

An aerial photograph of a coastal road and beach, overlaid with a semi-transparent blue filter. The road runs parallel to the shore, with waves breaking on the beach to the right. The sky is overcast.

# Seacoast Transportation Corridor Vulnerability Assessment

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**Transportation Advisory  
Committee**

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# Seacoast Transportation Corridor Vulnerability Assessment (STCVA)

- Funded as a 2019 NOAA Project of Special Merit
- A partnership between:
  - Rockingham Planning Commission
  - NH DES Coastal Program
  - NH Department of Transportation
  - University of New Hampshire
  - 10 NH coastal municipalities

*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.*





# STCVA Goals

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- Assess the impacts of projected sea-level rise on the seacoast transportation network (1', 1.7', 4', and 6.3' sea-level rise scenarios).
- Evaluate changes in traffic volume, travel patterns, road capacity, road conditions due to SLR
- Identify & prioritize sites impacted by flooding for further evaluation
- Identify adaptation and resilience strategies for priority sites
- Improve RPC/MPO decision making processes



# STCVA Transportation Planning Outcomes

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- Enhanced understanding of risks to transportation network from climate change
- Critical links identified and impacts of closures on the transportation network assessed
- Improvement concepts and costs developed for priority locations to better understand scope and scale of building a more resilient system
- Improved resiliency factors for the general project selection process
- Data and analysis available for other planning and project development efforts.
- Policies defined that can facilitate a more resilient transportation system

# Identifying & Prioritizing Impacted Roadways

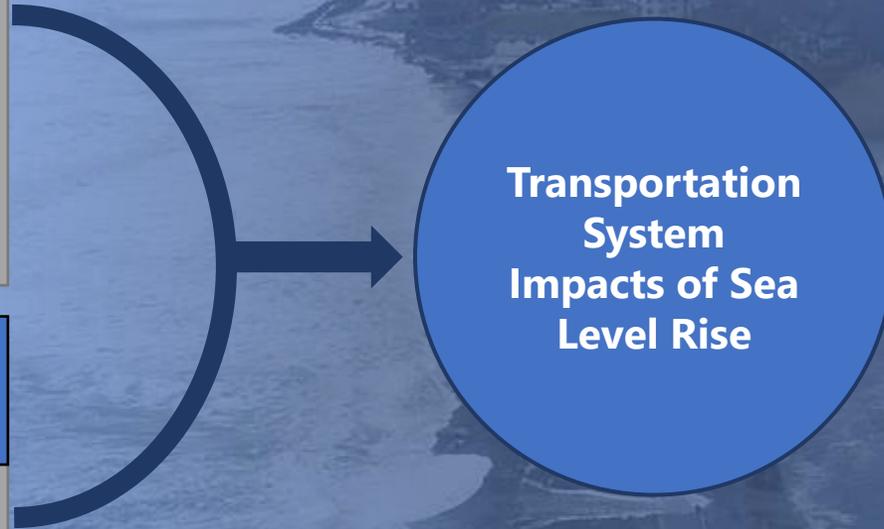
## Previous Work on Sea Level Rise Impacts

- Tides to Storms
- Coastal Risks and Hazards Commission
- 2020 NH Science Summary

## Regional Travel Demand Model

- Travel Patterns based on residential and employment distribution
- All State Roadways and many local Roads

**Transportation System Impacts of Sea Level Rise**



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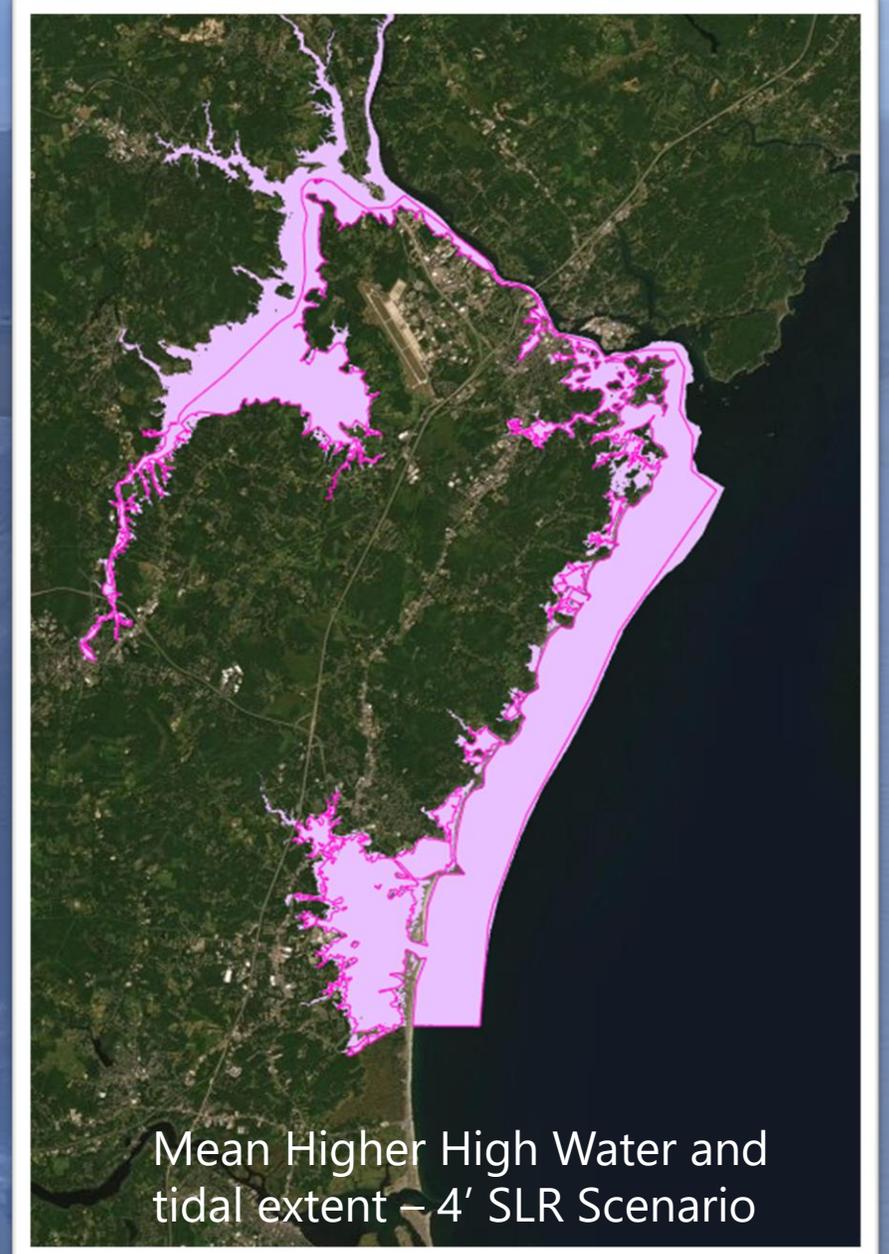
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Transportation System  
Impacts of Sea Level Rise



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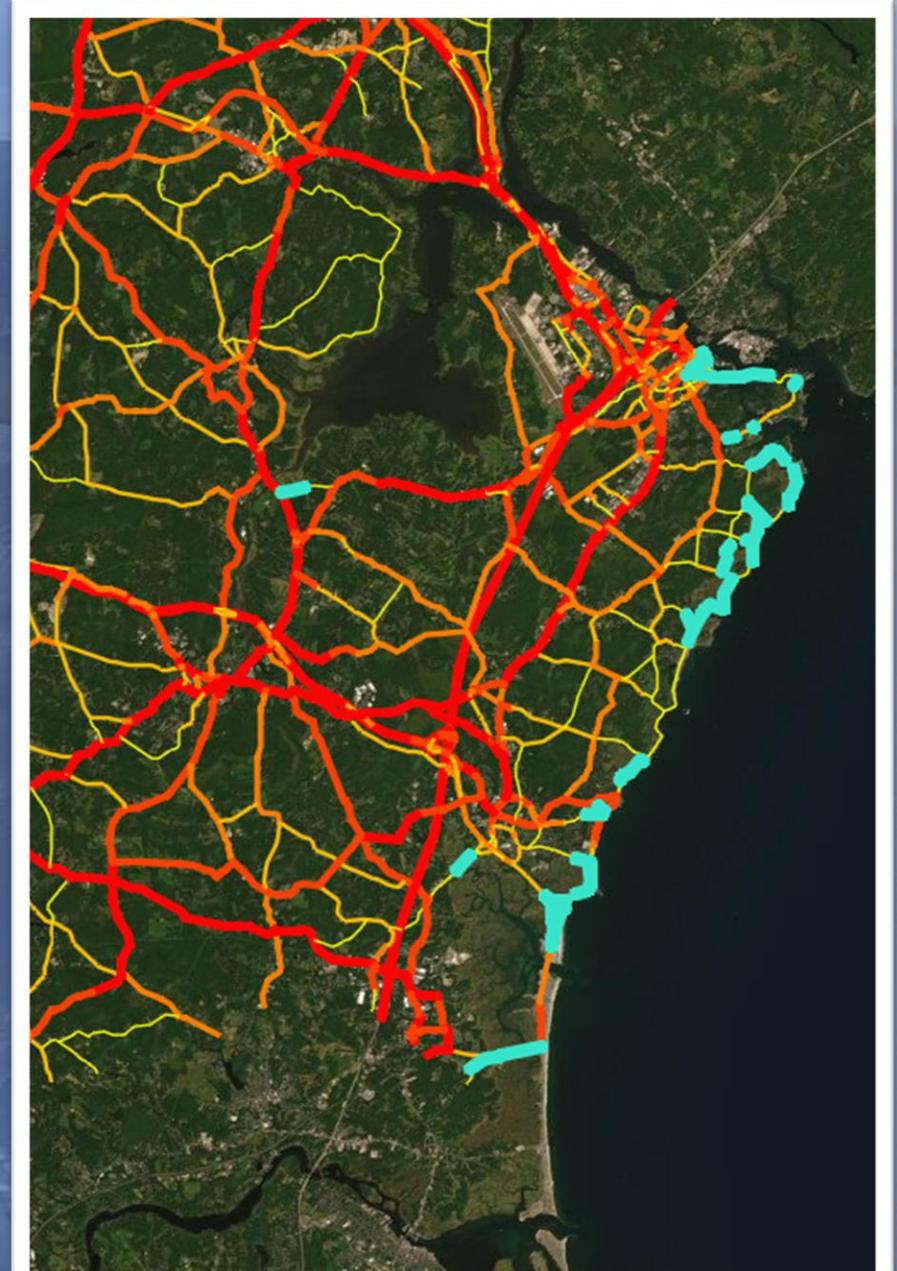
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Transportation System  
Impacts of Sea Level Rise



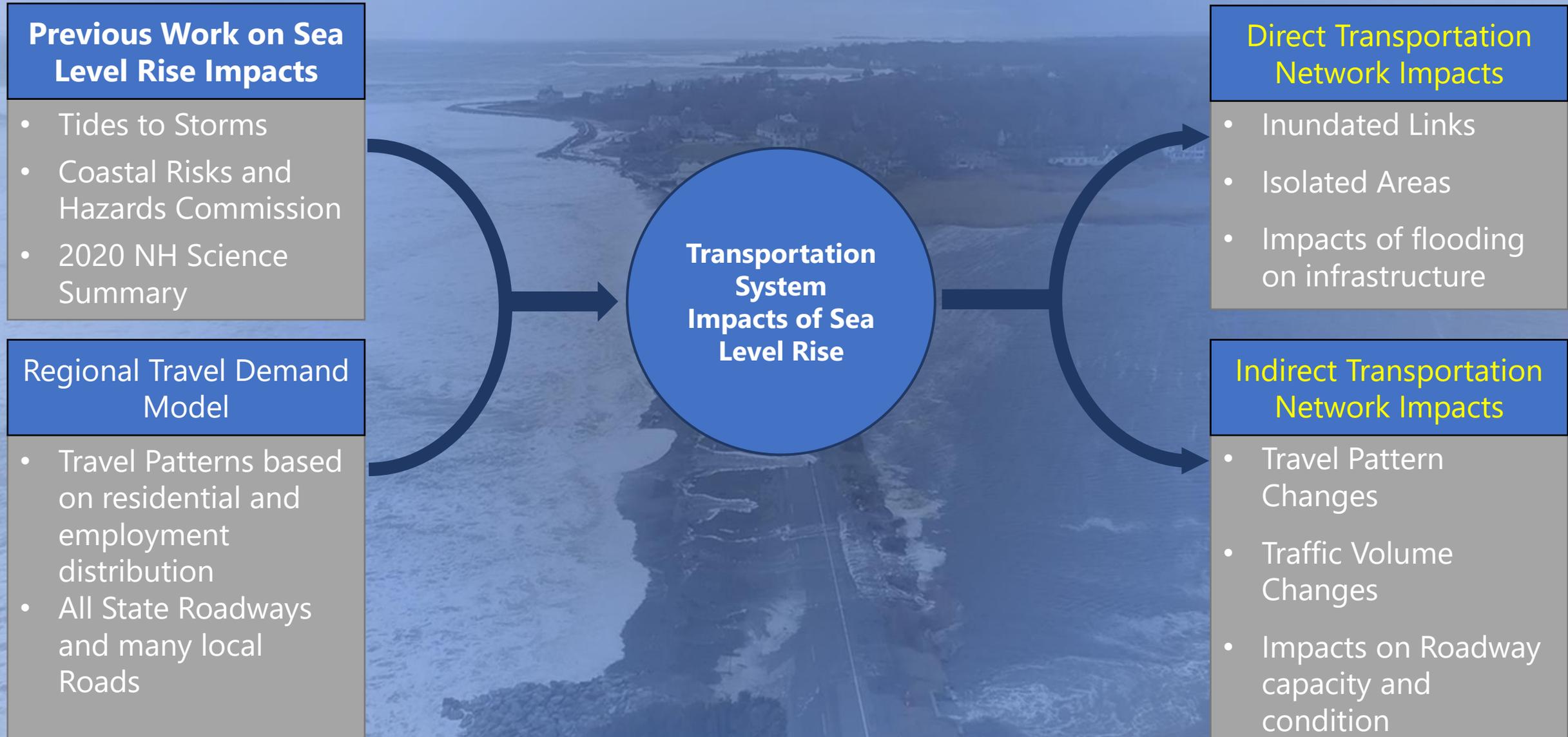
# Identify Segments Where Water and Roads intersect



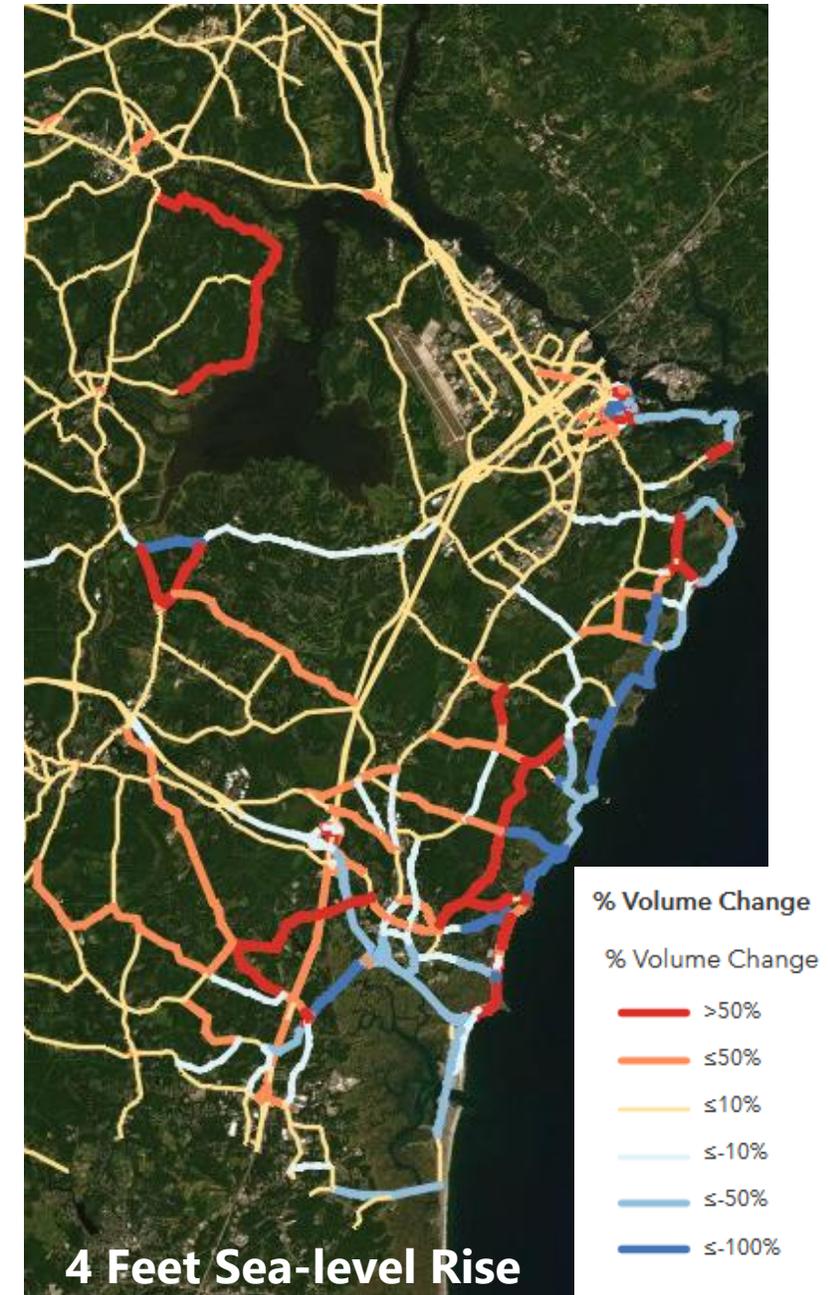
Inundated model links at 4' SLR

Scenario	Impacted Locations	Approx. Miles Impacted
1'	4 model links	0.5
1.7'	13 model links	1.0
4'	125 model links	16.8
6.3'	259 model links	28.0

# Identifying & Prioritizing Impacted Roadways



# Estimate Traffic Impacts of Road Closures

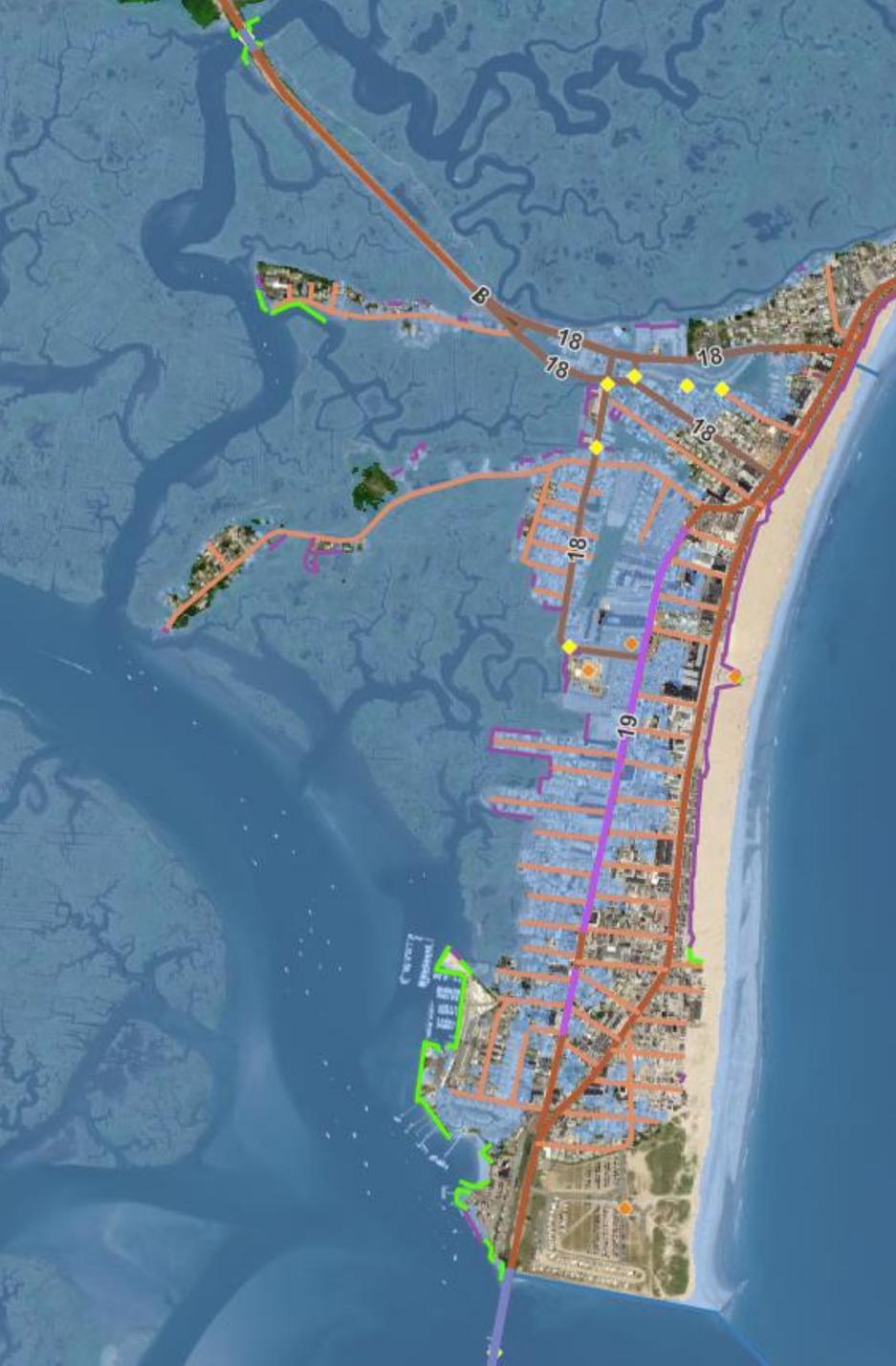




# Group Adjacent Impacted Links into Sites

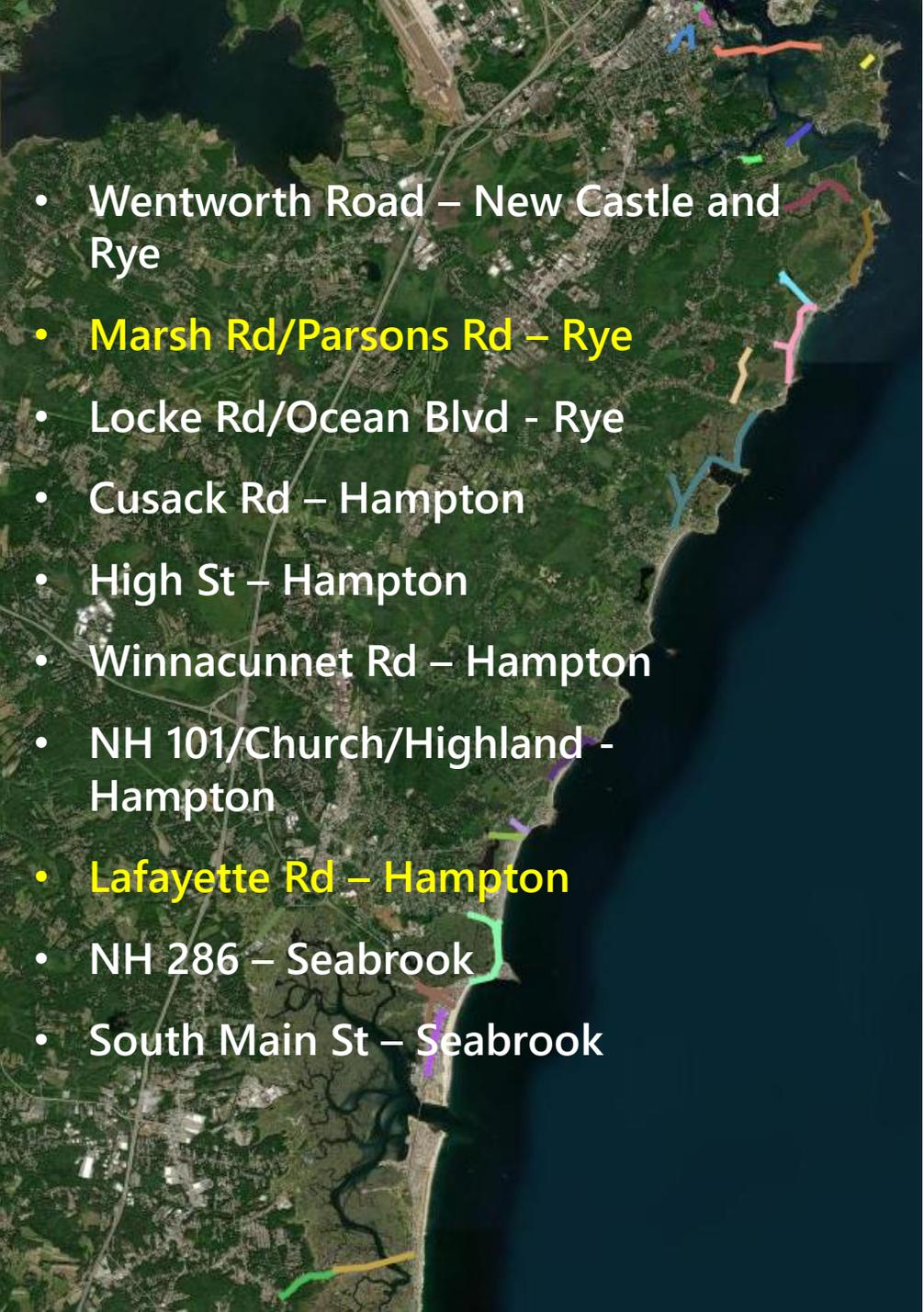
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Scenario	Impacted Locations	Sites
1 Foot	4 model links	3
1.7 Feet	13 model links	5
4 Feet	125 model links	24



# Score Sites Against Criteria to Determine Criticality

Criterion	Weight	
Functional Classification	20%	Operations
Average Daily Volume (AADT)	20%	
Distance to Emergency Services	15%	Health & Safety
Alternate Route Availability	15%	
Social Vulnerability Index (SVI)	10%	Socioeconomics
Distance to Community Facilities	10%	
Average Land Value per Acre	10%	



- Wentworth Road – New Castle and Rye
- **Marsh Rd/Parsons Rd – Rye**
- Locke Rd/Ocean Blvd - Rye
- Cusack Rd – Hampton
- High St – Hampton
- Winnacunnet Rd – Hampton
- NH 101/Church/Highland - Hampton
- **Lafayette Rd – Hampton**
- NH 286 – Seabrook
- South Main St – Seabrook

# Identify Priority Sites for Evaluation

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- List of priority sites for further evaluation vetted with NHDOT and other project team members
- Selected 10 sites to:
  - Assess types of impacts and potential adaptation measures
  - Develop conceptual design alternatives
  - Apply New Hampshire Coastal Flood Risk Guidance
- 2 Sites will have more in-depth analysis



# Remaining Tasks

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- UNH will be conducting site analysis this summer
- RPC will be working on alternate routing analysis and developing site profiles
- Will meet with the corridor advisory committee late summer
- Community meetings in the fall
- Report and wrap up this winter.

## [RPC Project Staff](#)

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# For More Information

The screenshot shows the website for the Rockingham Planning Commission. The header includes the RPC logo, contact information (Phone: 603-778-0885, Fax: 603-778-9183), a 'Browse Our Document Library' button, and a search bar. The navigation menu includes Commission, Communities, Regional & Community Planning, Transportation, Environment, and Maps and Data. The breadcrumb trail is: Home >> Regional & Community Planning >> Climate Change >> Seacoast Transportation Corridor Vulnerability Assessment & Plan. The main content area features a sidebar with a list of links under 'Climate Change', including CRISE, High Water Mark Initiative, Setting Sail, Tides to Storms, State and Regional Efforts, and Exeter Stormwater. The main article is titled 'Seacoast Transportation Corridor Vulnerability Assessment & Plan' and includes an 'Issue' section with text about coastal storms and flooding. An image shows a road with a 'HIGH WATER' sign and a traffic cone. Below the article is an 'Area of Interest & Risk Summary' section.

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Browse Our DOCUMENT LIBRARY

Search The Site:

Commission Communities Regional & Community Planning Transportation Environment Maps and Data

Home >> Regional & Community Planning >> Climate Change  
>> Seacoast Transportation Corridor Vulnerability Assessment & Plan

## Seacoast Transportation Corridor Vulnerability Assessment & Plan



### 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

<https://www.therpc.org/STCVA>