

Rural Transit, Public Lands, and Coastal Communities

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Lindsey K. Morse, Community Planner

John A. Volpe National Transportation Systems Center



U.S. Department of Transportation
**Research and Innovative Technology
Administration**

Objectives

- Introduce ways in which transit can play a role in addressing transportation challenges for rural coastal areas with public lands/other tourism destinations
- Identify important factors and remaining questions in making transit work for these areas

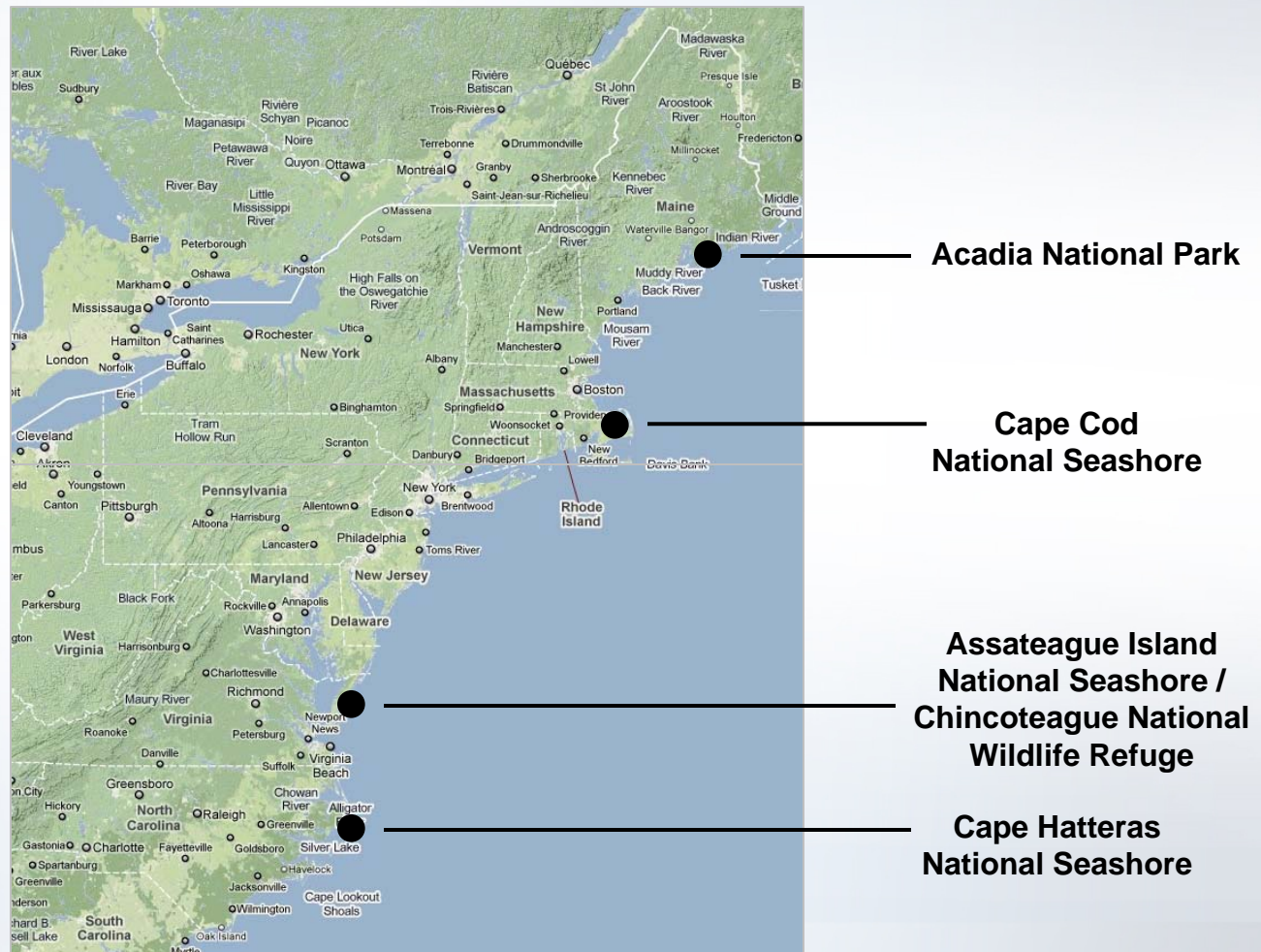


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- Introduction to coastal communities and public lands
- Common transportation challenges and role of transit
- 5 case studies along the Eastern Coast
- Transit considerations
- Main takeaways
- Questions?



Coastal communities and public lands



Coastal communities and public lands

<i>Public Land Unit</i>	<i>Distance (miles) from nearest city >200,000</i>	<i>Annual visits (millions)</i>	<i>Year-round population</i>	<i>Peak season 50% of visitors</i>
Acadia NP (ME)	286 (Boston)	2.1	52,000 (county)	July – August
Cape Cod NS (MA)	100 (Boston)	4.3	222,000 (county)	July – September
Assateague Island NS (MD)	130 (Baltimore / Norfolk)	0.8	47,000 (county)	June – August
Assateague Island NS / Chincoteague NWR (VA)	100 (Norfolk/Virginia Beach)	1.2	38,000 (county)	July – August
Cape Hatteras NS (NC)	100 (Norfolk/Virginia Beach) 200 (Raleigh)	2.4	34,000 (county)	June - August



Common transportation challenges & the role of transit

Transportation challenges

- Seasonal visitation
- Limited transportation infrastructure and services
- Limited access and remote/rural geographic location

Results: car-dependent travel, traffic back-ups, long wait times, increased pollution, parking shortages, and illegal parking.

Role of transit

- Seasonal transit service can reduce personal motor vehicle use within a site.
- Intercity transportation can connect rural coastal communities to urban centers and reduce personal motor vehicle use to access the site.



Common transportation challenges & the role of transit

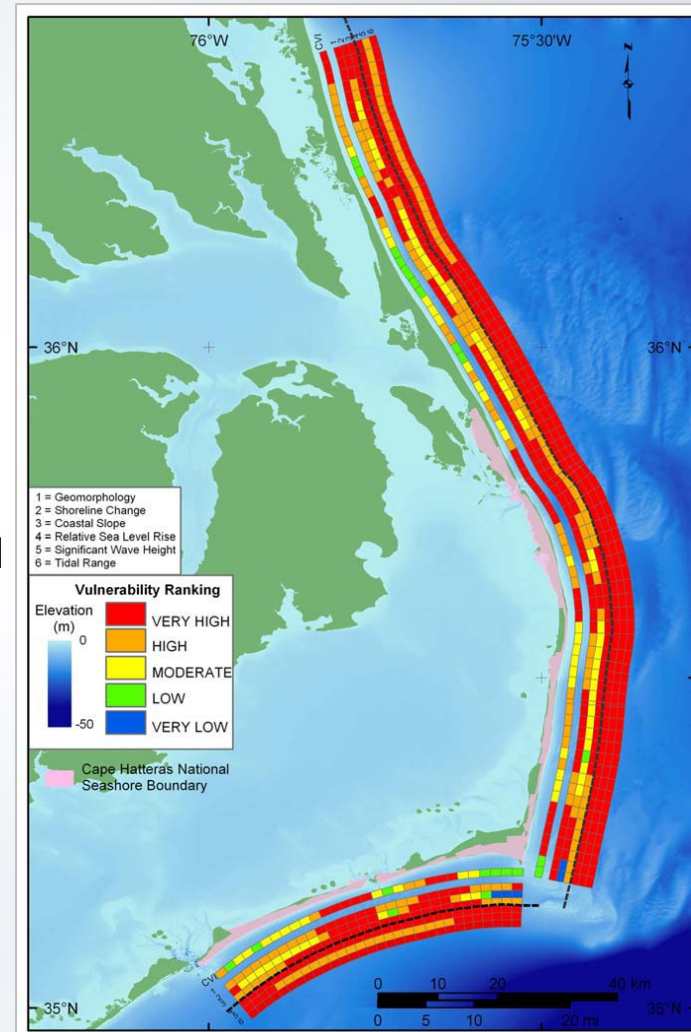
Transportation challenge

- An increasingly dynamic land base as a result of climate change and normal shoreline processes

Results: may impact traditional transportation infrastructure and access in the future.

Role of Transit

- Transit can provide a connection from parking located inland to coastal areas where parking is no longer feasible/sustainable/desirable



Maine: Acadia National Park

Transportation challenges

- Concerns about traffic congestion, air and noise pollution, and parking scarcity
- Limited access

Role of transit

- Island Explorer Shuttle (1999)
 - Partnership with existing local transit agency
 - Multiple funding sources (FHWA, FTA, NPS, local businesses and towns, L.L. Bean)
 - Fare free seasonal service for tourists and local employees
 - Propane fueled buses
 - Part of a transportation system with extensive bicycle trail network and use of intelligent transportation systems
 - New gateway welcome center/transportation hub
 - First of several “Explorer” systems in Maine focused on either coastal tourism or ski tourism



Image sources: Volpe Center and Island Explorer website

Massachusetts: Cape Cod National Seashore

Transportation challenges

- Vulnerable / eroding beach parking
- Limited access / congestion



Role of transit

- Coast Guard Beach Shuttle (~1980s)
 - Response to 1978 storm that destroyed beach parking
 - Small-scale NPS operated open-air tram suited to beach gear accommodation



Image sources: Volpe Center

Massachusetts: Cape Cod National Seashore

Role of transit (continued)

- Cape Cod Regional Transit Authority Flex Bus Service and Provincetown-Truro Shuttle
 - Partnership with existing local transit agency to provide seasonal and year-round transit services to visitors, residents, and seasonal employees
 - Limited beach connections but potential for improved connections
- Extensive bicycle and pedestrian network, transit connections to ferries, intercity bus transportation, and use of intelligent transportation systems



Image sources: Cape Cod RTA website

Maryland & Virginia: Assateague Island National Seashore & Chincoteague National Wildlife Refuge



Image source: Google Maps



Maryland: Assateague Island National Seashore

Transportation challenges

- Limited access / parking with high demand
- Future scenario – loss of parking/access due to natural processes, storms, sea level rise



Potential role of transit

- Campground shuttle to Assateague State Park
- Previous attempt at Ocean City – Assateague connection
- Mainland parking with shuttles
- Strong network of public transit and intercity bus to/within Ocean City/Delaware area



Image sources: NPS and Volpe Center

Virginia: Assateague Island National Seashore & Chincoteague National Wildlife Refuge

Transportation challenges

- Vulnerability of beach parking and other transportation infrastructure to:
 - Barrier island natural dynamics
 - Storm damage
 - Climate change – sea level rise and increase in frequency and intensity of storms
- Concern about economic impact to gateway community

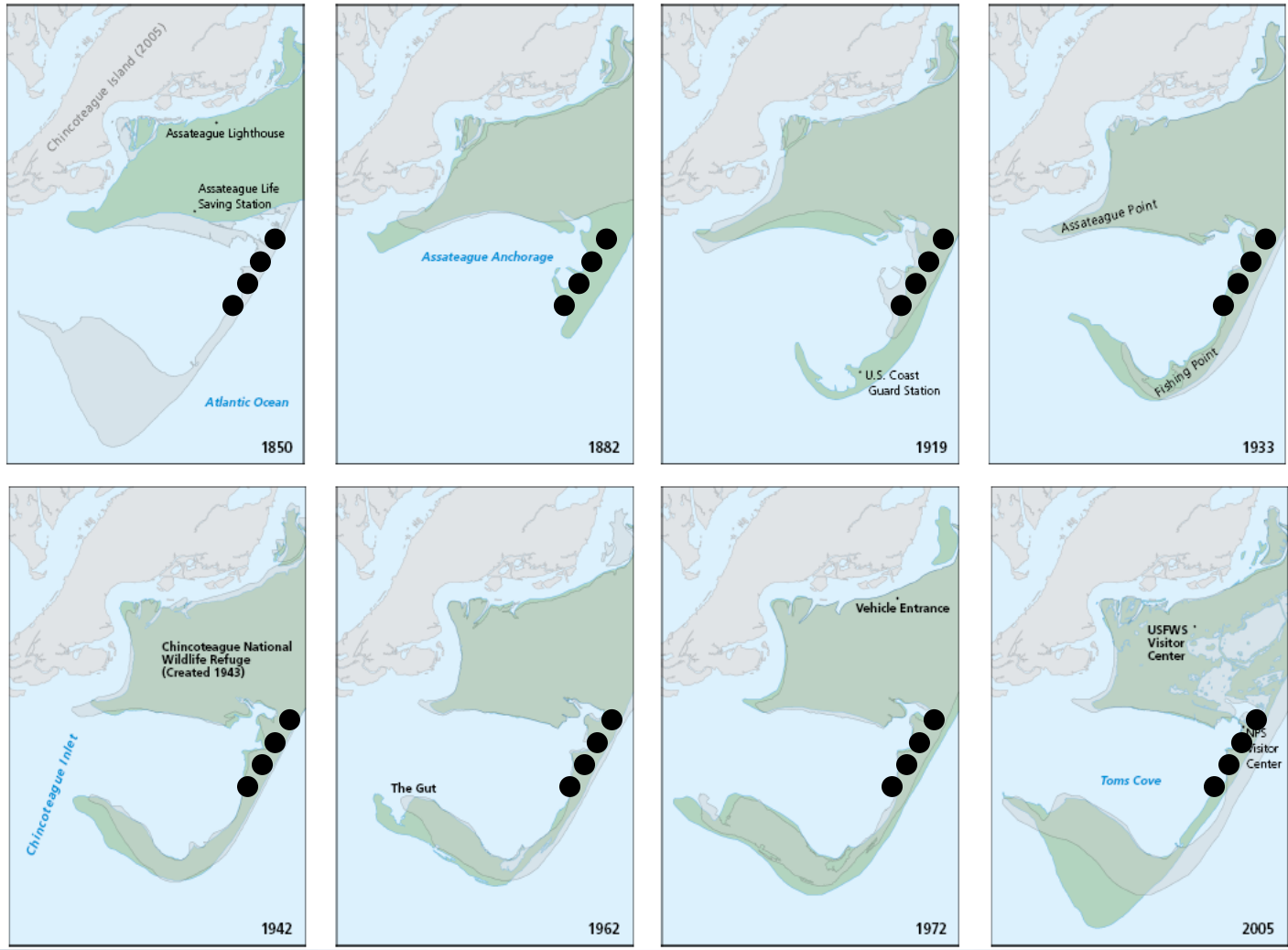
Potential role of transit

- Shuttles to off-site parking if beach parking is lost/unsustainable
- Transportation option for visitors staying in town



Image sources: Volpe Center and Fish & Wildlife Service

Historic Shoreline Change



Current Island
 Previous Island

Four beach parking lots

Image source: National Park Service



Storms – Nor'easter Ida (November 2009)



Image source: Fish & Wildlife Service



One Meter Sea Level Rise Scenario

- Developed Dry Land
- Undeveloped Dry Land
- Swamp
- Inland Fresh Marsh
- Tidal Fresh Marsh
- Trans Salt Marsh
- Salt Marsh
- Estuarine Beach
- Tidal Flat
- Ocean Beach
- Rocky Intertidal
- Inland Open Water
- Riverine Tidal
- Estuarine Open Water
- Open Ocean
- Irregular Flooded Marsh
- Inland Shore
- Tidal Swamp

1996

2050

2100

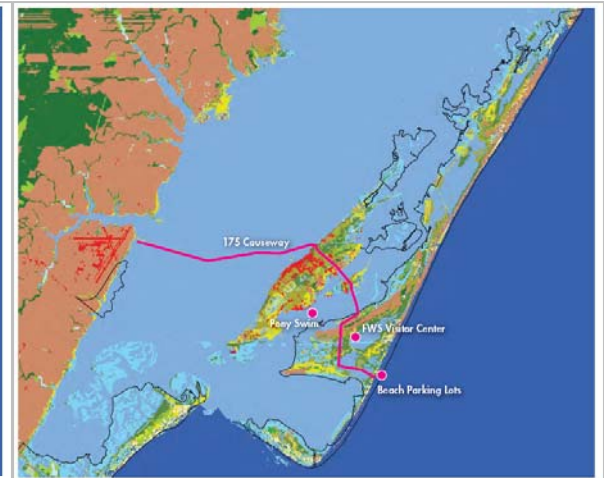
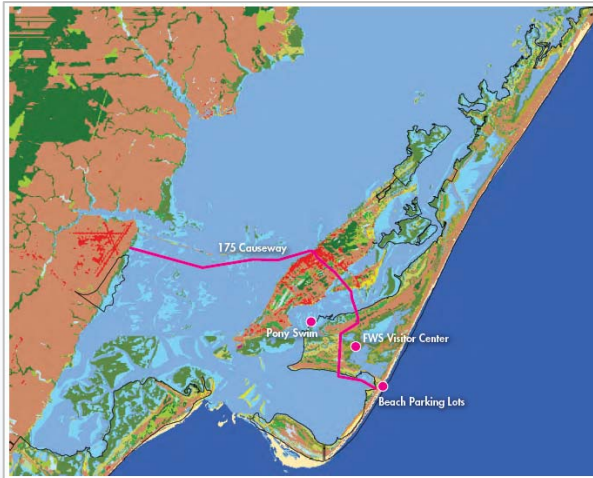


Image source: Sea Level Affecting Marshes Model / Fish & Wildlife Service



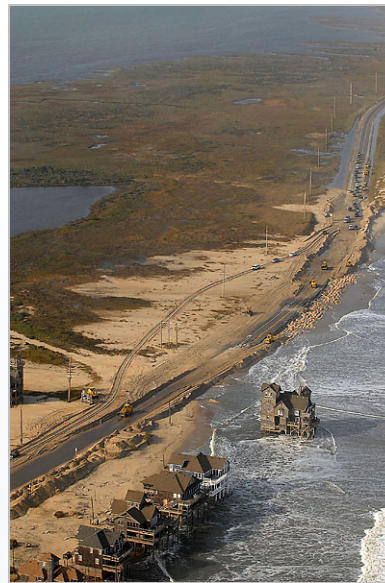
North Carolina: Cape Hatteras National Seashore

Transportation challenges

- Limited local transit (demand-response)
- Long distances / dispersed destinations
- No intercity bus connections
- Completing the bicycle network
- Barrier island dynamics/vulnerability

Potential role of transit

- Regional/local connections
- Shuttle from parking off-site



Transit considerations

- Safety
 - Sheltering in place and evacuation in the case of sudden storm events
- Financial and operational feasibility
 - Local transit service and off-season operation
 - Options for inland parking/transit stop locations
- Community acceptance
 - Perception of transit
 - Economic impact
- Visitor experience
 - Ability for transit vehicles to accommodate beach gear and bicycles
 - Frequency of service
 - Dispersion of visitors throughout a site
 - Intelligent Transportation Systems/Traveler Information



Main Takeaways

- Variety of ways in which transit can play a role in addressing transportation challenges for rural coastal areas with public lands/other tourism destinations
- Planning for a range of possible futures may require consideration of transit to maintain access
- Successful implementation of transit dependent on many factors
- Need for additional research and solutions
 - Economic impact of transit on tourism
 - Vehicle technology and design appropriate for conditions/demands
 - Safety mechanisms (evacuation/shelter)



Future possibilities

NBC Online



Beach Season Is Here! Hop on the Bus
Washington-based bus company offers service to Rehoboth, Dewey beaches

By ADRIENNE WELSCH

Updated 12:27 PM EDT, Thu, Jul 22, 2010

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 Recommend 1

Do you love weekend trips to the beach, but hate the traffic getting there? Well, you may be in luck!

The **Washington**-based bus company **DC2NY** is going to start offering service from the District to Rehoboth and Dewey beaches in Delaware. The new service will start **Memorial Day** weekend, and buses will run on Friday, Saturday, Sunday and Monday.

"Everyone we've talked to, including civic leaders, believe that the service will be a big success as it is one of their favorite destinations, and where everyone agrees that the fewer cars on the road, the better," said **Richard Green**, CEO of DC2NY.

The DC2NY buses pick up in two spots -- **Dupont Circle** and **Union Station**. In Rehoboth, DC2NY will drop off passengers behind the Rehoboth fire station near the town's recycling center. In Dewey, DC2NY will pick up and drop off passengers at the landmark Lighthouse and Que' Pasa restaurants at Ruddertowne.

You can also keep yourself entertained during the three-hour drive. The buses offer free wi-fi access and electric outlets. For more information on schedules and fares, visit www.DC2NY.com.

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Questions?

Resources/Contact Information

Lindsey Morse, lindsey.morse@dot.gov

Volpe Center Public Lands Team, <http://www.volpe.dot.gov/publiclands/index.html>

