

4.0 ALTERNATIVES DEVELOPMENT

This study incorporates alternatives as options to function in a system versus alternatives in an “either this one or that one” comparative analysis. Visitors could use an alternative exclusively, such as bicycling from the Lago Mar neighborhood to BBNWR, or they could chain their trip where they bicycle to a shuttle stop and then rack their bicycles and ride the shuttle to BBNWR. Five alternatives, in addition to a No-Construction Alternative, were evaluated in this study. The Master Plan (see Figure ES.1) presents how the alternatives work as a system to enhance access to the Refuge through multiple combinations to allow visitors to tailor their experience for their desired level of activity and time commitment.

“THIS STUDY INCORPORATES ALTERNATIVES AS OPTIONS TO FUNCTION IN A SYSTEM VERSUS ALTERNATIVES IN AN “EITHER THIS ONE OR THAT ONE” COMPARATIVE ANALYSIS.”

4.1 Initial Alternatives

The City’s Sarbanes Transit in Parks Program grant identified three defined alternatives plus a No-Construction Alternative.

4.1.1 Extend Tram Service to Reach Outside of the Sandbridge Area

This alternative initially envisioned extending the existing tram operating at BBNWR to areas outside the Refuge and beyond Sandbridge. It was clarified early in the project that the existing tram needs to continue to operate internal to the Refuge only, due to current vehicle types and driver requirements. The evaluation completed during the study, therefore, assesses the development of a shuttle service that would operate separately from the tram service.

4.1.2 Improve Non-Motorized Land Access

This alternative described the BBRT as beginning at the existing SUP along Nimmo Parkway at Albuquerque Drive utilizing the Nimmo Parkway extension ROW, continuing along the north side of Sandbridge Road, and then using on-road facilities on Sandpiper Road to access the Refuge. During the alternatives development process, the preferred location for the trail east of the Nimmo ROW shifted to the south side of Sandbridge Road.

4.1.3 Improve Water Access

This alternative envisioned enhancements to canoe/kayak access to BBNWR and FCSP, by improving existing launch facilities and considering a new facility in the vicinity of the Future Visitor Contact Station.

The grant also stated that the City would meet with stakeholders to identify up to three more alternatives, including a No-Construction Alternative.

4.1.4 No-Construction Alternative

Regardless of whether or when certain infrastructure projects may be constructed, specific no-construction actions are envisioned to help promote alternative transportation access. As described in more detail in Section 10.0, these include programmatic and policy recommendations that would be undertaken by the City, FWS, DCR, HRT, DGIF, and private partners.

THE PAUL S. SARBANES TRANSIT IN PARKS PROGRAM WAS ESTABLISHED TO ADDRESS THE CHALLENGE OF INCREASING VEHICLE CONGESTION IN AND AROUND OUR NATIONAL PARKS AND OTHER FEDERAL LANDS. AMERICA’S NATIONAL PARKS, WILDLIFE REFUGES, AND NATIONAL FORESTS WERE CREATED TO PROTECT UNIQUE ENVIRONMENTAL AND CULTURAL TREASURES, BUT ARE NOW FACING TRAFFIC, POLLUTION AND CROWDING THAT DIMINISHES THE VISITOR EXPERIENCE AND THREATENS THE ENVIRONMENT. TO ADDRESS THESE CONCERNS, THIS PROGRAM PROVIDES FUNDING FOR ALTERNATIVE TRANSPORTATION SYSTEMS, SUCH AS SHUTTLE BUSES, RAIL CONNECTIONS AND EVEN BICYCLE TRAILS. THE PROGRAM SEEKS TO CONSERVE NATURAL, HISTORICAL, AND CULTURAL RESOURCES; REDUCE CONGESTION AND POLLUTION; IMPROVE VISITOR MOBILITY AND ACCESSIBILITY; ENHANCE VISITOR EXPERIENCE; AND ENSURE ACCESS TO ALL, INCLUDING PERSONS WITH DISABILITIES.

- U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION.

4.2 Selection of Additional Alternatives

As described in Chapter 3, the project employed an extensive public engagement campaign, which resulted in suggestions for over 40 additional ATS options. All suggested options went through a screening exercise with the TAC, based on screening criteria that had been weighted based on solicited public input. After the screening was complete, the following were added to the list of initial alternatives:

4.2.1 Trail along Sandbridge Road from Lotus Drive to Nimmo ROW

This alternative added to the list of options is a SUP along a larger section of Sandbridge Road. As envisioned, this section of SUP would connect to residential neighborhoods, the future Visitor Contact Station, and existing businesses, while providing multimodal access where none currently exists.

4.2.2 Water Taxi

The water taxi is envisioned as a privately operated service providing transport by shallow draft watercraft across Back Bay. It would connect the western shore of Back Bay to BBNWR and FCSP.



Back Bay Refuge Trail
Citizen Information Meeting

4.3 Measures of Effectiveness

The TAC scored the final infrastructure alternatives against the weighted Measures of Effectiveness, which include the screening criteria listed. A four point scale was used to assess the level at which the alternative meets the criteria. The higher value indicates how well the alternative meets the criteria set forth in this study. It can reveal opportunities to move us toward solutions as favorable conditions arise, but it is not a comparison of the alternatives.

Table 4.1 documents the final scoring results.

TABLE 4.1: ALTERNATIVES EVALUATION

ALTERNATIVE	VISITOR AND ENVIRONMENTAL BENEFITS					SUMMARY OF BENEFITS	TECHNICAL AND OPERATIONAL CRITERIA					SUMMARY OF TECHNICAL CRITERIA
	VISITOR MOBILITY			ENVIRONMENTAL			OPERATIONAL EFFICIENCY AND FINANCIAL SUSTAINABILITY OF ALTERNATIVES			CONSTRUCTION/OPERABILITY		
	REDUCE TRAFFIC CONGESTION	ENHANCED VISITOR MOBILITY	IMPROVE VISITOR EDUCATION, RECREATION AND HEALTH BENEFITS	PROTECTION OF SENSITIVE NATURAL, CULTURAL AND HISTORICAL RESOURCES	REDUCED POLLUTION		EFFECTIVENESS IN MEETING BBNWR GOALS	FINANCIAL PLAN - DEVELOPMENT AND OPERATIONAL COSTS	POTENTIAL FUNDING SOURCES	PROJECT PHASING AND SEQUENCE	LIMITATIONS ON TRANSPORTATION OPERATION	
	19%	23%	19%	24%	15%		100%	24%	23%	19%	19%	
BBRT SUP	1	3	3	2	0	1.93	3	2	3	2	3	2.58
BBRT On-Road	0	3	3	3	0	1.98	3	3	3	3	3	3.00
Sigma Trail	0	3	3	2	0	1.74	3	2	2	2	3	2.39
Shuttle Service	1	3	3	3	2	2.47	3	1	2	3	2	2.20
Water Access	0	3	3	3	0	1.98	3	3	3	3	3	3.00
Water Taxi	1	2	3	0	0	1.45	3	1	1	1	2	1.63

4.4 Evaluation

The next chapters provide evaluations of each of the final alternatives, and discuss the planning and design efforts that have been accomplished as part of this study. The No-Construction Alternatives are evaluated in a descriptive manner, while the infrastructure alternatives are expanded to include evaluation of project planning/scoping, schematic design, cost, and benefits.



PROJECT NUMBER: 33867.00

5.1



ALTERNATIVE TRANSPORTATION STUDY

Back Bay Refuge Trail Shared Use Path / On Road Facilities

BACK BAY NATIONAL WILDLIFE REFUGE • VIRGINIA BEACH, VIRGINIA