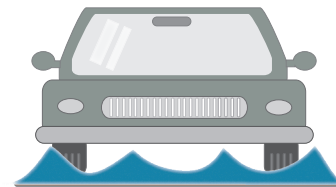


NEW HAMPSHIRE SEACOAST TRANSPORTATION CORRIDOR VULNERABILITY ASSESSMENT & PLAN

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ISSUE

Coastal storms and flooding already threaten state and local transportation infrastructure in New Hampshire's seacoast. These risks are expected to increase with sea-level rise, causing potential daily inundation of some transportation assets within the next 80 years. Sea-level rise and other climate change impacts will need to be considered as municipalities and NHDOT maintain or replace aging existing transportation assets and design and construct new systems. Effective adaptation to increasing coastal flood risks will depend upon coordination among transportation decision-makers, municipalities, regulators, and other authorities to share information and develop consistent (or complimentary), transparent methods to ensure a safe and functioning NH Seacoast Transportation Corridor (STC).

AREA OF INTEREST & RISK SUMMARY

Route 1A, Route 1, and I-95—the primary roadways running from North/South—and Route 101 and Route 286—the primary evacuation routes running East/West along NH's coast—are all vulnerable to sea-level rise and sea-level rise induced groundwater rise in certain areas. Route 1A—a road that runs immediately adjacent to the Atlantic Coast and connects NH's most popular beaches, tourist amenities, and working waterfronts—sustained significant damage in the March 2018 Nor'easters,



resulting in a Presidential Disaster Declaration and FEMA Public Assistance. According to the Tides to Storms analysis conducted by the Rockingham Planning Commission in 2015, 43% of the 18 miles that make up Route 1A will be inundated twice daily by 2100 under a high sea-level rise scenario of 6.6 feet. This flooding will significantly impact transportation networks and their derived services, including the 18,000 drivers that use the road every day in peak summer season. Route 1 and I-95 are situated further inland and are fortunately less vulnerable to flooding; however, they are vulnerable to sea-level rise along specific road segments, see higher traffic volumes than Route 1A, and are expected to absorb additional traffic burden in the event parts of Route 1A are closed.

GOAL

Enhance regional coordination in New Hampshire for transportation networks vulnerable to sea-level rise and other coastal hazards in order to maximize information sharing, identify opportunities to fill data gaps, and develop shared understanding of options for future transportation planning.

TIMEFRAME

October 2019 to March 2022



PARTNERS

- NHDES Coastal Program | Kirsten Howard, Nathalie Morison, Kevin Lucey
- Rockingham Planning Commission | Tim Roache, Dave Walker, Julie LaBranche, Christian Matthews
- NHDOT | Ann Scholz, Roger Appleton, William Rose
- UNH | Jennifer Jacobs, Jo Sias
- Seacoast municipalities | Newington, Portsmouth, New Castle, Rye, North Hampton, Hampton Falls, Hampton, Seabrook, Exeter, Stratham, Greenland (representatives to be designated by municipalities)

KEY PROJECT ACTIVITIES

Establish a Seacoast Corridor Advisory Committee (CAC) comprised of municipal, regional, and state officials focused on transportation management as well as transportation researchers to improve coordination and share knowledge as we plan, design, construct, and manage for projected coastal flood risks to New Hampshire's STC.

- Meet regularly (approximately quarterly) to discuss issues, review vulnerability assessment results, develop priorities, and finalize a plan.

Complete a Seacoast Transportation Corridor Vulnerability Assessment to establish a long-term adaptation framework that incorporates coastal hazards and prioritizes resilience in state, regional and local transportation planning, design, construction, and maintenance. This activity will:

- Be informed by the [Federal Highway Administration Vulnerability Assessment and Adaptation Framework](#).
- Build on the [New Hampshire Coastal Flood Risk Science and Guidance](#) (UNH, 2019) to identify relative sea-level rise (RSLR) scenarios, RSLR-induced groundwater rise, future coastal storms, and extreme precipitation estimates relevant to the STC.
- Utilize vulnerability assessment results from [Tides to Storms Vulnerability Assessment](#) (RPC, 2015) and additional data to quantify vulnerability of transportation assets to future coastal flooding along the STC.

- Conduct a travel demand analysis with the regional travel demand model to understand possible future traffic patterns associated with RSLR scenarios.
- Prioritize transportation assets for further evaluation and develop conceptual prioritized adaptation options for selected sites and assets (including estimated cost information)
- Build on the [NH Coastal Flood Risk Guidance](#) (UNH, 2019) to develop a framework/approach for incorporating future coastal flood risk information in decision-making (maintenance, planning, design, construction).
- Develop a STC Plan that identifies key data/information needs/gaps and recommendations for transportation decision-makers.



WORK PLAN

CAC established and convened for kick-off meeting	March 2020
Transportation, climate, and existing vulnerability information compiled	March 2021
Travel demand model analysis and vulnerability assessment completed	July 2021
Adaptation options identified and prioritized	September 2021
Recommendations and resilience criteria for project prioritization developed	October 2021
Plan developed for monitoring and reevaluation	October 2021
STC Vulnerability Assessment Report and Plan finalized and published	January 2022
Two outreach events completed	March 2022

DELIVERABLES

- Coordinated Seacoast Transportation Corridor Advisory Committee of relevant stakeholders
- STC travel demand model analysis
- STC final Vulnerability Assessment Report and Plan with Executive Summary and PPT presentation

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This project was funded, in part, by NOAA's Office for Coastal Management under the Coastal Zone Management Act in conjunction with the New Hampshire Department of Environmental Services Coastal Program.

