



2022 BICYCLE & PEDESTRIAN COUNTING PILOT

New Hampshire is known for quaint New England towns that foster a welcoming sense of community and a natural beauty that provides boundless recreation opportunities for residents and visitors alike. In the warmer months, hundreds of thousands descend upon the sidewalks and trails of the state. These paths are used by residents, seasonal visitors, dog-walkers, commuters, and many others. With influence from the newest Active Transportation Plan, a new pillar of information gathering is being introduced to the Strafford Regional Planning Commission's annual data collection cycle.

In 2022, the Strafford Regional Planning Commission (SRPC) collected data at 45 sites in sixteen of the eighteen municipalities it serves. Through data collection and analysis, SRPC hopes to provide context for decision-makers within municipalities and the New Hampshire Department of Transportation. The formation and conditioning of a cyclical bicycle and pedestrian count will complement the existing vehicle traffic counts program and allow SRPC, its municipalities, and the broader community to monitor alternative travel trends over time.

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Where Bike & Ped data are used

Users like you: In the form of an open-facing user-friendly dashboard complementary to SRPC's AADT dashboard, you can learn what foot traffic occurs on your own street or local park.

Your town or city: Your council and board members, municipal staff, and volunteers use information about pedestrians to plan for community events, secure funding for improvements, and decide which sidewalks are shoveled first in the winter, among other maintenance needs.

Businesses: The number of potential window-shoppers on a street can be integral in site selections for new and growing businesses.

Developers: Proximity to local businesses and amenities that can be accessed on foot can be a determining factor in where to build new housing in urban centers.

NHDOT: DOT contextualizes the foot and bike traffic of local roadways so they can minimize disruptions such as sidewalk and bike lane closures during construction. DOT also uses bicycle and pedestrian information for their own planning efforts.

SRPC Plans: The Active Transportation Plan and Ten Year Plan are guiding documents used to increase accessibility to alternative modes of transportation, support vulnerable populations, and improve multi-modal linkages between transit users, cyclists, and carpoolers.

SITE SELECTION

Through the spring of 2022, SRPC connected with planners of the region and sought feedback for suitable data collection points. For the pilot year, the data collection team aimed to capture data points from a variety of environments, including sidewalks and trails, urban and rural sites, and on public and private lands where possible. Bike counting was conducted where it was deemed appropriate and where equipment was available to do so. Lastly, count locations were *proposed* in each of the eighteen municipalities the Commission serves, although counts were actually conducted in sixteen of the municipalities in 2022.

The broad nature of this site selection will be refined in succeeding data collection seasons. New Hampshire RPCs are frequently limited by population density and the presence of sidewalks (or lack thereof) and are subject to bias. The population density calculations and identification of walking populations that larger MPOs are likely to contain results in less “random” placement of counters in those regions.

DATA COLLECTION

SRPC has used Eco Visio counters since 2015. Eco counters are infrared sensors with an optional tube attachment for bicycle counting. The sensors are still able to count cyclists without this attachment but cannot make the distinguishment between cyclists and other users without them. The Eco counters are not cameras and have no recording capabilities of any kind within them. In August, SRPC elected to add visible identification to the counters themselves with contact information and a QR

code to the data collection dashboard on SRPC's website.

The first use of this line of products by SRPC was in Durham to study foot traffic around the Pettee Brook development. 2016 saw multi-week counts in the Dover Point area. Counts of the Dover Community Trail were conducted in 2019 and 2020 at Silver Street and the Dover Transportation Center. SRPC's sister MPO/RPC, the Rockingham Planning Commission, has used Eco counters on the Rockingham Recreation Rail Trail in 2020 and 2021. The Eco counters have also been used for single-day events, such as Free Comic Book Day in downtown Rochester in 2019.

Manual (live field observation) counts of pedestrian and bicycle turns at busy intersections have been conducted a handful of times, most notably in the spring of 2016.

Pictured, right: Typical trail count setup in the Hatch Wildlife Management Area in Brookfield.

After reaching decisions on locations that would receive counts as described above, SRPC reached out to municipalities to inform them that the bicycle and pedestrian data collection would occur throughout the spring, summer, and fall. As with vehicle counts, the schedule is subject to staff availability, weather, and related projects. SRPC reached out a second time at a closer date to the actual collection. Some counts required additional coordination with a landowner or managing agency. In the future, SRPC will determine which Department of Natural & Cultural Resource (DNCR) properties will have counts and apply for an encompassing special-use permit at the beginning of the season.



Most installation, uninstallation, and reinstallation of counts occurred on Thursdays in 2022 due to staff availability. In the future, SRPC will be committing to two-week counting periods for more statistically significant data.

REGIONAL SUMMARY

The three most-used locations surveyed in 2022 were:

Little Bay Bridge, Dover, 4,541 weekly users

Central Avenue, Dover, 3,509 weekly users

Dover Community Trail at Silver Street, Dover, 2,958 weekly users

2022 Bicycle & Pedestrian Counting Pilot

Ten total sites had 1,000 or more weekly users, found in Brookfield, Dover, Durham, Newmarket, Rochester, and Somersworth.

The Little Bay Bridge and Central Avenue in downtown Dover were tied for the highest single-day count of 1,130 users.

The three least-used locations surveyed in 2022 were:

Casey Road Preserve, Milton, 27 weekly users

SELT Birch Ridge, New Durham, 49 weekly users

NH 125 crossing at Cumberland Farms, Milton, 69 weekly users

Seven sites recorded fewer than 200 weekly users, largely recreation spaces in rural areas of the region.

CONCLUSIONS

The 2022 pilot has provided a useful base for SRPC to plan future counts. Infrared sensors are an alternative both to manual observed counts which require time and labor of staff as well as to direct observation via camera or video recording which is not preferred by residents.

The diverse typology of counts in the Strafford Region prevented sweeping generalizations about the active transportation habits of year-round and seasonal residents alike. This allows SRPC to coalesce a thoughtful, coordinated rotation of counts in the years to come. Using baseline data from this cycle, SRPC can assume some very low-count locations will not need to be surveyed again for a handful of years, while other high-volume or highly variable counts may require counts every year, perhaps at different times of year if equipment availability allows. Data collection staff may assign “tiers” to various count locations to determine when they require data next.

Secondly, the collection of this diverse baseline data will be a catalyst for discussion for the Active Transportation Steering Committee, formed for the purpose of gathering community input as SRPC prepares a new Active Transportation Plan in 2023.

Thirdly, municipalities are encouraged to examine the data and reach out to SRPC to request data that should be included in one of the above rotations or on a case-by-case basis for potential projects.

COMMUNITY PROFILES

Below are profiles of each community for the weeks their respective locations were surveyed. An icon is visible for various characteristics that may be applicable to each count location.



Hiking Trail Count



Bicycle Count



Rail Trail Count



Sidewalk Count



Indoor Count

Included is a detailed description of the count location and the dates surveyed.

The graphs on the page include the daily count of that location with the peak day highlighted in orange.

2022 Bicycle & Pedestrian Count Locations

Legend

 Bike Ped Count Locations

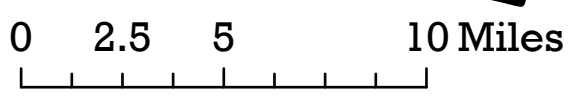
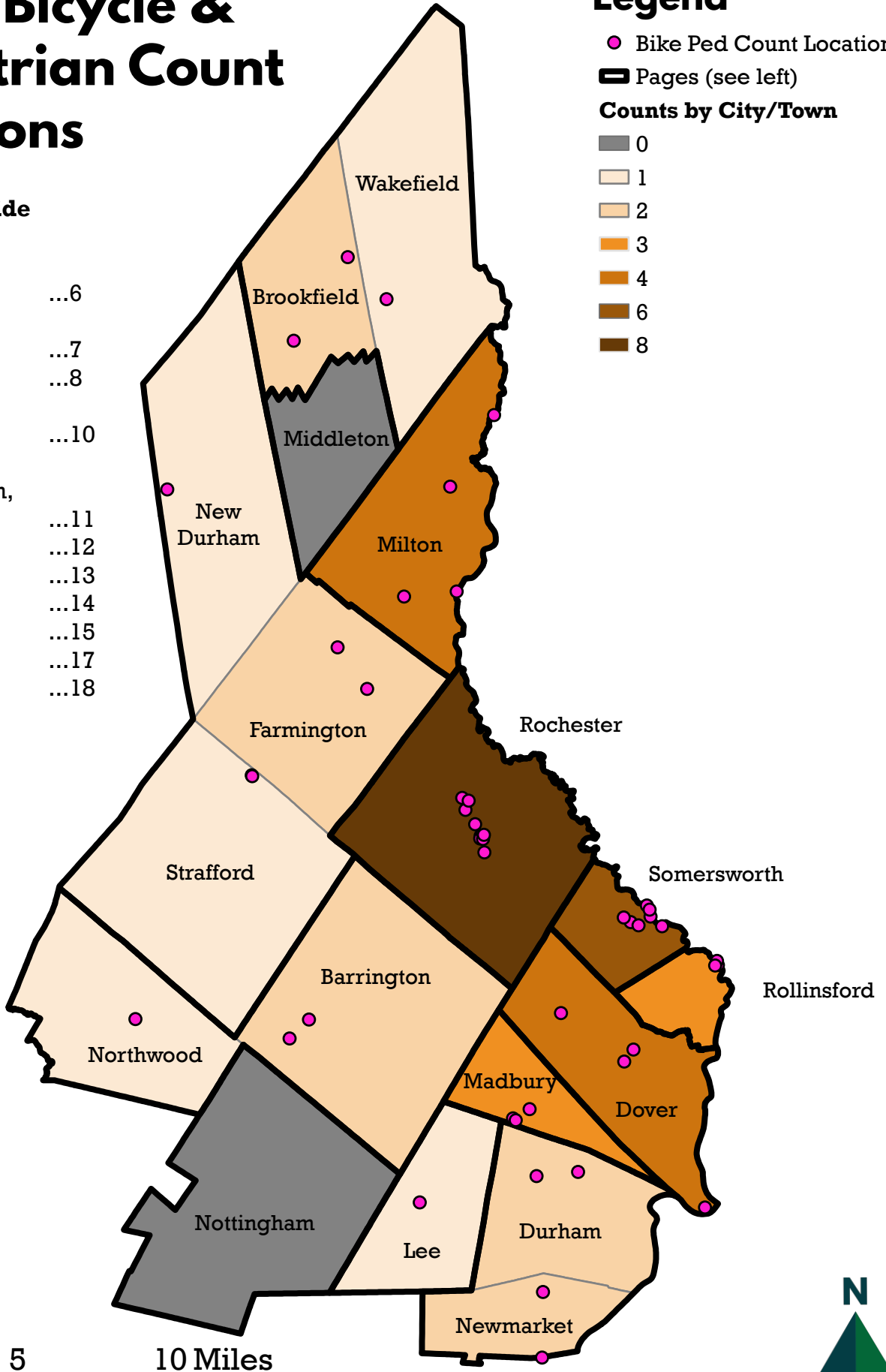
 Pages (see left)

Counts by City/Town






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Barrington & Northwood

Counts Completed: 3

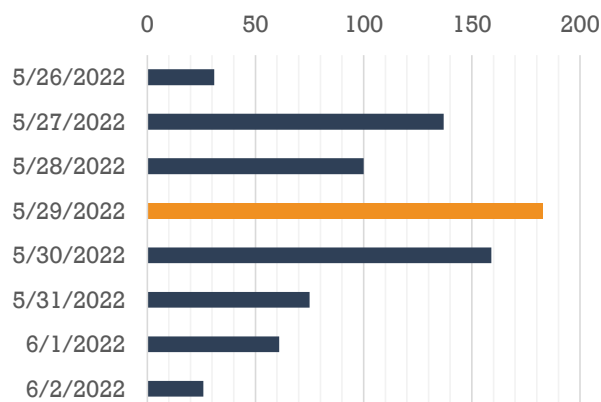
Features	Site	Dates
	Northwood Meadows State Park	5/26 (Th) to 6/2 (Th)
	SELT Stonehouse Pond (Main entrance)	8/11 (Th) to 8/18 (Th)
	SELT Stonehouse Pond (Marison entrance)	9/28 (W) to 10/7 (F)

Partners for these counts included DNCR and SELT. The count at Northwood Meadows State Park was conducted over a holiday weekend.

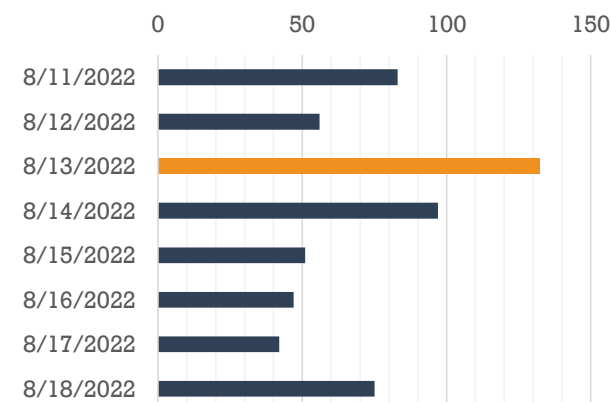
Pictured to the right is the counter installed at the entrance to the Locke Trail at Stonehouse Pond.

One count for the Barrington Trail near the recreation complex was planned for the same week as Stonehouse Pond in August, though this count failed.

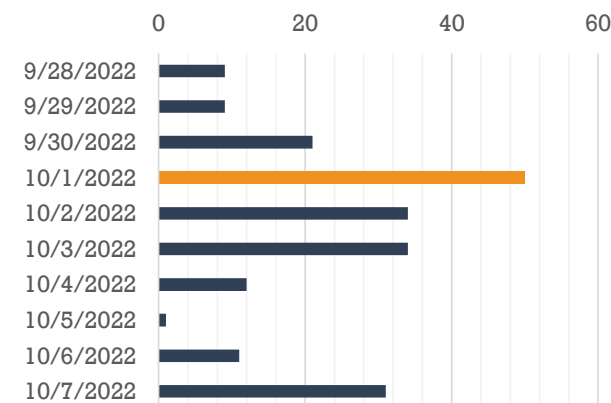
Northwood Meadows State Park



SELT Stonehouse (Main)







SELT Stonehouse (Marison)



Brookfield & Wakefield

Counts Completed: 3

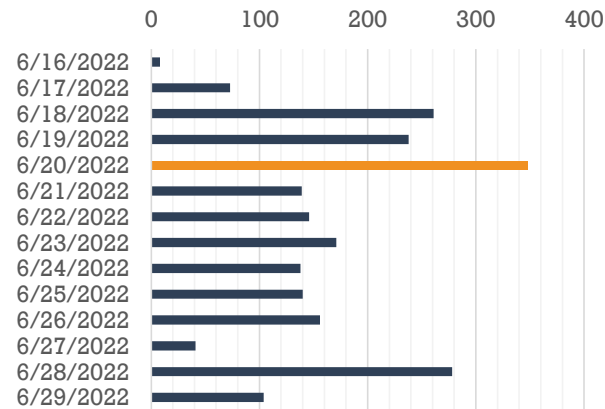
Features	Site	Dates
 	Cotton Valley Rail Trail (Pike Brook/Clark Road)	6/16 (Th) to 6/29 (W)
	Cotton Valley Rail Trail (Turntable Park)	
	Ellis Hatch WMA	6/30 (Th) to 7/7 (Th)

Partners for these counts included DNCR, the Cotton Valley Trail Commission, and New Hampshire Fish & Game. The count at Hatch WMA was conducted over a holiday weekend.

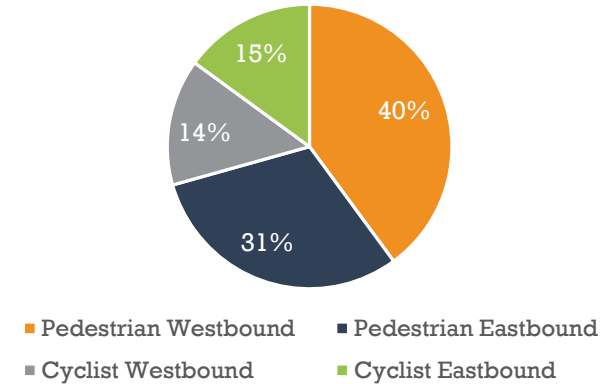
The count at Turntable Park coincided with summer camp activities of Wakefield Parks & Recreation. As a result, counts for June 20th and 21st were eliminated.

One count for the Copple Crown access trail was planned; the Hatch WMA count took its place.

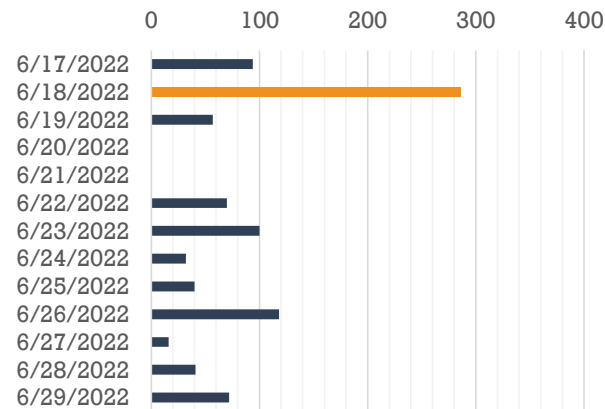
Cotton Valley Rail Trail at Pike Brook



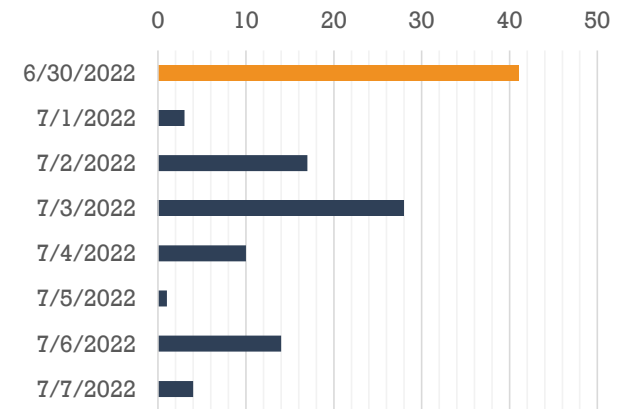
Cyclist & Pedestrian Traffic at Pike Brook



Cotton Valley Rail Trail at Turntable Park



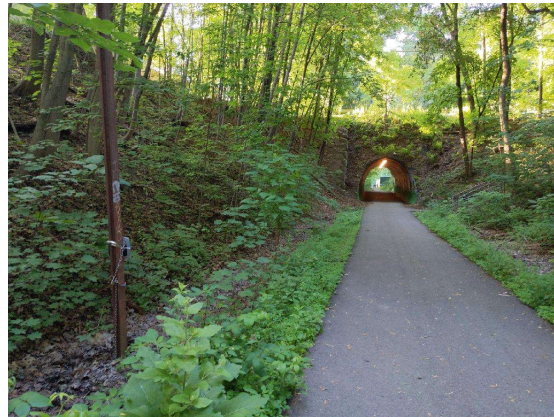
Ellis Hatch Wildlife Management Area



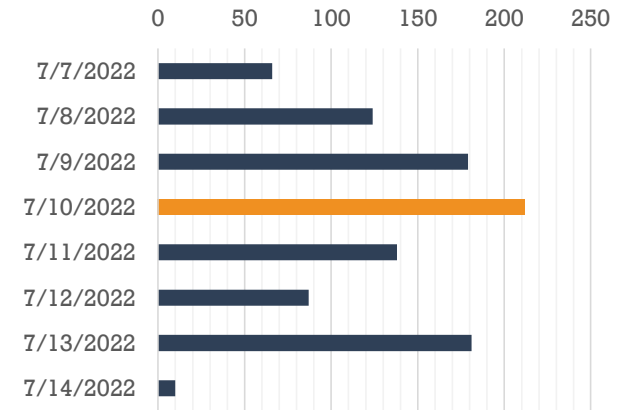
Dover

Counts Completed: 4

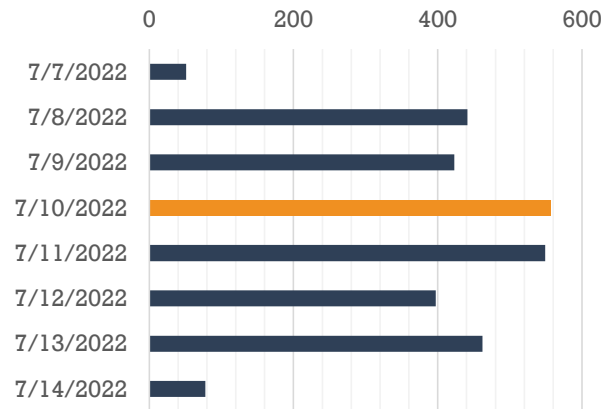
Features	Site	Dates
	Central Avenue (Downtown Dover)	7/1 (F) to 7/7 (Th)
	Little Bay Bridge	
	Dover Community Trail (Watson Road)	7/7 (Th) to 7/14 (Th)
	Dover Community Trail (Silver Street)	



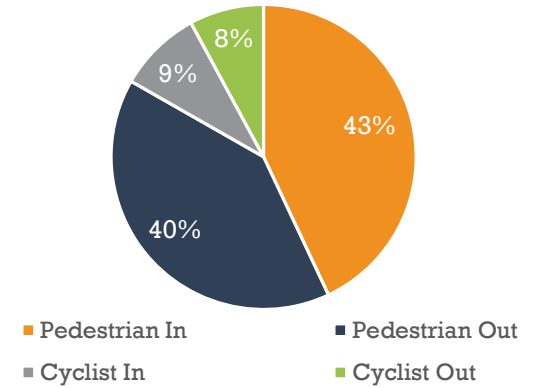
Dover Community Trail at Watson Road



Dover Community Trail at Silver Street

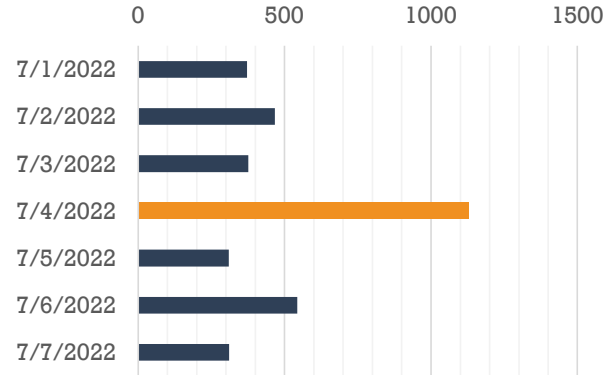


Cyclist & Pedestrian Traffic at Watson Road Access

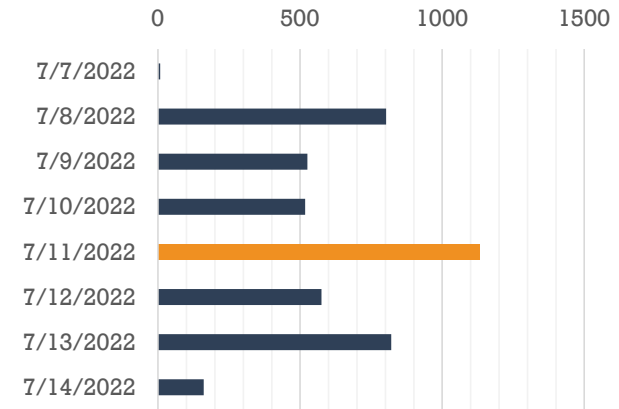




Central Avenue over Cocheco River
(East/Mills side)



Little Bay Bridge



Notably in Dover, the prime downtown count on Central Avenue occurred over the week of July 4th. Thus, the count reflects the downtown traffic throughout the fireworks display on the holiday.




The Little Bay Bridge, connecting Dover Point and Newington, recorded the highest daily volume of any location selected regionwide for counts in 2022.

Pictured are the DCT counts at Silver Street and at Watson Road (with bicycle count setup), the Central Avenue sidewalk count, and the Little Bay Bridge count.

Future Dover counts will include other locations downtown or in residential neighborhoods.

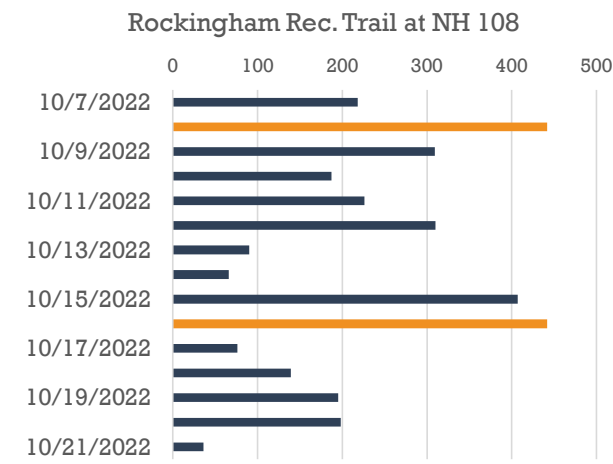
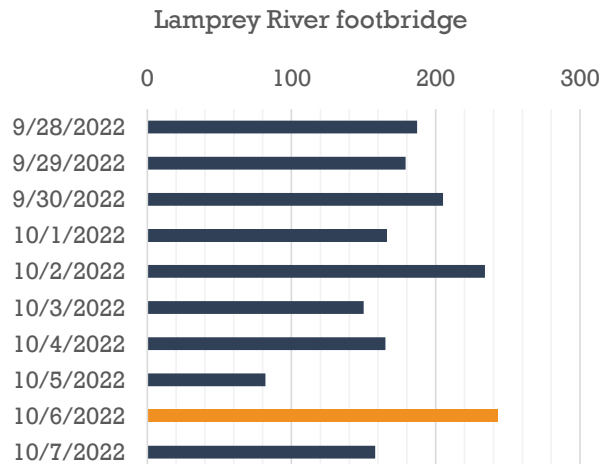
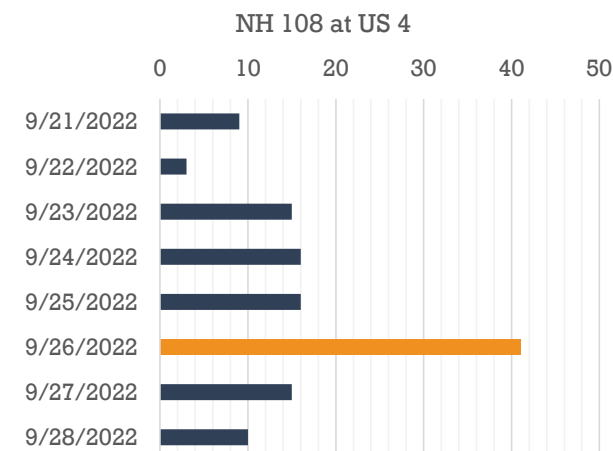
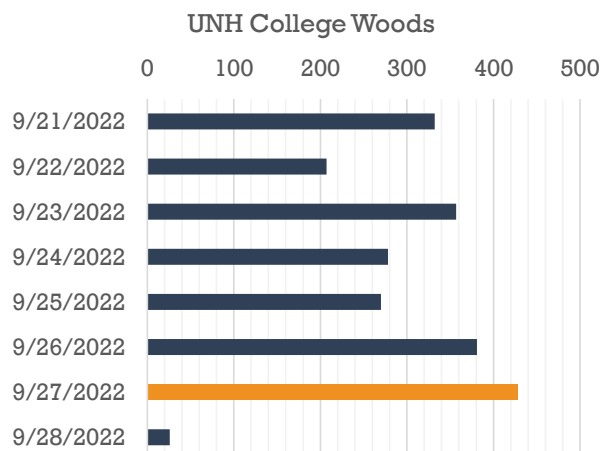
Durham & Newmarket

Counts Completed: 4

Features	Site	Dates
	UNH College Woods	9/21 (W) to 9/28 (W)
	NH 108 at US 4	
	Lamprey River footbridge (Downtown Newmarket)	9/28 (W) to 10/7 (F)
	Rockingham Rec. Rail Trail (NH 108)	10/7 (F) to 10/21(F)





Partners for these counts included UNH and DNCR.

Counts for Durham and UNH were purposely conducted during the school year.



Farmington, New Durham, & Strafford

Counts Completed: 4

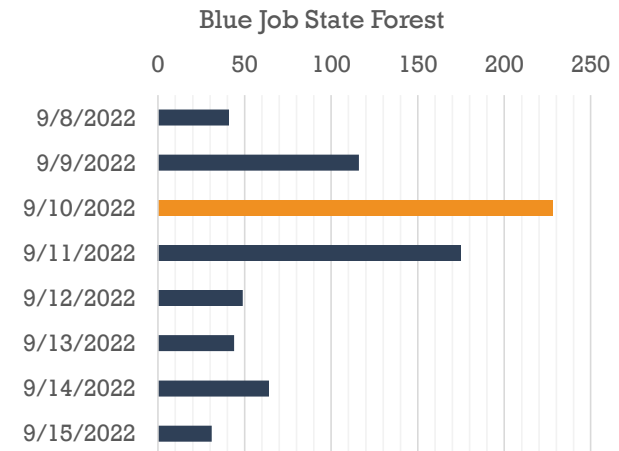
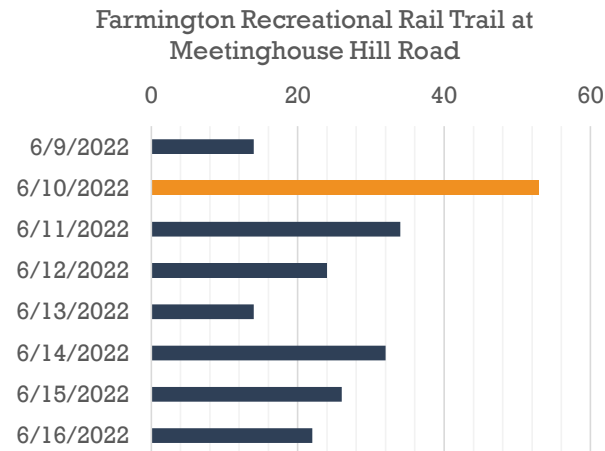
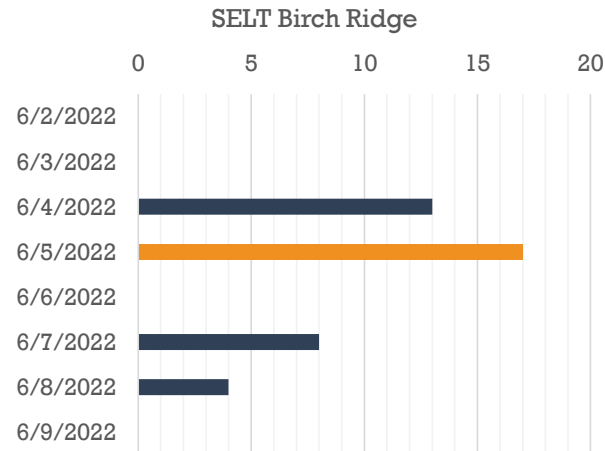
Features	Site	Dates
	SELT Birch Ridge	6/2 (Th) to 6/9 (Th)
	Main & Pleasant Sts. (Downtown Farmington)	6/9 (Th) to 6/16 (Th)
	Farmington Rec. Rail Trail (Meetinghouse Hill Road)	
	Blue Job State Forest	9/8 (Th) to 9/15 (Th)

Partners for these counts included SELT, DNCR, and the generous abutter who allows access to Blue Job State Forest on their property.

Birch Ridge is one of SELT's newest properties, which may reflect the volume of users.



The count at Blue Job State Forest is a two-counter setup that prevents miscounts on the looped type of trail that is present.

Future counts in these communities may include the canoe launch point on Route 11 and the Cooper Cedar Woods loop.



Lee

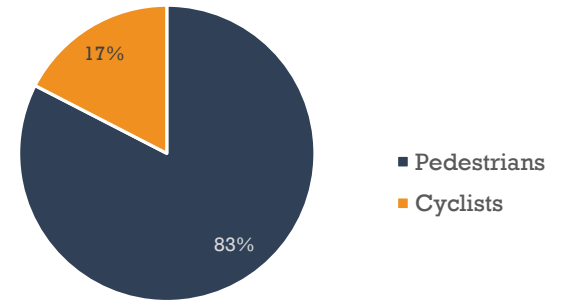
Counts Completed: 1

Features	Site	Dates
 	Lee Town Forest	10/21 (F) to 11/4 (F)

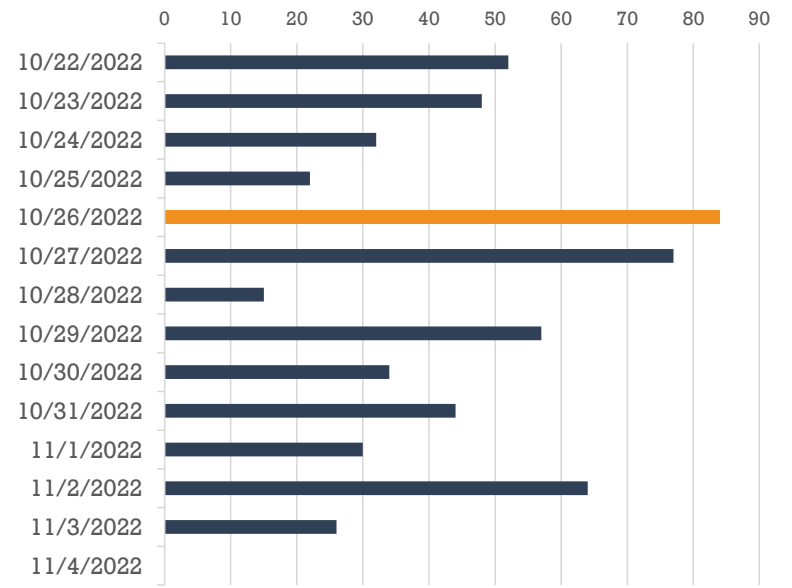
The primary partner for this count was the Lee Trails Committee, who requested an analysis of bike usage of Lee Town Forest trails. This count also coincided with SRPC's updating of Lee Town Forest trail map updates.

Although this period of data collection contained the coldest day of October 2022 in the area, it also captured the beginning of one of the warmest Novembers on record, with highs in the upper 60s on November 1st through 3rd before entering the mid- to upper 70s in the following days (NOAA).

Lee Town Forest Users





Lee Town Forest



Madbury

Counts Completed: 3

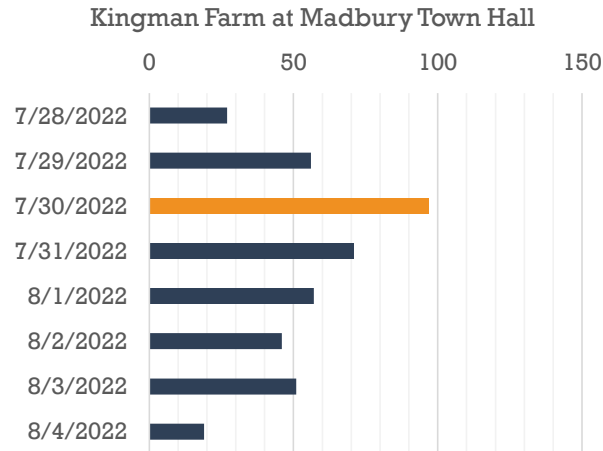
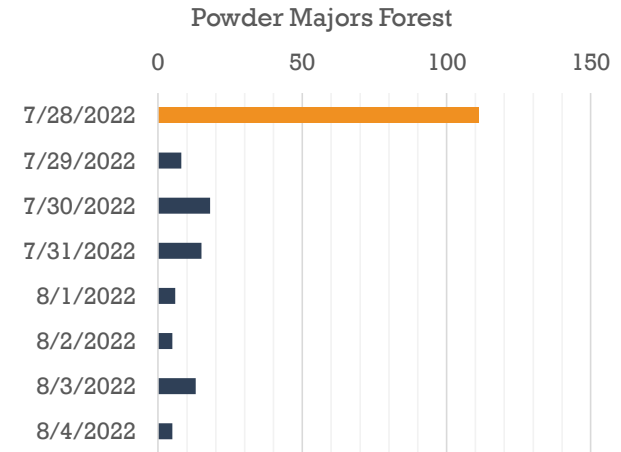
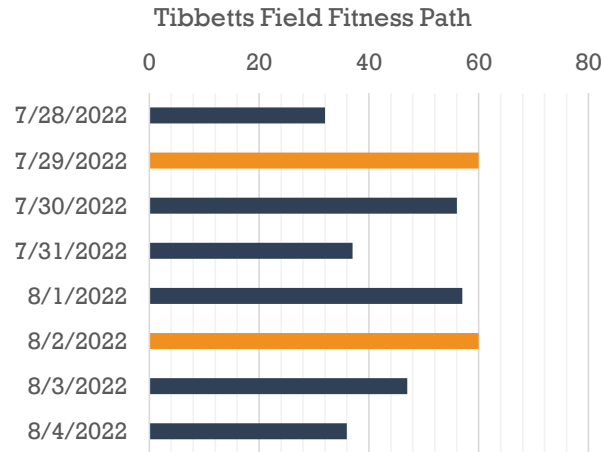
Features	Site	Dates
	Tibbetts Field Fitness Path	7/28 (Th) to 8/4 (Th)
	Powder Majors Forest (Tibbetts Field access)	
	Kingman Farm (Madbury Town Hall access)	

Partners for these counts included UNH and the Forest Society.

The week of these counts was during a heat wave. August 4th was the hottest day of 2022 in the region (NOAA).





July 30th was the date of the Kingman Farm Trail Race.

Pictured is the Tibbetts Field Fitness Path.



Milton

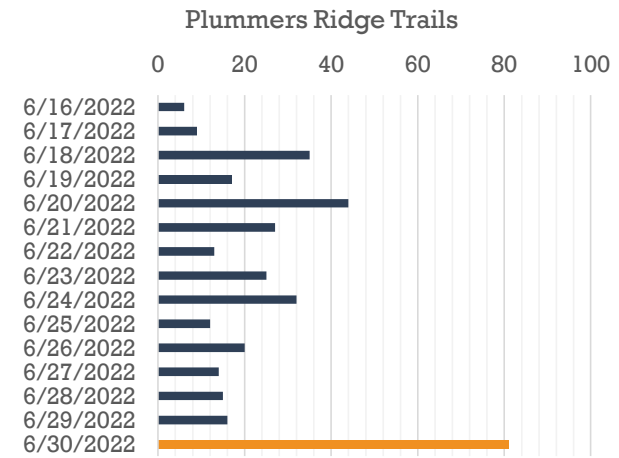
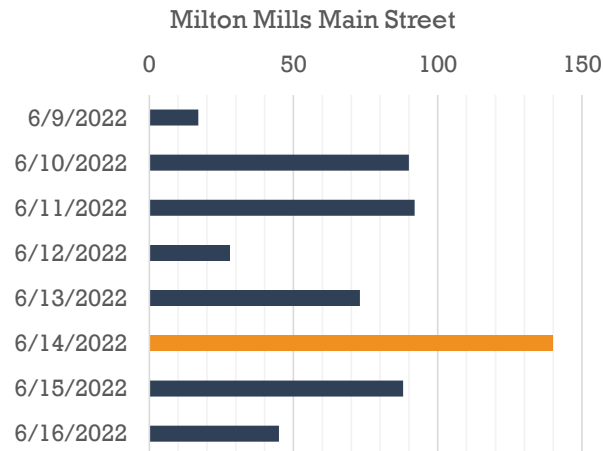
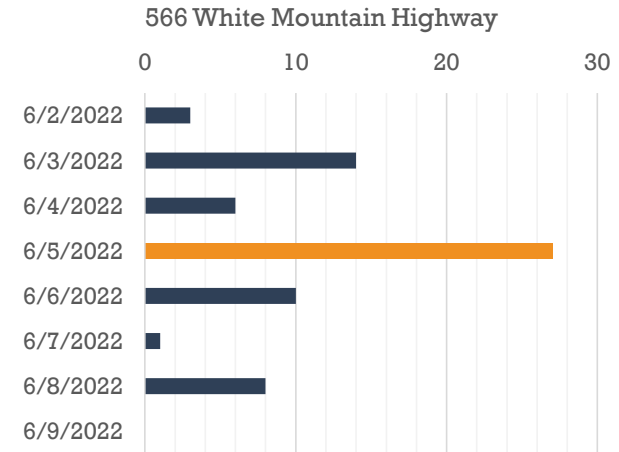
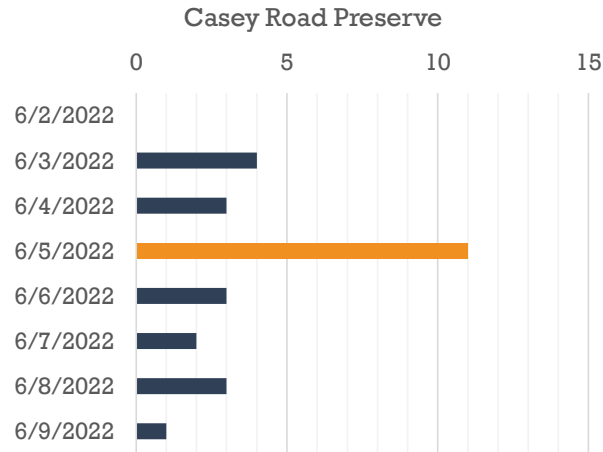
Counts Completed: 4

Features	Site	Dates
	NH 125 at Cumberland Farms (566 White Mountain Highway)	6/2 (Th) to 6/9 (Th)
	Casey Road Preserve	
	Main Street (Milton Mills)	6/9 (Th) to 6/16 (Th)
	Plummers Ridge Forest	6/16 (Th) to 6/30 (Th)

Partners for these counts included Branch Hill Farm.

The Casey Road Preserve is a new conservation area owned by the Town of Milton.

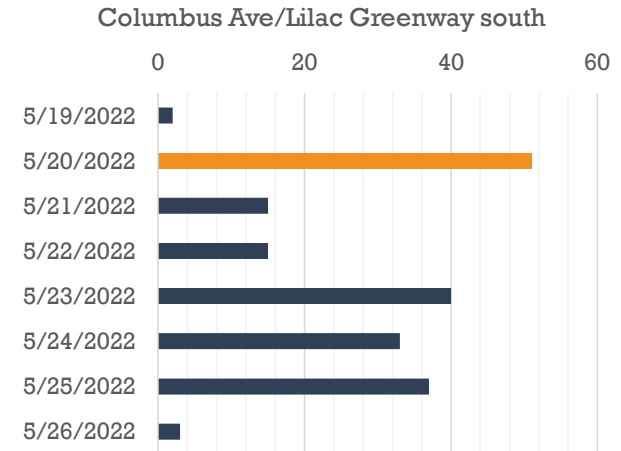
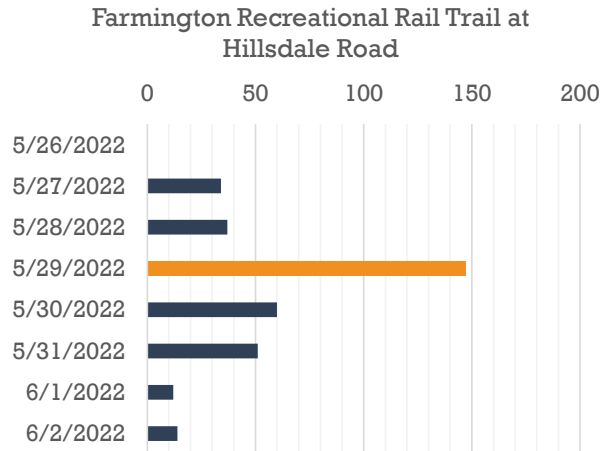
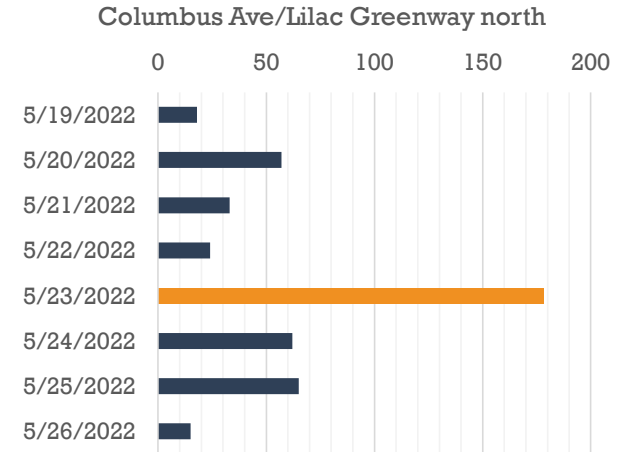
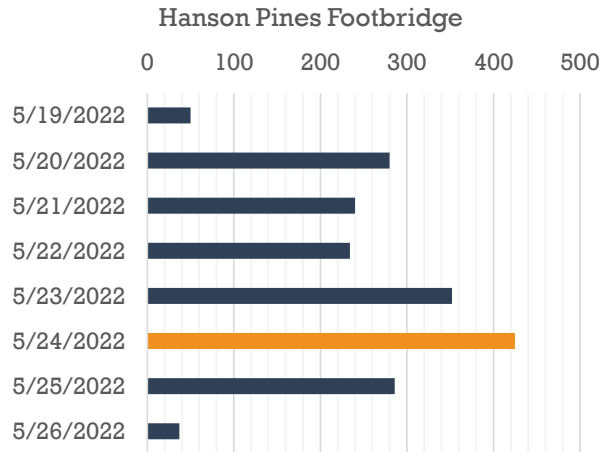
The Route 125 crosswalk at Cumberland Farms has had recent visibility improvements made.

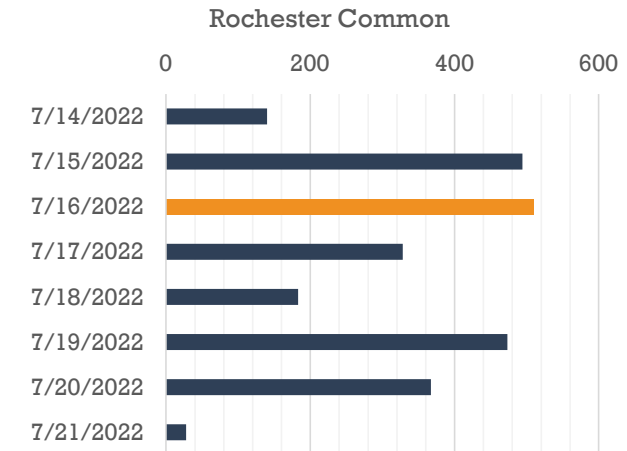
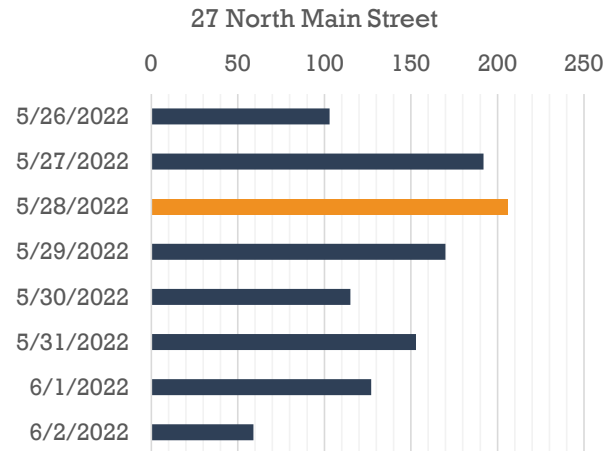


Rochester

Counts Completed: 6 (+2)

Features	Site	Dates
	Hanson Pines footbridge	5/19 (Th) to 5/26 (Th)
	Columbus Avenue/Lilac Greenway (x2)	
	Farmington Rec. Rail Trail (Hillsdale Road)	5/26 (Th) to 6/2 (Th)
	27 N. Main Street (Downtown Rochester)	
	Rochester Common	7/14 (Th) to 7/21 (Th)
	Rochester Ice Arena	10/7 (F) to Mar. 2023
	Rochester Recreation Center	10/11 (Tu) to Mar. 2023





The Hanson Pines footbridge and the Lilac Greenway were the first counts completed of the season.

The Ice Arena and Rec Center counts are ongoing and are indoor counts requested by the Rochester Recreation Department.

The Hanson Pines footbridge count was conducted during the school year and is reflective of students walking to and from Spaulding High School.

The downtown count was conducted over Memorial Day weekend.

The count of residents who use or pass through the Common is likely a higher figure than what is shown here, as the counters were installed at the breaks in the fence on the parking lot side of the park. The figures also reflect the Tuesday afternoon Farmers Market held through the summer months.

Pictured is SRPC planning technician Stephen Geis installing the counter at the Hanson Pines footbridge.

Rollinsford

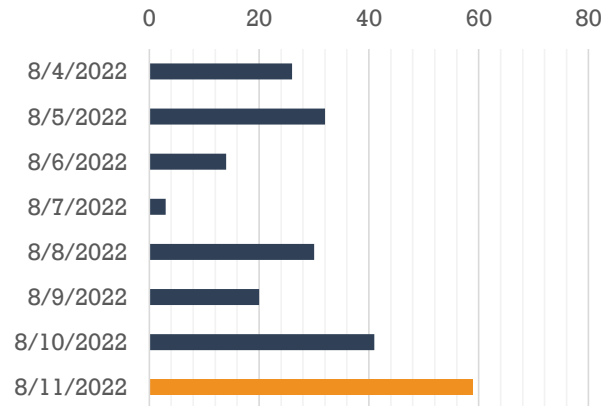
Counts Completed: 3

Features	Site	Dates
	Front & Cross Sts. (Entrance to Village Vet)	8/4 (Th) to 8/11 (Th)
	Main Street & Railroad Avenue (Across from Stateline Liquor)	
	Salmon Falls River access (at Scoutland)	9/8 (Th) to 9/15 (Th)

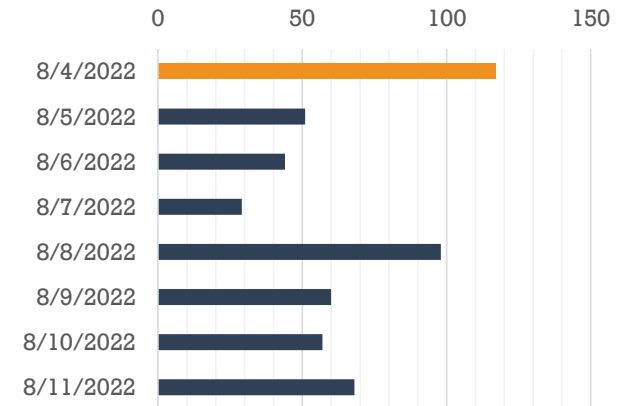
The counts in downtown Rollinsford were completed during a heat wave. August 4th was the hottest day of 2022 in the region (NOAA).

Pictured is the counter installed in front of Village Vet.

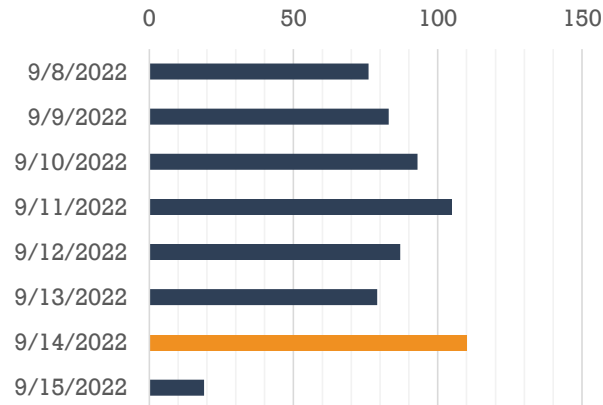
Main Street & Railroad Avenue



Front & Cross Streets








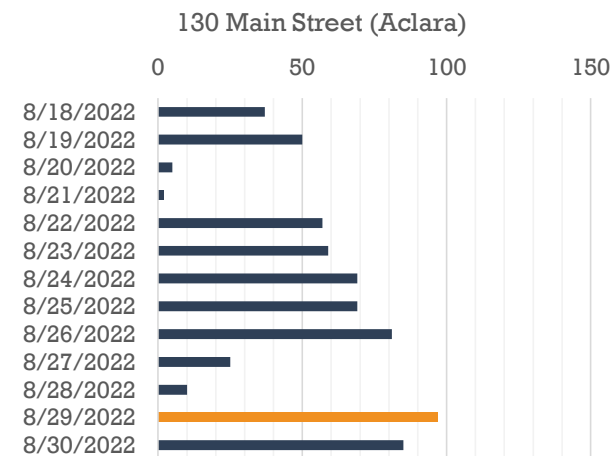
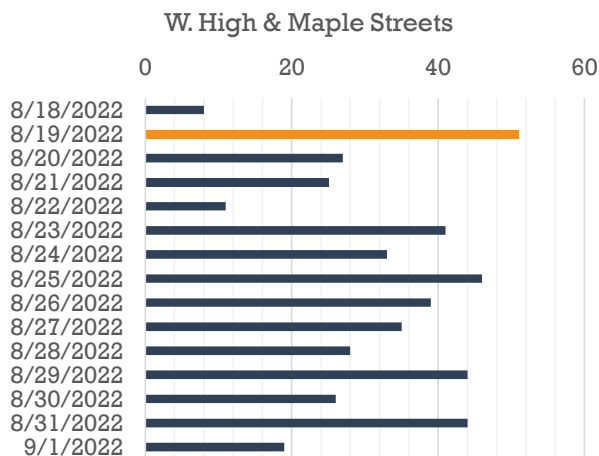
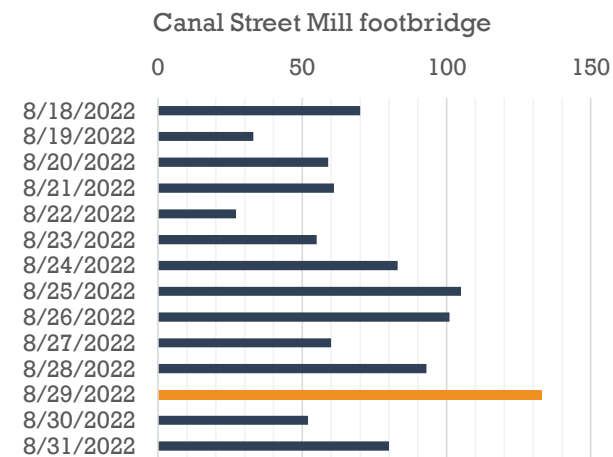
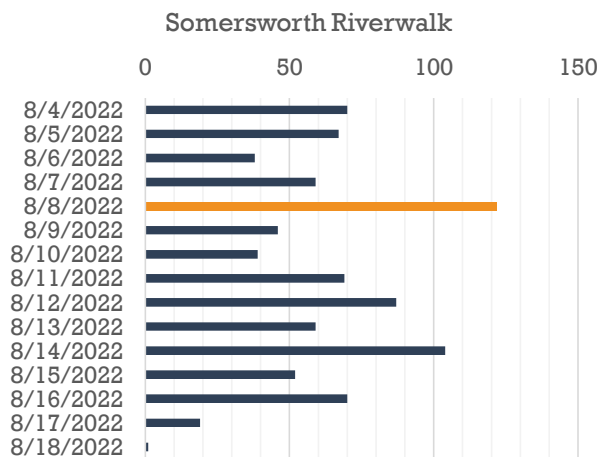
Scoutland River Access

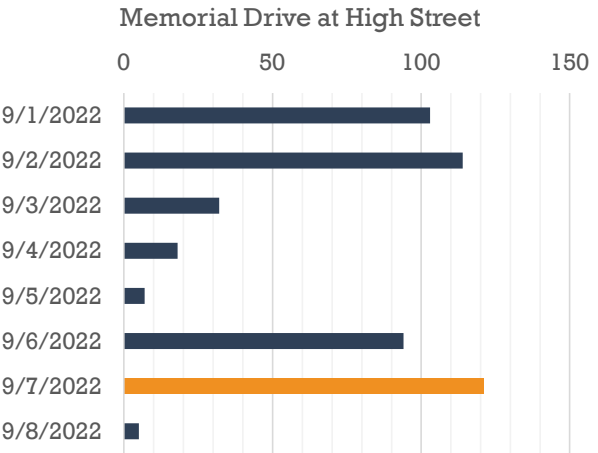
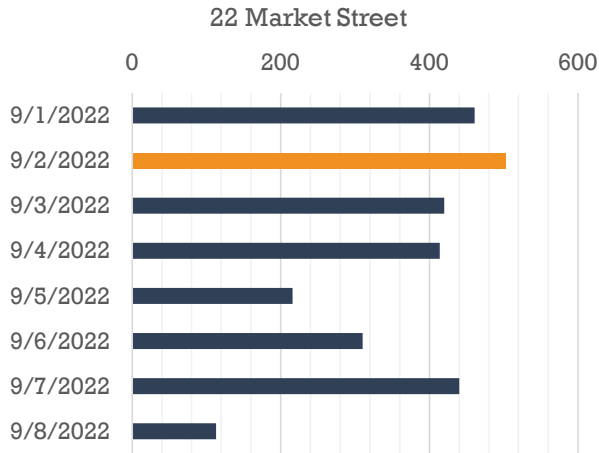


Somersworth

Counts Completed: 7

Features	Site	Dates
	Somersworth Riverwalk	8/4 (Th) to 8/18 (Th)
	130 Main Street (Aclara stairwell)	8/18 (Th) to 9/1 (Th)
	Canal Street Mill footbridge	
	W. High & Maple Sts.	
	Somersworth High School	9/1 (Th) to 9/8 (Th)
	22 Market Street (Downtown Somersworth)	
	1 Memorial Drive	





The Riverwalk count was conducted during a heat wave. August 4th was the hottest day of 2022 in the region (NOAA).

The counts at Memorial Drive and Somersworth High School were conducted during the school year.

The Market Street and school counts were completed over Labor Day weekend.

The Aclara property on Main Street may be redeveloped (pictured, top left).

Improvements of the intersection of Maple and W. High streets has been suggested as an SRPC Ten Year Plan project (pictured, bottom left).

