded in January.
- Patterns are trail specific. Percent of Total Annual Trail Use by Month counts show that trail use patterns varied by trail in 2022. Appendix A provides comparisons of monthly data collected between 2018 and 2022 for 15 individual trails.
- Year-Round Trail Use. While trails are more heavily used in the summer, all trails were also used in the winter.
- Anomalous low counts in New Britain in June and Hartford in July may be the result of a partial counter scope blockage or other issue that limited counter effectiveness.
- Compared to previous years, aggregated monthly trail use levels are lower than in 2020 and 2021, but still higher than pre-pandemic levels, individual trail comparisons to previous years varies.

Table 2. Monthly Counts by Trail. Pink shading indicates months with some missing data; totals are calculated by "filling in" missing days with daily averages for that month from available data. Red shading indicates months where there was no data.

| Trail Location | Jan | Feb | Mar | Apr | M | Jun | Jul | Au | Se | Oct | Nov | Dec |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Airline Trail - East |  |  |  |  |  |  |  |  |  |  |  |  |
| Airline Trail - Portland | 773 | 1,654 | 2,020 | 2,28 | 2,025 | 2,201 | 2,155 | 1,911 | 2,117 | 2,053 | 195 | 1,123 |
| rline Trail - Thompson | 872 | 1,073 | 1,740 | 2,952 | 2,369 | 762 | 1,930 | 1,868 | 2,561 | 2,74 | 2,114 | 1,468 |
| Charter Oak Greenway Manchester | 1,427 | 2,078 | 4,992 | 7,706 | 8,741 | 8,164 | 9,570 | 7,519 | 6,693 | 5,992 | 4,290 | 2,536 |
| CTFastrak - New Britain | 1,7 | 1,912 | 2,814 | 3,478 | 4,002 | ,939 | 3,329 | 3,38 | 3,342 | 3,38 | 3,041 | 2,58 |
| Farmington Canal Heritage |  |  |  |  |  |  |  |  |  |  |  |  |
| Trail - Cheshire | 2,999 | 4,959 | 9,290 | 12,942 | 18,175 | 23,790 | 19,716 | 21,015 | 19,762 | 14,123 | 9,759 | 5,36 |
| Farmington Canal Heritage |  |  |  |  |  |  |  |  |  |  |  |  |
| Trail - Hamden | 2,179 | 3,840 | 6,66 | 12,348 | 14,951 | 15,382 | 16,322 | 15,258 | 17,391 | 13,056 | 8,849 | 4,517 |
| Farmington Canal Heritage |  |  |  |  |  |  |  |  |  |  |  |  |
| Trail - New Haven | 5,405 | 6,694 | 8,516 | 12,983 | 7,234 | 7,796 | 8,238 | 9,357 | 14,417 | 12,324 | 9,123 | 6,907 |
| oton - Bluff Point |  | 10,074 | 420 | 20,481 | 515 | 28,125 | 25,371 | 22,607 | 28,702 | 29,310 | 25,23 | 5,347 |
| Groton-G\&S | 1,562 | 1,367 | 2,104 | 3,084 | 713 | 424 | 3,498 | 2,900 | 2,988 | 2,789 | 2,674 | ,692 |
| Iton | 1,928 | 1,9 | 3,641 | 7,446 | 9,175 | 343 | 268 | 11,216 | 10,507 | 9,113 | 4,631 | 07 |
| Hop River Trail - Vern | 3,3 | 3,208 | 7,806 | 12,107 | 11,661 | 17,553 | 18,487 | 18,265 | 17,361 | 15,053 | 11,356 | 7,33 |
| Larkin Trail - Oxford | 1,338 | 1,1 | 1,98 | ,622 | 825 | ,718 | 2,803 | 3,017 | 3,211 | 3,22 | 7 | 1,444 |
| ddlebury Greenway | 927 | 1,203 | 4,527 | 406 | 7.917 | 072 | 7,247 | 7,233 | 7,182 | 5,891 | 5,028 | ,23 |
| Naugatuck River - Derby | 10,95 | 15,672 | 23,228 | 25,234 | 26,464 | 27,110 | 25,853 | 26,585 | 22,988 | 22,449 | 18,87 | ,629 |
| Norwalk RVT - Wilton | 4,595 | 4,318 | 8,13 | 10,64 | 11,386 | 12,027 | 10,622 | 10,10 | 11,551 | 10,982 | 9,562 | 7,042 |
| Riverfront Recapture - East |  |  |  |  |  |  |  |  |  |  |  |  |
| Hartford | 2,028 | 3,337 | 5,35 | 6,90 | 7,998 | 8,39 | 6,27 | ,92 | 5,99 | 5,66 | 3,786 | 2,50 |
| Riverfront Recapture - |  |  |  |  |  |  |  |  |  |  |  |  |
| Hartford | 2,695 | 3,234 | 5,481 | 7,912 | 11,026 | 13,254 | 4,923 | 9,612 | 13,337 | 13,860 | 5,471 | 3,452 |
| Shoreline Greenway - |  |  |  |  |  |  |  |  |  |  |  |  |
| Madison | 2,419 | 2,878 | 5,178 | 5,888 | 6,932 | 9,774 | 11,943 | 10,68 | 8,690 | 6,245 | 4,108 | 3,132 |
| Still River Greenway Brookfield | 4,578 | 8,404 | 14,860 | 16,952 | 16,793 | 19,128 | 15,297 | 16,160 | 18,294 | 17,601 | 13,803 | 8,773 |
| Sue Grossman- Torrington | 1,883 | 3,874 | 6,111 | 8,792 | 9,617 | 10,899 | 9,046 | 8,527 | 9,127 | 5,275 |  | - |

Total
64,922 85,303 145,207 196,580 214,390 240,288 220,997 221,346 234,961 209,687 151,212 96,965

Table 3. Percent of Annual Trail Counts by Month. Darker greens indicate higher percentage. Red framed cells indicate months with some missing data; totals are calculated by "filling in" missing days with daily averages for that month from available data. Red shading indicates months where there was no data. The anomalous low percentages in New Britain in June and Hartford in July may be the result of a partial scope blockage or other issue that limited counter effectiveness.

| Counter Location | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Air Line Trail - East Hampton | 3\% | 3\% | 6\% | 9\% | 11\% | 12\% | 10\% | 10\% | 11\% | 11\% | 8\% | 5\% |
| Air Line Trail - Portland | 4\% | 8\% | 9\% | 11\% | 9\% | 10\% | 10\% | 9\% | 10\% | 10\% | 6\% | 5\% |
| Air Line Trail - Thompson | 4\% | 5\% | 7\% | 13\% | 10\% | 8\% | 8\% | 8\% | 11\% | 12\% | 9\% | 6\% |
| Charter Oak Greenway Manchester | 2\% | 3\% | 7\% | 11\% | 13\% | 12\% | 14\% | 11\% | 10\% | 9\% | 6\% | 4\% |
| CTFastrak - New Britain | 5\% | 5\% | 8\% | 10\% | 11\% | 6\% | 10\% | 10\% | 10\% | 10\% | 9\% | 7\% |
| Farmington Canal Heritage Trail - Cheshire | 2\% | 3\% | 6\% | 8\% | 11\% | 15\% | 12\% | 13\% | 12\% | 9\% | 6\% | 3\% |
| Farmington Canal Heritage Trail - Hamden | 2\% | 3\% | 5\% | 9\% | 11\% | 12\% | 12\% | 12\% | 13\% | 10\% | 7\% | 3\% |
| Farmington Canal Heritage Trail - New Haven | 5\% | 6\% | 8\% | 12\% | 7\% | 7\% | 8\% | 9\% | 13\% | 11\% | 8\% | 6\% |
| Groton - Bluff Point | 4\% | 4\% | 6\% | 8\% | 9\% | 11\% | 10\% | 9\% | 11\% | 12\% | 10\% | 6\% |
| Groton - G\&S Trolley | 5\% | 4\% | 7\% | 10\% | 12\% | 11\% | 11\% | 9\% | 9\% | 9\% | 8\% | 5\% |
| Hop River Trail - Bolton | 2\% | 2\% | 4\% | 9\% | 11\% | 11\% | 12\% | 14\% | 13\% | 11\% | 6\% | 4\% |
| Hop River Trail - Vernon | 2\% | 2\% | 5\% | 8\% | 8\% | 12\% | 13\% | 13\% | 12\% | 10\% | 8\% | 5\% |
| Larkin Trail - Oxford | 5\% | 4\% | 7\% | 9\% | 10\% | 10\% | 10\% | 11\% | 11\% | 11\% | 8\% | 5\% |
| Middlebury Greenway | 1\% | 2\% | 7\% | 10\% | 12\% | 12\% | 11\% | 11\% | 11\% | 9\% | 8\% | 5\% |
| Naugatuck River - Derby | 4\% | 6\% | 9\% | 10\% | 10\% | 11\% | 10\% | 10\% | 9\% | 9\% | 7\% | 5\% |
| Norwalk RVT - Wilton | 4\% | 4\% | 7\% | 10\% | 10\% | 11\% | 10\% | 9\% | 10\% | 10\% | 9\% | 6\% |
| Riverfront Recapture - East Hartford | 3\% | 5\% | 8\% | 11\% | 12\% | 13\% | 10\% | 9\% | 9\% | 9\% | 6\% | 4\% |
| Riverfront Recapture - Hartford | 3\% | 3\% | 6\% | 8\% | 12\% | 14\% | 5\% | 10\% | 14\% | 15\% | 6\% | 4\% |
| Shoreline Greenway - Madison | 3\% | 4\% | 7\% | 8\% | 9\% | 13\% | 15\% | 14\% | 11\% | 8\% | 5\% | 4\% |
| Still River Greenway Brookfield | 3\% | 5\% | 9\% | 10\% | 10\% | 11\% | 9\% | 9\% | 11\% | 10\% | 8\% | 5\% |
| Sue Grossman Trail Torrington | 3\% | 5\% | 8\% | 12\% | 13\% | 15\% | 12\% | 12\% | 12\% | 7\% | - | - |



Figure 2. Aggregated Trail Counts Comparison by month for 2018-2022. Trail counts are based on counts collected from trail sites with data available consistently from 2018 through 2022. These sites are on the Air Line Trail in East Hampton, on the CTFastrack Trail in New Britain, on the Farmington Canal Heritage Trail in Cheshire, Hamden, and New Haven, on the Hop River Trail in Bolton and Vernon, on the Larkin State Bridle Trail in Oxford, on the Middlebury Greenway Trail in Middlebury, on the Norwalk River Valley Trail in Wilton, on the Riverfront Recapture Trail in Hartford and East Hartford, on the Shoreline Greenway Trail in Madison, on the Still River Greenway Trail in Brookfield, and on the Sue Grossman Trail in Torrington. For yearly comparison of 15 individual trails see Appendix A.

## 2022 Counts by Day of Week

The day of week summary presents average uses by day of the week. Table 4 shows average counts by the day of week and Table 5 shows the percentage of trail use by day of week for each trail. Higher values are shaded darker green.

## Key Takeaways

- There was a decrease in average daily trail use in 2022 compared to 2021 and 2020. The average daily uses across 15 of the 21 trail counter locations with full datasets for 20182022 decreased from a high of 319 in 2020, to 281 in 2021 to 263 in 2022. This is higher than the average daily uses of 217 and 240 in 2018 and 2019, respectively.
- Studied trails saw heavier use on weekends. This trend has been consistent since 2017. Saturdays and Sundays accounted for approximately $18 \%$ of uses each on trails statewide, 9
followed by Friday with $14 \%$, Monday, Wednesday, and Thursday with $13 \%$ each, and Tuesday with $12 \%$ of trail uses.
- Some trails saw heavier use during the week than on weekends - most notably, the CT Fastrak trail saw heavier use on weekdays than on weekends, likely indicating higher levels of commuter use than recreational use - the trail runs parallel to the CT Fastrak Bus Rapid Transit line. More uniform use was also observed on Sue Grossman Trail in Torrington, Farmington Heritage Canal Trail in New Haven, and the Riverfront Recapture Trail in East Hartford.

Table 4. Average Counts by Day of Week, rounded to the nearest whole number. Day-of-week counts per trail are summed over the entire year and divided by 52 to see the pattern of average daily count per trail and the Average Day-of-Week Total over all 21 trails. The total average count for all days-of-week (average weekly total) over all trails is 40,326. The percentages are the day-of-week count divided by the total average count. Darker green indicates higher percentage.

| Counter Location | Mon | Tue | Wed | Thu | Fri | Sat |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Air Line Trail - East Hampton | 183 | 172 | 176 | 184 | 192 | 291 | 305 |
| Air Line Trail - Portland | 58 | 51 | 55 | 54 | 56 | 65 | 74 |
| Air Line Trail - Thompson | 49 | 44 | 44 | 43 | 54 | 105 | 110 |
| Charter Oak Greenway - Manchester | 172 | 181 | 189 | 175 | 178 | 246 | 194 |
| CTFastrak Trail - New Britain | 95 | 96 | 106 | 100 | 101 | 88 | 86 |
| Farmington Canal Heritage Trail - Cheshire | 364 | 347 | 399 | 374 | 432 | 574 | 613 |
| Farmington Canal Heritage Trail - Hamden | 281 | 280 | 316 | 288 | 315 | 506 | 515 |
| Farmington Canal Heritage Trail - New Haven | 271 | 289 | 298 | 289 | 301 | 329 | 312 |
| Groton - Bluff Point | 567 | 517 | 549 | 558 | 636 | 1018 | 1003 |
| Groton - G\&S Trolley Trail | 67 | 75 | 72 | 69 | 73 | 119 | 134 |
| Hop River Trail - Bolton | 163 | 151 | 174 | 177 | 200 | 348 | 363 |
| Hop River Trail - Vernon | 362 | 321 | 380 | 336 | 376 | 479 | 495 |
| Larkin State Bridle Trail - Oxford | 67 | 61 | 68 | 66 | 76 | 101 | 107 |
| Middlebury Greenway | 175 | 155 | 174 | 159 | 174 | 186 | 220 |
| Naugatuck River GW Trail - Derby | 695 | 656 | 741 | 663 | 718 | 778 | 784 |
| Norwalk River Valley Trail - Wilton | 279 | 248 | 265 | 267 | 280 | 366 | 422 |
| Riverfront Recapture - East Hartford | 174 | 169 | 208 | 176 | 169 | 175 | 160 |
| Riverfront Recapture - Hartford | 209 | 224 | 234 | 220 | 202 | 394 | 322 |
| Shoreline Greenway Trail - Madison | 166 | 161 | 180 | 180 | 211 | 287 | 307 |
| Still River Greenway- Brookfield | 456 | 430 | 474 | 438 | 477 | 508 | 489 |
| Sue Grossman Trail - Torrington | 259 | 234 | 272 | 249 | 263 | 223 | 230 |
| Average day-of-week total | 5112 | 4862 | 5374 | $\mathbf{5 0 6 5}$ | 5482 | 7187 | $\mathbf{7 2 4 4}$ |
| Percentage of average day-of-week use | $13 \%$ | $12 \%$ | $13 \%$ | $13 \%$ | $14 \%$ | $18 \%$ | $18 \%$ |

Table 5. Percentage of Counts by Day of Week by trail. Darker green indicates higher percentage.

| Counter Location | Mon | Tue | Wed | Thu | Fri | Sat | Sun |
| :--- | :---: | :--- | :--- | :--- | :--- | :--- | :--- |
| Air Line Trail - East Hampton | $12 \%$ | $11 \%$ | $12 \%$ | $12 \%$ | $13 \%$ | $19 \%$ | $20 \%$ |
| Air Line Trail - Portland | $14 \%$ | $12 \%$ | $13 \%$ | $13 \%$ | $14 \%$ | $16 \%$ | $18 \%$ |
| Air Line Trail - Thompson | $11 \%$ | $10 \%$ | $10 \%$ | $9 \%$ | $12 \%$ | $23 \%$ | $25 \%$ |
| Charter Oak Greenway - Manchester | $13 \%$ | $14 \%$ | $14 \%$ | $13 \%$ | $13 \%$ | $18 \%$ | $15 \%$ |
| CTFastrak Trail New Britain | $14 \%$ | $14 \%$ | $16 \%$ | $15 \%$ | $15 \%$ | $13 \%$ | $13 \%$ |
| Farmington Canal Heritage Trail - Cheshire | $12 \%$ | $11 \%$ | $13 \%$ | $12 \%$ | $14 \%$ | $18 \%$ | $20 \%$ |
| Farmington Canal Heritage Trail - Hamden | $11 \%$ | $11 \%$ | $13 \%$ | $12 \%$ | $13 \%$ | $20 \%$ | $21 \%$ |
| Farmington Canal Heritage Trail - New Haven | $13 \%$ | $14 \%$ | $14 \%$ | $14 \%$ | $14 \%$ | $16 \%$ | $15 \%$ |
| Groton - Bluff Point | $12 \%$ | $11 \%$ | $11 \%$ | $12 \%$ | $13 \%$ | $21 \%$ | $21 \%$ |
| Groton - G\&S Trolley Trail | $11 \%$ | $12 \%$ | $12 \%$ | $11 \%$ | $12 \%$ | $19 \%$ | $22 \%$ |
| Hop River Trail - Bolton | $10 \%$ | $10 \%$ | $11 \%$ | $11 \%$ | $13 \%$ | $22 \%$ | $23 \%$ |
| Hop River Trail - Vernon | $13 \%$ | $12 \%$ | $14 \%$ | $12 \%$ | $14 \%$ | $17 \%$ | $18 \%$ |
| Larkin State Bridle Trail - Oxford | $12 \%$ | $11 \%$ | $12 \%$ | $12 \%$ | $14 \%$ | $19 \%$ | $20 \%$ |
| Middlebury Greenway | $14 \%$ | $12 \%$ | $14 \%$ | $13 \%$ | $14 \%$ | $15 \%$ | $18 \%$ |
| Naugatuck River GW Trail - Derby | $14 \%$ | $13 \%$ | $15 \%$ | $13 \%$ | $14 \%$ | $15 \%$ | $16 \%$ |
| Norwalk River Valley Trail - Wilton | $13 \%$ | $12 \%$ | $12 \%$ | $13 \%$ | $13 \%$ | $17 \%$ | $20 \%$ |
| Riverfront Recapture - East Hartford | $14 \%$ | $14 \%$ | $17 \%$ | $14 \%$ | $14 \%$ | $14 \%$ | $13 \%$ |
| Riverfront Recapture - Harfford | $12 \%$ | $12 \%$ | $13 \%$ | $12 \%$ | $11 \%$ | $22 \%$ | $18 \%$ |
| Shoreline Greenway Trail - Madison | $11 \%$ | $11 \%$ | $12 \%$ | $12 \%$ | $14 \%$ | $19 \%$ | $21 \%$ |
| Still River Greenway - Brookfield | $14 \%$ | $13 \%$ | $15 \%$ | $13 \%$ | $15 \%$ | $16 \%$ | $15 \%$ |
| Sue Grossman Trail - Torrington | $15 \%$ | $14 \%$ | $16 \%$ | $14 \%$ | $15 \%$ | $13 \%$ | $13 \%$ |



Figure 3. Average Daily Trail counts, aggregated over 15 trails with data for 2018-2022. Trail counts are based on data collected from trail sites with data available from 2018 to 2022. These sites are in East Hampton, New Britain, Cheshire, Hamden, New Haven, Bolton, Vernon, Oxford, Middlebury, Wilton, Hartford, East Hartford, Madison, Brookfield, and Torrington.
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## 2022 Counts by Hour of Day

The Hour of Day summary presents trail counts by time of day. Table 6 shows the total hourly counts over all 21 trails, averaged over 365 days, as well as the hourly percentage of daily use pattern. Table 7 shows the percentage of daily counts by hour-of-day for each trail. Higher values are shaded darker green.

## Key Takeaways

- Most trail use (76\%) takes place between $9 \mathrm{am}-5 \mathrm{pm}$. This is consistent with findings throughout the Connecticut Trail Census data collection. The busiest hour in 2022 was $12 \mathrm{pm}-1 \mathrm{pm}$ on average, followed by the 11am, 10am, and 4 pm hours.
- Peaks for the noon hour in Hartford and East Hartford likely reflect the popularity of lunchtime walks by workers in nearby office buildings.
- One trail shows commuter use: the CT Fastrak Trail in New Britain had a higher rate of commuter use and more pronounced early morning and late afternoon peaks as a result.

Table 6. Average counts per hour for all 21 trails over the calendar year, rounded to the nearest whole number. Hourly counts per trail were summed over the entire year and divided by 365 to see the pattern of average hourly count per trail and the Average Hourly Total. The total average count for all hours over all trails is 5,767 which corresponds to the aggregated Average Daily Total in Table 1 (disregarding some rounding errors). The percentages are the hourly count divided by the total average count.

|  | $\underset{\underset{\sim}{N}}{\underset{N}{2}}$ | $\sum_{i}$ | $\sum_{N}^{i}$ | $\sum_{\boldsymbol{k}}$ | $\underset{\forall}{i}$ | $\sum_{i}$ | $\sum_{i}^{i}$ | $\sum_{\mathbb{N}}$ | $\sum_{\infty}$ | $\sum_{\sigma}$ | $\sum_{i}$ | $\underset{\sim}{\mathbb{K}}$ | $\underset{\underset{N}{N}}{\substack{N}}$ | $\sum_{i}$ | $\sum_{N}^{N}$ | $\sum_{n}$ | $\sum_{i}$ | $\sum_{i}$ | $\sum_{0}$ | $\sum_{N}$ | $\sum_{\infty}$ | $\sum_{\Omega}^{2}$ | $\sum_{0}^{5}$ | $\sum_{0}^{7}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Average Hourly Total | 7 | 4 | 3 | 3 | 4 | 25 | 98 | 208 | 347 | 454 | 503 | 512 | 516 | 486 | 476 | 487 | 494 | 482 | 349 | 195 | 70 | 23 | 13 | 9 |
| Percent | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 2\% | 4\% | 6\% | 8\% | 9\% | 9\% | 9\% | 8\% | 8\% | 8\% | 9\% | 8\% | 6\% | 3\% | 1\% | 0\% | 0\% | 0\% |

Table 7. Percentage of Daily Use by Hour of Day. Numbers are percentages. Darker green indicates a higher percentage. Hourly counts per trail were summed over the entire year and divided by 365 to see the pattern of average hourly count per trail.

| Counter Location |  | $\underset{\sim}{\gtrless}$ | $\sum_{\mathbb{N}}$ |  | $\underset{\star}{i}$ | $\sum_{i}$ | $\underset{6}{\sum}$ | $\sum_{\mathbb{K}}$ | $\sum_{\infty}^{\infty}$ |  | $\sum_{6}$ | $\sum_{i}$ |  | $\underset{\underset{V}{2}}{\sum}$ | $\underset{\underset{N}{N}}{\underset{N}{N}}$ | $\sum_{a}$ | $\sum_{a}$ | $\sum_{\Omega}$ | $\Sigma$ |  | $\sum_{\Omega}$ | $\sum_{\Omega}$ | $\sum_{\Omega}$ | $\sum$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Air Line Trail - East Hampton | 0 | 0 | 0 | - |  | 0 | 1 |  |  |  | 7 |  |  | 10 | 10 | 10 | 10 | 10 |  | 9 | 8 | 5 | 2 | 1 | 0 |  |  |
| Air Line Trail - Portland | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 5 |  |  | 7 | 8 |  | 10 | 8 | 7 | 8 | 8 |  | 9 | 10 | 7 | 3 | 1 | 0 |  |  |
| Air Line Trail - Thompson | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |  |  | 5 | 8 | 8 | 10 | 10 | 12 | 11 | 12 |  | 9 | 7 | 4 | 2 | 1 | 1 |  |  |
| Charter Oak Greenway Manchester | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |  |  | 7 | 9 | 9 | 8 | 7 | 7 | 8 |  | 8 | 8 | 10 | 8 | 6 | 3 | 1 |  |  |
| CTFastrak - New Britain | 1 | 1 | 0 | 0 | 0 | 1 | 4 | 6 |  | 4 | 4 | 6 | 6 | 5 | 5 | 5 | 7 | 8 | 8 | 1 | 11 | 7 | 5 | 3 | 2 |  |  |
| Farmington Canal Heritage Trail <br> - Cheshire | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |  | 5 | 8 | 9 | 9 | 10 | 10 | 9 | 9 |  | 9 | 9 | 8 | 6 | 3 | 1 | 0 |  |  |
| Farmington Canal Heritage Trail - Hamden | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 |  | 8 | 9 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 8 | 6 | 3 | 1 | 0 |  |  |
| Farmington Canal Heritage Trail <br> - New Haven | 1 | 0 | 0 | 0 | 0 | 0 | 2 |  |  | 7 | 8 | 8 |  | 8 | 7 | 7 | 6 |  |  | 9 | 9 | 6 | 4 | 2 | 1 |  | 1 |
| Groton - Bluff Point | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |  | 4 | 6 | 8 |  | 10 | 10 | 10 | 10 | 10 |  | 9 | 8 | 5 | 2 | 1 | 0 |  | 0 |
| Groton - G\&S Trolley | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |  | 5 | 8 | 9 | 9 | 10 | 9 | 9 | 9 | 10 |  | 9 | 9 | 6 | 2 | 0 | 0 |  | 0 |
| Hop River Trail - Bolt | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |  | 5 | 8 | 9 |  | 9 | 9 | 9 | 9 |  |  | 9 | 9 | 6 | 3 | 1 | 0 |  |  |
| Hop River Trail - Vernon | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 |  | 7 | 9 | 10 |  | 9 | 8 | 8 | 8 |  |  | 8 | 9 | 6 | 3 | 1 | 0 |  |  |
| Larkin Trail - Oxford | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 |  | 6 | 9 | 10 |  | 10 | 9 | 8 | 8 |  |  | 9 | 8 | 4 | 2 | 1 | 0 |  |  |
| Middlebury Greenway | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 6 |  | 8 | 10 | 10 |  | 9 | 9 | 8 | 7 |  |  | 7 | 7 | 6 | 3 | 1 | 0 |  | 0 |
| Naugatuck River - Derby | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 5 |  | 7 | 8 | 8 | 8 | 8 | 7 | 7 | 7 |  |  | 8 | 8 | 7 | 5 | 2 | 1 |  |  |
| Norwalk River Valley Trail Wilton | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |  | 7 | 11 | 11 |  | 10 | 9 | 8 | 8 | 8 | 8 | 8 | 8 | 4 | 2 | 0 | 0 | 0 |  |
| Riverfront Recapture - East Hartford | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |  | 4 | 6 | 6 | 7 | 8 | 12 | 9 | 8 | 7 |  | 9 | 9 | 9 | 5 | 2 | 1 |  |  |
| Riverfront Recapture - Hartford | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |  | 5 | 5 | 5 |  | 8 | 11 | 10 | 9 |  |  | 8 | 8 | 7 | 5 | 2 | 1 |  | 0 |
| Shoreline Greenway - Madison | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |  | 6 | 8 | 11 |  | 11 | 10 | 8 | 9 | 9 |  | 9 | 7 | 4 | 2 | 1 | 0 |  |  |
| Still River Greenway - Brookfield | 0 | 0 | 0 | 0 | 0 | 0 | 2 |  |  | 6 | 8 | 8 |  | 9 | 8 | 8 | 8 | 8 |  | 9 | 9 | 6 | 4 | 1 | 0 |  |  |
| Sue Grossman Trail - Torrington | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 4 |  | 8 | 9 | 9 |  | 8 | 9 | 7 | 7 | 8 |  | 8 | 8 | 7 | 3 | 1 | 0 | 0 |  |

## 2022 Counts by Day and Weather

Weather is an important factor when looking at trail use data. Figures 3, 4, and 5 present daily count totals across all trails as compared with daily high temperature, precipitation, and snow cover, respectively, as recorded at Bradley International Airport.

## Key Takeaways

- Weather is an influential factor impacting levels of daily trail use. Although most of the trail use occurs in the summer/spring and fall, approximately $12 \%$ of use occurred in winter. Even on cold and/or rainy days, people are still using trails.
- Snow cover decreases trail use. There was significant snow cover recorded (at Bradley International Airport) throughout January, February, March, and December of 2022, and overall reduced trail use coincided with that snow cover (Figure 5).
- Spring Fever! On unseasonably warm days in winter and early spring, trail use spikes. For example, the total trail use across all count locations spiked to 10,733 (compared to less than 5,000 on days before or after) on February 12, a dry 59-degree day, and to 12,403 (compared to 10,287 or less before or after) on March 18, 2022, a dry 76-degree day.
- September 10, 2022, saw the highest uses recorded across all trail count locations with 14,210.


Figure 3. Trail Counts (21 trails) and Temperature. Weather data for Bradley International Airport, NOAA weather station USW00014740, obtained from NOAA - National Centers for Environmental Information ${ }^{2}$.

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Figure 4. Trail Counts (21 trails) and Precipitation.


Figure 5. Trail Counts (21 trails) and Snow Cover. Generally, trail use decreases when there is snow cover.

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## Mode Share

The TRAFx IR counters cannot differentiate between different types of trail user. Volunteers conducting manual counts for calibration purposes, however, do collect information about the mode of travel by classifying trail users into three categories: Pedestrian (walkers, runners, etc.) Bike (all types of cycles, includes e-bikes, recumbent, tricycle, etc.), and Other (using a wheelchair, stroller, roller skates/blades, skateboard, etc.).
Figure 6 shows mode shares for individual trails recorded during manual counts from 20172022. Riverfront Recapture - Hartford (94\%) and Norwalk River Valley Trail - Wilton (93\%) had the highest proportion of pedestrian use. The Farmington Canal Heritage Trail in Cheshire and the Hop River Trail in Bolton have seen the highest proportion of cyclist use with $67 \%$ and $58 \%$ mode share, respectively.


Figure 6. Mode share per trail from manual counts conducted between 2017-2022.

## Appendix A - Trail Specific Comparisons of 2018-2022 Monthly Data



















[^0]:    ${ }^{1}$ https://cttrailcensus.uconn.edu/
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[^1]:    ${ }^{2}$ https://www.ncdc.noaa.gov/cdo-web/datasets/GHCND/stations/GHCND:USW00014740/detail 14

