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Maine, like many states, lacks detailed and consistent trail usage data. Trail usage data are critical to making informed decisions about investments in new trails and the maintenance and management of existing trail infrastructure. New platforms for transportation data are creating opportunities for Maine to improve its knowledge of recreational trail use. The University of Maine, in collaboration with Maine's Office of Outdoor Recreation, the Maine Bureau of Parks and Lands, and the Maine Trails Coalition, completed an exploratory project using StreetLight Insight metrics to document pedestrian and bicycle activity at 89 distinct trail locations and 92 sites within Camden Hills and Mt Blue State Parks. Improving understanding of outdoor recreation trail usage strengthens the basis for various trail management decisions and for assessments of their economic and community impacts.

All Trail Count Locations, showing 2021 Pedestrian Index
Pedestrian activity on sample trails doubled during the first two years of the pandemic.

For the 89 trail sites monitored across Maine, the overall pedestrian index increased 112% from 2019 to 2021. The year over year increase was 64% from 2019 to 2020 and 15% from 2020 to 2021. Increases in trail use were highest in larger population centers, as well as at popular coastal recreational destinations such as Rockland Breakwater and Acadia National Park.

On average, pedestrian activity in the Greater Portland & Casco Bay, and the Downeast & Acadia region increased in 2020 and continued to grow in 2021. Pedestrian activity in the Kennebec & Moose River Valley and the Mid-Coast regions followed this general trend of increased activity but were less active in general. Pedestrian activity in the western regions of the Maine Beaches and Maine Lakes & Mountains increased from 2019 to 2020 but these gains did not continue from 2020 into 2021.

Cycling activity increased in 2020 and returned to baseline levels in 2021.

The sum of all cycling indices across 89 trail locations increased by 18% in 2020 compared to 2019, and returned to the 2019 baseline in 2021, varying across tourism regions. The Kennebec and Moose River Valley, Maine Beaches and the Mid-Coast regions reinforced this general trend of increased cycling activity followed by a return to the 2019 baseline. In contrast, bicycling activity in the Downeast & Acadia region increased in 2021 relative to 2020, but decrease in the Greater Portland Area and Casco Bay in 2020 and again in 2021.
Pedestrian activity was more dispersed in 2020 compared to 2019 and 2021.

At Camden Hills State Park, year over year trail activity increased for most monitored locations, especially for trails in the interior and north section of the park. Then in 2021, usage of those same trail sections decreased, indicating that the dispersal of trail use in these interior locations during 2020 was temporary. The park’s most popular trails sections - Mt Megunticook, Maiden Cliff, Mt Battie – continued to be used extensively, with even larger increases of pedestrian traffic in 2021 than in 2020.
Lessons Learned about StreetLight and Monitoring Use of Trails in Maine

StreetLight metrics have great potential to guide future recreation monitoring and management in Maine. Our work to date suggests that StreetLight data in its current form can locate and isolate broad trends in overall use, capture relative use across sites within a given year, and model year to year changes in use. While we are encouraged by its potential, we recognize that the current bicycle and pedestrian indexes do not fully meet the needs of recreation and trail managers, bicycle and pedestrian infrastructure planners, and other outdoor recreation stakeholders, demographics that would be better served by estimates of trail activity volume, not just an index of change.

Using StreetLight metrics in combination with traditional counts of trail usage for validation will strengthen future applications. Consistent with other studies, and given the data’s current limitations, we believe at this time that StreetLight metrics are best used in combination with physical trail use counts.

*Difference of Pedestrian Index, 2021 vs 2019*
Coordinated physical trail counting and StreetLight assessments will together accelerate knowledge generation about trail use, while simultaneously improving the performance of StreetLight metrics to inform outdoor recreation planning and management. The primary benefit of StreetLight and other novel data collection methods are their ability to track trip activity and user characteristics without physical counters and user surveys. Given the need for data on trail usage and further validation of the potential of StreetLight and other novel data sources, we encourage greater coordination and planning of physical counters on Maine trails.

Improved Maine trail data resources will benefit outdoor recreation planning and management. Accessible data and data visualization about Maine trails will help future research and planning efforts, regardless of whether StreetLight's platform is used. Online and publicly available information about trail locations, trail attributes, and trail counts will help structure future assessments of trail use, trail users, and their economic contributions and impacts.