Transportation Observations, Considerations and Recommendations for Chincoteague National Wildlife Refuge

Provided by the Interagency Transportation Assistance Group (TAG)

Chincoteague, Virginia
January 8-10, 2008

A field investigation of the current transportation infrastructure and operations at Chincoteague National Wildlife Refuge (CNWR) and Assateague Island National Seashore (ASIS) by the interagency Transportation Assistance Group (TAG) was conducted January 8-10, 2008, on behalf of the U.S. Fish and Wildlife Service (FWS) and the National Park Service (NPS). This TAG report was prepared subsequent to the site visit and documents the conditions observed, transportation issues and considerations, and recommendations arising from the TAG team's analysis. The site visit and the preparation of this report were facilitated and funded by the Federal Transit Administration (FTA).

The TAG team concluded that CNWR and ASIS are experiencing numerous transportation issues and impacts stemming from peak visitation, limited parking facilities, and limited access. There are multiple opportunities to improve the visitor experience, protect natural resources, and mitigate transportation challenges by undertaking a focused and targeted assessment of transportation alternatives. Partnership and collaboration with: surrounding businesses, gateway communities, federal lands agencies, and other stakeholders will be critical for success.

I. Background and Existing Conditions

CNWR was established in 1943 under the authority of the Migratory Bird Conservation Act as a sanctuary for migratory and wintering waterfowl. CNWR is located along the eastern shore of Virginia on the Delmarva Peninsula (the peninsula of land where Delaware, Maryland, and Virginia converge along the east coast). The majority of the 14,000-acre CNWR is located on the Virginia portion of Assateague Island. Assateague Island is a barrier beach island that extends over 30 miles along the Atlantic coast. The island is comprised of beach, dunes, maritime forest and salt marsh. The CNWR also manages three smaller divisions which are located on the Virginia barrier islands chain. Assawoman Island Division contains 1,434 acres; Metompkin Island Division consists of 174 acres; and Cedar Island Division contains over 1,400 acres in fee title and 600 acres in easements. Additional lands can be found on the north end of Chincoteague Island (546 acres at Wildcat Marsh) and on Morris Island (427 acres) which is located between Chincoteague and Assateague Islands. A modern visitor center at CNWR offers educational programming, meeting space, and retail items made available through a partnership with the Chincoteague Natural History Association (CNHA).

ASIS was created in 1965 to preserve Assateague's unique Mid-Atlantic coastal resources and natural ecosystem conditions and processes upon which they depend while providing high quality resource-compatible recreational opportunities. The Seashore encompasses all of Assateague Island and most of the smaller islands immediately adjacent to Assateague. ASIS also includes the coastal bays and ocean areas extending one-half mile out into the ocean and bays surrounding Assateague. The water areas are sometimes limited to half the distance to other islands or the mainland.

NPS owns and manages property on Assateague Island and in waters surrounding the island as part of ASIS. NPS works in cooperation with the FWS in the management of some areas within the Refuge. The NPS operates and maintains the entry bridges and roads between the town of Chincoteague and CNWR, an NPS Visitor Center near the public beaches, the public road from the NPS Visitor Center to the public beaches, the public beaches and associated parking and facilities, the United States Coast Guard Station located on Tom's Cove Hook, and some additional lands within CNWR. These shared responsibilities create a unique partnership between the two Federal lands management agencies.

NASA operates the Wallops Island facility off of Route 175 to the west of the Chincoteague Causeway – a short drive from CNWR or an estimated four-to-five mile boat trip from Assateague's Toms Cove beach. The facility includes a visitor center that is open seven days per week and currently sees approximately 35,000 visitors annually. The visitor center contains a paved parking lot, and overflow parking is available in a nearby field; the facility has never closed due to lack of parking. Bicycle and Pedestrian paths on the island are in compliance with standards in some areas of the island, however connections to and throughout the town of Chincoteague, and along Route 175 do not meet accessibility standards or safety standards. In most areas the pedestrians and bicyclists have to share the road. Ideally a code compliant bicycle/pedestrian path should connect Assateague Island and the Town of Chincoteague to the NASA Visitors' Center.

Access to CNWR is limited due its unique geographical location. Both Chincoteague and Assateague Island are accessible via a two-lane causeway along Virginia Route 175. Route 175 links to U.S. Highway 13, which provides connections to major metropolitan centers along the eastern seaboard. CNWR is within a half-day's drive of Philadelphia, Baltimore, Washington, Richmond, and Norfolk. See Figure 1, below, for access points.

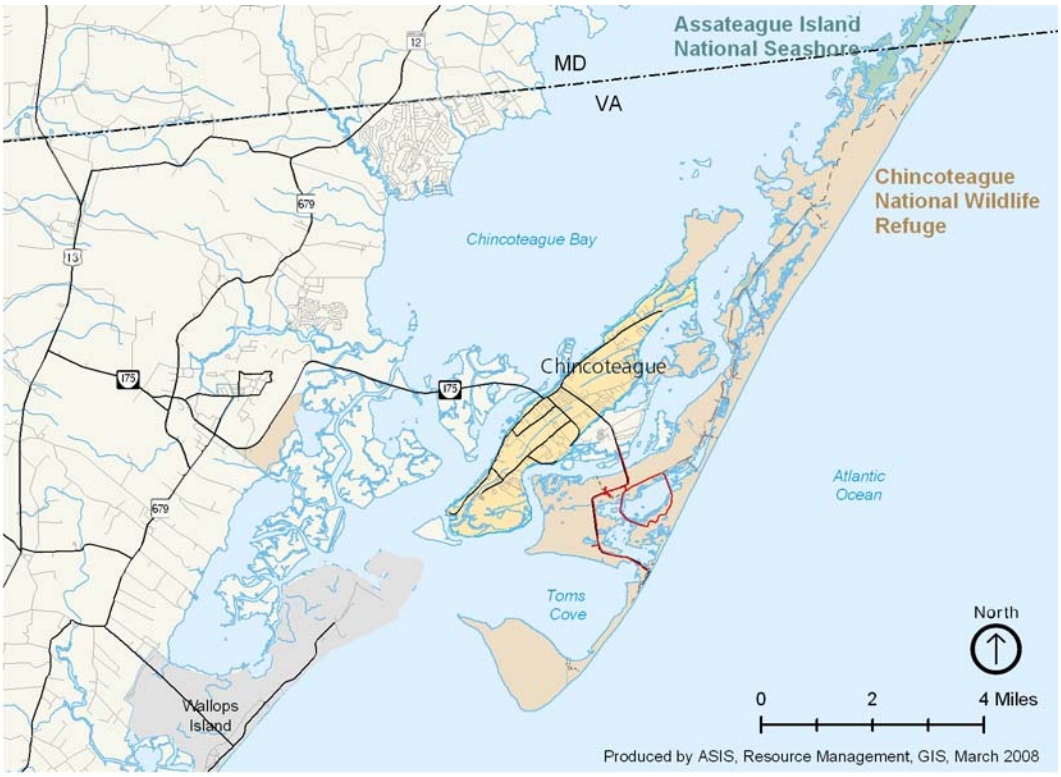

Figure 1: CNWR and surrounding area. *Image courtesy of National Park Service, Assateague Island National Seashore.*

The Refuge attracts approximately one million visitors per year who come to experience a wide range of activities; the extremely large volume of visitors is unusual within the National Wildlife Refuge system, but is common in National Park areas. Generally, CNWR experiences peak visitation during the summer months primarily due to the beach going visitors, but has also attracted birders, naturalists, and other tourists during spring and fall in more recent years. Popular attractions on Assateague include the natural beach; the Assateague Lighthouse (the existing Lighthouse was completed in 1867 and stands 142 feet high); the famous Chincoteague wild ponies; and 15 miles of trails open to public use.

In addition to being home to several threatened and endangered species such as the Delmarva Peninsula fox squirrel and the piping plover, Assateague Island's most prominent asset is the only public ocean beach in Accomack County that is accessible to vehicle traffic. As a barrier island, Assateague's beaches are constantly subject to change. The public beach recreation area with CNWR is located at the southern end of the island in an area known as Tom's Cove Hook, which is one of the most dynamic and constantly changing areas on Assateague. Tom's Cove Hook is highly susceptible to rapid change and infrastructure damage due to storms. Between 1970 and 2004, the physical location of the beach has shifted south and west (see Figure 2, below). The changing physical geography of the island shifts and changes wildlife habitat (and affects the location of protected areas), but also requires that transportation infrastructure, such as roads and parking areas respond sensibly to anticipated changes in the natural environment.

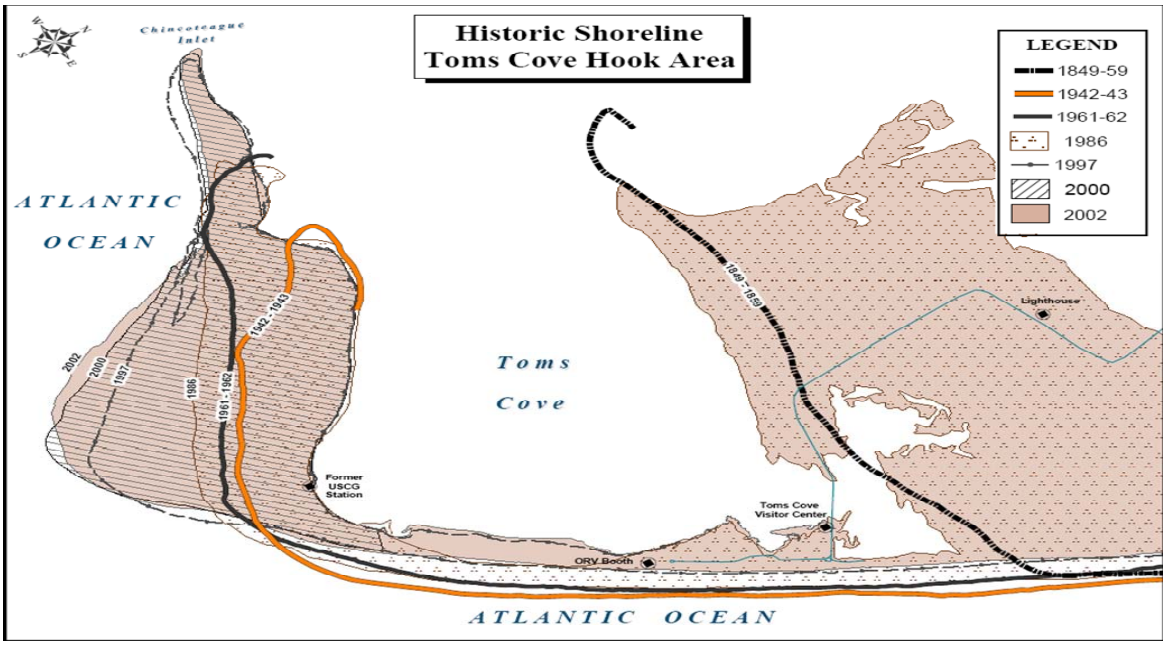

Figure 2: Historic shoreline of Chincoteague Island and Toms Cove Hook. *Courtesy of NPS.*

Chincoteague Island is home to 4,000 permanent residents. Chincoteague's historic economy was based largely on fishing. As the fishing economy began to decline, Chincoteague community leaders envisioned a vibrant future economy based tourism and aggressively worked to create and market world-class beach recreational opportunities within CNWR and community attractions. Chincoteague residents have fought to maintain the community's fishing village character, while accommodating a seasonal influx of tourists. According to one TAG participant, tourism currently accounts for about 90% of the local economy, of which 60%-65% is accrued during the peak summer months. One community leader noted that "the Wildlife Refuge and beach are the number one economic engine" for Chincoteague.

Existing partnerships with the Town of Chincoteague and other local and regional entities provide transportation services via the Chincoteague "Island Trolley" to numerous activity centers (e.g. the Tom's Cove campground and Memorial Park). Trolley service does not currently extend beyond the town limits. The trolley, operated by the Town, is busiest during the annual late-July pony swim, when trolleys operate five times daily between 5:00 PM and 11:00 PM during the week-long event, carrying more than 3,000 visitors and residents between key locations. Guided one-hour history tours are available on Wednesdays aboard "The Pony Express." Star Transit also provides service to the town of Chincoteague out of Onley and Parksley, VA – both located about 30 miles south of Chincoteague along U.S. Route 13. Star's Blue Route service runs three times daily on weekdays.

This TAG meeting served broader objectives than typical TAG meetings: CNWR in cooperation with ASIS successfully applied for a planning grant through the ATPPL program in 2007. Thus, while this TAG offered Federal lands managers and community

leaders an opportunity to discuss the Refuge area's transportation issues, it also afforded an opportunity to discuss the role of a comprehensive planning study, and to begin to outline the study's scope; this is reflected in the "Analysis and Recommendations" section of this report.

Finally, the strong presence of community leaders at the TAG meeting demonstrates willingness on the part of town and county stakeholders, as well as CNWR and ASIS staff to share thoughts and ideas and build consensus around the transportation issues and needs in the region.

II. TRANSPORTATION ISSUES/PROBLEMS

Chincoteague may face a multitude of transportation challenges as residents, tourists, and others seek to gain access to popular attractions by way of personal vehicles, transit, bicycles, or on foot. Access to Chincoteague Island is already limited, and the single access point to the CNWR results in additional transportation issues and problems.

Figure 3. Beach parking along Beach Road. *Image courtesy of ASIS.*

As part of the TAG meeting, participants representing federal, state, and local agencies and interests presented their own assessment of CNWR, ASIS, and Chincoteague's transportation issues. This section presents a summary of the issues that participants agreed require significant attention.

Congestion at critical access points (includes causeway and beach access)
Bottlenecks at the CNWR entrance are another significant symptom of capacity issues. The TAG team noted three main chokepoints along the route from the mainland out to the beach. The first is the backup that occurs at the fee collection booths at the entrance to the CNWR. The collection booth backups are anecdotally linked with visitors asking

questions of the booth operators, and the cumbersome process of paying the fee. Volume is not the sole cause of backups, and efficiencies at collection booths could potentially accommodate the same volume of visitors while easing congestions. See the section below on "Traveler Information" for more on this subject.

The second chokepoint is the Chincoteague Causeway itself. The current Chincoteague Causeway empties onto N. Main St. in downtown Chincoteague. Travel over the causeway's narrow, two-lane drawbridge can be slow, and can result in dangerous interactions between vehicles, bicyclists and pedestrians. The Causeway is also especially difficult to navigate for emergency vehicles. In peak months, the drawbridge for the current causeway is opened more than 10 times a day on average, which causes recurring congestion. VDOT is currently involved in a $68 million construction project to build a new causeway from the mainland to Chincoteague Island.

The northern alignment of the new causeway will feed directly onto Maddox Boulevard, the main arterial leading to CNWR, and will also require many fewer drawbridge openings. According to VDOT, the project will reduce traffic congestion in downtown Chincoteague, allow boats better channel access, increase safety by providing wider lanes and shoulders, and improve industrial access by allowing VDOT to consider permits for overweight loads. It will be important to consider land use planning strategies and design considerations in order to maintain the "Chincoteague experience" and town character after this realignment is complete and the resulting flow of traffic shifts northward to Maddox Boulevard and away from the Main Street merchants. The ongoing construction is of course critical to get the new bridge operational by 2010, though these bold efforts have further contributed to congestion on the existing causeway.

The third chokepoint is the access to the beach parking lot and limited beach parking spaces. Backups have occurred for two miles back to the entrance stations and frequently occur on weekends and holidays throughout the summer.

Beach Parking Limitations and Constraints

The National Park Service maintains and operates 961 parking spaces distributed along several lots along the public beach at Toms Cove Hook. Changes in the shoreline due to natural processes threaten parking lots and beach recreation facilities; according to TAG participants, a single moderate, let alone catastrophic storm could wash out the parking lots and destroy facilities. The lots are composed of crushed shell, over a clay base, and require frequent grading by NPS staff. Previous planning documents, including the CNWR's Master Plan, identify a need to retain the 961 parking spaces, even if they need to be reconfigured, so long as the land base directly behind the dunes (adjacent to parking) remains intact. See the map below for historical changes in shoreline along Toms Cove Hook.

Yearly, piping plover management is also a serious consideration for beach parking lots. The construction materials used in these lots attracts piping plover pairs that are actively seeking nest sites. NPS must maintain daily maintenance activities so as not to cause an attraction for these birds. Over the past several years, wildlife managers and others have

generated numerous proposals and ideas to both reduce parking demand and move the parking lots to safer, more sustainable locations. Some ideas include relocating the public beach to an area of the island that has fewer access limitations and impacts on sensitive wildlife habitat, and reevaluating the use of over-sand trams or other vehicles specially designed for beachfront travel. Any recommendations for alleviating beachfront parking issues must be compatible with both CNWR and NPS missions and maintenance capabilities.

Safe Bicycle-Pedestrian Access

Parts of the islands have dedicated bike lanes and trails, though there is a lack of full connectivity that could otherwise provide a viable alternative to vehicles. Specific needs documented during the TAG meeting include the completion of the bike trail along Beach Road on Assateague Island, and also from the Chincoteague Circle to the Refuge entrance. Current plans for the reconstruction of the Chincoteague Causeway do not include a bicycle-pedestrian lane. The plan should identify the need to improve paths in the town of Chincoteague with eventual extension to the NASA Visitor Center.

TAG participants agreed that given the community character and scale of the Town and Refuge area, nonmotorized transportation could provide a viable alternative for tourists and beachgoers. Ensuring the safety of bicyclists and pedestrians – especially those with varying degrees of cycling skills and experience – is an important consideration for the Town, CNWR, and ASIS managers and staff.

In some areas, engineering challenges (i.e. the limited width of certain roadways or rights-of-way) hinder the extension of trails or the addition of sidewalks. In most places, bicycle trails are well-marked, but at times they may abruptly end at key intersections and without warning, depositing cyclists onto busy roads. In other cases, sidewalks provide a safe alternative for pedestrians, but also abruptly end or change sides of a street. Finally, safe bicycle and pedestrian alternatives should acknowledge that tourists – particularly beachgoers – often have gear or equipment that needs to be transported to the beach (including walkers, strollers, chairs, and recreational equipment).

Nonmotorized transportation alternatives may be viable for a share of travelers, but not for all travelers. There are some nonmotorized vehicles (such as industrial tricycles and quad cycles that could provide transportation options for a segment of visitors.

Security, Safety and Emergency Preparedness

The one-way-in, one-way-out nature of the barrier islands can be problematic for emergency vehicles. This issue has received increased awareness in recent months, when an 11-year-old boy was killed in a three-vehicle accident on the Chincoteague Causeway on August 5, 2007. Several Chincoteague residents have since called for wider shoulders on the Causeway. Nineteen accidents occurred on the Causeway between 2004 and 2007. Accidents can involve vehicles, bicyclists, and pedestrians; all require efficient access to incident scenes by a variety of first-responders.

Finally, there is growing concern among local Chincoteague residents, and CNWR and ASIS management that natural weather events can pose a grave danger to the islands; transportation alternatives can be sensitive to this threat by considering emergency evacuations, the provision of emergency shelters, and the overall safety of all visitors, including drivers, bicyclists, and pedestrians.

Traveler Information and Transportation Issues

Many of the transportation issues discussed above are related to, or can be addressed by transportation infrastructure: parking, access, roadway width, etc. However, TAG participants, and specifically the community leaders who took part in the TAG meeting, highlighted the key role that traveler information can play in exacerbating or ameliorating transportation issues.

Previous traveler outreach campaigns played a valuable role in relieving collection booth bottlenecks and causeway backups by recommending that travelers stagger their visits to the beach over the course of the day, and avoid "rush-hours" and busy times of day. Additionally, as weather can have a considerable impact on travelers' ability to reach the beach, easy-to-access information about impending weather events, or weather notification systems can alleviate congested mass departures from the beach and the Refuge. Finally, fee collection booth backups can result from the dual role played by staff as fee collectors and visitor information agents. Streamlining the fee collection process – for instance with a transponder system – could be coupled with improved dissemination of visitor information so that travelers arrive armed with basic information about their visit to Assateague Island.

III. ANALYSIS AND RECOMMENDATIONS

After completing a comprehensive site visit and tour of significant transportation nodes, the TAG team discussed the high-priority issues and made recommendations to address these issues. The team noted that the transportation issues at the Refuge are significant, and can be analyzed in greater detail through an ATPPL-funded transportation planning study of the CNWR and ASIS area. There is a strong network of community leaders, local and regional planners, and partner Federal lands management staff for CNWR to work with to identify the effective and valuable transportation alternatives and improvements to implement. The primary recommendation of the TAG team is to move forward on the planning study, which suggested an analysis of traffic/congestion, educational and recreational opportunities, evaluation of alternate transportation options, improvements to bicycle/pedestrian paths, and analysis of intermodal safety issues. The planning study proposes development of transportation system alternatives and enhancements, a public information campaign and involvement effort, and an examination of the financial feasibility and cost effectiveness of proposed solutions or alternatives.

Recommendations discussed below take two forms: those considerations for scoping the planning study so that it addresses significant and high-priority issues and short-term recommendations that can be considered and implemented apart from the planning study.

Recommendations related to the scope and methodology of the planning study include:

- **Feature sustainability of transportation alternatives as key component of study.** The planning study application indicates that financial viability and cost-effectiveness should be included as part of the analysis of alternatives. TAG team members recommend that proposed alternatives should evaluate sustainability in terms of environmental impacts, longevity and maintenance, human impacts, generation of trash and waste, etc.
- **Evaluate transportation solutions that may enhance wildlife values, increase access, and enhance visitor experience.** The transportation study should be sensitive to the geographical context and the study sponsor, and should balance transportation system efficiency with the mission and goals of federal lands agencies to protect and enhance natural resources and wildlife values.
- **Consider public-private partnership and public-public partnership alternatives.** The planning study should consider potential solutions and alternatives that may be implemented or funded through innovative options like public-private and public-public partnerships. Joint development may also serve as a viable mechanism for implementing proposed alternatives.
- **Alternative transportation options should include all possible modes;** this includes marine access and water-based tourism in addition to vehicular, bicycle, and pedestrian modes.
- **Document essential components of existing transportation system, including vehicular access.** While the planning study is funded by the ATPPL program, and is designed to encourage consideration of nonmotorized and alternative transportation options, the study should not focus on the elimination of vehicular access, but on the management and reduction of congestion through a variety of potential strategies and measures.
- **Primary data collection at CNWR**, ASIS, **and in surrounding area should be complemented by peer comparisons.** Data about "peer" Parks, Refuges, and Seashores can be helpful in generating potential solutions for the CNWR area. Community leaders and federal lands managers in other gateway communities may be valuable to inform the planning study. Potential peers include Ding Darling National Wildlife Refuge, located in Sanibel, Florida, which has many of the same transportation issues as CNWR and ASIS as a barrier island, and which has already begun the process of performing a transportation planning study. Other parallels can be made to transportation issues at Monomoy National Wildlife Refuge and Acadia National Park. These peer exchanges can be a launching point for increased coordination among federal land management units and agencies with similar transportation characteristics.
- **Learn from prior planning experiences to develop a study process that resonates with residents**. The TAG team and participating community leaders suggested using a range of tactics for solicit stakeholder feedback and engage the public in the development and evaluation of alternatives, including visioning sessions, charrettes, surveys, and interviews. NPS programs are available to facilitate town

meetings/sessions to gather input; CCP process could also be vehicle for gathering public input.

- **Identify gaps in data availability and work with appropriate entities to gather or generate critical transportation, economic and other data.** TAG team members underscored the importance of data and analyses that complement the transportation study, such as determining the economic impact of the Refuge on the town of Chincoteague, Accomack County and beyond.
- **Evaluate impact of transportation alternatives on activity centers and assets other than CNWR.** The TAG team recommends that the planning study consider the impact of transportation alternatives on other points of interest for visitors (e.g., NASA Visitor Center). Optimal transportation solutions for CNWR should not create new issues (such as bottlenecks or parking limitations).

The following near-term recommendations were made by TAG team members and community leaders. These recommendations may be implemented with the assistance of other federal lands agencies and local partners.

- **Based on existing bicycle and pedestrian plans, prioritize the bridging of trail gaps nearby to the CNWR and ASIS.** As noted above, there are several bicycle lanes and multi-use trails on both CNWR and ASIS, and along key roadways throughout Chincoteague. However, there are numerous identified gaps in lanes and trails where vehicular, bicycle and pedestrian traffic are intermingled.
- **Move forward on improved communication and traveler information to address congestion and improve access.** Re-establish previous programs that leverage partnerships with entities outside of the Refuge or Seashore, such as hotels/motels, bicycle rentals, and other local businesses to disseminate traveler information through various media (radio, television, print).
- **Consider developing a comprehensive asset management and maintenance program.** Such a program can help federal lands managers and town planning staff to keep track of critical facilities and infrastructure, and to better predict needed investments.
- **Strengthen partnerships with community entities and agencies that did not participate in the TAG.** The Chincoteague Chamber of Commerce, NASA, the Accomack County School District, local merchants, bicycle vendors, and others may be valuable partners in the generation and evaluation of planning alternatives, and in the implementation of near-term transportation solutions.
- **Consider expanding existing transit service to provide access to the Refuge and shuttle service within the Refuge.** Trolley or other transit service to the Visitor Center might reduce seasonal congestion, and internal CNWR shuttles might improve beach access and emergency or weather-event departures.
- **Consider adding personnel at fee collection booths to provide visitor information, and automated fee collection.** This may be helpful during times of peak congestion (both seasonally and daily).

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SUPPORTING DOCUMENTS AND RESOURCES

The **CNWR Master Plan** was completed in 1993. Currently, CNWR is in the pre-planning stages for a **Comprehensive Conservation Plan (CCP)**.

The National Park Service has a **General Management Plan (GMP)** for the Assateague Island National Seashore (ASIS).

In 2004, Accomack County adopted the **Eastern Shore Bicycle Plan**, which includes Chincoteague Island and identifies future bicycle facilities that will improve safety for bicyclists and maintain traffic capacity for other vehicles. Among the Plan's recommendations are for paved shoulders on the Chincoteague Causeway.

In 2002, the Virginia Department of Transportation (VDOT) developed the **Chincoteague 2020 Transportation Plan**[1].

In December 2006, the town of Chincoteague completed the **Chincoteague Comprehensive Plan**[2].

[1] http://www.virginiadot.org/projects/resources/Chincoteague_plansummary_FINAL.pdf
[2] http://www.rja-ltd.com/2006%20Chincoteague%20Plan.pdf

VDOT and Vanasse, Hangen, Brustlin, Inc. (VHB) have completed the **Route 13/Wallops Island Access Management Study**[1]. The study area extends along the U.S. Route 13 corridor from the Chesapeake Bay Bridge-Tunnel to the Virginia-Maryland State line. In addition, Route 175 serving Chincoteague Island is also part of the study.

The U.S. Army Corps of Engineers has produced the **Delmarva Hurricane Evacuation Study**, which notes that a majority of both Chincoteague and Assateague Islands are at risk of flooding from even a Category 1 hurricane[2].

VDOT has set up a **Chincoteague Bridge Replacement** website to keep local stakeholders informed of developments[3].

[1] http://www.virginiadot.org/projects/resources/hampton_roads/rte13_final_report.pdf
[2] http://www.nap.usace.army.mil/HES/Delmarva/maps/ACCOMACK_VUL_HU_06AUGUST07.pdf
[3] http://www.virginiadot.org/projects/hamptonroads/chincoteague_bridge_replacement.asp

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NOTICE

This Transportation Assistance Group (TAG) was convened at the request of the U.S. Fish and Wildlife Service. The TAG is an agency-independent effort that is intended to provide technical assistance in support of federal lands transportation and federal lands transportation programs, and does not imply, preference, or guarantee programmatic funding or project support, or further assistance of any kind. This document is disseminated in the interest of information exchange. The recommendations found herein reflect the collective expertise and consensus of the individual TAG members, do not represent regulatory or programmatic requirements, and do not in any way reflect the official opinion of any federal agency. The United States Government assumes no liability for the contents of this document or use thereof.

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