

# Block Island Plans for Transportation in a Changing Climate

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## Project Summary

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The overall focus of this effort is on the transportation structures utilized by New Shoreham, Rhode Island. One particular focus of the effort is the effects of climate change on transportation from the mainland to the Island. Additionally, the effort aims to develop structural concepts and a contingency plan to respond to the potential inundation of the ferry terminals that connects the Island to the mainland. Furthermore, the effort looks at break walls that possibly effected roadway systems and the airport on New Shoreham.

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## Project Background

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New Shoreham, also known as Block Island, is 12 miles south of mainland Rhode Island. The Island has over 30 miles of walking trails, 17 miles of coastal beach, and a small population with just over 1,000 residents. With 10 square miles of land, Block Island is known for tourism during the summer months and has a strong fishing community. Aside from a small airport, the ferry is the main transportation for the residents and tourists to the Island. The infrastructure for the ferry is imperative for the citizens of New Shoreham to transport the goods needed to live and remove waste from the island.

The two harbor sections of New Shoreham, Old and New Harbor, are both vulnerable to flooding, specifically the land around New Harbor with lower lying roads. The ferry is principally located at Old Harbor with deliveries of goods, both commercial and private. Old Harbor receives passengers from Point Judith, New London and the high speed ferries. New Harbor is used only for passenger services, and receives the Montauk ferry. It is largely used by recreational boaters.

The town conducted a public climate change session in October 2011 sponsored by the town planner, Block Island Office of The Nature Conservancy, Scenic Block Island, and the committee for the Great Salt Pond. At this session, the community learned that although most of the town would not be affected by sea level rise, the town's infrastructure in the village and harbor are vulnerable. The low-lying harbors are the main focus of adaptation plans on New Shoreham because impairment of their uses would cut off the residents from deliveries to the island and transportation to the mainland.

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## Project Implementation

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In order to implement adaptation, the town applied in November 2011, and was accepted, for a NOAA grant for the New England Municipal Coastal Resilience Initiative. Prior to the application, preliminary mapping was done by using the digital elevation model of coastal Rhode Island through the Rhode Island Sea Grant Program. This allowed the town to understand the sea level rise and storm surge that would affect their transportation. This data revealed that the two harbors and roads could face a one to five foot rise in sea level. The town assembled an advisory group with the private company, Interstate Navigation, that provides the ferry services and a group of citizens. The project is currently in the first stage, which is to review the detailed mapping of flooding hazards and use the grant money to hire a marine engineer in order to fully understand the implications of the effects from flood inundation and sea level rise.

The next stage of the project will be to develop temporary and long term solutions through an engineer review of the mapping information and sea level rise to develop structural protection and contingency plans which are both additional stages in the project timeline. The engineer review will allow the town to understand what needs to be done followed by actually implementing the feasible solutions. The town further plans to engage in small outreach to educate the public about the project, as well as put in place an emergency contingency plan in the event that the transportation system is incapacitated by a storm.

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## Project Outcomes and Conclusions

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This project is currently in progress and the projected timeline is January 2012 to June 2013. The stages through summer 2012 will be the engineer review, team meetings, developing feasible structural concepts and contingency plans.

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## Part of the Northeast Climate Change Adaptation Project

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*In 2011, the [Northeast Regional Ocean Council \(NROC\)](#) and the [Gulf of Maine Council on the Marine Environment \(GOMC\)](#) received funding from the [National Oceanic and Atmospheric Administration's \(NOAA's\) Climate and Societal Interactions Program \(CSI\)](#) to examine innovative municipal approaches to climate change adaptation in the coastal zone of the Northeast and Bay of Fundy. The two-year project, *Stimulate Innovation and Increase the Pace of Municipal Responses to a Changing Climate in the Coastal Zone of the Northeast and Bay of Fundy*, was completed in June, 2013. The research and outreach for the project was conducted by the following partners: the [Marine Affairs Institute](#), a partnership of [Roger Williams University School of Law](#), [Rhode Island Sea Grant Legal Program](#), and [University of Rhode Island](#); [Blue Urchin](#); [StormSmart Coasts Network](#); and [Clean Air-Cool Planet](#).*

*Read more about the Northeast Climate Change Adaptation Project on our website:*  
<http://necca.stormsmart.org/>