

# CLEAR 2020 Mini-Webinar Series

## Communicating Trail Data through the Connecticut Trail Census



Photo: Visit CT

*Wednesday April 15, 2020, 1:30-2:00 pm*  
*Laura Brown, Community & Economic Development Educator, University of Connecticut  
Extension*

# Statewide volunteer-based data collection & education program on multi-use trails

*To encourage data  
informed  
decision-making &  
promote resident  
participation in trail  
monitoring & advocacy*

[www.cttrailcensus.uconn.edu](http://www.cttrailcensus.uconn.edu)



# Background

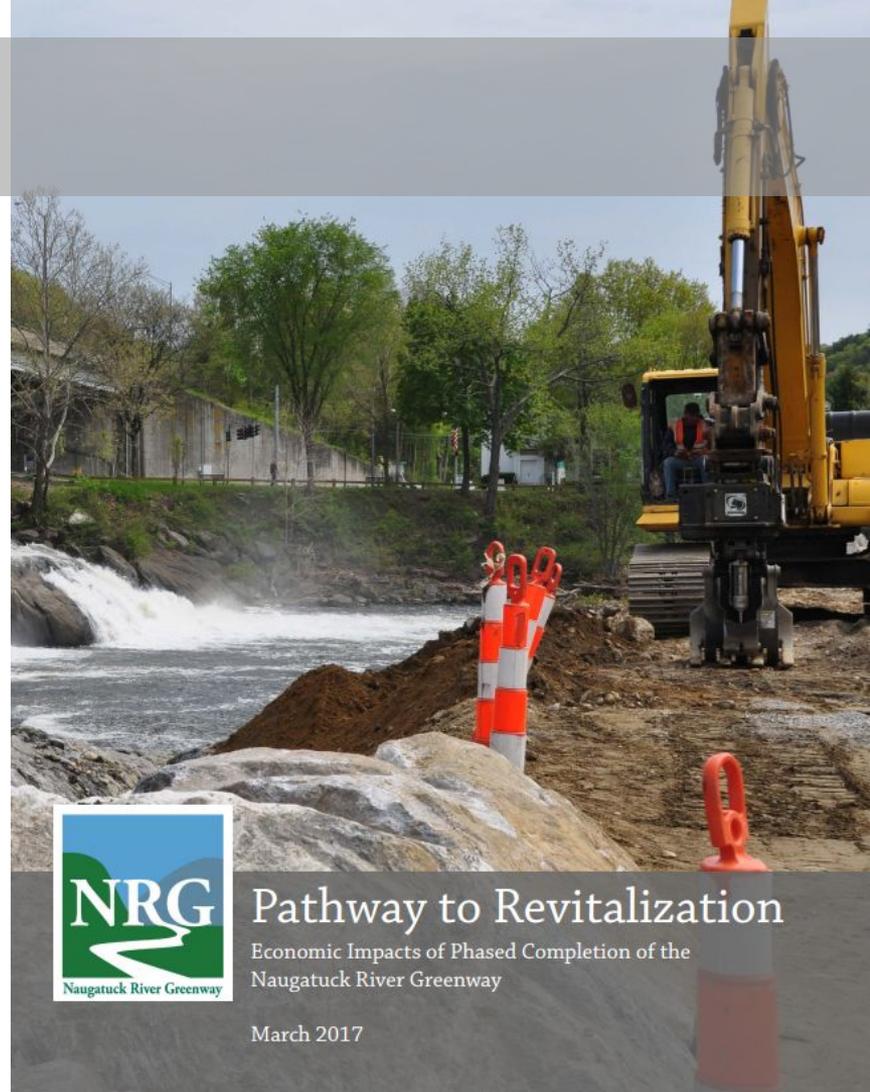
## 2015-2016 Naugatuck River Greenway Economic Impact Study

Little existing data for multi-use trails

Needed for user data on open trail sections

- IR Trail Counters / Intercept Surveys
- Focus Groups
  - Business Owners
  - Trail Administrators
  - Health Professionals

***“Wouldn't it be great if we could collect this information statewide on a regular basis?”***



## Pathway to Revitalization

Economic Impacts of Phased Completion of the  
Naugatuck River Greenway

March 2017



## STATEWIDE

Urban, rural and suburban multi-use trails - 20 sites in 2019

## MULTI-YEAR

Multi-year information about trail use, user demographics, economic impacts, and trail amenities  
Identification of patterns and trends

## VOLUNTEER - BASED

Active community participation  
Data informed decision-making

# 20 Participating Trail Sites



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## Infrared Counters

TRAFx Counters

Estimate uses and use patterns

24/7 permanent counters

Jan 1-Dec 31 data analysis

Calibrated with manual counts



# INFRARED TRAIL COUNTER

Generation 4

Infrared scope



11cm (4.3in)

1m (3.3ft) cable

7cm (2.8in)



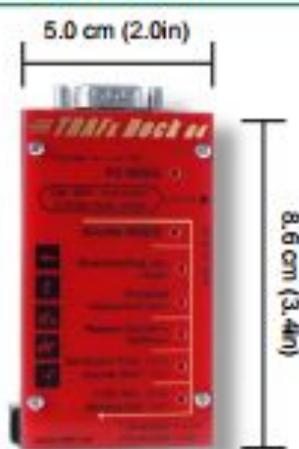
11cm (4.3in)

Electrical box

## TRAFx Dock

To download counters in the field (without PC)

To configure counters (with PC)



## TRAFx DataNet



To view and manage your data

### Your counter sites

Site name last 12 months	Photo	Map	Site Report
<a href="#">Fire Road</a> 			
<a href="#">Vista Trail</a> 			
<a href="#">Oaks Trail</a> 			



## Connecticut Trail Census

Statewide multi-use trail user study

Date 6/2/2019

Location Hop River - Bolton

Name Aaron Budris

Time Start 11:00<sup>am</sup> Count 1 Hour

Weather 75 degrees, sunny

All times Eastern Daylight Saving  
Record groups on the same line.  
Record strollers, skateboards, w  
Record additional activity in con  
Estimate the number of children  
(note that children should be in  
Send scanned completed forms

#	Time	Ped	Bike	Other	Comment	# <18
1	11:04	3			walking	
2	11:11	1			running	
3	11:15	1		1	walking with stroller	1
4	11:17	1			walking dog	
5	11:18		1			
6	11:23		4		group of cyclists	
7	11:26	1			walking	
8	11:33	2	2		adults with kids on bikes	2
9	11:40	2			running	
10	11:42		1		teen on bike	1
11	11:45	1		2	walking w/double stroller	2
12	11:45	1			walking	
13	11:49	3		1	walking, 1 in wheelchair	
14	11:51	1		1	walking, scooter	1
15	11:55	1			running	
16	11:57			1	teen on skateboard	1
17	11:59	2		2	2 adults, 2 strollers	2
18						
19						

Calibrating the IR Counters: Manual Counts

# Manual Count Instructions Provided to Volunteers



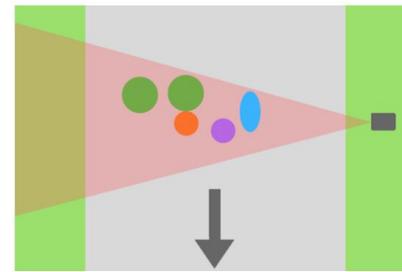
The infrared counters being used to record trail uses for the CT Trail Census are not perfect. They inherently under and over count in certain situations. For instance, users passing the counter at the same time will likely be counted as one user, and individuals stopping in front of the counter could be counted several times.

Trail Coordinators will be responsible for periodic in person manual counts of users on their trail. These counts will be used to develop correction factors to be applied to the IR counts to account for discrepancies, and will also offer insight into how the trail is being used, and ensure that the counters are functioning properly. Plan to conduct **10 hours** of manual counts before the end of the year.

Some general guidelines:

- All counts must be done in one hour blocks, one hour per sheet, beginning exactly at the top of the hour (Official US DST – [www.time.gov](http://www.time.gov))
- Counts should be done from a location with line of sight to the counter, but not too close to be intimidating or change normal activity on the trail. You should be a passive observer.
- Make sure the counter is functioning before starting counts.
- Only count people passing the counter location.
- Record multiples passing the counter simultaneously on the same line.
- Cyclists and pedestrians counted separately.
- Users in/ on wheelchairs, strollers, rollerblades, etc. counted as “other”. Only occupied strollers, etc. counted.

Questions? [cttrailcensus@gmail.com](mailto:cttrailcensus@gmail.com).



The Infrared counters used for the CT Trail Census record the temperature differential between trail users and the background within the counter’s “line of sight”. We are asking coordinators to group users that pass the counter simultaneously on the same line to reflect what the counter is likely recording.

Enter trail and town, volunteer’s name, date, time and weather ([www.weather.com](http://www.weather.com)) All times should be synchronized to official US Daylight Savings Time (DST) ([www.time.gov](http://www.time.gov)).

Multiple people passing the counter at the same time in the same direction (SD) or opposite direction (OD) counted on one line.

People in strollers or wheelchairs, or on skates, etc. counted as “other” – explain in comments.

Groups not passing counter at the same time recorded on separate lines

Distinguish between walking/running for pedestrians and detail “other” mode in comments.

Enter totals, E-mail a scan/photo to [cttrailcensus@gmail.com](mailto:cttrailcensus@gmail.com). Send original using provided envelope.

## Connecticut Trail Census Manual Count F

Location Airline Trail E. Hampton  
 Name Aaron Budris  
 Date March 30, 2017  
 Time Start 12:00 pm  
 Time End 1:00 pm  
 Weather 60 degrees, sunny

All times Eastern Daylight S.  
 Record multiples passing cc  
 Record strollers, skateboar  
 Record activity in comment  
 Send completed forms to:  
 Aaron Budris, NVCOG, 49 Le

#	Time	Ped	Bike	Other	Comment	#
1	12:03	2			Walking OD	41
2	12:05	1			Jogging	42
3	12:10	2			Walking SD, 1 w/dog	43
4	12:11		1			44
5	12:13	1		1	Walking w/stroller	45
6	12:13			1	rollerblades	46
7	12:15	1			Walking	47
8	12:19	2	1	1	SD, walking w/stroller	48
9	12:31	1			Walking Dog	49
10	12:39		1			50
11	"		1			51
12	"		1		Bikes in line	52
13	12:48	2			Jogging SD	53
14	12:50	1		2	Walking, double stroller	54
15	12:52	1		1	Walking, Scooter	55
16	12:56		3		SD	56
17	12:58	3		1	Walking, 1 in wheelchair	57
18						58
19						59

70					
79					
80					
<b>TOTALS:</b>	<b>17</b>	<b>8</b>	<b>7</b>	<b>=</b>	<b>32</b>

Trail	# Manual Counts	Calibration Factor
CT FasTrack New Britain	9	2.653846154
Hop River Trail Bolton	10	2.363057325
Larkin Trail Oxford	8	1.847457627
Naugatuck River Greenway Derby	8	1.839464883
Shoreline Trail Madison	8	1.81372549
Hop River Trail Vernon	10	1.614973262
Still River Greenway Brookfield	5	1.55
Sue Grossman Trail Torrington	10	1.544354839
Norwalk River Valley Trail Wilton	5	1.291262136
Middlebury Greenway	0	1.291262136
Farmington Canal Heritage Trail Cheshire	0	1.291262136
Farmington Canal Heritage Trail Hamden	0	1.291262136
Farmington Canal Heritage Trail New Haven	0	1.291262136
Air Line Trail East Hampton	1	1.291262136
Air Line Trail Thompson	0	1.291262136



Manual counts used to develop calibration factors and annual use estimates for each site

# Finding the Data

## Counter Sites

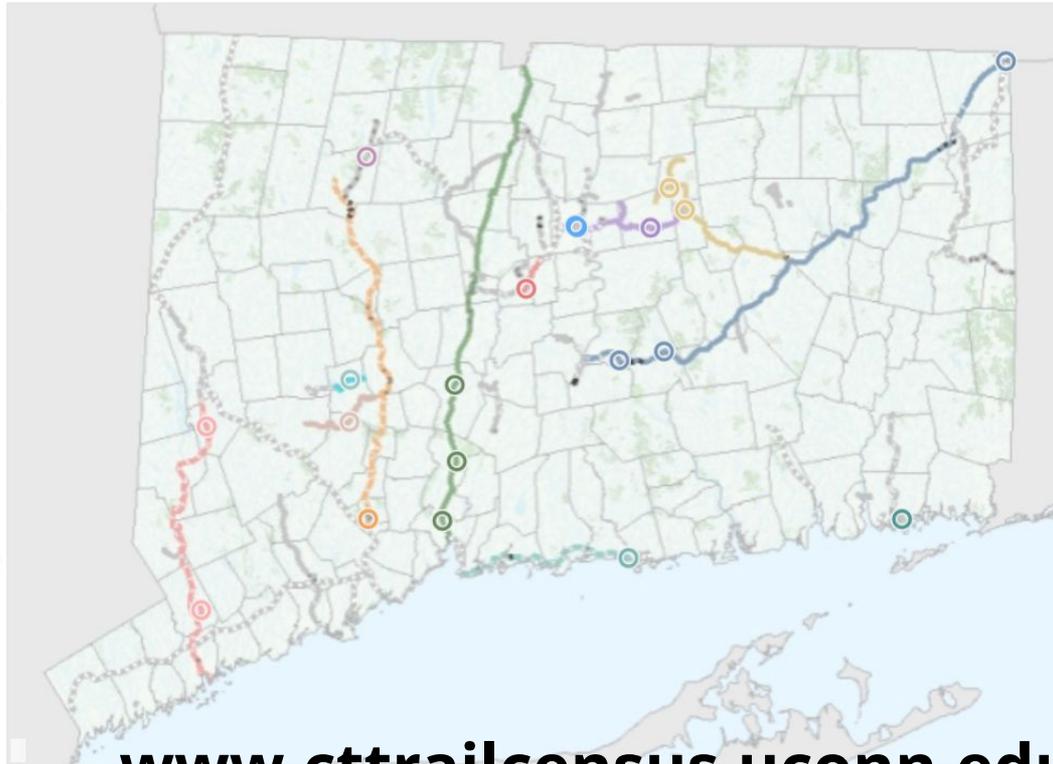
Click on a circle or the list to see trail statistics below. Multiple sites may be selected. Infrared counters report the number of times the counter is passed, which is different than the number of users or visitors. Additional calibration factors have been applied to account for known errors.

Total Uses\* 393,537

Average Daily Uses 228

Missing Days\* 95

\* Aggregate of all sites selected



- Air Line Trail East Hampton
- Air Line Trail Portland
- Air Line Trail Thompson
- Charter Oak Greenway Manchester
- CTFastrak Trail New Britain
- Farmington Canal Heritage Trail Cheshire
- Farmington Canal Heritage Trail Hamden
- Farmington Canal Heritage Trail New Haven
- G&S Trolley Trail Groton
- Hop River Trail Bolton
- Hop River Trail Vernon
- Larkin State Bridle Trail Oxford
- Middlebury Greenway
- Naugatuck River Greenway Trail Derby
- Norwalk River Valley Trail Wilton
- Riverfront Recapture Trail East Hartford
- Riverfront Recapture Trail Hartford
- Shoreline Greenway Trail Madison
- Still River Greenway Brookfield
- Sue Grossman Trail Torrington

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# 2019 Data Summary

Trail Location	Total Count	Days with Data	Daily Average	Daily Average X 365
Air Line Trail, East Hampton	73,108	365	200	73,108
Air Line Trail, Portland	8,824	176	50	18,300
Air Line Trail, Thompson	6,901	346	20	7,280
Charter Oak Greenway, Manchester	53,533	176	304	111,020
CTFastrak Trail, New Britain	43,580	365	119	43,580
Farmington Canal Heritage Trail, Cheshire	109,296	365	299	109,296
Farmington Canal Heritage Trail, Hamden	52,051	284	183	66,897
Farmington Canal Heritage Trail, New Haven	116,228	365	318	116,228
G and S Trolley Trail, Groton	22,808	193	118	43,134
Hop River Trail, Bolton	81,600	355	230	83,899
Hop River Trail, Vernon	146,978	360	408	149,019
Larkin State Bridle Trail, Oxford	20,751	255	81	29,702
Middlebury Greenway	66,988	365	184	66,988
Naugatuck River Greenway, Derby	160,754	266	604	220,583
Norwalk River Valley Trail, Wilton	37,629	257	146	53,290
Riverwalk Trail, East Hartford	69,220	365	190	69,220
Riverwalk Trail, Hartford	143,243	365	392	143,243
Shoreline Trail, Madison	92,609	365	254	92,609
Still River Greenway, Brookfield	178,577	357	500	182,579
Sue Grossman Trail, Torrington	59,084	334	177	64,568
<b>Total</b>	<b>1,544,158</b>	<b>6279</b>	<b>4777</b>	<b>1,744,543</b>

IR Counters  
Recorded 1.74  
million uses  
annually across all  
trails

# Day of Week Summary Percent of Totals Table:

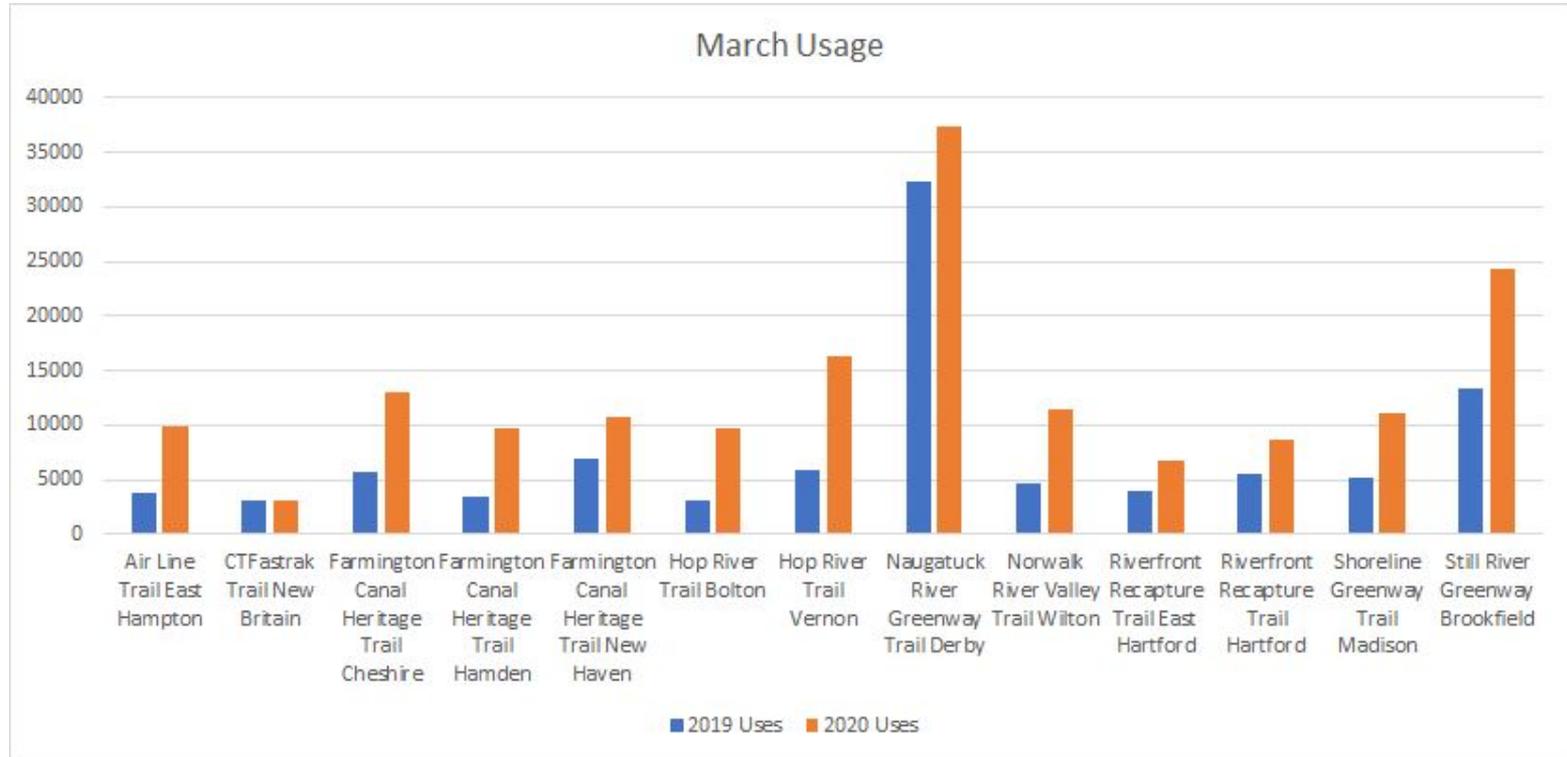
Trail	Date						
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Air Line Trail, East Hampton	23%	13%	11%	11%	10%	11%	21%
Air Line Trail, Portland	22%	15%	12%	10%	11%	13%	18%
Air Line Trail, Thompson	25%	12%	10%	7%	8%	12%	26%
Charter Oak Greenway, Manchester	20%	14%	13%	9%	12%	11%	22%
CTFastrak Trail, New Britain	11%	15%	15%	16%	15%	15%	13%
Farmington Canal Heritage Trail, Cheshire	23%	13%	11%	11%	10%	11%	21%
Farmington Canal Heritage Trail, Hamden	21%	10%	11%	12%	9%	11%	26%
Farmington Canal Heritage Trail, New Haven	14%	14%	14%	14%	13%	14%	17%
G&S Trolley Trail, Groton	22%	12%	12%	10%	10%	12%	22%
Hop River Trail, Bolton	26%	12%	9%	10%	9%	11%	24%
Hop River Trail, Vernon	20%	14%	10%	12%	12%	12%	20%
Larkin State Bridle Trail, Oxford	24%	10%	11%	10%	10%	11%	24%
Middlebury, Greenway	17%	15%	14%	14%	12%	12%	17%
Naugatuck River Greenway Trail, Derby	17%	14%	15%	12%	12%	12%	18%
Norwalk River Valley Trail, Wilton	19%	12%	14%	12%	11%	13%	20%
Riverfront Recapture Trail, East Hartford	11%	16%	14%	16%	13%	13%	17%
Riverfront Recapture Trail, Hartford	14%	12%	13%	14%	12%	12%	24%
Shoreline Greenway Trail, Madison	23%	13%	11%	11%	10%	11%	22%
Still River Greenway, Brookfield	17%	14%	14%	13%	11%	12%	18%
Sue Grossman Trail, Torrington	15%	15%	14%	15%	12%	12%	16%

# COVID-19 Trail Impact Report

Trail	2019	2020	% Change
Air Line Trail East Hampton	3709	9887	<b>166.7%</b>
CTFastrak Trail New Britain	3165	3031	<b>-4.2%</b>
Farmington Canal Heritage Trail <i>Cheshire</i>	5772	13001	<b>125.4%</b>
Farmington Canal Heritage Trail <i>Hamden</i>	3527	9771	<b>177.0%</b>
Farmington Canal Heritage Trail <i>New Haven</i>	6912	10760	<b>55.7%</b>
Hop River Trail <i>Bolton</i>	3078	9755	<b>216.9%</b>
Hop River Trail <i>Vernon</i>	5875	16297	<b>177.4%</b>
Naugatuck River Greenway Trail Derby	32336	37335	<b>15.5%</b>
Norwalk River Valley Trail Wilton	4705	11520	<b>144.9%</b>
Riverfront Recapture Trail <i>East Hartford</i>	3893	6784	<b>74.3%</b>
Riverfront Recapture Trail <i>Hartford</i>	5546	8578	<b>54.7%</b>
Shoreline Greenway Trail Madison	5199	11145	<b>114.7%</b>
Still River Greenway Brookfield	13414	24235	<b>80.7%</b>

**An analysis of thirteen trails comparing March 2019 to March 2020 found a 77% total increase in uses**

# COVID-19 Trail Impact Report



# COVID-19 Trail Impact Report

## *Key Takeaways*

**Connecticut's Busiest Trails Got Even Busier:** The increase in volume from the previous March was dramatic: Naugatuck (+4999), Still River (+10,821) and Hop River (+6677).

**Trails are Family-Friendly Spaces:** Trail volunteers are seeing more families: "There are many people using the Greenway who have either never been there or very seldom. The newer users include more families with children."

**Still River Greenway Reaches a Social Distance Limit:** In Brookfield, the increase in trail use on the Still River Greenway reached a point where social distancing was no longer feasible, and the trail was closed on March 27.

**Commuter-Oriented Trail Use Cools:** Commuter Trails saw only double-digit increases: East Hartford (+74.26%) and Hartford (+54.76%); and New Haven (+55.67%).

# Intercept Surveys

Volunteer assessed  
Standardized paper survey  
Why and how are trails used  
Demographics, spending & health



# Trail Census User Survey

None of the information gathered will be used to identify you individually. All data will be kept confidential and will be aggregated for analysis.

1. What is your home ZIP code? \_\_\_\_\_
2. How are you traveling on the trail today?
- Walk       Wheelchair or mobility aid  
 Run/Jog     Other \_\_\_\_\_  
 Bike
3. Approximately how many minutes do you plan to spend on the trail today? \_\_\_\_\_ minutes
4. During your visit to the trail today do you anticipate crossing this point on the trail again?
- \_\_\_\_ Yes \_\_\_\_ No
5. What is your purpose? (select all that apply)
- Recreation       Exercise - Prescribed  
 Relaxation       Family time  
 Dog walking     Socializing  
 Travel to school  Group activity  
 Travel to shopping  Event  
 Travel to work     Tourism  
 Exercise           Other \_\_\_\_\_
6. How did you get to the trail today?
- Car or Motorcycle (alone)  
 Car or Motorcycle (with others)  
 Public Transit (bus/train)  
 Bicycle             Run/Jog  
 Walk                 Other \_\_\_\_\_
7. How often do you use the trail at this location?
- First time             Once a week  
 5 or more times/week  Once a month  
 2-4 times/week     Every few months

8. During which seasons do you generally use the trail? (Select all that apply)
- Summer             Winter  
 Fall                  Spring
9. On this trip to the trail only, how much have you spent or do you plan to spend on each of the following? (If nothing write "0"):
- Beverages \$ \_\_\_\_\_  
Snack foods \$ \_\_\_\_\_  
Full meals at a restaurant \$ \_\_\_\_\_  
Gas \$ \_\_\_\_\_  
Retail (gifts, clothing, etc.) \$ \_\_\_\_\_  
Equipment rental \$ \_\_\_\_\_  
Lodging \$ \_\_\_\_\_  
Nearby activities for recreation or amusements \$ \_\_\_\_\_  
Other \_\_\_\_\_ \$ \_\_\_\_\_
10. Did your use of this trail influence your purchase of gear, supplies, equipment, clothing or rentals in the past year? \_\_\_\_ Yes \_\_\_\_ No
11. If you answered yes above, approximately how much did you spend in the past year on gear, supplies, equipment, clothing or rentals related to your use of this trail: \$ \_\_\_\_\_
12. What are your favorite things about this trail?
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
13. What would improve your experience on this trail? \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

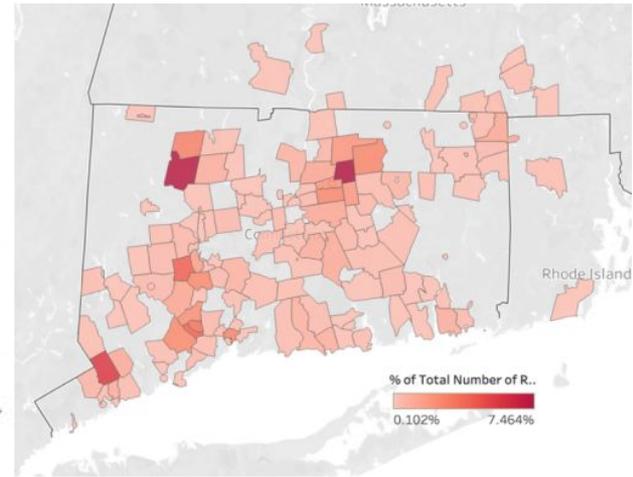
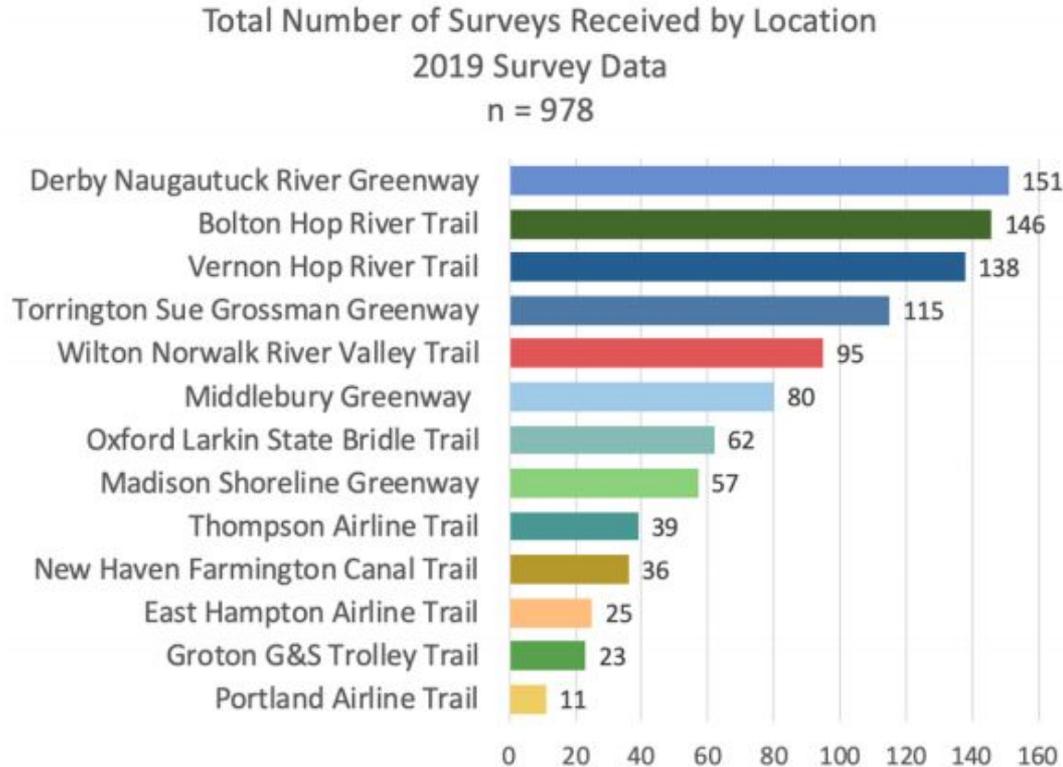
14. During an average week, how many days do you complete at least 30 minutes of physical activity? \_\_\_\_\_ # days/week
15. How many of these days include activity that causes an increase in breathing or heart rate? \_\_\_\_\_ # days/week
16. During an average week, what percent of your physical activity do you complete using this trail? \_\_\_\_\_ %
17. What is your age range?
- Under 18             45-54  
 18-24               55-64  
 25-34               65-74  
 35-44               75 or over
18. What best represents your household income?
- Under \$24,999       \$100,000 - \$199,999  
 \$25,000 - \$49,999  \$50,000 - \$99,999  
 \$50,000 - \$99,999  Over \$200,000
19. What is your race or ethnicity? (Select all that apply)
- White                 Asian  
 Black or African American  Pacific Islander  
 American Indian     Spanish, Hispanic or Latino  
 Other \_\_\_\_\_
20. What is your sex?
- Female               Male  
 Prefer to self-describe \_\_\_\_\_

Connecticut Trail Census  
Statewide multi-use trail user study



# Survey Data

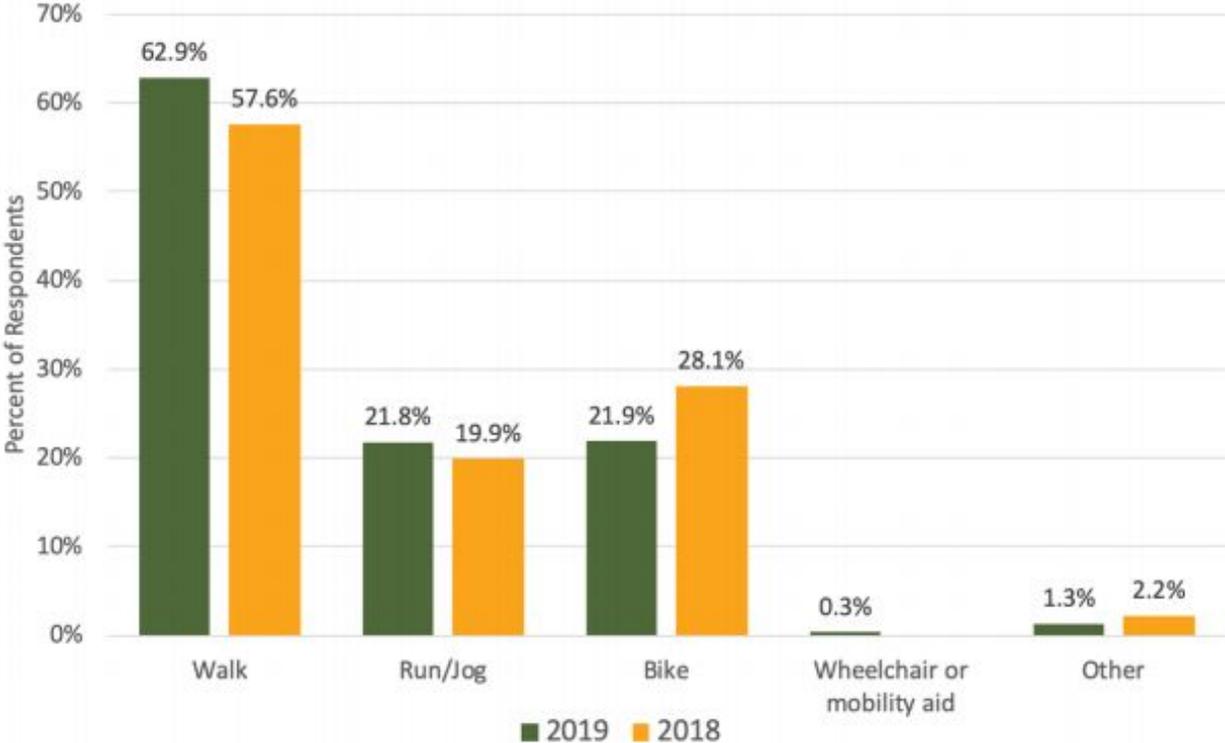
## Chart 1: Number of Surveys Received by Location



# Survey Data

**Chart 9: Mode of Activity on the Trail**

Survey Data Comparison 2018 - 2019 n= 1126, 973



# Survey Data

Watch for the new  
QR based survey



**Connecticut Trail  
Census Survey**

**Help us understand how people  
use trails in Connecticut**

Take this 5 minute survey by scanning the QR Code  
or type this link in your browser  
[s.uconn.edu/trailcensus2020](https://s.uconn.edu/trailcensus2020)



**Thank you!**

Learn more at [cttrailcensus.uconn.edu](https://cttrailcensus.uconn.edu), find us on [Facebook](#) or  
email [cttrailcensus@gmail.com](mailto:cttrailcensus@gmail.com)

# Community Impacts

*“Our trail is already developed. However we use the data to continue to build support.”*

*“Used [CTTC trail use data] as part of town’s Branding Committee efforts to get more/better access to downtown from the trails.”*

*“We are using data to document need for visitor facilities*

*“We now have statistics supporting their use [and] to counter the ‘I never see anyone using the trails’ argument.”*



# Next steps & Opportunities

- Statewide Trailfinder mapping project - DEEP & DOT
- Funded research to Dr. Sohyun Park \$90,000 on Trails and Community/Family Resilience
- Ongoing partnering with BikeWalkCT on community education programming
- Multi-State Colloquium on Bike/Ped Monitoring Best Practices

# Thank you:

**Laura Brown**, Community & Economic  
Development Educator,  
University of Connecticut Extension  
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**CLEAR**

