Captain John Smith Chesapeake National Historic Trail
## *Alternative Transportation Study*
Support to Comprehensive Management Plan

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Introduction

The Captain John Smith Chesapeake National Historic Trail (CAJO) was established by legislation in 2006 as the first national water trail in the United States. Administered by the National Park Service (NPS) through the NPS Northeast Region's Chesapeake Program Office, the trail commemorates the exploratory voyages of Captain Smith on the Chesapeake Bay and its tributaries in 1607-1609, tracing over 3,000 miles. It includes portions of the states of Virginia, Maryland, Delaware, and the District of Columbia. In addition to commemorating Smith's 17th century travels, CAJO is intended to play an important role in water-based recreation opportunities, as well as fostering citizen stewardship of the bay.

CAJO is designed to complement the existing Chesapeake Bay Gateways and Water Trails Network, which is also administered by NPS. Furthermore, CAJO is one of a group of new NPS initiatives in the region, including the Star-Spangled Banner National Historic Trail and the Potomac Heritage National Scenic Trail.

Project Overview

Each NPS unit is required to complete a Comprehensive (or General) Management Plan (CMP) that defines the park's basic approaches to natural and cultural resource protection, visitor experience, facilities, and partnerships for the next 15 – 20 years. The alternative transportation needs assessment is a component of the CMP. This study, developed as a first phase of alternative transportation systems (ATS) support for CAJO, focuses on two primary components: an ATS inventory and a regional ATS analysis.

The ATS inventory is a geospatial database of services and facilities that support alternative transportation access to CAJO. As the United States' first federally designated water trail, this type of ATS inventory may be the first of its kind. Focusing on categories such as kayak rentals and storage facilities, water-based tours and excursions, and major land-based transportation trails, the inventory will help trail planners understand the many ways CAJO can be experienced without the use of a private automobile.

The regional ATS analysis is a high-level study seeking to lay a foundation for future alternative transportation planning, funding, and implementation initiatives. Using the ATS inventory in conjunction with the analytical capabilities of geographic information systems (GIS), the report identifies transportation trends and high-potential ATS sub-regions within the greater CAJO region that are worthy of more detailed investigation. Rather than focus on the transportation details of each city and town in the CAJO region, the regional ATS analysis is the first step in determining where alternative transportation opportunities are available, where investment is viable, and where improvements in ATS service are needed.

Section 1: Alternative Transportation Systems (ATS) Inventory

The ATS inventory identifies services, facilities, and locations that may support alternative transportation access to CAJO. A database, including spatial and tabular data, was created for the following purposes:

1. For use by CAJO management in future planning initiatives;
2. As a foundation for the future development of traveler information services; and
3. As a framework for the creation of a regional ATS analysis as described in Section 2 of this report.

Inventory Components

Each component of the inventory is described below, with maps and tables included in the appendix. The Volpe Center and CAJO recognize that due to the immense number of ATS opportunities in the Chesapeake Bay region, it is possible that an element has been mistakenly omitted or overlooked. In subsequent ATS planning efforts, CAJO will continue working to develop and maintain its ATS inventory with the goal of having a comprehensive, up-to-date database of information that will benefit CAJO managers, planners, stakeholders, and visitors.

Chesapeake Bay Gateways Clusters

Facilitated and coordinated by the National Park Service, the Chesapeake Bay Gateways Network is a partnership system of parks, refuges, museums, historic sites, and water trails across the watershed whose purpose is to increase access and awareness to these sites and the Chesapeake Bay in general.

Using a GIS proximity tool, the Volpe Center identified clusters of Gateway sites where less than two miles separates one site from another. Gateways clusters are important when considering ATS viability, as improvements to services or facilities have the potential to serve multiple CAJO sites. This has the potential to create higher demand, ensure efficiency, and promote connectivity between sites.

Source data for individual Gateways sites were provided by CAJO.

CAJO Access Point Clusters

CAJO access points are located along the shores of the Chesapeake Bay and its tributaries. Access points are broadly defined as places where a visitor can gain access to the water trail. While access points sometimes offer only land-based facilities, the majority has some kind of put-in facilities for boats, including hard-surfaced landings, docks, or soft launches for small craft such as canoes and kayaks.

Using a GIS proximity tool, the Volpe Center has compiled clusters of CAJO access points where less than one mile separates one access point from another. Like Gateways clusters, CAJO access points benefit from close proximity to one another, as they may be easily linked together as part of an ATS network.

Source data for individual CAJO access points were compiled and provided by CAJO.

Major Land-based Transportation Trails

Major land-based transportation trails provide enhanced opportunities for non-motorized alternatives such as walking or bicycling. In an effort to focus on trails that may be considered viable transportation alternatives, a trail must meet certain criteria to be included in the inventory. For inclusion, a trail must be (1) existing, under construction, or a planned segment of a trail that is partially completed; (2) approximately one mile or longer; (3) clearly distinguishable on publicly available aerial photography; (4) able to support multiple modes of transportation ("multi-use" or "shared-use"); and (5) publicized as a local or regional amenity or attraction by the city, county, state, or third party.

Source trail data originated from the Virginia Department of Conservation and Recreation, the Maryland Department of Natural Resources, the Maryland Department of Transportation, and the District of Columbia Office of the Chief Technology Officer. Public and private internet resources helped verify unknown, questionable, or out-of-date information.

Kayak and Canoe Services

Kayak and canoe services are an important ATS inventory component because they eliminate the need to transport equipment to a CAJO put-in with a private automobile.

Guides and trip leaders provide equipment and instruction, allowing paddlers with little experience to get on the water. Rental companies provide all the necessary equipment while allowing paddlers to choose their own destination. For the purposes of this study, the project team focused on rental companies that are either located on the water or are willing to transport paddlers and equipment to an access point. Finally, storage facilities are secure structures located at access points, allowing kayak and canoe owners to lease storage space, again eliminating the need to transport equipment to a put-in site.

Primary source data for kayak and canoe services was provided by the Virginia Tourism Corporation, Virginia Department of Conservation and Recreation, Maryland Department of Natural Resources, Maryland Office of Tourism, Destination DC, Delaware Department of Natural Resources and Environmental Control, and the Delaware Tourism Office. Internet resources helped verify unknown, questionable, or out-of-date information.

Excursion/Tour Boats

Generally catering to groups of more than four people, excursion boats and tour boats are non-human powered vessels offering access to the heart of CAJO's waters with minimal effort. Interpretation is also frequently a part of the experience, and a number of boats offer history-themed trips. Location data represent the points of embarkation for these excursions.

The excursion/tour boat inventory does not include fishing-oriented guides or charter boats, although these types of services may be important to include in future planning efforts.

Source data for excursion/tour boats was provided by the Virginia Tourism Corporation, the Maryland Office of Tourism, Destination DC, and the Delaware Tourism Office. Internet resources helped verify unknown, questionable, or out-of-date information.

Ferries and Water Taxis

Ferries and water taxis often serve both locals and visitors. In Baltimore, water taxis are integral to the greater urban transit picture and are often used by locals as part of a daily commute. On Tangier and Smith Islands, ferries provide regularly scheduled service to residents and tourists, and even carry mail. Finally, a number of small, traditional ferries are equipped to carry passengers and a few vehicles across small bodies of water. Points of embarkation and destination were mapped for each operating ferry service.

Source information was provided by the U.S. DOT National Ferry Database; the Virginia Tourism Corporation; Virginia Department of Transportation; Maryland Office of Tourism; Destination DC; and the Delaware Department of Transportation. Internet resources helped verify unknown, questionable, or out-of-date information.

Transit Agencies

An inventory of transit agencies serves primarily as a source for contact information. At such a high level and with so many different transit agencies in the CAJO region, it is difficult to distinguish transit service details such as routes, stops, and schedules. Consequently, transit agencies are geo-located based on the address of the agency's headquarters. The size of each transit fleet is included in the tabular data.

Because of the lack of comprehensive detailed transit data, the transit agency inventory is not a component of the regional ATS analysis of Section 2 of this report. Instead, the project team opted to use the U.S. Census designated urbanized areas and urban clusters (see below) to approximate transit service areas.

Source information came from the U.S. Department of Transportation.

Urban Lands

According to Census definition, an urbanized area consists of densely settled territory that contains 50,000 or more people, while an urban cluster consists of densely settled territory that has at least 2,500 people but fewer than 50,000 people. Urbanized areas and urban clusters are an effective way to approximate higher population densities. High population densities could lead to increased potential for alternative transportation access to CAJO through (1) increased prevalence of transit services, (2) increased likelihood of infrastructure supporting alternative transportation, such as on-road bicycle lanes, paved sidewalks, and features related to increased accessibility for the disabled, and (3) greater demand for recreational use of CAJO in general.

Source data originated from the U.S. Census Bureau.

Section 2: Regional Alternative Transportation Systems (ATS) Analysis

The large geographic area of the CAJO region necessitates an analysis that assumes a regional, rather than localized, approach. The CAJO regional ATS analysis, as developed by the Volpe Center, is an assessment of alternative transportation potential throughout the CAJO region. The high-level, spatial analysis allows trail managers, planners, and transportation specialists to:

1. Broadly survey the entire CAJO region and identify overarching trends in alternative transportation infrastructure and services;
2. Create sub-regions indicating level of potential for accessing CAJO via alternative transportation; and
3. Identify and categorize CAJO access points and Chesapeake Bay Gateway sites based on ATS potential.

Analysis Methodology

The regional ATS analysis employs a straightforward location-based scoring system to assess the level of potential using alternative transportation to visit CAJO. All lands within the project study area ultimately receive a score − locations with higher scores indicate a higher level of alternative transportation potential, while locations with lower scores indicate a lower level of alternative transportation potential.

Scores reflect the number of points accumulated by each location in the CAJO region. Points are accumulated based on criteria inventoried and presented in Section 1 of this document, focusing on general location and proximity to services and facilities.

The system for scoring points is outlined below:

General Location

- Two points for all locations within a Chesapeake Bay Gateways cluster; one point for all locations within one mile of a single Gateways site
- Two point for all locations within a CAJO access point cluster; one point for all locations within ½ mile of a single CAJO access point
- One point for all locations within a U.S. Census designated urbanized area or urban cluster

Proximity to Services and Facilities

- One point for all locations within two miles of a major land-based transportation trail; two points for all locations within one mile of a major land-based transportation trail
- One point for all locations within one mile of a canoe/kayak service
- One point for all locations within one mile of an excursion/tour boat dock
- One point for all locations within one mile of a ferry dock
- One point for all locations within one mile of a water trail[1]

To complete the analysis, all criteria are compiled in a single map, layered together to show where different criteria overlap. Areas with many overlapping criteria accumulate more points and receive a higher score, while lower scores indicate few overlapping criteria. For example, a location scores three points if it is within one mile of a land-based trail (worth two points) and within one mile of a ferry dock (one point). Another location scores four points if it within a Chesapeake Bay Gateways cluster (two points), within an urbanized area (one point), and within one mile of an excursion/tour boat dock (one point).

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[1] Water trail data was provided by NPS, and as such, is not a component of the Volpe Center's ATS inventory. Water trail map and tabular information is available in the appendix.

Analysis Results

The regional ATS analysis reveals a range of potential for CAJO access via alternative transportation, illustrated in Figure 1.

A few locations scored very high – in the 8 to 10 point range – indicating a high potential for CAJO accessibility by alternative transportation. Not surprisingly, most of these locations are concentrated around water bodies in the major population centers, but a couple of smaller towns are also represented in this range. Based on their scores, it is likely that these areas already possess a number of alternative transportation options.

Locations scoring in the middle range of 4 to 7 points account for a variety of unique locations throughout the CAJO region. Some appear to be urban trail corridors, while others appear to be relatively isolated areas of alternative transportation potential that may not easily be connected to other areas. Regardless, the middle ranges may account for some of the more interesting opportunities for alternative transportation program development in the CAJO region, particularly if they provide links or connections to areas with higher scores.

Not surprisingly, most low scoring areas of 1 to 3 points are rural, remote, or removed from the Chesapeake Bay's activity centers and transportation corridors.

Figure 1
CAJO Regional Alternative Transportation Systems (ATS) Analysis
Source: The Volpe Center
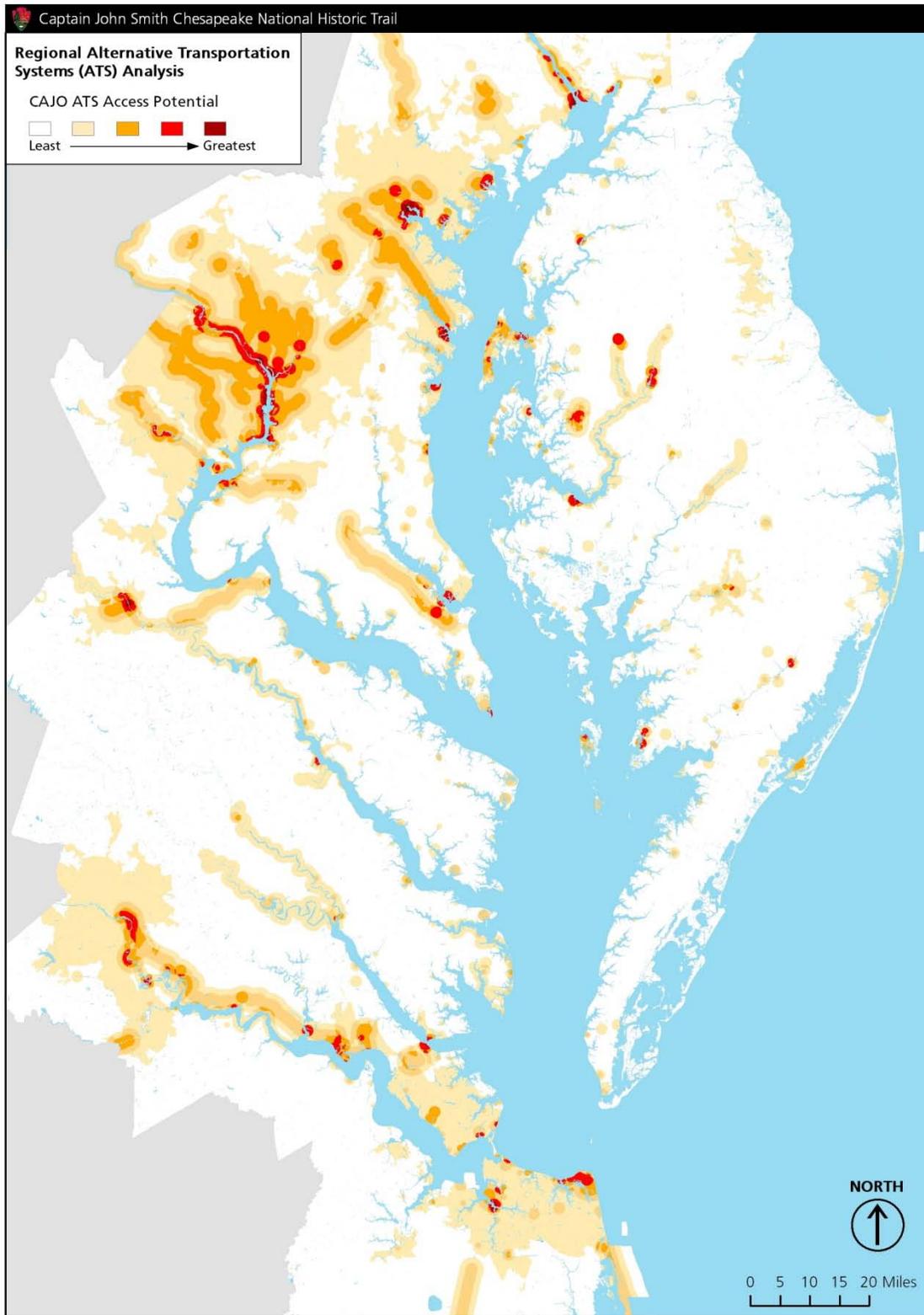
Section 3: Putting the Regional ATS Analysis to Use

The purpose of the regional ATS analysis is to allow planners and trail managers to easily see where and what types of ATS development are most likely to have a positive impact on alternative transportation access for the Captain John Smith Chesapeake National Historic Trail.

Scored Gateways and Access Points

One application of the regional ATS analysis is to apply a score to each Gateway and CAJO access point based on where it falls within the region. Without getting mired in the details of each site or access point, ATS generalizations can be made based on a site's score. While circumstances will undoubtedly vary from site to site, these generalizations can serve as the first step in a more detailed investigation. In other words, planners and managers will know what to look for and will have a better understanding of what types of projects might most successfully be initiated at which sites. A map of scored Gateways sites and CAJO access points is presented in Figure 2, along with an accompanying list of Gateways sites scored from high to low in Table 1.

For Gateways sites and access points that score between eight and ten points, ATS options are most likely available, and successful ATS projects will need to be tied to services and facilities at or near the site itself. Since public transportation service is probably nearby, it will be important to ensure safe access from public transportation to the site or access point. Furthermore, transit facilities such as bus shelters and information kiosks may assist visitors in using public transportation. Pedestrian connectivity to the site will also be an important consideration. Crosswalks and signals are essential for improving the walkability of the immediate surroundings, while ensuring smooth transitions between other modes of transportation. The site or access point is almost certainly accessible by bicycle. Ensuring that bike storage is available at the site will further encourage bike use, as will improving road safety with dedicated or shared bike lanes.

For Gateways sites and access points scoring between four and seven, focus may be placed less on site-specific ATS characteristics, while shifting more toward inter-connectivity with surrounding resources, Gateways sites, and access points, particularly those with higher scores. If a major transportation trail is in the vicinity, CAJO planners might ask what other sites are accessible from the same trail. The same could be said for water trails, public transportation, and water-based transportation. For these sites, public transportation might be in the area, but may not provide direct access. Forging partnerships with local parks and transportation departments will be important here, possibly creating neighborhood kayak rental facilities or developing improvements in transportation services that provide better access to CAJO for both residents and visitors.

Finally, for sites and access points scoring between one and three, it is unlikely that ATS development is a viable use of funding. While exceptions to this rule certainly exist within the CAJO region, it can be surmised that the majority of these sites and access points is difficult to access with ATS. CAJO would be better served by ATS investment at higher priority sites.

ATS Sub-regions

Creating ATS sub-regions will allow planners to think broadly about transportation services for all of CAJO with the possibility of developing a more detailed ATS corridor study for a smaller study area. While any number and combination of potential sub-regions exists within the CAJO region, seven examples with a high potential for ATS improvement are illustrated in Figure 3. Example sub-regions are:

1. Susquehanna River Corridor

    Includes Aberdeen, Havre de Grace, Port Deposit, Perryville, and Charlestown.

2. Greater Baltimore and Annapolis

Focuses on Baltimore to Annapolis corridor, including the Cunninghill Cove/Gunpowder Falls region to the north and the Shady Side/Galesville region to the south.

3. Washington DC Potomac River Corridor

Includes Great Falls to Mason Neck on the Potomac, including the Anacostia corridor north to Bladensburg and the Occoquan corridor between Woodbridge and Manassas.

4. Maryland's Eastern Shore

Includes Queen Anne, Denton, Easton, and Cambridge. May also include St. Michaels, Tilghman Island, Kent Island, Grasonville, etc.

5. Fredericksburg

6. Fishing Villages and Islands

Includes Solomons, Point Lookout, Smith Island, Tangier Island, Reedville, and Crisfield.

7. James River Corridor

Includes Richmond, Williamsburg, Jamestown, Yorktown, Hampton, Norfolk, and Virginia Beach.

Figure 2
Regional ATS Analysis Gateways Sites and Access Point Scores
Source: The Volpe Center
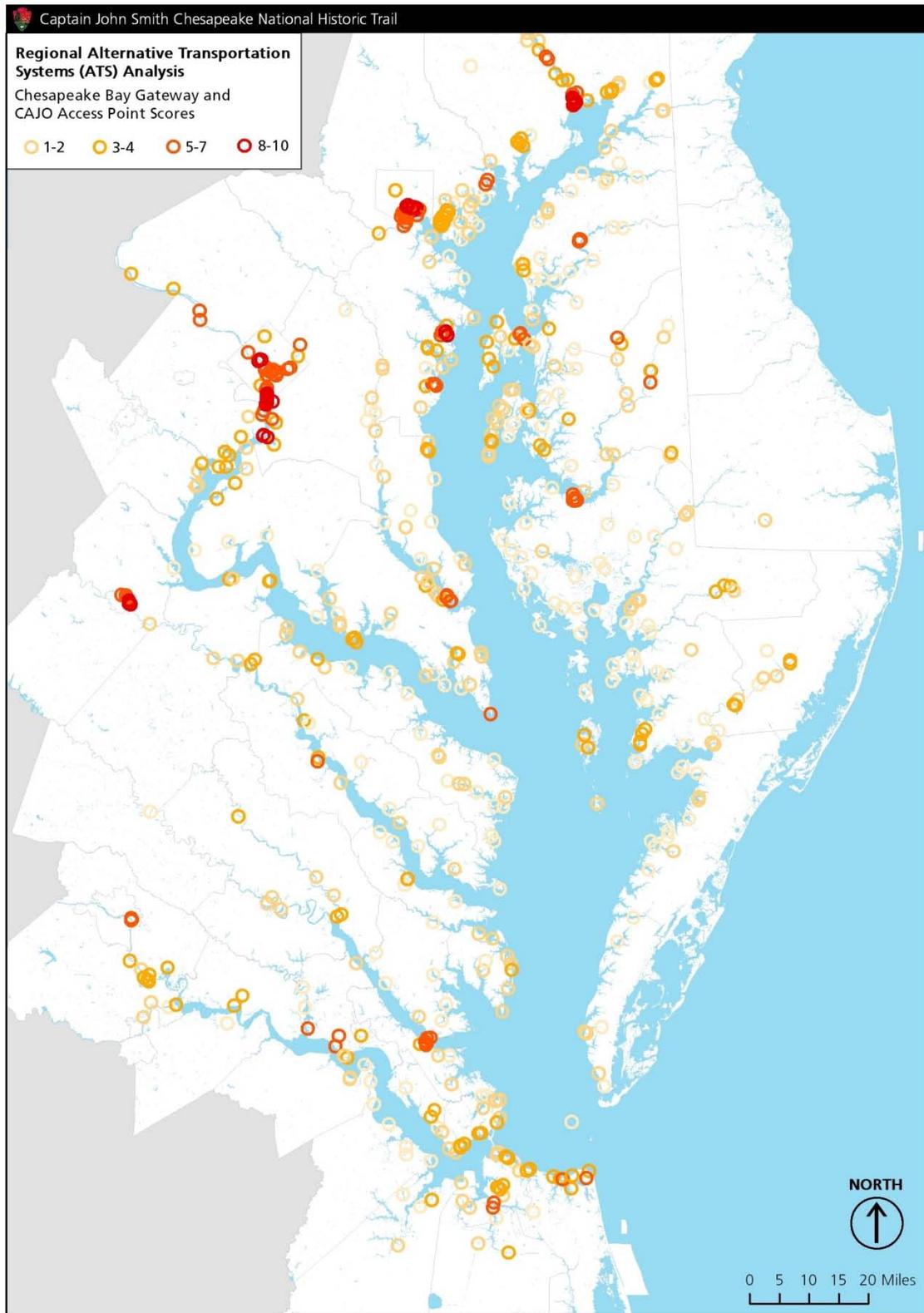
Table 1
Chesapeake Gateway Sites Scores
Source: The Volpe Center

NAME	TYPE	SCORE
USS Constellation Museum	Gateway Site	10
Baltimore Visitor Center	Regional Information Center	10
National Aquarium in Baltimore	Gateway Site	9
Pride of Baltimore II	Gateway Site	9
Lightship Chesapeake & 7 Foot Knoll Lighthouse	Gateway Site	9
Concord Point Lighthouse	Gateway Site	9
Fells Point Historic District	Gateway Site	9
Fells Point Maritime Museum	Gateway Site	9
Havre De Grace Decoy Museum	Gateway Site	9
Frederick Douglass-Isaac Myers Maritime Park	Gateway Site	9
Havre de Grace Maritime Museum	Gateway Site	9
Skipjack Martha Lewis	Gateway Site	9
Susquehanna Museum at Havre de Grace	Gateway Site	8
Fort Washington Park	Gateway Site	8
Annapolis Maritime Museum	Gateway Site	8
Historic Annapolis Gateway-City Dock	Gateway Site	8
George Washington's Ferry Farm	Gateway Site	8
Nathan of Dorchester	Gateway Site	7
Nauticus, National Maritime Center	Gateway Site	7
Sailwinds Visitor Center	Regional Information Center	7
Fort McHenry National Monument	Gateway Site	7
Baltimore Museum of Industry	Gateway Site	7
Richardson Maritime Museum	Gateway Site	6
Solomons Visitor Information Center	Regional Information Center	6
Watermen's Museum	Gateway Site	6
Yorktown Visitor Center and Battlefield	Gateway Site	6
Point Lookout State Park	Gateway Site	6
Annapolis & Anne Arundel Co Information Center	Regional Information Center	6
Captain Salem Avery House Museum	Gateway Site	6
Riverbend Park	Gateway Site	5
Schooner Sultana	Gateway Site	5
Anacostia Park	Gateway Site	5
Calvert Marine Museum	Gateway Site	5
Chickahominy Riverfront Park	Gateway Site	5
First Landing State Park	Gateway Site	5
Gloucester Point Park	Gateway Site	5
Gunpowder Falls State Park	Gateway Site	5
Martinak State Park	Gateway Site	5
Tuckahoe State Park	Gateway Site	5
Anacostia River Community Park	Gateway Site	5
Bladensburg Waterfront Park	Gateway Site	5
Chesapeake Biological Laboratory, UMCES	Gateway Site	5
Chesapeake Exploration Center	Regional Information Center	5

Geddes-Piper House	Gateway Site	5
Great Falls Park	Gateway Site	5
Marshy Point Park	Gateway Site	5
J.Millard Tawes Museum & Ward Bros. Workshop	Gateway Site	4
Smith Island Center	Gateway Site	4
Wharves at Choptank Crossing	Gateway Site	4
Dutch Gap Conservation Area	Gateway Site	4
Janes Island State Park	Gateway Site	4
Mason Neck State Park	Gateway Site	4
Patapsco State Park	Gateway Site	4
Sturgis Memorial Gateway	Gateway Site	4
Terrapin Nature Park	Gateway Site	4
Chesapeake Bay Center at First Landing State Park	Regional Information Center	4
Chesapeake Beach Railway Museum	Gateway Site	4
Rock Creek Park	Gateway Site	4
The Maryland Zoo in Baltimore	Gateway Site	4
Historic London Town and Garden	Gateway Site	3
Historic St. Mary's City	Gateway Site	3
James Mills Scottish Factor Store	Gateway Site	3
Mariners' Museum	Gateway Site	3
Potomac Gateway Welcome Center	Regional Information Center	3
St. Clement's Island - Potomac River Museum	Gateway Site	3
Virginia Living Museum	Gateway Site	3
Galesville Heritage Museum	Gateway Site	3
Great Bridge Lock Park	Gateway Site	3
Mason Neck NWR	Gateway Site	3
Occoquan Bay NWR	Gateway Site	3
Pemberton Historical Park	Gateway Site	3
Piscataway Park/National Colonial Farm	Gateway Site	3
Smallwood State Park	Gateway Site	3
Westmoreland State Park	Gateway Site	3
Adkins Arboretum	Gateway Site	3
Dogwood Harbor, Tilghman Island	Gateway Site	3
Lawrence Lewis, Jr. Park	Gateway Site	3
Myrtle Point Park	Gateway Site	3
Hoffler Creek Wildlife Preserve	Gateway Site	2
Huntley Meadows Park	Gateway Site	2
Reedville Fishermen's Museum	Gateway Site	2
Sotterley Plantation	Gateway Site	2
Stratford Hall Plantation	Gateway Site	2
Ward Museum of Wildfowl Art	Gateway Site	2
Jamestown Island	Gateway Site	2
Pamunkey Indian Reservation	Gateway Site	2
Battle Creek Cypress Swamp	Gateway Site	2
Belle Isle State Park	Gateway Site	2
Blackwater NWR	Gateway Site	2
Caledon SP/Natural Area	Gateway Site	2
Calvert Cliffs State Park	Gateway Site	2

Chippokes Plantation State Park	Gateway Site	2
Eastern Neck NWR	Gateway Site	2
Elk Neck State Park	Gateway Site	2
Jefferson Patterson Park & Museum	Gateway Site	2
King's Landing Park	Gateway Site	2
Kiptopeke State Park	Gateway Site	2
Leesylvania State Park	Gateway Site	2
Merkle Wildlife Sanctuary	Gateway Site	2
North Point State Park	Gateway Site	2
Piney Point Lighthouse Museum/Park	Gateway Site	2
Pocomoke River State Forest & Park	Gateway Site	2
Sandy Point State Park	Gateway Site	2
Wye Island NRMA	Gateway Site	2
York River SP/Croaker Landing	Gateway Site	2
George Washington Birthplace NM	Gateway Site	2
Chesapeake Bay Environmental Center	Gateway Site	2
Chesapeake Bay Maritime Museum	Regional Information Center	2
Greenwell State Park	Gateway Site	2
Steamboat Era Museum	Gateway Site	2
Trap Pond State Park	Gateway Site	2
Tangier History Museum & Intercultural Center	Gateway Site	2
Mathews Co. Visitor Information Center (McVic)	Regional Information Center	1
Nassawango Creek Preserve-Furnace Town	Gateway Site	1
Patuxent Research Refuge, National Wildlife Visitor Center	Gateway Site	1
Patuxent River Park, Jug Bay Natural Area	Gateway Site	1
Pickering Creek Audubon Center	Gateway Site	1
Sassafras NRMA & Turner's Creek Park	Gateway Site	1
Susquehanna State Park	Gateway Site	1
Wye Grist Mill	Gateway Site	1
Cape Charles Historic District	Gateway Site	1
Eastern Shore of Virginia NWR	Gateway Site	1
Flag Ponds Nature Park	Gateway Site	1
Mount Harmon Plantation	Gateway Site	1
Parkers Creek (American Chestnut Land Trust)	Gateway Site	1
Rappahannock River Valley NWR	Gateway Site	1
Smithsonian Environmental Research Center	Gateway Site	1
East Branch Elizabeth River Trail	Water Trail	1
Virginia Eastern Shore Water Trails	Water Trail	1
Virginia Eastern Shore Water Trails	Water Trail	1

Figure 3
Potential ATS Sub-regions
Source: The Volpe Center and NPS
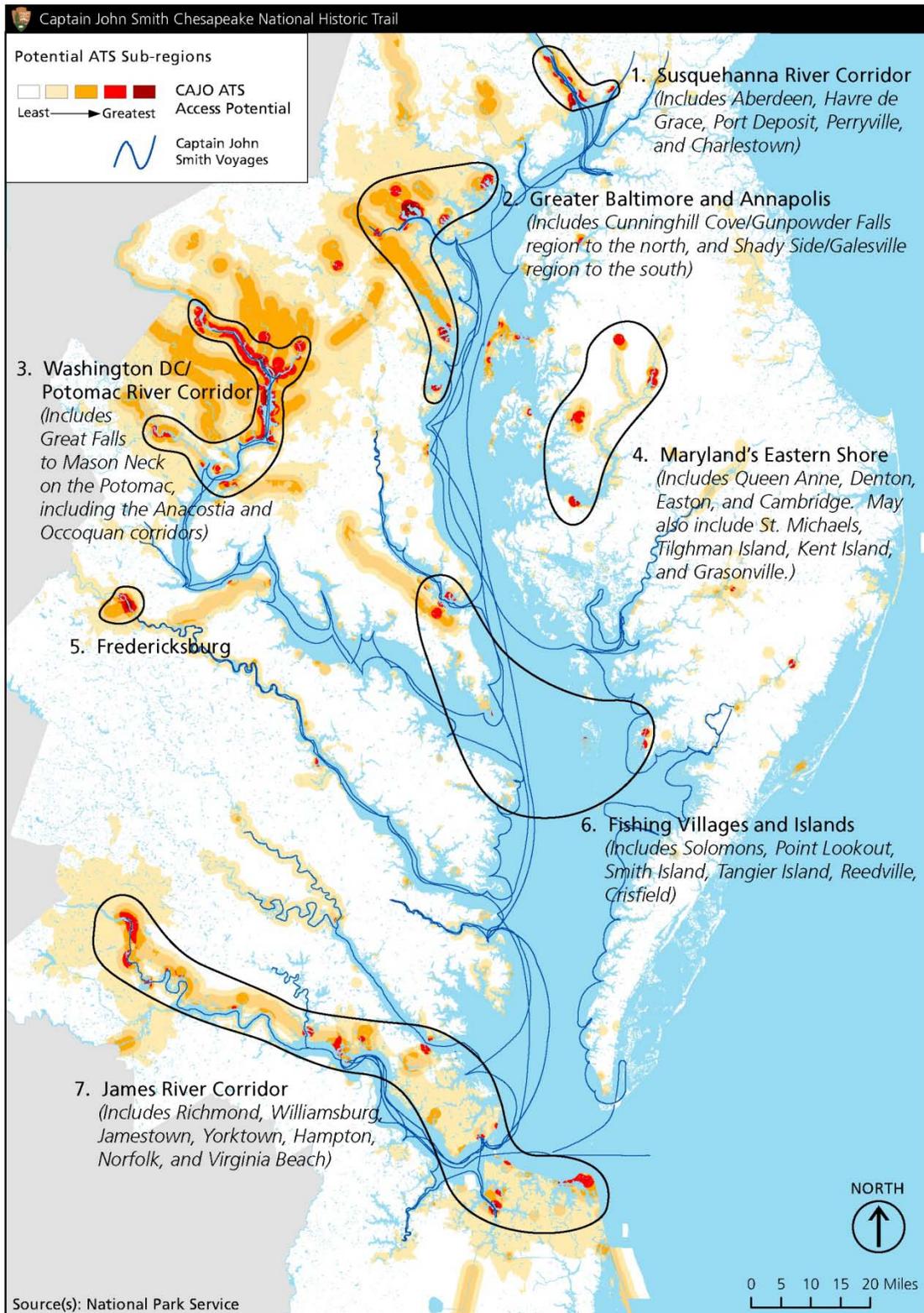
Section 4: Next Steps

In order to continue moving forward with ATS planning for CAJO, it will be important to use the resources developed in this phase of the CMP as a starting point for future endeavors.

Inventory Maintenance

Maintaining an accurate inventory has numerous benefits for the trail, its visitors, and its partners. As part of this study, the ATS inventory represents a snapshot of services and facilities as they are today. Because of the large geographic area, and because of the dynamic nature of private business and infrastructure improvements, the ATS picture will undoubtedly change over time. As trails are developed, excursion operators come and go, and transit systems evolve, inventory information will need to follow suit.

While revisiting each inventory component at a designated juncture is one option, other avenues exist whereby inventories may actually be maintained outside the jurisdiction of the park. For example, it is arguably in a kayak rental company's best interest to be accurately represented in a CAJO inventory. As a result, CAJO might decide that it is worth it to provide a forum that allows a kayak rental company to maintain its operational status and the services it provides. The same principle applies to excursion/tour boats, ferries, water taxis, and other service providers.

CAJO leaders and partners will need to work together to design an inventory maintenance plan. The process will involve examining maintenance alternatives, establishing criteria for inclusion in an inventory, and planning for how the inventory might be used both internally and externally.

Data Collection

In order to begin more detailed ATS planning and project development, CAJO will need to think about how visitation can be monitored. With so many different partner organizations and visitation variables, coordination will be a significant challenge. However, understanding the ways in which visitors to CAJO visitors are accessing and experiencing the trail will be an important step in ATS program development.

Detailed Corridor Study

The ATS analysis as presented in this report should be used as the first step in a deciding upon a more detailed corridor study. By choosing one or more of the suggested sub-regions, or creating a new one that has yet to be defined, a detailed corridor study will allow CAJO planners and managers to move beyond regional analysis into localized planning efforts. This will include developing partnerships with local government agencies, working with small businesses and advocacy groups, and creating an implementation plan for ATS improvements that will provide benefits locally and throughout the CAJO region.

Appendix: Inventory Maps and Tables

Kayak and Canoe Services

○ Kayak or canoe guide, rental, or storage facility. Label corresponds with OBJECT ID in accompanying table.
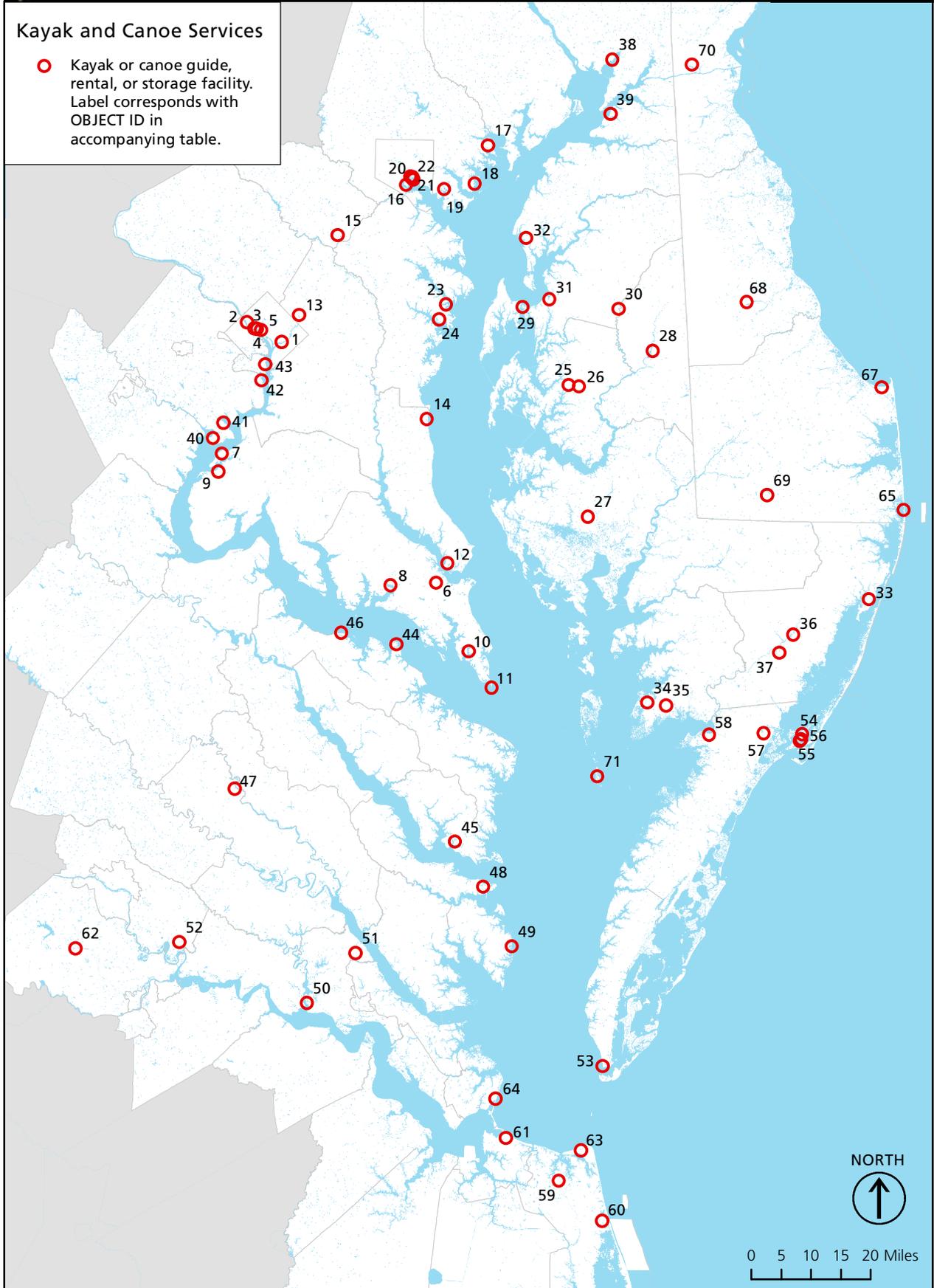
NORTH

0 5 10 15 20 Miles

KAYAK AND CANOE SERVICES

Captain John Smith Chesapeake National Historic Trail
U.S. DOT Volpe Center

OBJECTID	Name	Address	City	State	Zip
1	Anacostia Community Boathouse Association	1105 O Street SE	Washington	DC	20003
2	Washington Canoe Club	3700 Water Street NW	Washington	DC	20007
3	Fletcher's Boat House	4940 Canal Road NW	Washington	DC	20007
4	Jack's Boathouse	3500 K Street NW	Washington	DC	20007
5	Thompson Boat Center	2900 Virginia Avenue NW	Washington	DC	20037
6	Blue Wind Action Sports	22803 Gunstan Dr.	California	MD	20619
7	Up The Creek Rentals	108A Mattingly Ave	Indian Head	MD	20640
8	McIntosh Outfitters	22500 Washington Street	Leornardtown	MD	20650
9	Smallwood State Park (Sweden Point Marina)	2750 Sweden Point Road	Marbury	MD	20658
10	BluHaven Piers	48406 Smith Road	Ridge	MD	20680
11	Point Lookout State Park	11175 Point Lookout Road	Scotland	MD	20687
12	Patuxent Adventure Center	13860 C Solomons Island Road	Solomons	MD	20688
13	Bladensburg Waterfront Park	4601 Annapolis Road	Bladensburg	MD	20710
14	Bay Paddlers (Fishing Creek Landing Marina)	4055 Gordon Stinnett Avenue	Chesapeake Beach	MD	20732
15	Terrapin Adventures	8600 Foundry Street	Savage	MD	20763
16	Canton Kayak Club	801 Lancaster Streetáá	Baltimore	MD	21202
17	Ultimate Watersports	7200 Graces Quarters Rd	Middle River	MD	21220
18	Canton Kayak Club	2542 Island View Road	Essex	MD	21221
19	Canton Kayak Club	8500 Cove Road	Dundalk	MD	21222
20	Canton Kayak Club	1010 Hull Street	Baltimore	MD	21230
21	Canton Kayak Club	2600 Insulator Driveáá	Baltimore	MD	21230
22	Canton Kayak Club	1633 Thames Street	Baltimore	MD	21231
23	Annapolis Canoe and Kayak	311 Third Street	Annapolis	MD	21403
24	Quiet Waters Park Boat Rentals	600 Quiet Waters Park Road	Annapolis	MD	21403
25	Eastern Shore Adventure Company	28290 Saint Michaels Road	Easton	MD	21601
26	Easton Cycle and Sport	723 Goldsborough St	Easton	MD	21601
27	Blackwater Paddle & Pedal Adventures	4303 Bucktown Road	Cambridge	MD	21613
28	Martinak State Park	137 Deep Shore Road	Denton	MD	21629
29	Kent Island Kayaks	110 Channel Marker Way	Grasonville	MD	21638
30	Tuckahoe State Park	13070 Crouse Mill Road	Queen Anne	MD	21657
31	Adventure Crafters	7109 Main Street	Queenstown	MD	21658
32	Chester River Kayak Adventures	5758 Main Street	Rock Hall	MD	21661
33	Assateague State Park	7307 Stephen Decatur Highway,	Berlin	MD	21811
34	Janes State Park	26280 Alfred Lawson Drive	Crisfield	MD	21817
35	Tangier Sound Outfitters	27582 Farm Market Road	Marion	MD	21838
36	Pocomoke River Canoe Company	312 N. Washington Street	Snow Hill	MD	21863
37	Pocomoke River State Park	3461 Worcester Highway	Snow Hill	MD	21863
38	North East River Marina	724 Water Street	Charlestown	MD	21914
39	Crystal Sunset Kayak	15 Virginia Avenue	Earleville	MD	21919
40	Mason Neck State Park	7301 High Point Road	Lorton	VA	22079
41	Pohick Bay Regional Park	6501 Pohick Bay Drive	Lorton	VA	22079
42	Belle Haven Marina	6401 George Washington Memorial Parkway	Alexandria	VA	22307
43	Atlantic Kayak Company	1201 North Royal Street	Alexandria	VA	22314
44	Coles Point Plantation	307 Plantation Drive	Coles Point	VA	22442
45	Northern Neck Kayak	480 King Carter Drive	Irvington	VA	22480
46	Westmoreland State Park	1650 State Park Road	Montross	VA	22520
47	Mattaponi Canoe and Kayak	8080 Richmond Tappahannock Highway	Aylett	VA	23009
48	Lazy Days Adventures	17147 General Puller Highway	Deltaville	VA	23043
49	Bay Trails Outfitters	2221 Bethel Beach Road	Mathews	VA	23109
50	Chickahominy Riverfront Park	1350 John Tyler Highway	Williamsburg	VA	23185
51	York River State Park	5526 Riverview Road	Williamsburg	VA	23188
52	Old Dominion Outdoors	5164 New Market Road	Richmond	VA	23231
53	SouthEast Expeditions	32218 Lankford Highway	Cape Charles	VA	23310
54	Oyster Bay Outfitters	6332 Maddox Boulevard	Chincoteague Island	VA	23336

KAYAK AND CANOE SERVICES
Captain John Smith Chesapeake National Historic Trail
U.S. DOT Volpe Center

OBJECTID	Name	Address	City	State	Zip
55	Snug Harbor Marina	7536 Eastside Road	Chincoteague Island	VA	23336
56	Wildlife Expeditions	7729 Eastside Road	Chincoteague Island	VA	23336
57	The Marine Science Consortium	7278 Enterprise Street	Wallops Island	VA	23337
58	Tall Pines Harbor Campground	8107 Tall Pines Lane	Sanford	VA	23426
59	Wild River Outfitters	3636 Virginia Beach Blvd. #108	Virginia Beach	VA	23452
60	Surf and Adventure Company	577 Sandbridge Road	Virginia Beach	VA	23456
61	Kayak Nature Tours	110 West Randall Avenue	Norfolk	VA	23503
62	Pocahontas State Park	10301 State Park Road	Chesterfield	VA	23832
63	First Landing State Park	2500 Shore Drive	Virginia Beach	VA	23451
64	Buckroe Beach and Park	2800 East Pembroke Ave	Hampton	VA	23664
65	Coastal Kayak	Rt. 1	Fenwick Island	DE	19944
66	Wilderness Canoe Trips, Inc	2111 Concord Pike	Wilmington	DE	22227
67	Cape Henlopen State Park	42 Cape Henlopen Drive	Lewes	DE	19958
68	Killens Pond State Park	5025 Killens Pond Road	Felton	DE	19943
69	Trap Pond State Park	33587 Bald Cypress Drive	Laurel	DE	19956
70	Lums Pond State Park	1068 Howell School Road	Bear	DE	19701
71	Tangier Island History Museum		Tangier Island	VA	23440

Excursion/Tour Boats

⭕ Excursion/tour boat point of embarkation. Label corresponds with OBJECT ID in accompanying table.

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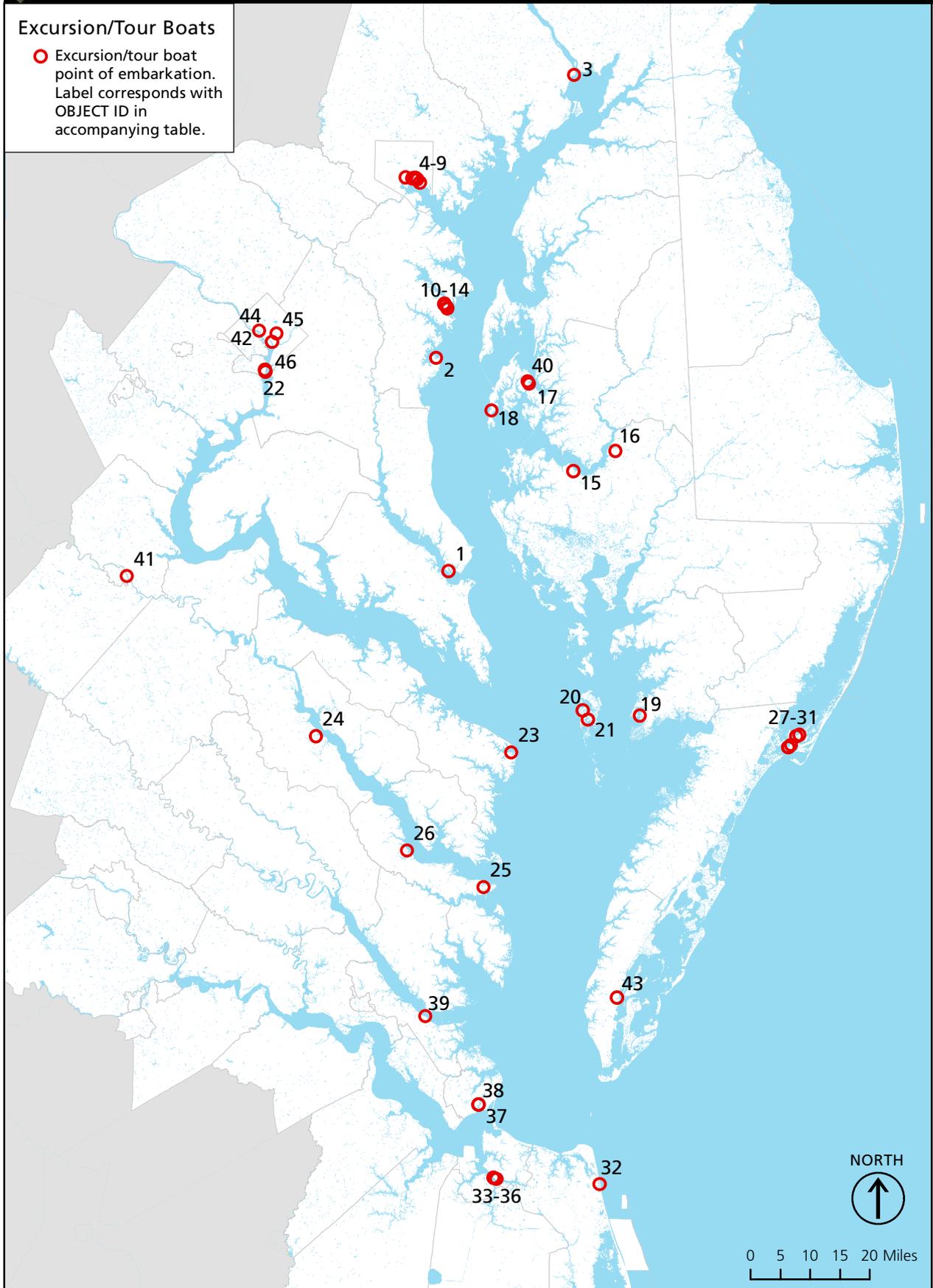
EXCURSION/TOUR BOATS
Captain John Smith Chesapeake National Historic Trail
U.S. DOT Volpe Center

OBJECTID	Name	Address	City	State	Zip
1	Sail Solomons	255 Alexander Lane	Solomons	MD	20688
2	West River Cruises	4800 Atwell Rd	Shady Side	MD	20764
3	Skipjack Martha Lewis	352 Commerce Street	Havre de Grace	MD	21078
4	Spirit Cruises of Baltimore	561 Light St	Baltimore	MD	21202
5	Inner Harbor Cruises	2400 Boston St.	Baltimore	MD	21224
6	Getaway Sailing	2700 Lighthouse Point	Baltimore	MD	21224
7	Pride of Baltimore	1801 S. Clinton St.	Baltimore	MD	21224
8	Black-Eyed Susan	920 S. Broadway	Baltimore	MD	21231
9	Harbor Sail	1001 Fell St.	Baltimore	MD	21231
10	Schooner Woodwind	80 Compromise St	Annapolis	MD	21401
11	Watermark Cruises	1 Dock St	Annapolis	MD	21401
12	Chesapeake Sailing School	7080 Bembe Beach Rd	Annapolis	MD	21403
13	Liberte Schooner	222 Severn Ave	Annapolis	MD	21403
14	Annapolis Sailing School	7001 Bembe Beach Road	Annapolis	MD	21403
15	Cambridge Lady Cruises & Tours	501 Court Ln	Cambridge	MD	21613
16	Choptank Riverboat Company	6304 Suicide Bridge Rd	Hurlock	MD	21643
17	Selina II Sailing Charters	101 N. Harbor Rd.	St. Michaels	MD	21663
18	Dockside Express Cruises & Tours	21604 Chicken Point Rd	Tilghman	MD	21671
19	Tangier Island Cruises	1001 W Main St	Crisfield	MD	21817
20	Smith Island Cruises	4065 Smith Island Rd	Smith Island	MD	21824
21	Capt. Jason II-Smith Island Cruises	21162 Tuff St	Smith Island	MD	21866
22	Potomac Riverboat Company	205 The Strand	Alexandria	VA	22314
23	Smith Island Cruises	382 Campground Road	Reedville	VA	22539
24	Rappahanock River Cruise	1156 Tappahannock Blvd	Tappahannock	VA	22560
25	Sale Away! Charters	Va-33 & Va-1101	Deltaville	VA	23043
26	Schooner Serenity	45 Cross Street	Urbanna	VA	23175
27	Assateague Explorer Pony Watching/Wildlife Cruises	Curtis Merritt Harbor Drive	Chincoteague Island	VA	23336
28	Captain Barry's Back Bay Cruises	8157 Sea Gull Dr	Chincoteague Island	VA	23336
29	Chincoteague Cruise and Nature Tours	Chincoteague Town Dock	Chincoteague Island	VA	23336
30	Daysail Charters	3801 Main Street	Chincoteague Island	VA	23336
31	Linda Jay Charters	Curtis Merritt Harbor	Chincoteague Island	VA	23336
32	Rudee Tours	200 Winston Salem Avenue	Virginia Beach	VA	23451
33	American Rover	333 Waterside Drive	Norfolk	VA	23510
34	Spirit of Norfolk	999 Waterside Dr	Norfolk	VA	23510
35	Victory Rover Naval Base Cruises	1 Waterside Dr.	Norfolk	VA	23510
36	Carrie B. Harbor Cruises	333 Waterside Drive	Norfolk	VA	23510
37	All Day River Adventure Cruise	710 Settlers Landing Road	Hampton	VA	23669
38	Miss Hampton Cruises	710 Settlers Landing Road	Hampton	VA	23669
39	Alliance Tall Ship Day Sails	425 Water Street	Yorktown	VA	23690
40	Chesapeake Skipjack Sailing Tours	N/A	St. Michaels	VA	21663
41	Fredericksburg Cruise	City Docks	Fredericksburg	VA	22539
42	Capitol River Cruises	31st and K Street, NW	Washington	DC	20007
43	Eastern Shore Adventures		Oyster	VA	23419
44	DC Ducks	Union Station	Washington	DC	20018
45	Odyssey	600 Water Street, SW	Washington	DC	20024
46	Dandy Dinner Boat	0 Prince St.	Alexandria	VA	22314

Ferries and Water Taxis

○ Ferry and water taxi dock/destination. Label corresponds with OBJECTID in accompanying table.

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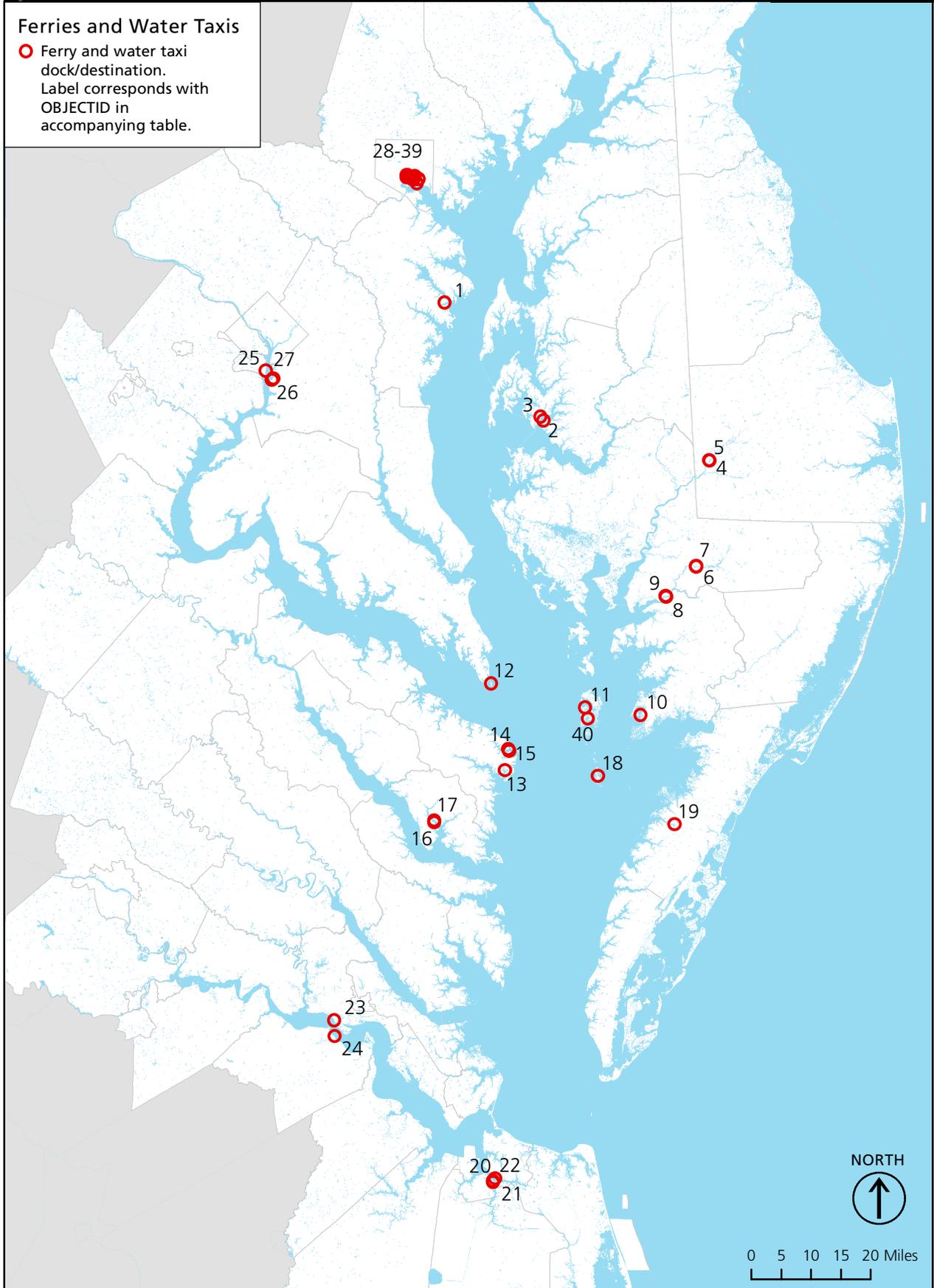
FERRIES AND WATER TAXIS
Captain John Smith Chesapeake National Historic Trail
U.S. DOT Volpe Center

| OBJECTID	NAME	CITY	STATE
1	Oxford-Bellevue Ferry	Bellevue	MD
2	Oxford-Bellevue Ferry	Oxford	MD
3	Woodland Ferry	Seaford	DE
4	Woodland Ferry	Seaford	DE
5	Upper Ferry	Salisbury	MD
6	Upper Ferry	Salisbury	MD
7	Whitehaven Ferry	Whitehaven	MD
8	Whitehaven Ferry	Whitehaven	MD
9	Sharon Kay III	Crisfield	MD
10	Smith Island Cruises	Ewell	MD
11	Smith Island Cruises	Point Lookout	MD
12	Sunnybank Ferry	Sunnybank	VA
13	Sunnybank Ferry	Sunnybank	VA
14	Tangier Island Cruises	Reedville	VA
15	Merry Point Ferry	Merry Point	VA
16	Merry Point Ferry	Merry Point	VA
17	Tangier Island Cruises	Tangier	VA
18	Tangier-Onancock Ferry	Onancock	VA
19	HRT Paddlewheel Ferry	Norfolk	VA
20	HRT Paddlewheel Ferry	Portsmouth	VA
21	HRT Paddlewheel Ferry	Portsmouth	VA
22	Jamestown-Scotland Ferry	Jamestown	VA
23	Jamestown-Scotland Ferry	Scotland	VA
24	Alexandria-National Harbor Water Taxi	Alexandria	VA
25	Alexandria-National Harbor Water Taxi	Alexandria	VA
26	Alexandria-National Harbor Water Taxi	Alexandria	VA
27	Ed Kane's Water Taxi	Baltimore	MD
28	Ed Kane's Water Taxi	Baltimore	MD
29	Ed Kane's Water Taxi	Baltimore	MD
30	Ed Kane's Water Taxi	Baltimore	MD
31	Ed Kane's Water Taxi	Baltimore	MD
32	Ed Kane's Water Taxi	Baltimore	MD
33	Ed Kane's Water Taxi/ CCC Water Taxi Harbor Collector	Baltimore	MD
34	Ed Kane's Water Taxi/ CCC Water Taxi Harbor Collector	Baltimore	MD
35	Ed Kane's Water Taxi	Baltimore	MD
36	Ed Kane's Water Taxi	Baltimore	MD
37	Ed Kane's Water Taxi/ CCC Water Taxi Harbor Collector	Baltimore	MD
38	Ed Kane's Water Taxi	Baltimore	MD
39	Smith Island Cruises	Tylerton	MD
40	Annapolis Harbor Water Taxi	Annapolis	MD

Transit Agencies

○ Transit agency;
label corresponds
with OBJECT ID in
accompanying table.
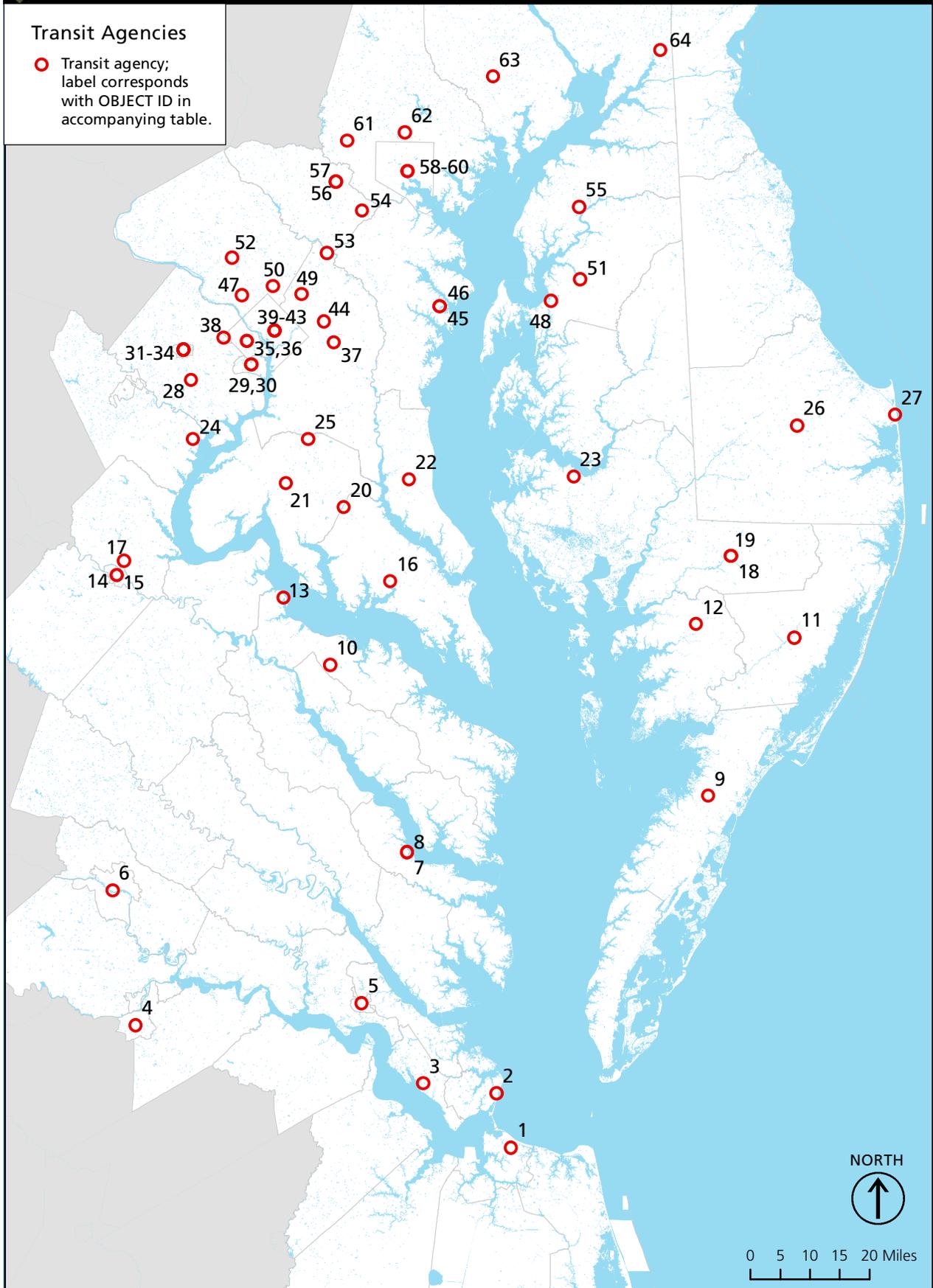
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TRANSIT AGENCIES

Captain John Smith Chesapeake National Historic Trail

U.S. DOT Volpe Center

OBJECTID	AGENCY	CITY	STATE	NUM_VEHICL
1	Old Dominion University Campus Shuttle (ODUCS)	Norfolk	VA	Unavailable
2	HRT - Hampton Roads Transit / Transportation District Commission of Hampton Roads	Hampton	VA	577
3	Yorktown Trolley (YT)	Yorktown	VA	Unavailable
4	PAT - Petersburg Area Transit	Petersburg	VA	21
5	Williamsburg Area Transport (WAT)	Williamsburg	VA	33
6	Greater Richmond Transit Company (GRTC)	Richmond	VA	285
7	Bay Transit - Chesapeake Bay Area Agency on Aging	Urbanna	VA	Unavailable
8	The Pearl	Urbanna	VA	Unavailable
9	STAR Transit (ST)	Parksley	VA	13
10	Potomac Mills Shopping Shuttle (PMSS)	Potomac Mills	VA	Unavailable
11	WCR - Worcester County Ride (Worcester County Commission on Aging)	Snow Hill	MD	Unavailable
12	Somerset County Commission on Aging (SCCOA)	Princess Anne	MD	Unavailable
13	CBTT - Town of Colonial Beach Transit & Trolley	Colonial Beach	VA	3
14	FRED - Fredericksburg Regional Transit	Fredericksburg	VA	21
15	ABS - Aries Bus Service	Fredericksburg	VA	Unavailable
16	St. Mary's Transit Service (SMTS)	Leonardtown	MD	Unavailable
17	QCB - Quick Bus Service (D&B Bus)	Falmouth	VA	57
18	Shore Transit (ST)	Salisbury	MD	47
19	Wicomico Transit (WT)	Salisbury	MD	Unavailable
20	Tri-County Council for Southern Maryland	Charlotte Hall	MD	Unavailable
21	VanGO - Charles County Dept. of Community Services	Port Tobacco	MD	34
22	CCDOT - Calvert County DOT	Prince Frederick	MD	Unavailable
23	DDUST - Delmarva Community Services	Cambridge	MD	Unavailable
24	OmniRide - PRTC (Potomac and Rappahannock Transportation Commission) DR: OmniLink	Woodbridge	VA	117
25	KT - Keller Transportation	Waldorf	MD	Unavailable
26	CHEER Bus - Sussex County Senior Services	Georgetown	DE	Unavailable
27	Jolly Trolley of Rehobeth Beach (JTRB)	Rehobeth Beach	DE	9
28	EZ Bus - Virginia Railway Express EZ Bus	Burke	VA	Unavailable
29	Virginia Railway Express (VRE)	Alexandria	VA	105
30	Alexandria Transit Company (DASH)	Alexandria	VA	57
31	Fairfax Connector Bus System (Fairfax County)	Fairfax	VA	281
32	Fairfax CUE Bus System (City of Fairfax) - City University Energy-saver / City Wheels	Fairfax	VA	12
33	FASTRAN	Fairfax	VA	Unavailable
34	Mantua Van Pool - Mantua Citizens Association	Fairfax	VA	Unavailable
35	Arlington Transit - Arlington County	Arlington	VA	27
36	CSE - Crystal Skyline Express	Arlington	VA	Unavailable
37	The Bus - Prince George's County Dept. of Public Works & Transporation / Call-A-Bus	Largo	MD	139
38	GEORGE - City of Falls Church Local Transit	Falls Church	VA	Unavailable
39	WMATA - Washington Metropolitan Area Transit Authority (DC Metro)	Washington	DC	2882
40	Georgetown University Transportation Shuttle (GUTS)	Washington	DC	6
41	American University Shuttle Services (AUSS)	Washington	DC	4
42	Georgetown Metro Connection (GMC)	Washington	DC	2
43	Washington Harbour Shuttle (WHS)	Washington	DC	1
44	DBS - Dillon's Bus Service	Mitchelville	MD	Unavailable
45	AT - Annapolis Transit (City of Annapolis DOT)	Annapolis	MD	27
46	Handy Cab - Anne Arundel County Dept on Aging	Annapolis	MD	Unavailable
47	BTS - Bethesda Transportation Solutions	Bethesda	MD	Unavailable
48	MUST - Maryland Upper Shore Transit (Wye Mills)	Queenstown	MD	Unavailable
49	Shuttle-UM - University of MD DOT Services	College Park	MD	Unavailable
50	ACT - Action Committee for Transit	Silver Spring	MD	Unavailable
51	County Ride - Queen Anne's County Dept. of Aging	Centreville	MD	Unavailable
52	Ride-On - Montgomery County Transit Services Division	Rockville	MD	467
53	Howard Area Transit Service (HATS) / Corridor Transportation Corp. (CTC) / Connect-A-Ride	Laurel	MD	47
54	Spirit Shuttle - BWI Partnership Spirit Shuttle	Hanover	MD	Unavailable

TRANSIT AGENCIES
Captain John Smith Chesapeake National Historic Trail
U.S. DOT Volpe Center

OBJECTID	AGENCY	CITY	STATE	NUM_VEHICL
55	USTAR - Upper Shore Take-A-Ride Transportation Service	Chestertown	MD	Unavailable
56	Howard Transit (HT)	Ellicott City	MD	Unavailable
57	Eyre Bus Service (EBS)	Glenelg	MD	Unavailable
58	Maryland Transit Administration (MTA) of Maryland DOT (Hanover) - CR: MARC	Baltimore	MD	1605
59	Seaport Taxi (ST)	Baltimore	MD	1
60	DASH - Downtown Area Shuttle	Baltimore	MD	Unavailable
61	DCS - Dependable Community Service	Randallstown	MD	Unavailable
62	County Ride - Baltimore County Dept. of Aging	Towson	MD	Unavailable
63	HCTS - Hartford County Transportation Services (Bel Air - Abingdon - Edgewood)	Bel Air	MD	43
64	The Bus - Cecil County Department of Aging	Elkton	MD	Unavailable
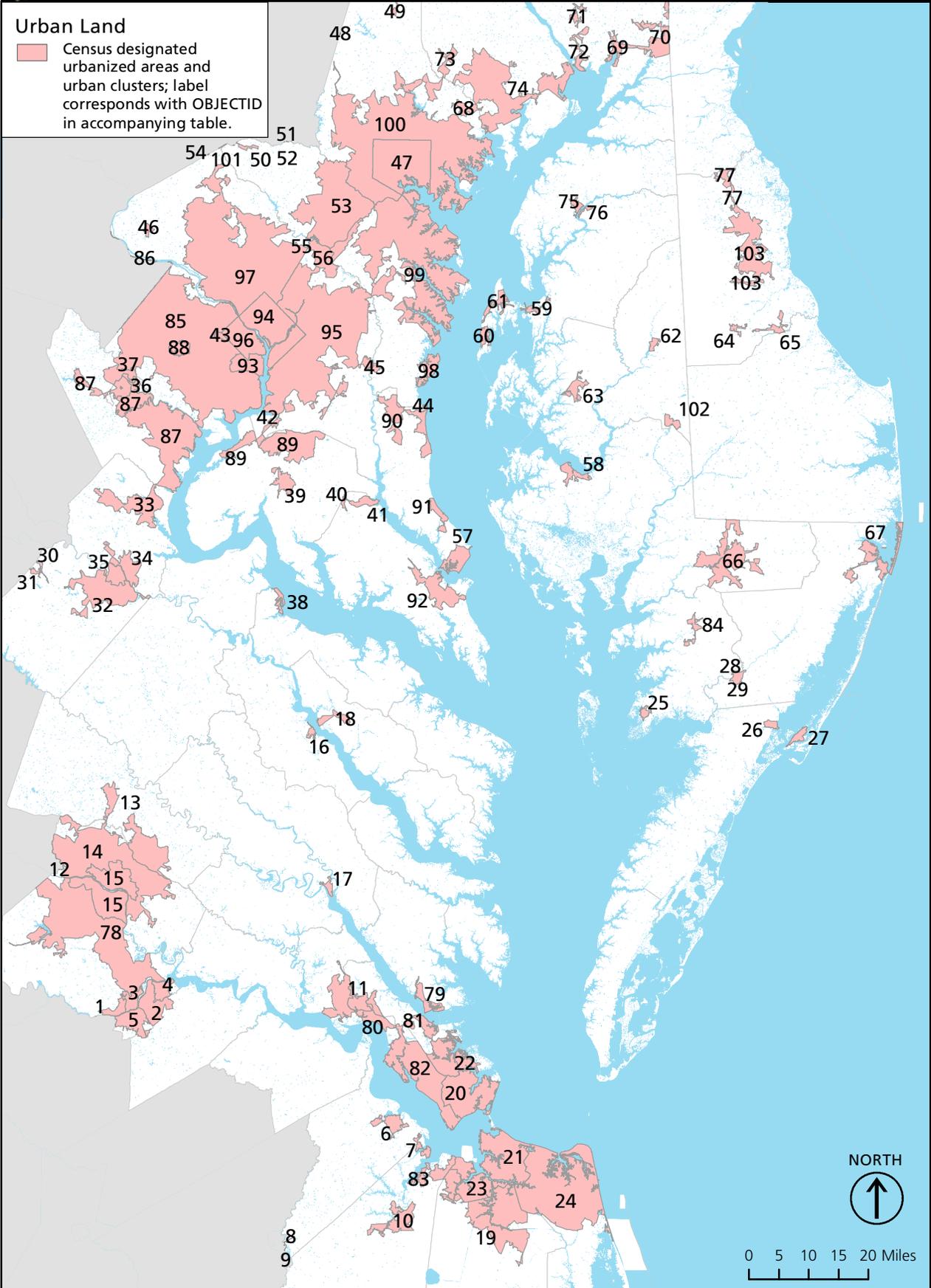
Urban Land

Census designated urbanized areas and urban clusters; label corresponds with OBJECTID in accompanying table.

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URBAN LAND
Captain John Smith Chesapeake National Historic Trail
U.S. DOT Volpe Center

OBJECTID	NAME	LSADC_DESC	COUNTY
1	Richmond, VA	urbanized area (UA)	Dinwiddie
2	Richmond, VA	urbanized area (UA)	Prince George
3	Richmond, VA	urbanized area (UA)	Colonial Heights
4	Richmond, VA	urbanized area (UA)	Hopewell
5	Richmond, VA	urbanized area (UA)	Petersburg
6	Smithfield, VA	urban cluster (UC)	Isle of Wight
7	Virginia Beach, VA	urbanized area (UA)	Isle of Wight
8	Franklin, VA	urban cluster (UC)	Isle of Wight
9	Franklin, VA	urban cluster (UC)	Franklin
10	Suffolk, VA	urban cluster (UC)	Suffolk
11	Virginia Beach, VA	urbanized area (UA)	Williamsburg
12	Richmond, VA	urbanized area (UA)	Goochland
13	Richmond, VA	urbanized area (UA)	Hanover
14	Richmond, VA	urbanized area (UA)	Henrico
15	Richmond, VA	urbanized area (UA)	Richmond
16	Tappahannock, VA	urban cluster (UC)	Essex
17	West Point, VA	urban cluster (UC)	King William
18	Tappahannock, VA	urban cluster (UC)	Richmond
19	Virginia Beach, VA	urbanized area (UA)	Chesapeake
20	Virginia Beach, VA	urbanized area (UA)	Hampton
21	Virginia Beach, VA	urbanized area (UA)	Norfolk
22	Virginia Beach, VA	urbanized area (UA)	Poquoson
23	Virginia Beach, VA	urbanized area (UA)	Portsmouth
24	Virginia Beach, VA	urbanized area (UA)	Virginia Beach
25	Crisfield, MD	urban cluster (UC)	Somerset
26	Horntown, VA	urban cluster (UC)	Accomack
27	Chincoteague, VA	urban cluster (UC)	Accomack
28	Pocomoke City, MD	urban cluster (UC)	Somerset
29	Pocomoke City, MD	urban cluster (UC)	Worcester
30	Wilderness, VA	urban cluster (UC)	Orange
31	Wilderness, VA	urban cluster (UC)	Spotsylvania
32	Fredericksburg, VA	urbanized area (UA)	Spotsylvania
33	Washington, DC--VA--MD	urbanized area (UA)	Stafford
34	Fredericksburg, VA	urbanized area (UA)	Stafford
35	Fredericksburg, VA	urbanized area (UA)	Fredericksburg
36	Washington, DC--VA--MD	urbanized area (UA)	Manassas
37	Washington, DC--VA--MD	urbanized area (UA)	Manassas Park
38	Colonial Beach, VA	urban cluster (UC)	Westmoreland
39	La Plata, MD	urban cluster (UC)	Charles
40	Golden Beach, MD	urban cluster (UC)	Charles
41	Golden Beach, MD	urban cluster (UC)	St. Mary's
42	St. Charles, MD	urbanized area (UA)	Prince George's

URBAN LAND
Captain John Smith Chesapeake National Historic Trail
U.S. DOT Volpe Center

OBJECTID	NAME	LSADC_DESC	COUNTY
43	Washington, DC--VA--MD	urbanized area (UA)	Falls Church
44	Chesapeake Beach, MD	urban cluster (UC)	Anne Arundel
45	Washington, DC--VA--MD	urbanized area (UA)	Anne Arundel
46	Poolesville, MD	urban cluster (UC)	Montgomery
47	Baltimore, MD	urbanized area (UA)	Baltimore
48	Hampstead--Manchester, MD	urban cluster (UC)	Baltimore
49	New Freedom--Shrewsbury, PA--MD	urban cluster (UC)	Baltimore
50	Mount Airy, MD	urban cluster (UC)	Carroll
51	Westminster, MD	urbanized area (UA)	Carroll
52	Mount Airy, MD	urban cluster (UC)	Howard
53	Baltimore, MD	urbanized area (UA)	Howard
54	Frederick, MD	urbanized area (UA)	Montgomery
55	Baltimore, MD	urbanized area (UA)	Montgomery
56	Baltimore, MD	urbanized area (UA)	Prince George's
57	Chesapeake Ranch Estates-Drum Point, MD	urban cluster (UC)	Calvert
58	Cambridge, MD	urban cluster (UC)	Dorchester
59	Queenstown, MD	urban cluster (UC)	Queen Anne's
60	Romancoke, MD	urban cluster (UC)	Queen Anne's
61	Stevensville, MD	urban cluster (UC)	Queen Anne's
62	Denton, MD	urban cluster (UC)	Caroline
63	Easton, MD	urban cluster (UC)	Talbot
64	Harrington, DE	urban cluster (UC)	Kent
65	Milford, DE	urban cluster (UC)	Kent
66	Salisbury, MD--DE	urbanized area (UA)	Wicomico
67	Ocean City, MD--DE	urban cluster (UC)	Worcester
68	Aberdeen--Havre de Grace--Bel Air, MD	urbanized area (UA)	Baltimore
69	North East, MD	urban cluster (UC)	Cecil
70	Philadelphia, PA--NJ--DE--MD	urbanized area (UA)	Cecil
71	Rising Sun, MD	urban cluster (UC)	Cecil
72	Aberdeen--Havre de Grace--Bel Air, MD	urbanized area (UA)	Cecil
73	Baltimore, MD	urbanized area (UA)	Harford
74	Aberdeen--Havre de Grace--Bel Air, MD	urbanized area (UA)	Harford
75	Chestertown, MD	urban cluster (UC)	Kent
76	Chestertown, MD	urban cluster (UC)	Queen Anne's
77	Smyrna, DE	urban cluster (UC)	Kent
78	Richmond, VA	urbanized area (UA)	Chesterfield
79	Virginia Beach, VA	urbanized area (UA)	Gloucester
80	Virginia Beach, VA	urbanized area (UA)	James City
81	Virginia Beach, VA	urbanized area (UA)	York
82	Virginia Beach, VA	urbanized area (UA)	Newport News
83	Virginia Beach, VA	urbanized area (UA)	Suffolk
84	Princess Anne, MD	urban cluster (UC)	Somerset

URBAN LAND
Captain John Smith Chesapeake National Historic Trail
U.S. DOT Volpe Center

OBJECTID	NAME	LSADC_DESC	COUNTY
85	Washington, DC--VA--MD	urbanized area (UA)	Fairfax
86	Washington, DC--VA--MD	urbanized area (UA)	Loudoun
87	Washington, DC--VA--MD	urbanized area (UA)	Prince William
88	Washington, DC--VA--MD	urbanized area (UA)	Fairfax
89	St. Charles, MD	urbanized area (UA)	Charles
90	Chesapeake Beach, MD	urban cluster (UC)	Calvert
91	Calvert Beach-Long Beach, MD	urban cluster (UC)	Calvert
92	Chesapeake Ranch Estates-Drum Point, MD	urban cluster (UC)	St. Mary's
93	Washington, DC--VA--MD	urbanized area (UA)	Alexandria
94	Washington, DC--VA--MD	urbanized area (UA)	District of Columbia
95	Washington, DC--VA--MD	urbanized area (UA)	Prince George's
96	Washington, DC--VA--MD	urbanized area (UA)	Arlington
97	Washington, DC--VA--MD	urbanized area (UA)	Montgomery
98	Shady Side, MD	urban cluster (UC)	Anne Arundel
99	Baltimore, MD	urbanized area (UA)	Anne Arundel
100	Baltimore, MD	urbanized area (UA)	Baltimore
101	Frederick, MD	urbanized area (UA)	Frederick
102	Federalsburg, MD	urban cluster (UC)	Caroline
103	Dover, DE	urbanized area (UA)	Kent

Captain John Smith Chesapeake National Historic Trail

Water Trails

Water trail; label corresponds with OBJECTID in accompanying table.

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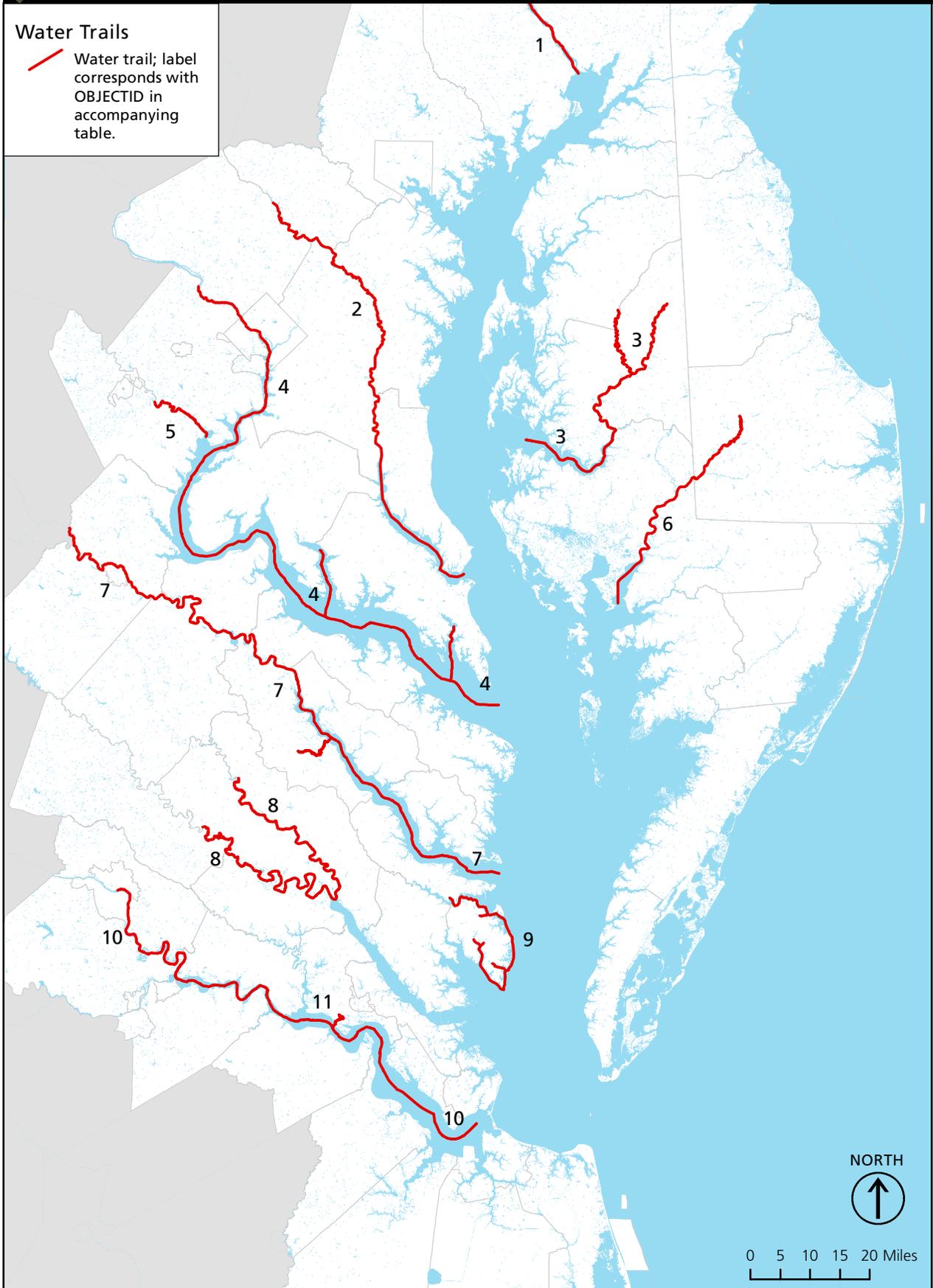
WATER TRAILS
Captain John Smith Chesapeake National Historic Trail
U.S. DOT Volpe Center

OBJECTID	TRAIL_NAME
1	Susquehanna River Water Trail
2	Patuxent River Water Trail
3	Choptank & Tuckahoe Rivers Water Trail
4	Potomac River Water Trail
5	Occoquan River Water Trail
6	Nanticoke River Water Trail
7	Rappahannock River Water Trail
8	Mattaponi & Pamunkey Water Trail
9	Mathews County Blueway
10	Lower James River Water Trail
11	Powhatan Creek Blueway

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Alternative Transportation Study Support to Comprehensive Management Plan

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5b. GRANT NUMBER

5c. PROGRAM ELEMENT NUMBER

6. AUTHOR(S)
Cotton, Benjamin; Clark, Michael

5d. PROJECT NUMBER
PMIS No. 135731

5e. TASK NUMBER

5f. WORK UNIT NUMBER

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Research and Innovative Technology Administration
John A. Volpe National Transportation Systems Center
55 Broadway, Cambridge, MA 02142

8. PERFORMING ORGANIZATION REPORT NUMBER
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U.S. Department of the Interior
National Park Service
Northeast Region
15 State Street, Boston, MA 02109

10. SPONSOR/MONITOR'S ACRONYM(S)
NPS NER

11. SPONSOR/MONITOR'S REPORT NUMBER(S)
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12. DISTRIBUTION/AVAILABILITY STATEMENT

13. SUPPLEMENTARY NOTES

14. ABSTRACT

This study utilizes a geographic information systems (GIS) inventory to evaluate alternative transportation feasibility throughout the Captain John Smith Chesapeake National Historic Trail region.

15. SUBJECT TERMS

national park service; national historic trail; geographic information systems; GIS; regional planning; alternative transportation

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