Active Transportation Accounting: Developing Metrics for Project Prioritization

New Hampshire DOT — Department of Transportation

Principal Investigators

*Amy Villamagna, Ph.D.,
Laura Getts, &
Raegan Young
Plymouth State University
Center for the
Environment*

Report Link

*https://www.nh.gov/dot/org/
projectdevelopment/
materials/research/
projects/26962r.htm*

Why was it studied?

Due to population growth and shift across New Hampshire, investment in active transportation infrastructure to promote safety, sustainability, and protect socially vulnerable areas is needed. In order to identify key areas for active transportation enhancement, to justify investment, and to measure success, it was necessary to understand where and when people are bicycling and improve how bicycle-pedestrian projects are evaluated.
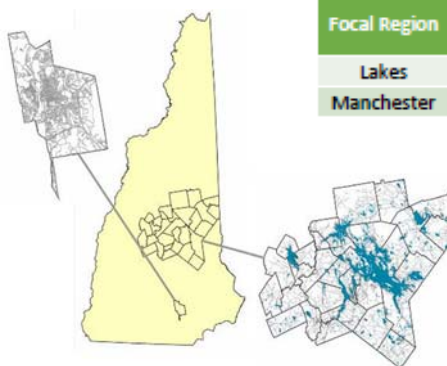
What was done?

The four levels of traffic stress are based on the four types of cyclists[2]. Each combination of road conditions corresponds to a population class term[3] for which the road is suitable.
[2] Geller, 2009
[3] Edmiston, 2012.

LTS3 — Comfortably Confident Riders
LTS2 — Willing But Wary Riders
LTS1 — Kids & Beginning Riders
LTS4 — Exposure Experienced Riders

What did we learn?

Focal Region	Total Routes	% of Total Routes Accessible via Roads Rated:	
		LTS 1, 2, or 3, or Trails	LTS 1 or 2
Lakes	350	11%	3%
Manchester	16,274	88%	20%

The analyses revealed a substantial lack of accessibility throughout Manchester and the Lakes regions' road and trail network when limited to LTS 1 and LTS 2.

How can we use it?

These project outcomes will improve active transportation accounting during project selection, monitoring, and evaluation which will lead to a more sustainable NH transportation network:
- Framework for evaluating bicycle-pedestrian activity and use of facilities
- Informative bikability metrics and STRAVA-based biking summaries across the state
- ArcGIS tools that use STRAVA data to summarize bicycling trends
- Level of Traffic Stress (LTS) GIS layers for the entire state
- Summary of Origin-Destination analyses and LTS assessment for focal regions
- Public participation GIS (PPGIS) maps of perceived barriers, conflict areas, and preferred routes

Project Partners and Advisory Group
- NHDOT Complete Streets Advisory Committee (CSAC)
- NH Healthy Eating Active Living program
- Bike – Walk Alliance of NH
- Representatives from regional planning commissions (RPC), Central NHRCP & Nashua RPC