

Improving Transportation Alternatives at Virgin Islands National Park

National Park Foundation Transportation Scholar Final Report
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**Cultivating Creative Leadership,
Framing Emerging Issues**

TABLE OF CONTENTS

1.0	ABSTRACT	1
2.0	INTRODUCTION	1
2.1	Plan Purpose	2
2.2	Plan Vision & Goals	2
2.3	Study Area & Background	3
3.0	METHODOLOGY	8
3.1	Review of Relevant Plans and Studies.....	8
3.2	Review of Existing Conditions	9
3.3	Public Outreach.....	9
4.0	CONSTITUENCIES	11
4.1	Steering Committee	11
4.2	Taxi Advisory Committee	12
5.0	IDENTIFIED ISSUES AND OPPORTUNITIES	13
5.1	Public Comments	13
5.2	Lack of Transportation Planning and Alternatives	18
5.3	Parking	19
5.4	Safety 20	
5.5	Road Ownership and Jurisdiction.....	21
5.6	Sediment Control	23
5.7	Summary of Identified Issues.....	26
6.0	RECOMMENDATIONS	27
6.1	Support Scheduled Service Managed by the Local Taxi Industry.....	29
6.2	Develop a Traveler Information and Parking Management System.....	31
6.3	Develop an Intermodal Facility at the VINP Dock in Red Hook.....	34
6.4	Create a St. John Transportation Management Association to Manage Travel Demand.....	38
6.5	Develop a VINP Parking Plan and Establish Parking Management Strategies	39
6.6	Develop a Park Sign Plan	41
6.7	Continue to Investigate Feasibility of a Bike Path.....	42
6.8	Work with VI Public Works Department to Identify and Prioritize Safety Improvements.....	45
6.9	Work with VIPA and Stakeholders on Improvement and Maintenance Plans for Cruz Bay Creek	46
6.10	Develop Access Plan for Hassel Island	47
6.11	Coordinate on Development of a Marine Access Plan.....	48
6.12	Develop an Erosion and Sediment Control Plan for Unpaved Roads.....	49
6.13	Develop a Policy on Large Vehicles	50
6.14	Summary of Recommendations.....	51

7.0	IMPLEMENTATION	52
7.1	Project Prioritization.....	52
7.2	Implementation Plan.....	55
7.3	Next Steps.....	55
8.0	CONNECTION TO WIDER TRANSPORTATION COMMUNITY	63
9.0	THE NPS TRANSPORTATION LANDSCAPE	63
10.0	PROFESSIONAL DEVELOPMENT.....	64
11.0	ACKNOWLEDGEMENTS.....	65
12.0	ACRONYMS.....	65
	APPENDIX A: RELEVANT PLANS AND STUDIES.....	67
	APPENDIX B: EXISTING CONDITIONS	75
1.1	Land Use	75
1.2	Transportation System Characteristics.....	85
	APPENDIX C: COMMITTEE INFORMATION	107
	APPENDIX D: VINP PARKING INVENTORY	121
	APPENDIX E: ACT 806	136
	APPENDIX F: TAXI RATES	147
	APPENDIX G: BIKE PATH SPECIFICATIONS	151
	APPENDIX H: NPS TRANSPORTATION FUNDING SUMMARY.....	154

LIST OF FIGURES

Figure 1: Virgin Islands National Park.....	5
Figure 2: Cruz Bay Transportation Facilities	7
Figure 3: Hassel Island, Charlotte Amalie, and Red Hook on St. Thomas, Relative to St. John	7
Figure 4: Plan Approach	8
Figure 5: Homepage for the VINP ATP in PEPC: http://parkplanning.nps.gov/	11
Figure 6: Public comments have suggested adding parking around the ballfield.....	16
Figure 7: VINP Site Visitation versus Transportation Service	19
Figure 8: VINP Parking	20
Figure 9: 85th percentile vehicle speeds by direction.....	21
Figure 10: Roadways to be maintained by NPS per Act 806	23
Figure 11: Water bar near Maho Camps	23
Figure 12: The Creek area next to the VINP Visitor Center	24
Figure 13: Cruz Bay Creek flows under the VINP driveway during rainstorms.....	25
Figure 14: Sediment deposits in the Creek prevent boats from using the adjacent dock space	25
Figure 15: Existing VINP Facility at Red Hook.....	35
Figure 16: Conceptual Plan for Red Hook Intermodal Facility.....	36
Figure 17: Bike Path Segments	43
Figure 18: Proposed Alignment for Maho-Francis Bay Segment.....	44
Figure 19: Results of Prioritization Processes.....	53
Figure 20: Project prioritization worksheet example	54
Figure 21: St. John Population Distribution 1990 and 2000	75
Figure 22: Water trucks such as this one need to access every part of the island.....	76
Figure 23: Francis and Maho Bays	77
Figure 24: Saltpond Bay.....	77
Figure 25: Some areas are only accessible by hiking trails.....	78
Figure 26: Trail Bandit's Hiking Map.....	79
Figure 27: Annaberg Sugar Mill and the Petroglyphs	81
Figure 28: Annual Park Visitation 1957-2008	81
Figure 29: VINP Visitation: Recreational and Non-Recreational 2004-2008	82
Figure 30: Visitor Destinations In VINP.....	85
Figure 31: Cruz Bay Transportation Facilities	91
Figure 32: Means of Transportation to Work for St. John Residents	95
Figure 33: Boat Access to St. John	96
Figure 34: There is significant demand for the dock in Coral Bay.	97
Figure 35: Pay Station in Caneel Bay	97
Figure 36: Trunk Bay Switchbacks	98
Figure 37: 2005 Average daily traffic volumes-January.....	100
Figure 38: Turning Movement Count Volumes-Average Day in January 2005.....	101
Figure 39: 2030 Average Daily Volumes at North Shore Road Intersections	103
Figure 40: FHWA Vehicle Classification	104

Figure 41: Vehicle Classification January 2005 105

LIST OF TABLES

Table 1: Public comments were Informally tracked as shown below 14
Table 2: Implementation Plan..... 56
Table 3: 2004-2008 VINP Visitation by Month/Year 83
Table 4: VINP Year-to-Date Report 84
Table 5: Summary of Travel Modes to St. John 86
Table 6: Summary of Travel Modes on St. John/within VINP 91
Table 7: Limitations for anchoring and mooring within park boundaries 96
Table 8: 2030 ADT Estimates 102
Table 9: Vehicle Classification January 2005 105
Table 10: Vehicle Occupancy Summary from 2006 VINP Transportation Study..... 106

1.0 ABSTRACT

Over a six-month period in 2009, National Park Foundation Transportation Scholar Beth Isler worked with stakeholders in the US Virgin Islands to develop transportation alternatives for Virgin Islands National Park (VINP) on St. John. Public input during the six month period revealed that many ideas for improving transportation on the island have persisted through the years, but never come to fruition. These projects, as well as observations by the Transportation Scholar, formed the basis for the plan's recommendations. A steering committee made up of representatives from the USVI Governor's Office, Public Works Department, Taxi Cab Commission, transit authority, Department of Tourism, local resorts, and the Park was assembled to build and strengthen partnerships. The committee was tasked with developing a vision and goals for improving transportation and reducing parking demand in VINP, as well as developing a prioritized implementation plan for moving the recommendations forward.

2.0 INTRODUCTION

Virgin Islands National Park (VINP) comprises about 3/5 of the island of St. John, or approximately 5,500 acres. Coral Reef National Monument shares a boundary with the Park and comprises 12,700 acres of submerged lands. In 2009, the Park was awarded a grant from the National Park Foundation (NPF) to fund a Transportation Scholar for six months (June to December 2009). The primary task of the Transportation Scholar was to initiate development of an Alternative Transportation Plan (ATP) for the Park to alleviate parking demand and improve mobility and access. A successful plan would benefit the economy of St. John by improving visitor experience, preserving Park resources, reducing transportation impacts on the island, and creating business opportunities for the local community.

A major source of data for the ATP is the 2006 *Virgin Islands National Park Transportation Study*. The study provides an extensive overview of existing conditions and a list of recommendations based on observations made during data collection. The ATP includes an implementation plan for these recommendations so that the 2006 study does not just "go on the shelf and collect dust."

A Steering Committee is tasked with guiding the plan development, and is made up of representatives from VINP, the VI Governor's Office, VI Department of Planning and Natural Resources, VI Public Works Department, VI Department of Tourism, the VI Taxi Cab Commission, VITRAN, the Westin St. John Resort and Villas, and Caneel Bay Resort. Specifically, the committee develops the plan vision and goals, determines evaluation criteria for prioritizing projects, helps to create and fulfill the implementation plan, and develops/refines proposed projects. More than anything, the steering committee is the place for developing partnerships to realize the ATP.

Park staff also met with representatives of local taxi businesses to identify operational issues that will improve conditions for taxis and their passengers. The Park values the services that the taxis provide to visitors and recognizes that they are crucial for access to the Park. Finding ways to help their businesses is in the Park's best interest as it improves visitor experience.

This report describes the process for developing the ATP. As much as possible, background material such as existing conditions has been placed in appendices to keep the body of the report relatively concise. Recommendations have been formatted as one-page summaries to aid in project proposals. The implementation plan identifies how to move the recommendations forward. It identifies the priority assigned by the Steering Committee; whether the project is short-, medium-, or long-term; the project status as of November 2009; potential partners and funding sources; and specific next steps.

The ATP articulates a shared vision for transportation in VINP, summarizes existing transportation issues, and recommends starting points and projects for addressing these issues to achieve the vision. A major goal of the process has been to strengthen existing relationships and form new partnerships in

order to create a lasting framework within which to cooperatively plan and build the VINP transportation system of 2030.

2.1 Plan Purpose

This section describes the purpose of the VINP Alternative Transportation Plan and provides an overview of the study area.

2.1.1 Plan Purpose

The purpose of the VINP Alternative Transportation Plan is three-fold:

- To mitigate excess parking demand in the Park¹
- To improve mobility and access in the Park
- To improve transportation safety in the Park

2.1.2 Purpose of Virgin Islands National Park

The enabling legislation that established Virgin Islands National Park describes the purpose of the NPS unit:

Act of August 2, 1956: "That a portion of the Virgin Islands of the United States, containing outstanding scenic and other features of national significance, shall be established, as prescribed in section 2 hereof, as "Virgin Islands National Park", The national Park shall be administered and preserved by the Secretary of the Interior in its natural condition for the public benefit and inspiration ... "

Act of October 5, 1962: "...In order to preserve for the benefit of the public significant coral gardens, marine life, and seascapes ... "

Act of August 18, 1978: "... for restoration and rehabilitation of historic structures and for development of public facilities on Hassel Island."

VINP is a unique unit in the NPS because of St. John's distinctive cultural history and pre-history, tropical forests, coral reefs, white sand beaches, arid headlands, and plant and animal species. Moreover, it has been designated a Biosphere Reserve by the United Nations Educational Scientific and Cultural Organization (UNESCO), for its representation of the cultural and natural life-systems of the Lesser Antilles.

Coral Reef National Monument was created in 2001 and is comprised of 12,700 acres of submerged lands.

2.2 Plan Vision & Goals

The vision and goals were developed by the Steering Committee.

2.2.1 Vision

The vision for the VINP transportation system in 2030 is for a safe and sustainable multimodal system that efficiently provides mobility and access for all. The system will be systematically planned through

¹ While this plan focuses on ways to reduce parking demand, a separate plan is recommended in Section 6.5 to focus on how to strategically increase parking supply.

collaboration and cooperation from all members of the St. John community in order to support the economy and enhance livability.

2.2.2 Goals

1. Reduce parking demand.
2. Establish scheduled transportation service.
3. Improve safety.
4. Improve bicycle and pedestrian facilities.
5. Improve wayfinding and traffic signage and post VITRAN schedules.
6. Manage Park overlooks/scenic pull-offs.
7. Provide for alternative-fueled vehicles.
8. Be accessible for physically-challenged people.
9. Reduce visitor reliance on rental cars for mobility and access.
10. Improve visitor experience and customer service.
11. Enable people to pre-plan their trip.
12. Address sediment control from unpaved roads.
13. Improve mobility and accessibility within the Park.

2.3 Study Area & Background

Figure 1 provides the official map of the Park, which comprises about 3/5 of St. John, or approximately 5,500 acres. Access to St. John is by ferry from St. Thomas or the British Virgin Islands (BVI). Ferries (both passenger and auto) serve the town of Cruz Bay on the western side of the island. There is no airport on the island. The Park's Commercial Services Plan notes that "Although at one time seaplane service was permitted from the NPS boat ramp in Cruz Bay, it was discontinued based upon a determination that vessel traffic, other water-related activities, park operations at the ramp, and environmental values would be adversely affected."

VINP is not gated. An entrance gate would hinder residents traveling between the island's two communities (Coral Bay and Cruz Bay). There are two main roads on the island/in the Park: North Shore Road (Route 20) and Centerline Road (Route 10). North Shore Road provides access to beaches, historic ruins, Caneel Bay Resort, Cinnamon Bay Campground, and Maho Bay Camps. Centerline Road runs through the center of the island and provides access to Coral Bay and the East End. Route 107 intersects Centerline Road in Coral Bay and provides north-south access to Saltpond Bay and Lameshur Bay. West of Lameshur, the southern portion of the Park is accessible only on foot.

Within the Park, there are approximately 16 miles of paved roads, 8 miles of unpaved roads, and 18 miles of hiking trails. The speed limit in the Park is 20 mph with some 10 mph segments. All roads are two lanes, often without a shoulder or guardrail. While width varies, the roads are generally narrow and hilly (some very steep) with many curves. The Park has one visitor center (in Cruz Bay) and one campground (in Cinnamon Bay) with 39 tent sites (plus two group sites of 8 tents each), 40 cottages, and 25 bare sites (plus a group bare site for 6 tents).

Depending on size and location, private boats can use the National Park mooring system for a fee of \$15 per night or they can anchor in sand. This is to preserve and protect the coral reefs, seagrass beds, and algal plains within the Park. Lack of dock space constrains boat and dinghy access to the island.

Cruz Bay Creek (a.k.a. "The Creek") is a major hub for boats on St. John and is adjacent to the Park Visitor Center, US Customs and Border Control, the BVI ferry dock, and the staging area for cruise ship excursions as shown in Figure 2. This site is also a major stormwater outlet, requiring regular dredging to maintain adequate depths for boat access. The Sea Plane Ramp and Enighed Pond are also important island access points that require improvement and maintenance plans.

There are VINP facilities (a parking area, dock, boat ramp, and office building) at Red Hook on St. Thomas (Figure 3). This area has the potential to serve as a visitor contact point, where park visitors could take a taxi, transit, or car to that site and embark on a boat to St. John. Figure 3 also shows the location of Hassel Island, a part of VINP located just south of Charlotte Amalie on St. Thomas. Transporting visitors to and from this location is also a future consideration.

Figure 1: Virgin Islands National Park

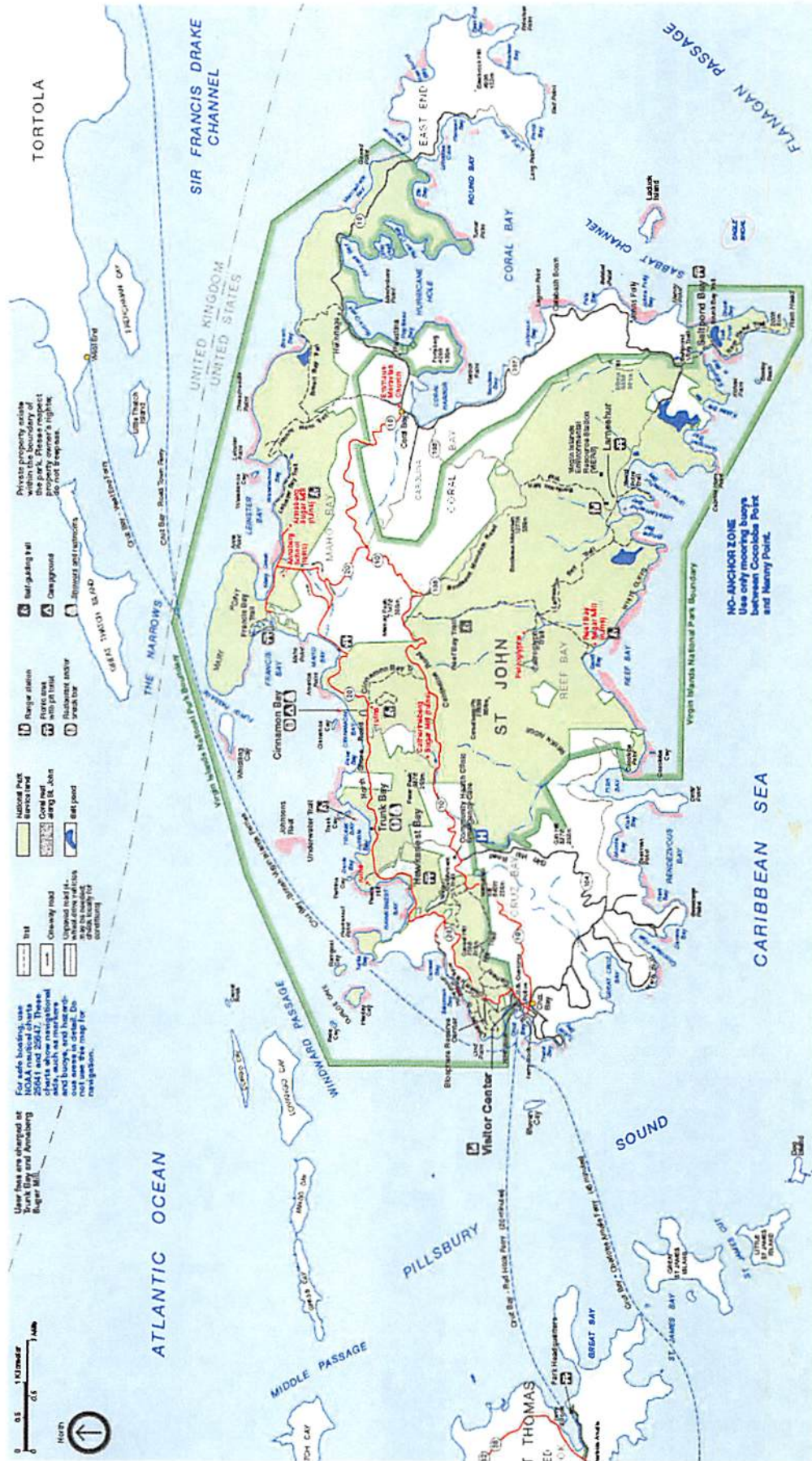


Figure 2: Cruz Bay Transportation Facilities



Figure 3: Hassel Island, Charlotte Amalie, and Red Hook on St. Thomas, Relative to St. John
(source: Google Earth)



3.0 METHODOLOGY

The process for developing the plan is shown in Figure 4. Steering and Advisory Committees were formed to guide the process, as will be discussed in Section 4.0. The steps described in the following sections allowed the Transportation Scholar to gain familiarity with the Park and the region and to bring forward ideas that have long been discussed by the public.

Figure 4: Plan Approach

Step	Lead	Tool/Method
1. Develop a shared 20-year vision and goals to articulate what the transportation system should look like in 2030.	SC	Project kick-off meeting
2. Establish evaluation criteria (based on plan goals) by which to prioritize projects.	SC	Committee meetings
3. Review recommendations of <i>VINP Transportation Study</i> and projects that have been discussed for several years. Identify which should move forward.	Public, SC, AC	Workshops, committee meetings
4. Develop implementation plan for projects vetted in Step 3. Prioritize projects using evaluation criteria.	SC	Committee meetings

SC = Steering Committee; AC = Advisory Committee

3.1 Review of Relevant Plans and Studies

A review of relevant plans and studies is provided in Appendix A. Two plans of particular importance to the ATP are highlighted below:

Virgin Islands National Park Transportation Study (2006)

By Parsons for NPS/VINP

The study was initiated to provide information on transportation for the General Management Plan update. Extensive data collection and observations resulted in a list of recommendations that are addressed in the implementation plan below in Section 7.0. The study includes traffic data (volume counts, vehicle classification and speed, turning movement counts, and vehicle occupancy), parking data (capacity, utilization, turnover and length of stay), a summary of motor vehicle crashes, and stakeholder meetings. The study's findings are referred to throughout this ATP.

US Virgin Islands Comprehensive Transportation Master Plan (2010)

By Parsons Brinkerhoff for US VI Government

The Virgin Islands Public Works Department (PWD) is currently developing the Comprehensive Transportation Master Plan (CTMP), which will be the first of its kind for the territory. The purpose is "to identify transportation strategies based on our future growth and development, and serve as a framework to prioritize what transportation investments are most important to insure our continued quality of life." The plan has a horizon of 2030 and will address motorized transportation modes. "The CTMP will result in a roadmap of how future transportation needs of the USVI will be addressed; it is

based on systematic analysis of existing conditions, future needs, and alternative transportation approaches.”¹

To ensure consistency and build cohesion between the territorial government and the Park, the CTMP’s project manager has been invited to serve as a member of the Steering Committee. Likewise, the Transportation Scholar serves on the CTMP’s Advisory Committee. Having this exchange ties the transportation plans of the territory and the Park together and increases the likelihood of implementation since partnership opportunities will be more apparent.

3.2 Review of Existing Conditions

Existing conditions, including land use, park attractions and visitation, travel modes, marine access, roadway characteristics, traffic volumes and parking, are summarized in Appendix B. The findings of the *VINP Transportation Study* were mapped to show the data’s geographic significance.

3.3 Public Outreach

Public outreach took place throughout the development of this plan, as described below.

Meetings

Besides numerous meetings with VINP staff to learn their transportation concerns, the Transportation Scholar participated in the following meetings and public hearings:

- 6/19/09 and 11/5/09-Meetings with DPNR Division of Fish and Wildlife on Red Hook improvements and boat ramp reconstruction
- 6/19/09-Meeting with Senator Barshinger, VI Port Authority, and stakeholders on plans for the Creek
- 7/1/09- Meeting with the VI Department of Sports, Parks & Recreation and the St. John Community Foundation on improvements to the ballfield adjacent to the VINP Visitor Center
- 7/1/09-Meeting with the Coral Bay Community Council on erosion and sediment control/stormwater management planning
- 7/14/09-USVI Transportation Master Plan public meeting
- 7/20/09 and 9/2/09-VI Unity Day Group public hearings on proposed increases to ferry fares
- 7/22/09-VINP Annual CUA Meeting with land-based tour operators in Red Hook
- 7/24/09-Transportation Scholar Presentation to Rotary Club of St. John
- 8/5/09-Friends of VINP meeting- introduction to Transportation Scholar
- 8/5/09-Car Rental Public Hearing by Bureau of Motor Vehicles on car rental issues, potential for quota increases, etc.
- 8/19/09-VINP meeting with water taxi CUA on dock access and tour services
- 10/14/09-USVI Transportation Master Plan meeting with plan consultants
- 10/16/09-USVI Transportation Master Plan Advisory Committee Meeting
- 11/12/09-St. Thomas Historic Trust meeting regarding Hassel Island

¹ <http://usvitransportationplan.com/>

One-on-One Contact

Through the course of the NPF Transportation Scholar's six-month tenure, she contacted and was contacted by individuals with comments and suggestions for the transportation system. A spreadsheet was used to informally track the general comments and the frequency with which they were made in phone calls, emails, and one-on-one meetings. These public comments are discussed in Section 5.1.

St. John Roadway Advisory Committee

With the announcement of the development of the VI Comprehensive Transportation Master Plan, a group of concerned St. John residents formed the St. John Roadway Advisory Committee to provide input to the Public Works Department on transportation issues. The Transportation Scholar was invited to take part in the Roadway Advisory Committee's meetings, which occurred approximately every two to four weeks. A summary of the Committee's report to the Commissioner of the VI Public Works Department is included in Section 5.1.

Project Website

The NPS Planning, Environment and Public Comment (PEPC) website provides a public input channel and access to documents for public review. Internally, PEPC allows project managers to track public comments, identify funding opportunities, and manage internal scoping and NEPA compliance.

By setting up the ATP in PEPC, the public can access the project website to review meeting minutes, stay informed of meetings, and provide their comments on transportation issues within the park. The project homepage is shown in Figure 5. In addition, the NPS can track the plan's development, analyze public comments, and manage internal tasks.

Figure 5: Homepage for the VINP ATP in PEPC: <http://parkplanning.nps.gov/>

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Plan Process **VIIS Alternative Transportation Plan**

Meeting Notices Virgin Islands National Park was recently awarded a grant from the National Park Foundation (NPF) to fund a Transportation Scholar for six months (June to December 2009) The primary task of the Transportation Scholar is to develop an Alternative Transportation Plan for the Park to alleviate parking demand and improve mobility and access. A successful plan will benefit the economy of St. John by improving visitor experience, preserving Park resources, reducing transportation impacts on the island, and creating business opportunities for the local community. To ensure the relevance and viability of the Plan, a Steering Committee of key stakeholders and community leaders is guiding the Plan's development. An Advisory Committee of St. John taxi/safari bus drivers provides the Steering Committee with input on specific issues such as taxi/safari bus operations and the potential for scheduled service.

Links

Document List

Open For Public Comment

Park RSS News

[U.S. Department of the Interior](#) - [FOIA](#) - [Privacy Policy](#) - [Disclaimer and Ownership](#) - [USA.Gov](#) - [NPS Home](#) - [Accessibility](#)

Press

The local newspapers, the *St. John Tradewinds* and the *St. John Source*, both profiled the Transportation Scholar, providing additional press for the plan and informing constituents of who they could contact with input.¹

4.0 CONSTITUENCIES

The intimate community of an island means that nearly everyone on St. John is a stakeholder. Therefore, the plan is guided by public input and a Steering Committee which receives input on specific issues from an Advisory Committee.

4.1 Steering Committee

The Steering Committee guides the planning process. Park staff met to identify potential Steering Committee members and sent letters to the various agencies shown below requesting that a representative be designated.

¹ "VINP Taps Expert to Help Tackle Transportation Problems," by J. Elliott, *St. John Tradewinds*, July 20-26, 2009, page 9; "On Island Profile: Beth Isler," by L. Lohr, *St. John Source*, <http://stjohnsource.com>, 8/4/09.

- Virgin Islands National Park
- St. John Public Works Deputy Director (appointed to committee by Governor de Jongh)
- VI Department of Planning and Natural Resources (appointed by commissioner)
- VI Public Works Department (appointed by commissioner)
- VI Taxi Cab Commission
- VITRAN
- VI Department of Tourism (appointed by commissioner)
- Caneel Bay Resort
- Westin St. John Resort and Villas

The Steering Committee meets monthly and is charged with the following tasks:

- Develop plan vision and goals.
- Develop evaluation criteria (from the plan goals) on which to base a project prioritization system.
- Design the public outreach process to be used in development of this plan.
- Review identified issues and existing conditions.
- Ensure that all voices of the community are heard.
- Review recommendations of 2006 *VINP Transportation Study*.
- Consider projects that have been proposed by the community and the Park.
- Consider Transportation Scholar recommendations.
- Develop implementation plan and prioritize projects using the evaluation criteria.
- Assist in moving the implementation plan forward after completion.

Through these tasks, partnerships are strengthened and new partnerships are formed to implement the projects that will move forward from this planning process.

Committee meeting minutes are publicly accessible on the project website in the NPS PEPC system (<http://parkplanning.nps.gov>) and are included in Appendix C.

4.2 Taxi Advisory Committee

The Advisory Committee is comprised of representatives from the taxi industry. This committee advises the Steering Committee on improvements that can be made for taxi operations. Park staff invited taxi drivers who are considered representative of the industry to be on the committee, including the heads of:

- St. John Taxi Association
- Virgin Islands Taxi Association
- Paradise Taxi
- Kitch Tours
- Love City Taxi
- Neal's Taxi

The Executive Director of the VI Taxi Cab Commission, who is a member of the Steering Committee, sits on the Advisory Committee as well.

In addition to identifying operational improvements within the Park, one of the main tasks of the Advisory Committee is to determine the potential for scheduled taxi service.

Committee meeting minutes are publicly accessible on the project website in the NPS PEPC system (<http://parkplanning.nps.gov>) and are included in Appendix C.

5.0 IDENTIFIED ISSUES AND OPPORTUNITIES

5.1 Public Comments

A spreadsheet (shown in Table 1) was used to informally track public comments and the frequency with which they were made in phone calls, emails, and one-on-one meetings with the Transportation Scholar. **The overall theme of the comments was the need for more transportation alternatives to reduce parking demand.** The top comments heard were:

- Need for transit in VINP
- Need for improved signage
- Need for centerline stripe to keep drivers on their side of the road
- Need for more parking
- Need for a separated bike path
- Roads should be widened (it should be kept in mind that widening roadways often increases vehicle speeds)

Table 1: Public comments were informally tracked as shown below.

Number of Occurrences	Comment
General	
2+	Need to improve signage and information dissemination
2	Reinstate the Gateway Community planning council
1	Surveyor is needed to identify parcel lines, R/W, easements, etc.; developing a transportation inventory would also be good
1	Work with BVI's National Parks to create an exchange program between Coral Bay and BVI/create International Marine Institute
Roads	
2+	Improve signage
2+	Large vehicles are a significant concern
2+	Vehicle speeds are a major concern
2+	Drivers do not keep to the side of the road; they drive in the middle and they speed
2+	Open a South Shore Road
2+	Do not open a South Shore Road
2+	Improve striping
2	Need guardrails
1	Widen roads/reduce blind curves
1	Scenic overlooks are overcrowded
1	Add design elements to look-outs to encourage people to pull forward and to not spend too much time
1	Consider opening one of the roads between NSR and Centerline; helps when Cruz Bay is congested/closed (Carnival); helps with emergency vehicles
1	Need to address falling rocks (provide warning signs & secure rocks with wire mesh)
1	Review pavement repair and patching methods; patches don't seem to be effective
1	Address erosion/stormwater control
Parking	
2+	Visitor and employee parking needs to be addressed
2+	Add parking around ball field
2+	Build more parking in VINP (especially Trunk Bay)
2	Park should build public parking garage in maintenance area
2	Expand Trunk Bay parking just east of existing lot
2	Need parking in Cruz Bay
1	Control rental cars: if they're not at a beach parking lot before 10:00, no parking for them
1	Make Trunk Bay accessible by taxi and shuttle only-no parking for private vehicles
1	Create more parking in Cruz Bay served by transit
Bike-Ped/Hiking	
2+	Need better connections between parking and trailheads
2+	Build a separated bike path
2+	Reef Bay trailhead needs parking
1	Need improvements to trail wayfinding
1	Annaberg school needs trailhead improvements and parking
1	Add bike lane to NSR, separated by curb and on landward side; not separate bike trail (too damaging to ecosystem)
1	Bike trail isn't worth the environmental impacts that it would have
Taxis	
2+	Taxis are too expensive to compete with rental cars
2+	Need to improve customer service
2+	Dispatch at Trunk Bay
1	There are too many taxis and not enough demand

Continued

Shuttle/Transit

+++	Transit needed in VINP
2+	Make VINP accessible by transit only (like Zion)
1	Not enough potential to warrant transit on NSR
1	VITRAN needs to publish a schedule
1	VITRAN is not reliable

CUAs/Cruise Ships, etc.

2+	Staging needs to be improved
2	Cruise ship excursions should route people through VINP VC to get from dock to taxis
2	Cruise ship excursions should give passengers an opportunity to shop

Marine/boat access

2+	Marina/boat services needed
1	Improve water transportation/water taxis

Key

1= comment heard once

2= comment heard twice

2+= comment heard more than twice

+++ = comment heard many times

Many of these comments are similar to those recorded in the 2006 *VINP Transportation Study*:

Top Stakeholder Issues from 2006 *VINP Transportation Study* (pp.44-52)

71% Frequency

- North Shore Road should be widened

57% Frequency

- Centerline Road should be widened
- St. John roads should be constructed for heavy vehicles
- Insufficient parking in Cruz Bay

43% Frequency

- Route 107 should be widened
- Speed limits should be enforced, particularly for trucks
- Insufficient parking at all beach parking lots

29% Frequency

- More roads needed
- Route 109 from Coral Bay to Annaberg
- Route 206 (Catherineburg Road) from Centerline Road to North Shore Road
- Pavement markings should be properly maintained
- Guardrails needed in dangerous areas
- Insufficient parking at Trunk Bay
- Taxi staging area near ferry docks should be improved
- Ferries do not have adequate capacity during AM/PM peaks

Future Issues (assuming a hypothetical doubling of visitation)

43% Frequency

- Infrastructure cannot accommodate doubling of visitation

29% Frequency

- More roads will be needed in future (assuming 100% growth)
- Traffic jams will increase in future (assuming 100% growth)
- VIIS should encourage more visitors beyond Trunk Bay (assuming 100% growth)
- Facilities for excursion trips should be expanded and improved (assuming 100% growth)
- Port facility is needed in Coral Bay (assuming 100% growth)
- Number of visitors in VIIS should be limited

Some in the community have suggested a Five-Point Plan for improving parking in Cruz Bay.¹ The five points are:

1. Tow away all derelict vehicles consuming available parking. (Status: complete)
2. Enforce the VI Code's parking requirements. (Status: complete/ongoing)
3. Construct a parking garage on Inspection Lane by Enighed Pond by 2012. (Status: on hold. Funding had been secured in 2006 but was reassigned in 2007; funding has not been replaced)
4. Develop an in-town shuttle system to circulate through Cruz Bay, including a stop at the parking garage so that people "park once." Shuttle would be sponsored by local businesses. (Status: pending)
5. Enjoy Cruz Bay.

Figure 6: Public comments have suggested adding parking around the ballfield. About eight parking spaces could be added without disturbing the trees or the entrance appearance.



Appendix D for more detail).

In late October 2009, the VI Port Authority approved a plan to provide about 150 parking spaces at the Enighed Pond Marine Facility/Autobarge Terminal, but at the same time indicated that it would be closing the US Customs parking lot (which has about 60 parking spaces). The new parking at Enighed Pond is estimated to cost about \$1 million. Some have voiced interest in continuing to pursue a multi-level parking structure.²

Some members of the public have suggested expanding parking at the Park Visitor Center by adding spaces around the ballfield (Figure 6). Eight spaces could be added without impacting trees or the entrance appearance (see map in

5.1.1 St. John Roadway Advisory Committee

The St. John Roadway Advisory Committee prepared a report in April 2009 for PWD to identify transportation concerns and make recommendations. An overall recommendation of the Committee is that a road survey be conducted to inventory and assess existing conditions, including right-of-way widths and property lines. The recommendations of the report are summarized below:

Signage

- Identify dangerous areas with warning signs.

¹ "Senator-at-Large Reports: Parking Solution," *St. John Tradewinds* July 20-26, 2009, page 12.

² "VIPA to Close Cruz Bay Creek Parking Lot" and "VIPA Approves Plan to Create 150 Parking Spaces at Enighed," *St. John Tradewinds* October 26, 2009.

- At a minimum, provide dangerous curve signs and consider reduced speeds in these areas.
- Conduct an inventory of existing road signs and make needed repairs.

Road Striping

- The Public Works Department should initiate an immediate road striping program, beginning with Centerline Road/Route 10 from Cruz Bay to Coral Bay.
- Review striping issues for all roads on St. John.

Roadway Widths

- Conduct an inventory of existing road widths with special emphasis on easement mapping.
- If land must be taken to accomplish road-widening, consider a tax credit option to compensate property owners.
- Consider widening dangerous areas immediately.

Guardrails

- Survey all St. John roads to ensure compliance.
- Install and re-install additional guardrails or guardrail support structure where required.
- Assess existing guardrail conditions.

Potholes and Poor Patching

- Revisit the means and methods used to patch roads.
- Repair roads such that the patch is level with the road surface.

Conditions of Roads

- Include roadway base repairs and drainage improvements in repaving projects. Use concrete as a more sustainable surface than asphalt. Where asphalt is used, apply a thicker layer.
- Plan for roadway widening projects (see above).

Construction/Completion of Existing Roads

- Complete construction and paving of federally-funded roads, to include consideration of easements, road widths, existing base, guardrails, signage, road striping, and selection of paving materials.
- Infrastructure upgrades are needed to keep up with population increases.

Construction/Completion of Emergency Routes

- Centerline Road is currently the only paved road into or out of Coral Bay. Consider emergency egress and access for residents and supply and emergency vehicles, particularly if this major route is closed.
- Consider escape routes for residents in remote areas.

Construction/Completion of Bypass Roads

- Complete a north-south bypass around Cruz Bay for traffic from Route 104 and the Enighed Pond area.
- Complete construction of the Route 20 extension (King Hill Road) on the southeastern side of Centerline Road/Route 10, including a sufficient road bed, adequate road width, traffic control at the intersection with Centerline Road, striping, and signage.
- Complete construction of Route 108/Bordeaux Mountain Road, including striping and signage.
- Construct a vehicle road on the Johnny Horn Trail/Route 109 between Coral Bay and the Annaberg Plantation.

Construction of New Roads

- Construct a vehicle road between Fish Bay and Lameshur Bay, including striping and signage.¹
- Complete paving of Route 107 to Lameshur, including striping and signage.
- Construct a vehicle road base on the Bordeaux Mountain Trail between Route 107 in Lameshur and Route 108/Bordeaux Mountain Road; pave and provide striping and signage as needed.
- Rebuild North Shore Road from Annaberg to Route 107 in Coral Bay, including paving, striping, and signage. (This may be the same recommendation as for the Johnny Horn Trail above.)

5.2 Lack of Transportation Planning and Alternatives

There has never been a planner for the island of St. John. This vacuum of planning is likely to have major impacts for both land use and transportation as the island develops. An island planner could coordinate stakeholders and the different government agencies to develop a cohesive and efficient transportation system.

Existing transit service is provided between Cruz Bay and Saltpond Bay via Coral Bay; however, it is limited to Centerline Road, leaving North Shore Road and the major tourist destinations un-served (see Figure 7). The bus system is provided by VITRAN, the Virgin Islands transit agency, which is part of the VI Public Works Department. Current operations on St. John are described in Section 1.2.2 of Appendix B. The bus system has a reputation of being unreliable.

There has been discussion of extending VITRAN service along North Shore Road, but this has been hindered due to objections from taxi drivers (as it may impact their business) and FTA restrictions on transit vehicle travel on Trunk Bay hill. (The steep grades and sharp curves on Trunk Bay hill require special transit vehicles that meet FTA approval.)

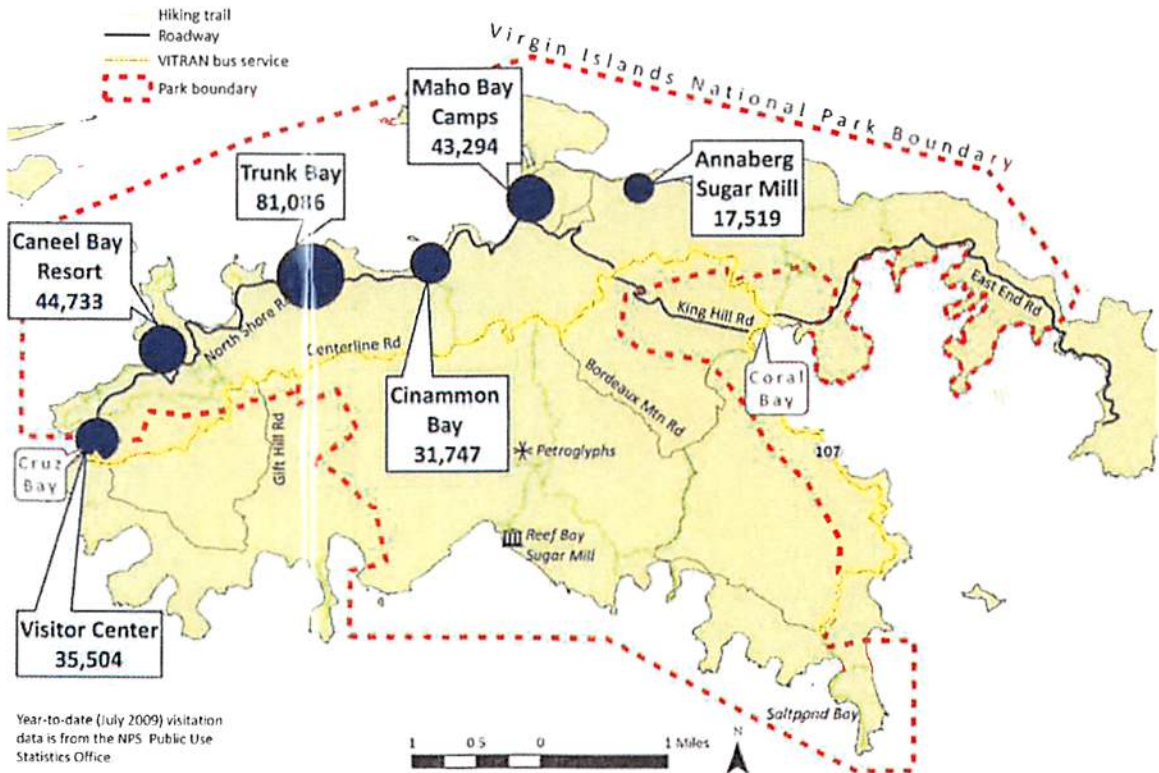
Bicycling and walking along North Shore Road are unsafe and there is not a separate alignment available, so these are not considered viable transportation alternatives. Although there is water taxi service, it is used more for travel between islands rather than between destinations on St. John.

Therefore, the only ways to access destinations along North Shore Road are by taxi/safari bus or private/rental vehicle. Taxis and rental car agencies compete with one another for the tourist market. As described in Section 1.2.2 in Section B, safari buses are attractive because of the added value of (depending on the driver) narration on the St. John's culture, history, and ecology, as well as the experience and enjoyment of riding in the back of an open-air safari bus. However, the affordability and convenience of rental cars make them more attractive to many visitors.

¹ Subsequent meetings with the Roadway Advisory Committee indicated that there was not committee consensus on this recommendation.

If additional transportation alternatives are developed, it is vital that a concurrent communication system be developed, as information dissemination is somewhat lacking. For example, printed or online information on VITRAN schedules and fares is not available. Although the Park website at www.nps.gov offers Traffic & Travel Tips, a regularly updated page with notices on parking availability, high surf advisories, etc. would convey useful information to visitors.

Figure 7: VINP Site Visitation versus Transportation Service

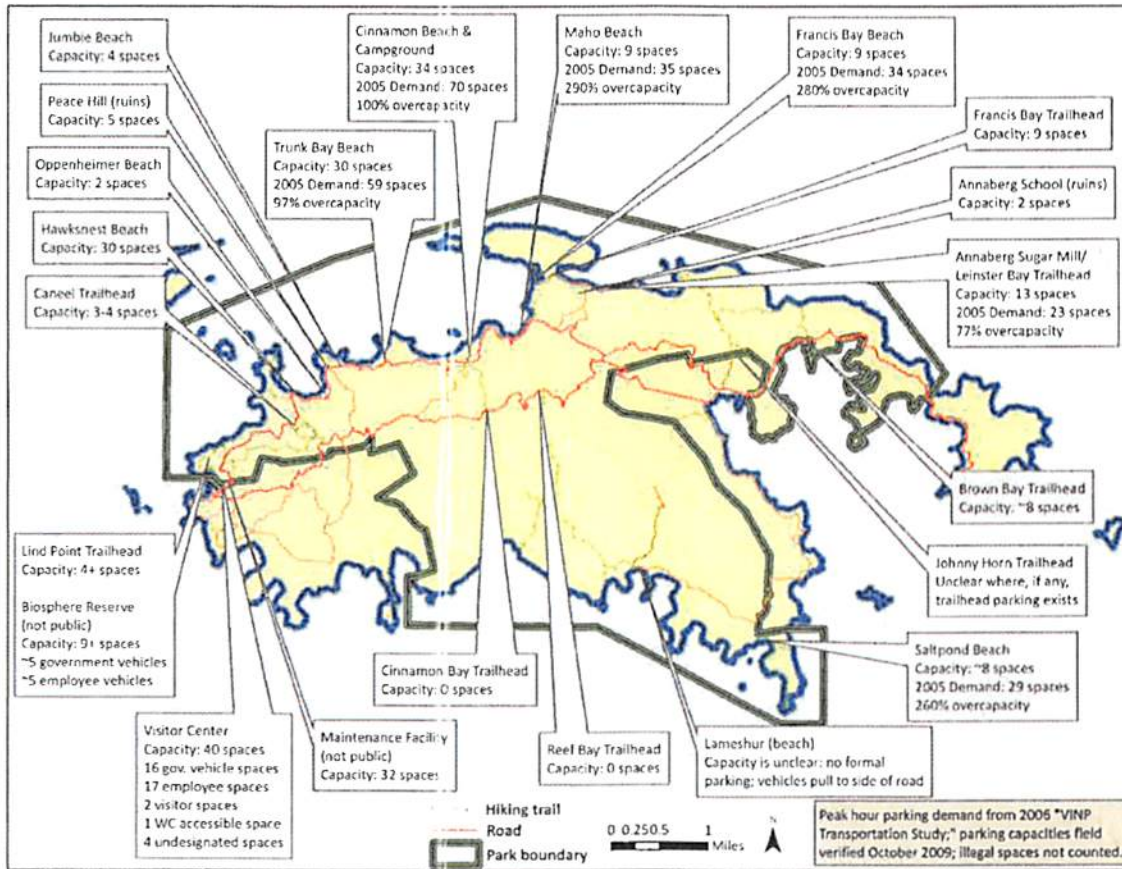


5.3 Parking

As shown in Figure 8, parking demand exceeds capacity at most parking lots. The result is that people pull off on to the side of the road or in between trees, damaging vegetation and creating a traffic hazard. While data is limited, Maho¹, Francis, and Saltpond Bays appear to be the most over-capacity; these are also areas that are not well-served by taxi/safari bus. A preliminary parking inventory was conducted and is provided in Appendix D. Reducing parking demand by increasing alternative modes of transportation in the Park is one of the goals of this plan.

¹ A new 25-space parking area is in development for Maho Bay.

Figure 8: VINP Parking



5.4 Safety

Vehicle Crashes

The *VINP Transportation Study* noted that the VI Police Department reported that of 325 motor vehicle crashes on St. John during 2004, 68 were within the park boundaries: 39 were on North Shore Road and 29 were on Centerline Road. Four of the crashes involved injuries. The locations of the crashes were not available; this is a significant data need so that dangerous areas can be identified and treated.

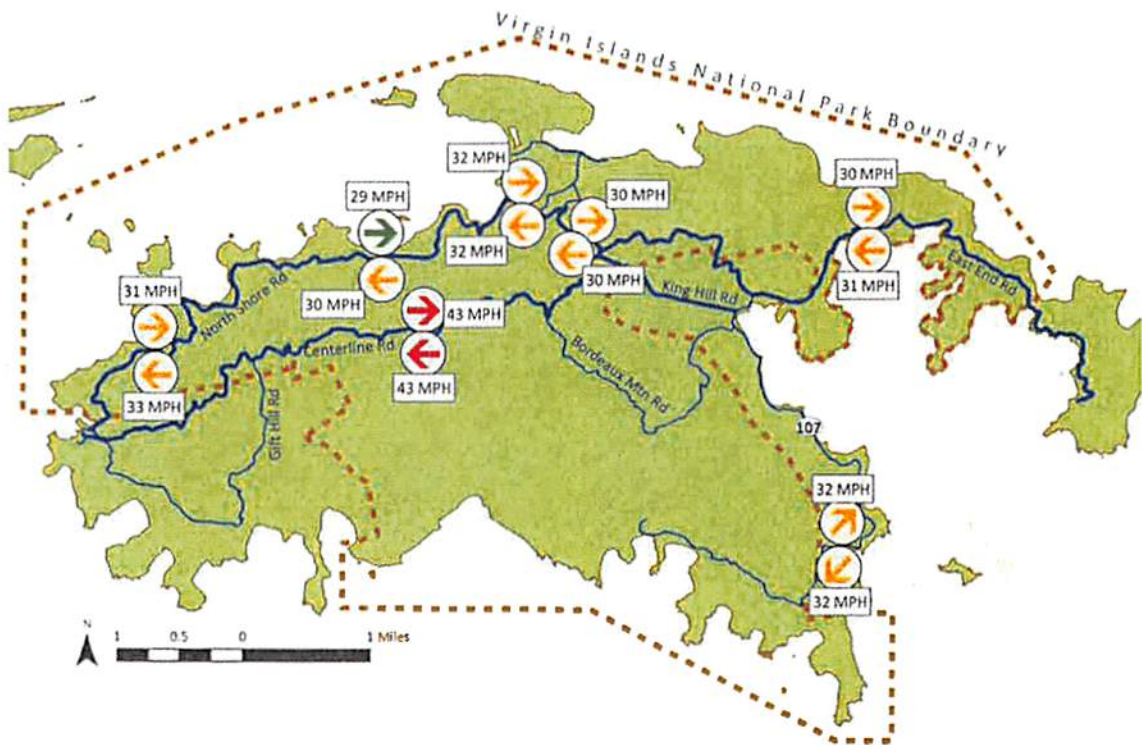
Vehicle Speeds

The speed limit in the park is 20 mph with a few 10 mph sections near trailheads and beaches. The *VINP Transportation Study* collected speed data in January 2005, finding that the 85th percentile speeds (which indicate the speed at which the statistical majority of vehicles are traveling) are significantly higher than the speed limit, especially on Centerline Road, as shown in Figure 9. Traffic volume data are presented in Section 1.2.5 of Appendix B.

The VI Public Works Department collected speed data in 2009 for the territory's Transportation Master Plan. These data may be available when the plan is complete in 2010 and may provide an updated snapshot of existing conditions.

Figure 9: 85th percentile vehicle speeds by direction

(Note that VINP speed limit is 20 MPH; data source: 2006 VINP Transportation Study)



5.5 Road Ownership and Jurisdiction

One of the most contentious issues that exists between the Park and the community is that of road ownership and jurisdiction. Old carriage roads on the island, such as L'Esperance, Brown Bay, and Johnny Horn, were at one time accessible by Jeep at best. They are currently hiking trails, but there is some community interest in "reopening" these "old roads" to vehicular traffic. The reasons for this are:

1. to provide additional paved accesses from Coral Bay in the event that Centerline Road (Route 10) is closed by hurricane damage or a landslide;
2. to make more areas of the Park accessible to more people, for example, people who cannot hike; and
3. to provide a loop in the Park for island tours.

The Park's reasons for not opening the existing trails to vehicles are:

1. King Hill is going to be paved to provide a second paved access for Coral Bay, and Bordeaux Mountain Road is a dirt road open to vehicular traffic, providing a third access;
2. VINP is working with the VI Territorial Emergency Management Agency (VITEMA) to acquire federal surplus property (that is, two bulldozers, one positioned on the east end of the island and one on the west) that could be used to clear Centerline Road in the event of a blockage;
3. boats could be used to evacuate people/bring resources;
4. resource protection and preservation; and

5. to maintain the integrity and tranquility of the hiking trails, which the Park feels would deteriorate in the presence of vehicular traffic.

Furthermore, the *NPS Management Policies* state that ““Where practicable, and after concurrence of the entity with road jurisdiction, non-NPS roads that are no longer needed will be closed or removed, and the area will be restored to a natural condition. The Service will not permit the public or private construction of new roads for access to inholdings unless specifically authorized by law.”¹

At the core of these arguments is road ownership: who has the right to open or prevent the opening of these alignments to vehicular traffic, the territorial government or the NPS? Act 806, passed in 1962, is often cited as evidence of the VI government’s ownership of the roads, both the ones currently open to vehicles and the old carriage roads that are now hiking trails. As depicted in Figure 10, Act 806 states that:

The Legislature of the Virgin Islands hereby accepts the offer of the National Park Service to improve and maintain the following named public roads in St. John: the North Shore, Annaberg, and Mary Point, Bordeaux, Lameshur, and East End Roads and the said National Park Service is hereby authorized to proceed to make improvements to said roads.... (Section 1)

Nothing contained in this Act shall be construed as conveying title or any other proprietary interest in and to the aforesaid roadways to the National Park Service nor as transferring control and jurisdiction to the National Park Service.

The roads involved herein shall retain their character as public roads. The Government of the Virgin Islands retains title to said roads as well as its usual rights with respect to public thoroughfares, subject only to the rights herein conferred upon the National Park Service. (Section 2)

Subsequent opinions of the Department of Interior’s Regional Solicitor assert that Act 806 incorrectly assumes the territorial government’s ownership of the roads, and therefore the territory does not have the right to open the old carriage roads to vehicular traffic:

...the United States acquired ownership of the public roads in the Virgin Islands from Denmark in 1916, granted control of those roads but not their title to the Virgin Islands in 1936, regained control of those roads within the Park boundaries when those boundaries were established in 1962, and retained control of those same roads when in conveyed title in 1974, to other lands over which the Virgin Islands had been given control. In concluding that the United States holds title to these roads, we also conclude that it has jurisdiction over them concurrently with the government of the Virgin Islands based on the 1963 and 1986 grants of concurrent jurisdiction.

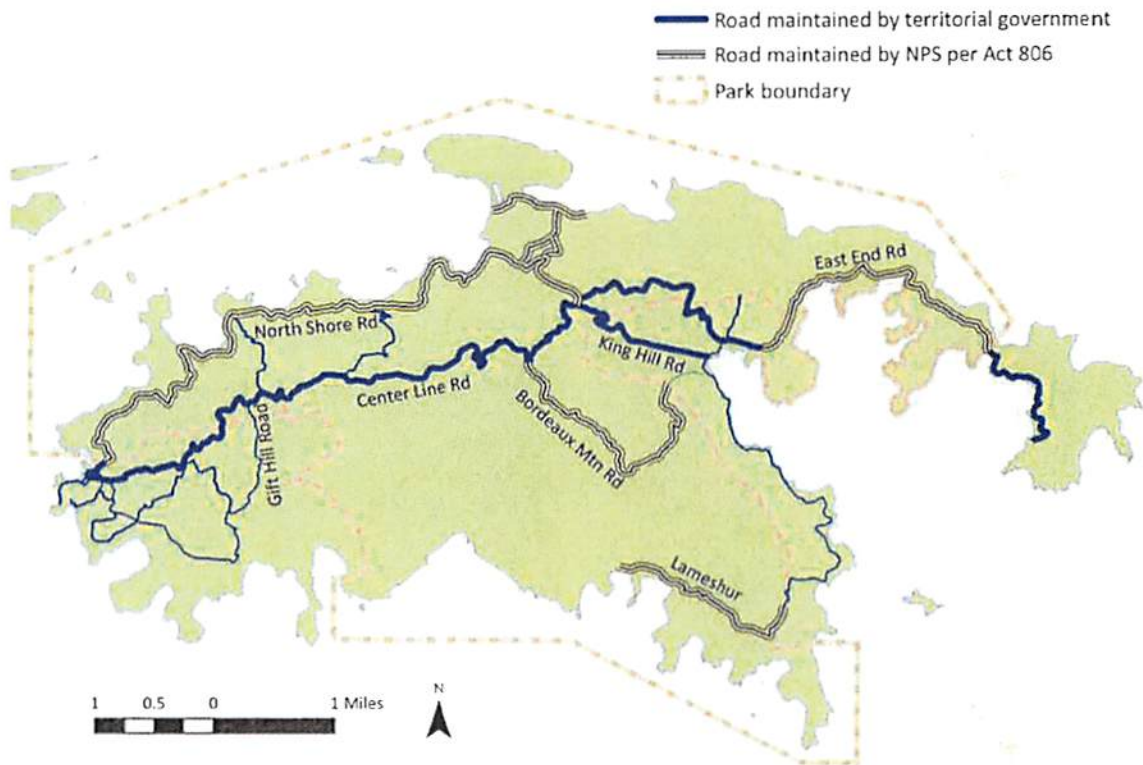
Common ground can be found in this debate. Both sides can agree that safety is a priority: specifically, emergency access from Coral Bay in the event of a road closure. In this case, the planned paving of King Hill Road, access via Bordeaux Mountain Road, the acquisition of heavy equipment to clear the roads, and improved boat access to Coral Bay would address the safety issue.

Regarding broadened access to more remote Park areas, the issue is more contentious. Some people want increased access so that the historic and cultural sites can be reached in ways other than hiking; others feel that opening these alignments to motorized modes will destroy the hiking experience and natural resources.

The full text of Act 806 and the related solicitors’ opinions are provided in Appendix E.

¹ 2006 *NPS Management Policies*, page 132.

Figure 10: Roadways to be maintained by NPS per Act 806



5.6 Sediment Control

Treatments for Unpaved Roads

Research has shown that on St. John, unpaved roads increase sediment yields 5 to 40 times over undisturbed conditions. Only 0.3 cm of rain is needed to generate runoff from an unpaved road; an average of 7.4 kg of sediment per square meter is generated from unpaved roads each year.¹ The sediment smothers the reefs and kills the coral, necessitating that erosion control treatments to be developed for unpaved roads.

The Coral Bay Community Council has taken the lead in addressing this

Figure 11: Water bar near Maho Camps



¹ Ramos-Scharron, C. "Measuring and Predicting Erosion and Sediment Yields on St. John, U.S. Virgin Islands," PhD Dissertation at Colorado State University, Spring 2004.

problem, securing a \$300,000 EPA grant to implement the Coral Bay Watershed Management Plan. The grant includes a stormwater engineer to identify erosion and sediment control treatments, such as the water bars shown in Figure 11. The stormwater engineer's study is underway as of Fall 2009.

The Creek

Cruz Bay Creek, also known as "The Creek," is the name for the area next to the Park Visitor Center shown in Figure 2 and in Figure 12 below. It also happens to be an outfall for a major island watershed. Sediment transported by stormwater (Figure 13) deposits at the outfall by the dock area. The accumulation of this sediment makes the water too shallow for boats to use the dock space (Figure 14). While emergency dredging took place in November 2009, a maintenance plan and upstream sediment control treatments are needed to address this deposition, particularly due to the threat of infrastructure and property damage that erosion presents.

The VI Port Authority (VIPA), which owns and operates the non-NPS docks adjacent to the Creek, is in the process of developing a plan to reconfigure the docks into a ferry passenger facility in conformance with Homeland Security, US Customs and Border Control, and US Coast Guard restrictions. As some of the Park's CUA-holders use these docks, VINP should work closely with VIPA to develop a coordinated plan.

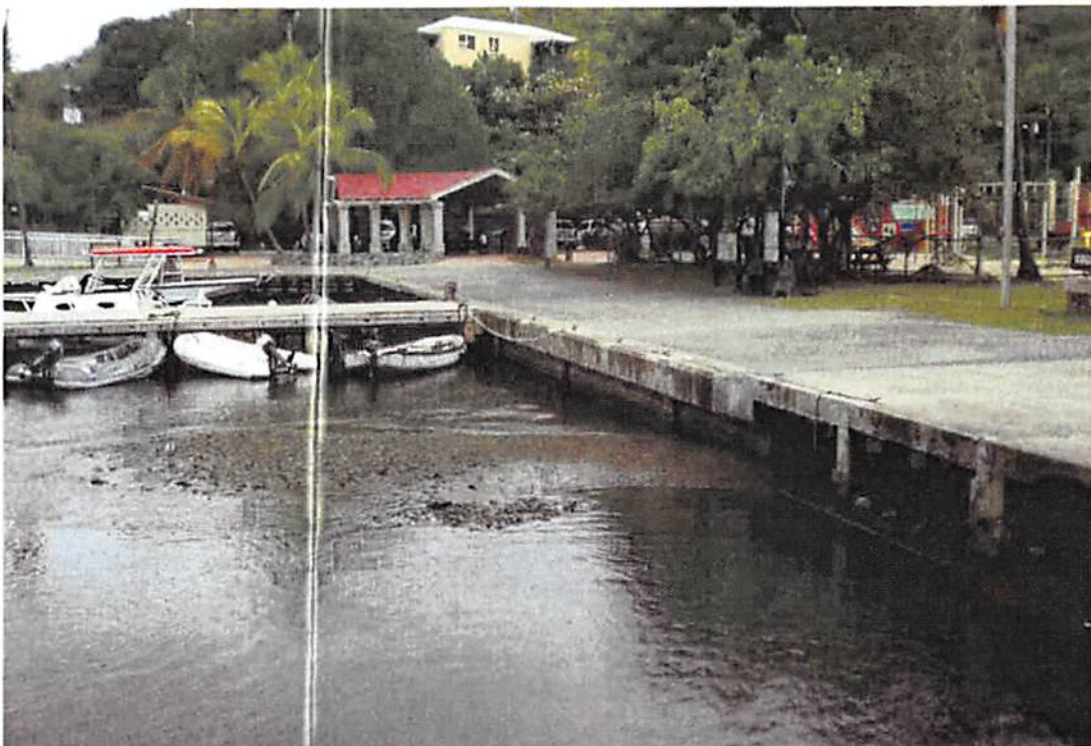
Figure 12: The Creek area next to the VINP Visitor Center



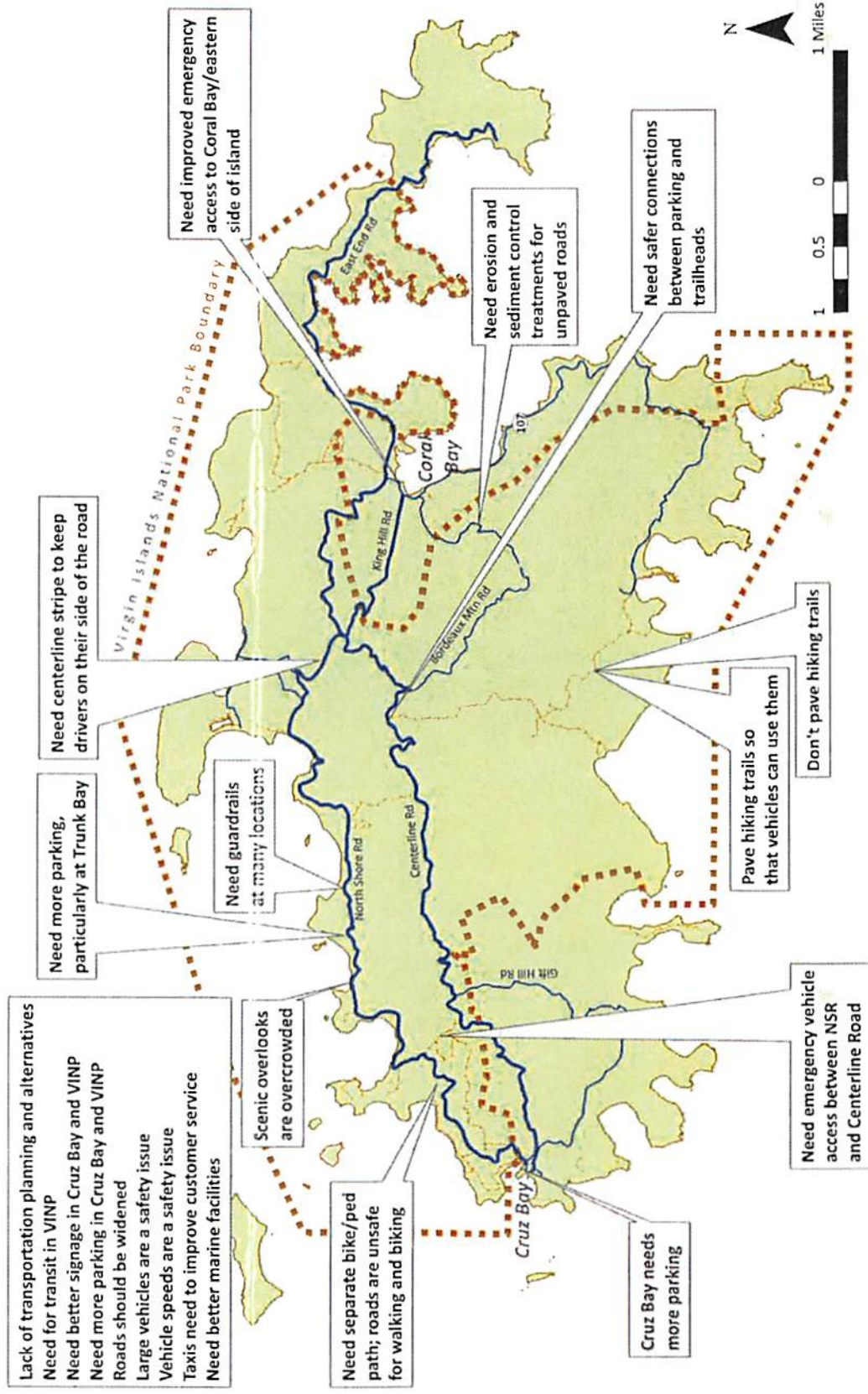
Figure 13: Cruz Bay Creek flows under the VINP driveway during rainstorms
Note the collection of sediment in the second box from the left.



Figure 14: Sediment deposits in the Creek prevent boats from using the adjacent dock space



5.7 Summary of Identified Issues



6.0 RECOMMENDATIONS

This section presents the recommendations of the Transportation Scholar based on what she has learned at VINP. The Steering Committee will need to vet and refine these recommendations as well as develop their own. The recommendations have been organized into projects, plans, and policies, and where possible, have been formatted as one-page summaries to aid with project proposals.

While this plan attempts to summarize the general transportation issues for VINP, there is significant additional effort required to thoroughly investigate and prioritize solutions. The material presented here represents an important first step by opening a dialogue on the issues and summarizing essential background information. The key overarching recommendations are:

- **Develop a St. John Transportation Management Association to implement projects and continue the planning process; and**
- **Engage a professional mediator to facilitate public outreach and help make progress on transportation issues.**

PROJECTS

6.1 Support Scheduled Service Managed by the Local Taxi Industry

Description: A frequently heard public comment on St. John was the need for additional transportation alternatives to help alleviate parking demand. One solution is to work with local taxi drivers to provide scheduled service in the Park. Regular circulation will even out distribution of transportation services to include underserved areas. Currently, people are sometimes “stranded” in locations that are not regularly visited by taxis. Knowing that some taxis circulate on a scheduled route will allow people to pre-plan their trip and not rely on a rental car.

The Plan Advisory Committee is comprised of representatives from the local taxi industry and the VI Taxi Cab Commission (TCC), which is the local government agency responsible for regulating taxis. The TCC asked the taxi representatives to propose a plan to the Park for scheduled service to be managed and operated by the drivers.

Where feasible, the Park should help to improve taxi operations to strengthen the relationships with the local taxi businesses. A common goal of the Park and the taxi businesses is to reduce the number of private/rental vehicles.

Specifics: Provided that the scheduled service improves transportation conditions and customer service, the Park would prefer- and the TCC has requested- that the system be managed and operated by the taxi drivers. The Park would support the system when and where appropriate, such as providing signage and shelters for waiting passengers (see photo below). The taxi industry would be responsible for dispatch operations and management of taxi stands.

Since fares are regulated by the TCC, the taxis would still charge the official taxi cab rates (Appendix F) regardless of whether they are operating on a schedule or not.

The TCC has indicated that VINP cannot purchase and operate its own shuttle vehicle without a medallion because it would be a vehicle-for-hire and therefore regulated by the TCC.



Plan Goals Supported

1. Reduce parking demand.
2. Establish scheduled transportation service.
5. Improve wayfinding and traffic signage and post VITRAN schedules.
9. Reduce visitor reliance on rental cars for mobility and access.
10. Improve visitor experience and customer service.

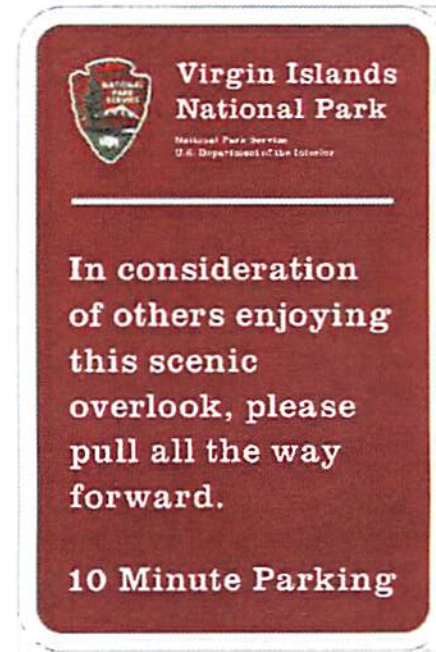
Next Steps:

- Continue to work with the Advisory Committee to solicit a proposal from the taxi drivers on scheduled service and to strengthen relationships with the leaders of the taxi industry.
- Continue to build a partnership with the TCC.
- The Steering Committee should discuss ways of providing an additional transportation alternative if scheduled service managed by the taxi industry turns out not to be feasible, such as:
 - Install technology (like intercom systems) at various locations in VINP for passengers to call a taxi via a central taxi dispatch operated by the TCC or taxi industry.
 - Consider offering a concession contract with an electronic ticketing system to ensure auditable ridership data.
 - Work with VITRAN/PWD to expand transit service to North Shore Road.
 - Consider purchasing a medallion from the TCC and operating a VINP shuttle.
- Possible funding sources for facilities such as shelters include:
 - ATPPL/Transit in the Parks
 - Surface Transportation Program
 - Transportation Enhancements
 - Public Lands Highway Program Discretionary Funds
 - Federal Lands Highway Program
 - Park Roads and Parkways Program Category 3

Ways that VINP Can Improve Visitor Experience by Helping to Improve Taxi Operations

Where feasible, the Park should help to improve taxi operations to strengthen the relationships with the local taxi businesses.

1. Provide signs at scenic overlooks to discourage excessively long parking and to encourage vehicles to pull forward. Keep vegetation trimmed to maximize overlook capacity.



One sign option reviewed by the Steering Committee for installation at scenic overlooks.

Developed by Cool Signs.

2. Consider a paved connection between North Shore and Centerline Roads (such as Catherineberg Road) to provide an alternate route during Carnival and improve emergency access between the beaches and the health clinic.
3. Improve parking and taxi staging at Trunk Bay; consider an off-site waiting area from which taxis can be called by a dispatcher.
4. Work with taxi drivers to promote alternatives (such as island tours) during high surf advisories when beaches are closed.
5. When appropriate, contribute to TCC taxi driver training to address misunderstandings about park regulations and to promote improved customer service.
6. When scheduled service is implemented, collaborate on an automatic vehicle location (AVL) system. This would involve GPS transmitters on taxis conveying real-time data to displays at shelter stops so that waiting passengers know how far away the next taxi is.

6.2 Develop a Traveler Information and Parking Management System

Description: Excess parking demand is one of the most significant challenges that VINP currently faces. A Traveler Information and Parking Management System would help to manage parking demand by 1) conveying to visitors how to visit the Park without a private vehicle; 2) enhancing the attractiveness of transportation alternatives by making them safe, convenient, and user-friendly; and 3) if visitors do use a private vehicle, directing them to locations that have parking capacity at that time. In addition, using technology to help manage transportation and encourage the use of alternative modes makes VINP a showcase for environmental sustainability.

Specifics: This project would use Intelligent Transportation Systems (ITS) to help manage parking demand and circulation in the Park. Status updates would be communicated to visitors to advise them of parking and transportation conditions. For example, knowing which beaches have parking capacity will allow visitors to plan accordingly, potentially even leaving their vehicle outside the Park and opting for a taxi. Such a system could include sign locations at the autobarge dock in St. Thomas so that visitors could leave their car there rather than bringing it to St. John.

Among the ways information would be communicated are:

1. a printable transportation guide on the VINP website so that visitors know about alternatives to renting a car;
2. real-time variable message signs stationed along North Shore Road, at the Visitor Center and at the Park entrance;
3. cell phone alerts;
4. real-time website updates, including Twitter and Facebook;
5. variable message signs at visitor kiosks, fee stations, and along roadways.

If/when a scheduled taxi system is implemented, the TIS/PMS could be upgraded to indicate to visitors at a stop how far away the next taxi is (15 minutes, etc.) based on GPS technology added to the vehicles.

Plan Goals Supported: In addition to the goals below, this project addresses the issue of **relevance** expressed by the NPS Director. By improving technological access via the internet, VINP would be more connected to younger generations that seek information and updates on websites like Twitter and Facebook.

1. Reduce parking demand.
3. Improve safety.
9. Reduce visitor reliance on rental cars for mobility and access.
10. Improve visitor experience and customer service.
11. Enable people to pre-plan their trip.
13. Improve mobility and accessibility within the Park.

Examples and Resources:

- Gateway National Recreation Area-Sandy Hook and Cape Cod National Seashore Parking Management Systems
- Great Smoky Mountains Strategic ITS Plan:
<http://www.efl.fhwa.dot.gov/files/programs/ITS-Plan-Brochure.pdf>
- NPS ITS Fact Sheet:
<http://www.nps.gov/transportation/tmp/documents/Factsheets/finalitsfactsheet.pdf>
- Overview of ITS Applications: <http://www.itsoverview.its.dot.gov/>
- NPS Transportation Management Program:
<http://www.nps.gov/transportation/tmp/ITS.htm>

Next Steps:

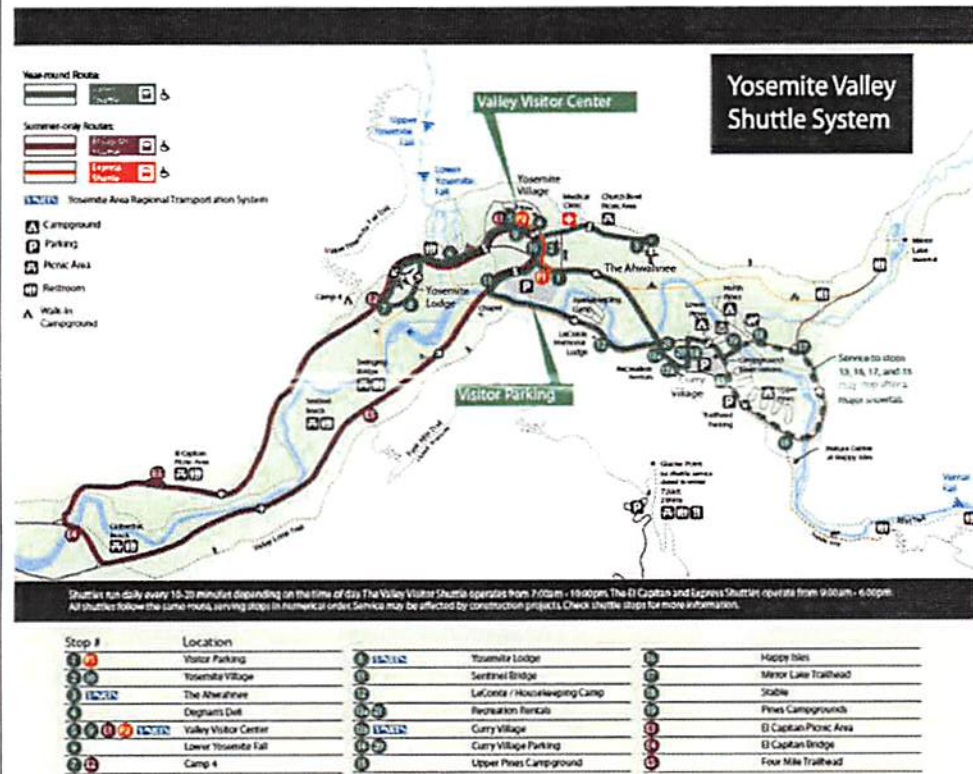
- Conduct a wireless system assessment to evaluate the “communication backbone.”
- Identify partnerships and working relationships for coordinated solutions. For example, VIPA, ferry companies, and the VI PWD are potential partners.
- A St. John TMA could lead the effort for a Traveler Information and Parking Management System to help visitors plan their trip from home. This would improve communication and customer service, noted themes in public input and the plan goals.
- Possible funding sources include:
 - Coordinated Technology Implementation Program
 - Technology Deployment and Initiatives Partnership Program
 - ATPPL/Transit in the Parks
 - Surface Transportation Program
 - Transportation Enhancements
 - Public Lands Highway Program Discretionary Funds
 - Park Roads and Parkways Program Category 3
 - Challenge Cost Share
 - Incentive Awards
 - Project Planning

Traveler Information/Parking Management System Examples



A test of Intelligent Transportation Systems at Great Smoky Mountains National Park

Electronic signs conveying real-time information will allow visitors to plan accordingly, potentially even leaving their vehicle outside the Park and opting to take a safari bus. Such a system could include sign locations at the autobarge dock in St. Thomas so that visitors could leave their car there rather than bringing it to St. John. Signs along North Shore Road would direct drivers to beaches and other attractions with available parking to avoid spillover parking at the most popular beaches.



Including a map of the transportation system on the Park website and links to bus and ferry schedules helps visitors to plan their trip before they even leave home. It may also influence their decision whether to rent a car or rely on public transportation.

Yosemite National Park - Current Conditions (U.S. National Park Service) - Microsoft Internet Explorer provided by Nation

https://www.nps.gov/yose/planyourvisit/conditions.htm


File Edit View Favorites Tools Help

Microsoft Outlook Web Access National Hurricane Center PEPC - Links (Edit) https://pepc.nps.gov/

Current Conditions

current conditions includes:

Wilderness Conditions **Bear Facts**



10000729 - WAZEE SEVENTHONLINE
Yosemite Falls from the Four Mile Trail, July 27, 2009.

Road Status

Call 209/372-0200 (press 1 then 1) for the most up-to-date conditions (the information below only reflects planned or long-term closures).

Wawona Road (Highway 41 from Fresno) Expect 15-30-minute delays (at Chingupapin). (Information about Highway 41 outside Yosemite)	Open
Big Oak Flat Road (Highway 120 from Manteca/San Francisco) (Information about Highway 120 outside Yosemite)	Open
El Portal Road (Highway 140 from Merced) (Information about Highway 140 outside Yosemite)	Open
Hetch Hetchy Road (open 7 am to 9 pm)	Open
Mariposa Grove Road	Open
Glacier Point/Badger Pass Road Expect 30-minute delays (includes the delay on Wawona Road)	Open
Tioga Road (Highway 120 through the park)	Open

Weather Forecast
Get the latest weather forecast for Yosemite [more...](#)

Yosemite Webcams
View live shots from throughout Yosemite [more...](#)

Yosemite Through the Seasons
Information about conditions throughout the year [more...](#)

Yosemite Guide
Trip planner, including operating hours for park facilities and current program schedules [more...](#)

Site Index

- Frequently Asked Questions
- Bookstore
- Contact Us

Support the National Park Service

Providing real-time information online- including on Twitter and Facebook- will help people to plan their visits and their transportation.

Great Smoky Mountains National Park

National Park Service
U.S. Department of the Interior



2009 Smokies Trip Planner

Tips on Auto Touring in the National Park

Great Smoky Mountains National Park encompasses over one-half million acres, making it one of the largest national parks in the East. An auto tour of the park offers panoramic views, climbing mountain streams, weathered historic buildings, and forests stretching to the horizon.

There are over 270 miles of road in the Smokies. Most are paved, and even the gravel roads are maintained in suitable condition for standard two-wheel drive auto-mobiles.

Driving in the mountains presents new challenges for many drivers. When going downhill, shift to a lower gear to conserve your brakes and avoid brake failure. If your vehicle has an automatic transmission, use "L" or "2." Keep extra distance between you and the vehicle in front of you and watch for sudden stops or slowdowns.

For up-to-the-minute park weather and road information, call (865) 436-1200

The following is a partial listing of some of the park's most interesting roads. To purchase a copy of the park's official road guide, visit www.smokiesinformation.org or call (865) 436-7318.

Newfound Gap Road (33 miles, paved)
This heavily used U.S. highway crosses Newfound Gap (3,046' elevation) to connect Cherokee, NC and Gatlinburg, TN. Highlights include numerous pullovers with mountain views and a variety of forest types as you ascend approximately 3,000 feet up the spine of the mountains.

Clingmans Dome Road (7 miles, paved, closed in winter)
This spur road follows a high ridge to a paved walking trail that leads 0.5 mile to the park's highest peak. Highlights are mountain views and the cool, evergreen, spruce-fir forest.

Little River Road (18 miles, paved)
This road parallels the Little River from Sugarland's Visitor Center to near Townsend, TN. Highlights include the river, waterfalls, and wildflowers.

Roaring Fork Motor Nature Trail (6 miles, paved, closed in winter. Buses and RVs are not permitted on the motor nature trail.)
A steep, narrow, and scenic route through deep forest and historic farmsteads. From downtown Gatlinburg, turn at traffic light #8 and follow Historic Nature Trail-Airport Road into the national park.

Bears in the Smokies

The Smokies are one of the few places remaining in the eastern United States where black bears can live in wild, natural surroundings. Some 1,600 black bears live in the park. Unlike black bears elsewhere, adult bears in the Smokies are always black rather than brown or cinnamon. They are also relatively small. Females often weigh 100-150 pounds; males 125-200. However, bears weighing over 400 pounds do live in the park.

Acorns, berries, grasses, and other plant materials make up over 80% of a park bear's diet. The rest consists of insects, carrion, fish, mammals, and other animal matter. Feeding

bears in the park or leaving food out for bears is illegal for a number of reasons. Bear conditioning to human-related food lose their fear of people and become threats to human safety. Conditioned bears also cause property damage and are vulnerable to being shot by poachers, hit by vehicles, or dying from ingesting food packaging and other refuse.

Store your food in your vehicle (preferably in the trunk) when not in use. Never feed a bear. Dispose of all trash in bearproof cans.

For information about what to do if you see a bear, please turn to page 11.

National Park Service

Great Smoky Mountains National Park is managed by the United States National Park Service. The agency manages the park in accordance with its mission statement: "to conserve the scenery and the natural and historic objects and the wild life therein, and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

Superintendent Dale Ditmanson asks the help of all Smokies visitors in conserving park resources. Please don't litter, feed wildlife, or disturb plants. Do your best to leave the park in better condition than it was when you came.

Informing visitors of their transportation alternatives ahead of time (including rates, schedules, and routes) is necessary to reduce reliance on rental cars.

6.3 Develop an Intermodal Facility at the VINP Dock in Red Hook

Description: The VINP facility at Red Hook currently consists of parking, a dock, and administrative office space (Figure 15). Park employees who live on St. Thomas park there and board a ferry to St. John. Red Hook presents an opportunity to strengthen the Park's presence on St. Thomas, improve VINP access, and make visitors' travel to St. John more convenient (which may encourage them to visit the Park without bringing a car to St. John).

The site offers an alternative means to St. John when the seas are too rough to travel by boat from Charlotte Amalie: visitors can drive or be bussed to Red Hook for a significantly shorter boat ride to St. John.

Specifics: The Transportation Scholar prepared a conceptual plan as shown in Figure 16. VINP is working with the DPNR Division of Fish & Wildlife to reconstruct the boat ramp.

The Park has determined that certain operational restrictions will be necessary:

- No boat traffic to or from the British Virgin Islands.
- CUAs can pick up their guests at the Red Hook facility provided that they are visiting the Park.
- Dock reconstruction will take place in phases so that it can be kept open.
- The size and width of vessels will need to be regulated.

Plan Goals Supported:

1. Reduce parking demand.
8. Be accessible for physically-challenged people.
9. Reduce visitor reliance on rental cars for mobility and access.
10. Improve visitor experience and customer service.
11. Enable people to pre-plan their trip.
13. Improve mobility and accessibility within the Park.

Examples and Resources:

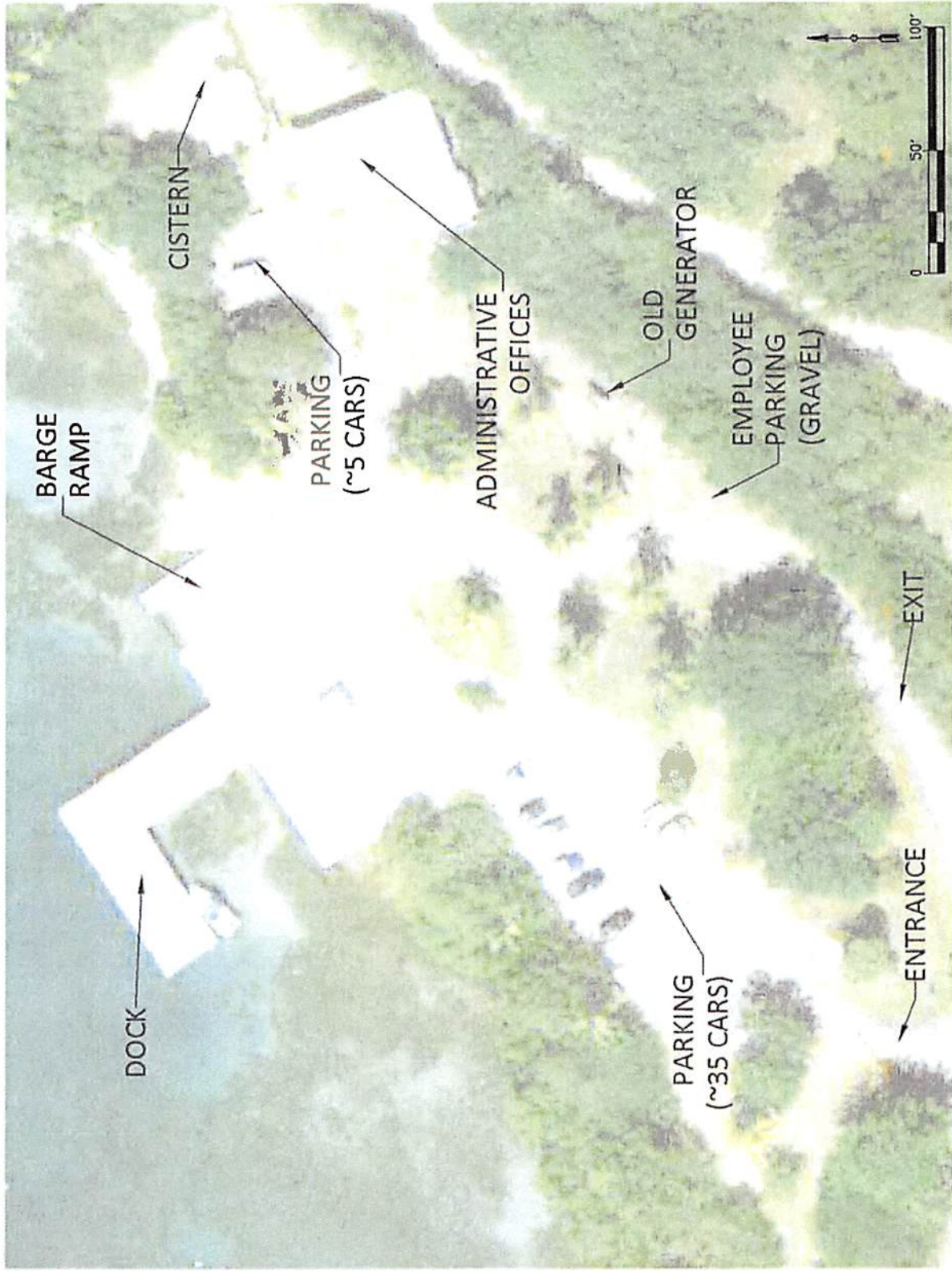
- Many national parks have developed intermodal facilities and park-and-ride lots, including Rocky Mountain, Acadia, and Zion.



Next Steps:

- Continue to work with the Division of Fish and Wildlife on the boat ramp reconstruction.
- Revise the conceptual plan in Figure 16.
- Conduct a site survey and develop preliminary plans.
- Possible funding sources include:
 - ATPPL/Transit in the Parks
 - Surface Transportation Program
 - Transportation Enhancements
 - Public Lands Highway Program Discretionary Funds
 - Federal Lands Highway Program
 - Park Roads and Parkways Program Category 3
 - NPS Line-Item Construction Program
 - Annual Operating Funds or Park Base
 - Challenge Cost-Share
 - Project Planning

Figure 15: Existing VINP Facility at Red Hook



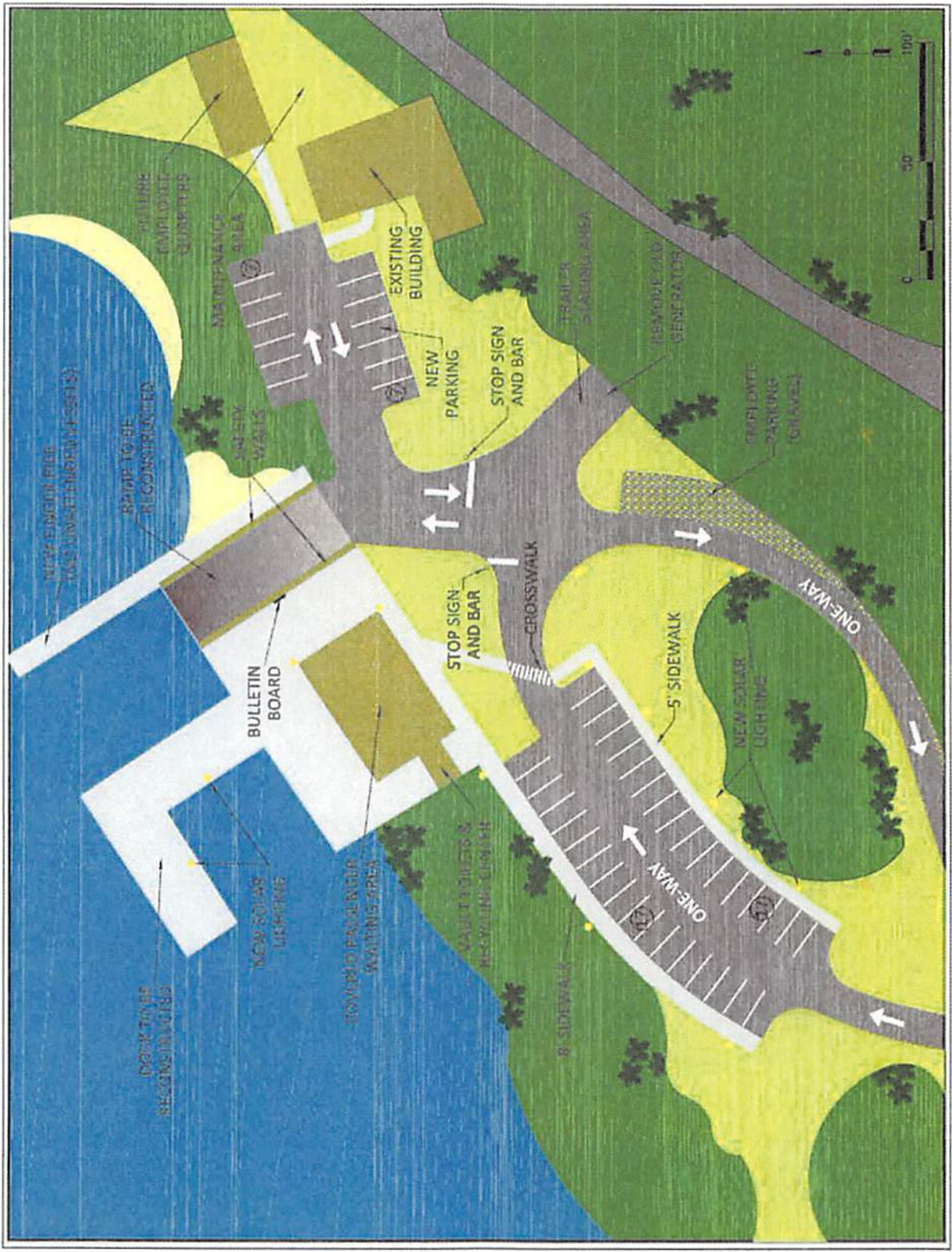


Figure 16: Conceptual Plan for Red Hook Intermodal Facility

PLANS

6.4 Create a St. John Transportation Management Association to Manage Travel Demand

<p>Description: Transportation Management Associations (TMAs) are non-profit organizations established by private and public entities in a particular geographic area such as a downtown, mall, hospital, or industrial park. They provide an institutional framework for implementing Travel Demand Management (TDM) programs (such as rideshare coordination, walking and bicycling incentive programs, etc.) to help organizations account for the transportation impacts of their employees and guests/visitors. A TMA also creates a mechanism by which multiple stakeholders can work collaboratively to address transportation issues. TMAs are usually more cost effective than programs managed by individual agencies. By pooling resources, TMAs allow smaller businesses and organizations to offer more TDM options for their employees and constituents. Most importantly, the TMA brings stakeholders together to find shared solutions to shared problems. A primary function of the St. John TMA would be to sustain partnerships to implement transportation improvements.</p>	<p>Examples and Resources:</p> <p><i>A Guide to Successful Transportation Management Associations:</i> www.nctr.usf.edu/clearinghouse/pdf/tma_handbook_final.pdf</p> <p>For more TMA and TDM information, see the Victoria Transport Policy Institute website at: http://www.vtpi.org/. The Rural Community TDM section has strategies that may be particularly applicable to St. John.</p> <p>The Campus Area Transportation Management Association (CATMA) is a nonprofit, employer-based organization formed in 1992 to enable its members to share resources as well as jointly plan, develop, and manage all transportation and parking programs, infrastructure, and associated facilities. CATMA's TDM programs include rideshare matching services and guaranteed ride home, subsidized and free transit passes, bike/walk reward program, incentives to park off-site, and flex time policies. CATMA tracks the success of its programs with surveys twice a year. The programs that CATMA manages have significantly reduced single occupancy vehicle use while increasing use of other modes. CATMA website: http://www.catmavt.org/</p>
<p>Specifics: A TMA improves the efficiency of a transportation system by encouraging the use of alternative modes. The TMA accomplishes this by administering TDM programs, which aim to reduce single occupancy vehicle trips.</p> <p>Example TMA programs and projects:</p> <ul style="list-style-type: none"> • Ridesharing/carpooling • Siting park and ride lots • Encouraging walking and biking • Telecommuting • Subsidizing transit passes • Managing a Traveler Information System • Supporting local carsharing organizations¹ 	<p>Next Steps: The Steering Committee of the VINP Alternative Transportation Plan could evolve into a St. John Transportation Management Association. The St. John TMA would be an independent organization. Although it is recommended in this Plan, VINP would not lead the effort.</p> <p>The Steering Committee can initiate the development of the St. John TMA by:</p> <ul style="list-style-type: none"> • Continuing to meet monthly to discuss how to implement the recommendations of this plan and identify other potential projects to improve transportation on St. John. • Determining how to fund the TMA; for example, through grants, TMA membership fees, transportation impact fees paid to the territory by developers, etc.. • Hiring an executive director to organize and lead the efforts of the TMA. • Developing a map that shows all aspects of the St. John transportation system: roads, parking, taxi stands, hiking trails, boat ramps and docks, ferry docks, etc.
<p>Plan Goals Supported: A St. John TMA would support all the goals of this Plan as it provides a cooperative framework within which to implement projects that will improve transportation.</p>	

¹ Carsharing is an hourly car rental program that would benefit residents and visitors alike. See examples at <http://www.citycarshare.org/>, <http://www.phillycarshare.org/>, and <http://www.zipcar.com/>.

6.5 Develop a VINP Parking Plan and Establish Parking Management Strategies

Description: In order to protect park resources while improving visitor experience, a parking plan should be developed to identify needed improvements and to establish strategies for managing demand. Although alternative transportation will be used to reduce demand, some parking expansions within the Park will be necessary. Most importantly, a coordinated, systematic approach must be taken since vehicle trips originate outside of the Park. The St. John TMA should lead the development of a St. John Parking Plan, to include facilities in Cruz Bay and Coral Bay. In addition, VINP should develop its own internal parking plan for park facilities.

Specifics: A parking inventory has been completed in Appendix D and can be a starting point for planning expansions. The following is a list of suggested management strategies:

- Reduce the size of the VINP fleet: implement a scheduling system for staff to reserve cars and use fewer vehicles more often.
- Keep all but the most essential government vehicles at Maintenance to keep spaces open for visitors. Move employee parking to Maintenance as well.
- Using one of the fleet vans, implement an employee shuttle to circulate park housing hourly in the AM and PM to provide an alternative to driving.
- As an environmental sustainability initiative, encourage employees (particularly those who live at Lind Point) to walk and carpool to work.
- Charge for parking in VINP to create a disincentive for renting a vehicle and create an incentive for taking a taxi. A trial system could be arranged at Trunk Bay to see if this approach is worthwhile. Taxis would not be charged for parking. See "Examples and Resources" and "Parking Fees" table below.

Plan Goals Supported:

1. Reduce parking demand.
3. Improve safety.
8. Be accessible for physically-challenged people.
10. Improve visitor experience and customer service.
13. Improve mobility and accessibility within the Park.

Examples and Resources:

- NPS units that charge for parking:
 - Sandy Hook Unit of Gateway National Recreation Area
 - Indiana Dunes National Lakeshore (West Beach)
 - Golden Gate National Recreation Area and National Mall are considering parking meters as a transportation demand strategy (see next page)
- Victoria Transport Policy Institute Parking Solutions: <http://www.vtpi.org/tm/tm72.htm>

Next Steps:

- Implement the *VINP Transportation Study* parking recommendations. (See Implementation Plan in Section 7.0.)
- Discuss possible park-and-ride facilities with DPNR and PWD. Assess the feasibility of a park-and-ride at the Park maintenance complex.
- Identify stakeholders and candidates for plan steering committee.
- Monitor parking demand to evaluate effectiveness.
- Prioritize parking expansions within the Park.
- Identify partnerships to implement recommended projects.
- Possible funding sources include:
 - Surface Transportation Program
 - Public Lands Highway Program Discretionary Funds
 - Federal Lands Highway Program
 - Park Roads and Parkways Program Category 1 (4R) & 3
 - NPS Line-Item Construction Program
 - Congressional Earmark in Transportation Reauthorization
 - Challenge Cost-Share
 - Project Planning

Parking Fees

The potential for implementing parking fees must first involve a public process to solicit community input. Two units in the National Park Service, National Mall and Golden Gate National Recreation Area, are considering parking fees as a transportation demand management strategy. The authority to establish these fees will either be a Recreation Fee Authority (Expanded Amenity) or a Transportation Fee Authority.¹ With either approach, a civic engagement process must occur specifically for parking fees in accordance with the Federal Lands Recreation Enhancement Act. (A third approach would be to have a partner (typically a non-profit) operate a paid parking facility. Gettysburg National Military Park has such an agreement with a partner.)

1. Recreation Fee Authority: Expanded Amenity Fee

- From the Recreation Fee Guideline, Chapter 2: Section 2.1.2 Expanded Amenity Fees:

As authorized by FLREA (16 U.S.C. 6801-6814; P.L. 108-447, Division J, Title VIII), expanded amenity fees, formerly known as use fees, are assessed when the visitor uses a specific or specialized facility, equipment, or service. Examples of expanded amenity fees include but are not limited to: camping (tent, trailer and RV sites), use of sanitary dump stations, boat launch, boat rentals, movies, swimming pools, theatre programs, enhanced interpretive program or special tours, group day use areas, audio tour devices, binoculars, or other equipment.

- A parking fee can be considered an expanded amenity because it improves transportation in the park by reducing parking demand.
- Park keeps 80% of collected revenue, while the remaining 20% goes to the Park Service.

2. Transportation Fee Authority

- From the Recreation Fee Guideline, Chapter 2: Section 2.1.8 Transportation Fees:

Transportation fees as authorized by the National Parks Omnibus Management Act of 1998 (16 U.S.C. 5981; P.L. 105-391, Sec. 501) are collected to recover costs associated with an NPS-provided transportation system. These fees are managed by the Fee Program in conjunction with the Transportation program.

- 13 park units use transportation fees
- Park keeps 100% collected revenue
- National Mall and GGRA are considering categorizing paid parking as a transportation fee.
- Planners at National Mall are contemplating using parking fee revenue to support a visitor transportation system (VTS).
- Revenue can be used for:
 - Annual NPS operating and maintenance costs.
 - Service contract costs for VTS operations.
 - Capital costs or start-up costs; and
 - Supplemental to base funding for the operations and maintenance of a visitor transportation system.

Parking Meter Technology

Multi-space meters reduce clutter and can include features such as solar power, wireless capabilities, and acceptance of credit card payments. "Smart Meters" can be programmed as part of the Traveler Information System to provide real-time info. See 'Smart' parking meters catching on across U.S.:

http://www.usatoday.com/tech/news/techinnovations/2009-02-23-smartmeters_N.htm



¹ See Director's Order 22: Recreation Fees and Reference Manual 22: Recreation Fee Guideline.

6.6 Develop a Park Sign Plan

Description: One of the most frequently heard public comments was the need for improved signage. A Park Sign Plan would focus on all types of signs (park identity, motorist guidance, traffic regulatory, and visitor information) and include the following components:

- Sign Inventory and Condition Assessment
- Determination of Needs
- Sign Demolition Plan
- Sign Location
- Sign Drawings

Specifics: Per the Office of National Park Service Identity:

Like Long Range Interpretive Plans or General Management Plans, a Park Sign Plan is invaluable in determining how a park will communicate with its visitors and manage its assets. However, unlike a GMP or LRIP — which can be quite broad — a Park Sign Plan includes the detailed specifications needed to implement its strategic recommendations. In other words, in addition to establishing comprehensive and long-range goals for a park's sign program, the Park Sign Plan includes the detailed drawings and other specifications needed to acquire individual signs.

Plan Goals Supported:

3. Improve safety.
4. Improve bicycle and pedestrian facilities.
5. Improve wayfinding and traffic signage and post VITRAN schedules.
10. Improve visitor experience and customer service.
13. Improve mobility and accessibility within the Park.

Examples and Resources:

- Office of National Park Service Identity- *How to Develop a Park Sign Plan:* http://www.hfc.nps.gov/uniguide/pages/04_purchase.html



Next Steps:

- Contact the NPS Harpers Ferry Center to discuss options and costs.
- Possible funding sources include:
 - ATPPL/Transit in the Parks
 - Surface Transportation Program
 - Transportation Enhancements
 - Public Lands Highway Program Discretionary Funds
 - Federal Lands Highway Program
 - Federal Lands Recreation Enhancement Act Program
 - Annual Operating Funds or Park Base
 - Cultural Resources Preservation Program
 - Information Publications Program
 - Project Planning
 - Sign Replacement

6.7 Continue to Investigate Feasibility of a Bike Path

Description: Many in St. John have expressed strong interest in improved bicycle facilities such as bike lanes on North Shore Road or a separated bike path. The *VINP Transportation Study* indicates that it is unlikely North Shore Road will be widened for motor vehicles, much less bike lanes.¹ The 1984 *Park Road Standards* state that “If bicycling is encouraged, consideration must be given to providing safe travel ways. Separate bikeways are the best alternative.” For these reasons, a separated trail is a more feasible alternative to widening North Shore Road for a bike lane. The next step in investigating the feasibility of a bike path is to identify and review impacts to natural and cultural resources.

Specifics: A proposed alignment for a bike path has been developed in three segments for this initial investigation, as shown in Figure 17. General design specifications are included in Appendix G.

1. **Lind Point:** converting the Lower Lind Point Trail to a bike trail.
2. **Caneel Bay Resort:** working with management to assess the feasibility of an alignment through the resort.
3. **Maho-Francis Bays:** conducting a survey to assess impacts of a proposed alignment (Figure 18) and revising it as needed to mitigate impacts.

The areas between these three initial sections, including Hawksnest and Peter Bays, will be considered in a later phase. They were initially separated out due to private property constraints, but the Park should reach out to property owners to measure their level of interest in a bike path.

Plan Goals Supported

1. Reduce parking demand.
3. Improve safety.
4. **Improve bicycle and pedestrian facilities.**
8. Be accessible for physically-challenged people.
9. Reduce visitor reliance on rental cars for mobility and access.
10. Improve visitor experience and customer service.
13. Improve mobility and accessibility within the Park.

Resources:

National Park Service Rivers, Trails, and Conservation Assistance Program:

<http://www.nps.gov/ncrc/programs/rtca/>

Guide to Promoting Bicycling on Federal Lands, September 2008, Publication No. FHWA-CFL/TD-08-007

Next Steps:

- Identify and review natural and cultural resource impacts with VINP Resource Management.
- Continue public outreach to solicit input. Develop partnership with VI government.
- Develop preliminary plans for converting the Lower Lind Point Trail to a bike path.
- Approach management of Caneel Bay Resort to determine the level of interest in a bike path traversing the property.
- Continue to work with the Friends of VINP to secure a survey of the Maho-Francis segment to assess potential impacts. Revise alignment and identify mitigation. Develop preliminary plans.
- Begin a second phase of investigation to “fill in the gap” between Caneel and Maho Bays. Approach land owners in Peter Bay and Hawksnest Bay to determine the level of interest in a bike path traversing these areas. Conduct an initial assessment of natural resource impacts to propose a potential alignment.
- Possible funding sources include:
 - Friends of VINP
 - ATPPL/Transit in the Parks
 - Recreational Trails Program
 - Surface Transportation Program
 - Transportation Enhancements
 - Public Lands Highway Program Discretionary Funds
 - Park Roads and Parkways Program Category 1 (4R) or 3
 - Private sources
 - NPS Line-Item Construction Program
 - Challenge Cost Share
 - Incentive Awards
 - Project Planning

¹ See Appendix D of 2006 *VINP Transportation Study*.

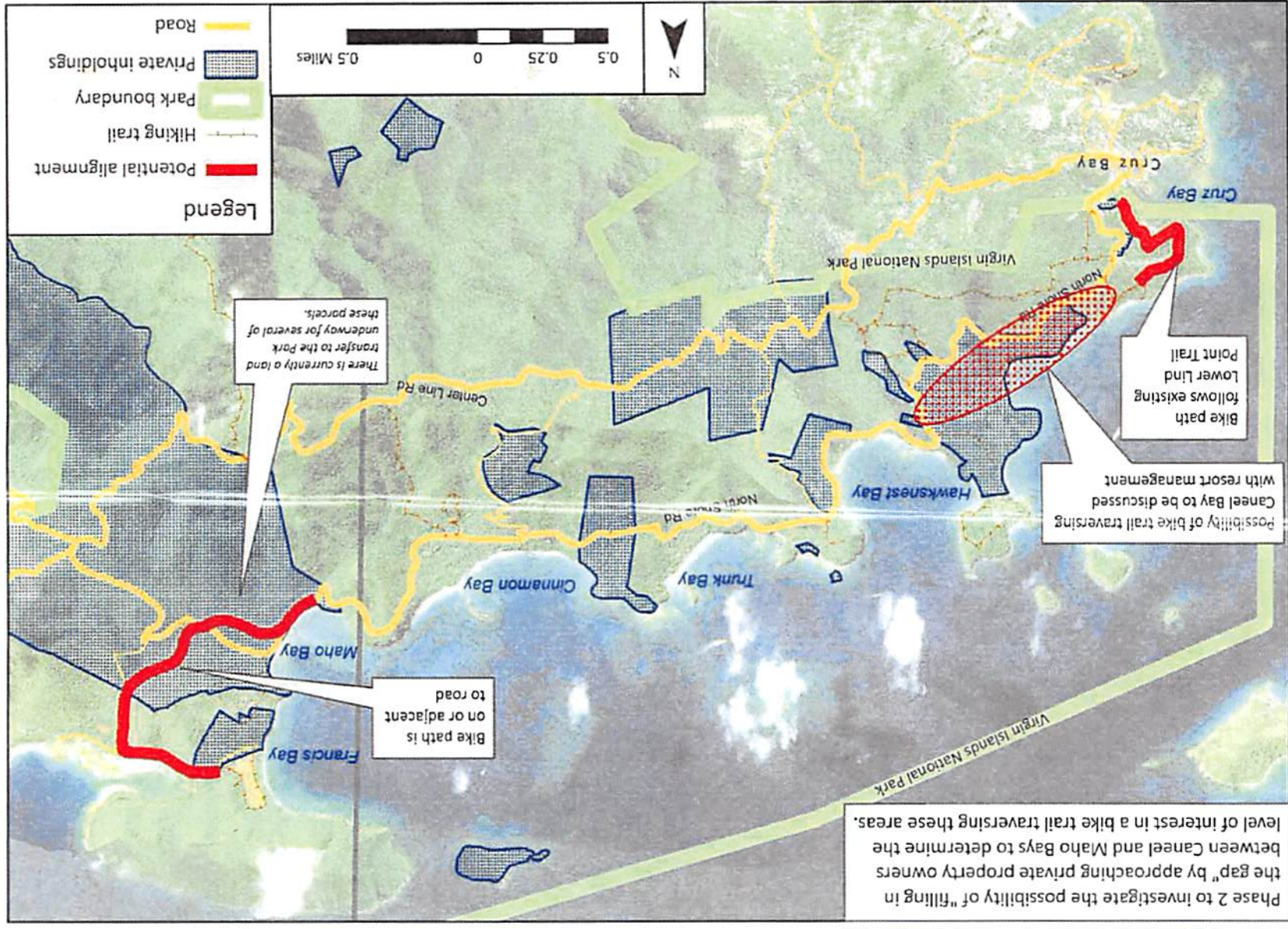
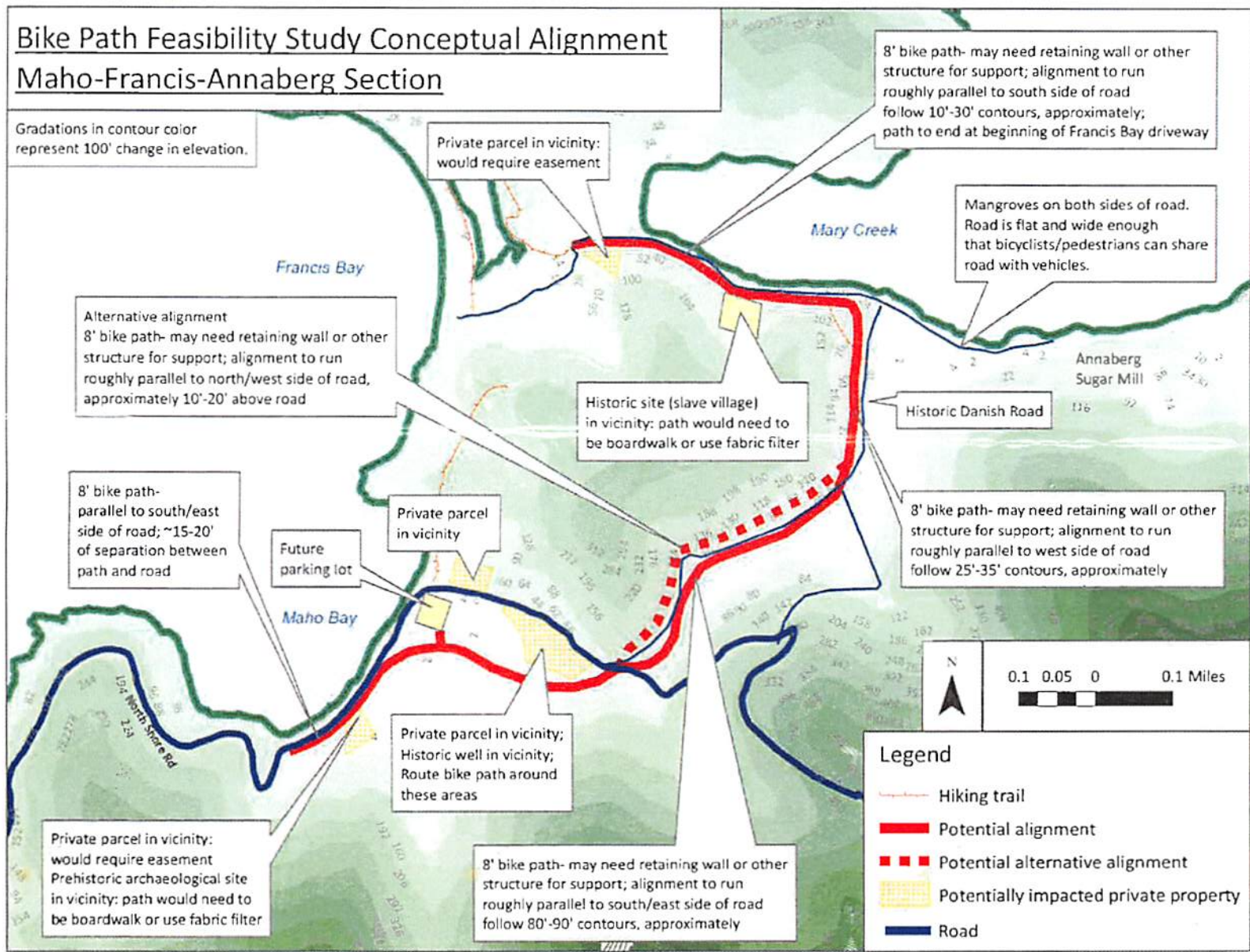


Figure 17: Bike Path Segments

Figure 18: Proposed Alignment for Maho-Francis Bay Segment



6.8 Work with VI Public Works Department to Identify and Prioritize Safety Improvements

Description: Being on a small island puts VINP in a unique position since alternative routes around the Park are only possible by boat. For example, as the eastern shore becomes more developed, the need for alternative emergency accesses has grown. Therefore, VINP and VI PWD should work closely together to identify alternative accesses, whether they involve vehicle roads or boat access.

The public appears split regarding new roads in the Park. While many feel that new vehicle roads would open up areas of the Park to more people, many others feel that it would destroy the very resources that make VINP a special place. But most everyone can agree that safety (that is, emergency access) is a priority, as well as maintenance of existing facilities.

The need/desire for new roads can be broken into two categories: 1. those that may improve safety by providing emergency access and 2. those that would open the Park to people who cannot or choose not to hike. VINP and PWD must work together to identify and prioritize feasible connections that improve emergency access. For the second category, a mediator will be needed to facilitate the dialogue.

Specifics: Among the areas at issue are:

1. A paved connection between North Shore Road and Centerline Road (possibly Catherineberg Road), to improve emergency connectivity between the North Shore beaches and the hospital, and to serve as a bypass to Cruz Bay.
2. A Cruz Bay bypass, immediately adjacent to Cruz Bay and most likely outside of park boundaries.
3. An alternative access from Coral Bay, possibly involving one or more of the following strategies:
 - a. King Hill is going to be paved to provide a second paved access for Coral Bay; Bordeaux Mountain Road (unpaved) is open to traffic and provides a third access.
 - b. VINP is working with the VI Territorial Emergency Management Agency (VITEMA) to acquire federal surplus property (two bulldozers, one positioned on each end of the island) that could be used to clear Centerline Road in the event of a blockage.
 - c. Improve boat access to the eastern shore.
4. An alternative access from Calabash Boom, possibly one or more of the following options:
 - a. Improve boat access to the eastern shore.
 - b. Keep the Bordeaux Mountain Trail as a hiking trail, but widen it to serve as vehicle access road in case of emergency; this would provide a connection through Lameshur to Bordeaux Mountain Road.
 - c. Assess the feasibility of an old (now overgrown) access along the ridge between Johns Folly and the Bordeaux Mountain Road (the alignment is said to loosely follow the park boundary).
5. Other segments that have been discussed as vehicle roads (which are currently hiking trails) are desired to open the Park to visitors who cannot or choose not to hike to these locations. However, the segments (which include the Johnny Horn Trail and a connection between Lameshur and Fish Bay) are not needed as emergency connections between developed areas.

Plan Goals

Supported:

3. Improve safety.

(Other goals may be supported or confounded depending on one's point of view on vehicle roads in the Park.)

Next Steps:

- Work closely with VI PWD to identify common priorities and assess feasible connections, keeping in mind impacts to Park resources.
- Jointly develop a prioritized list of potential connections.
- Identify partnership opportunities.
- Hire a mediator to facilitate a public outreach process on the subject of opening trails to vehicle access.

6.9 Work with VIPA and Stakeholders on Improvement and Maintenance Plans for Cruz Bay Creek

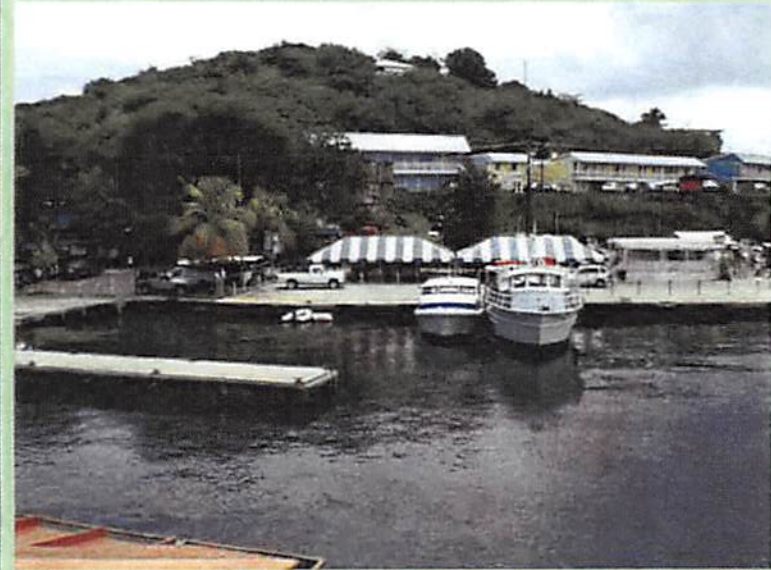
Description: VIPA is currently working on a plan for improvements to Cruz Bay Creek (a.k.a., "The Creek") (see Figure 31 on page 91). As discussed in Section 5.6, this area is significant for many stakeholders, including cruise ship excursions, taxi drivers, BVI ferries, US Customs, St. John Rescue, VINP, car rental agencies, day charters, water taxis, and individuals needing dinghy or short-term dock space. In addition to needing to accommodate all of these users effectively and efficiently, the area is a major stormwater outlet that is in need of upstream sediment control treatments.

Specifics: Among the numerous items that need to be considered in any plan for this area, there have been several public comments on the need to improve visitor circulation and excursion staging. Currently, cruise ship excursion passengers transfer directly from the vessel to the waiting safari bus tours (parked 50' from where the passengers disembark) with no exposure to the surrounding area. It has been suggested that this process could be improved to allow visitors to walk around Cruz Bay and circulate through the Park Visitor Center, possibly loading on to taxis at the rear of the Visitor Center. Greater circulation like this would benefit the local economy.

A sediment control plan for the Creek should include a maintenance plan to prevent the area from filling with sediment and making the dock space unusable.

Plan Goals Supported:

3. Improve safety.
4. Improve bicycle and pedestrian facilities.
5. Improve wayfinding and traffic signage and post VITRAN schedules.
8. Be accessible for physically-challenged people.
10. Improve visitor experience and customer service.
13. Address sediment control from unpaved roads.



Next Steps:

- Contact VIPA to ask about the status of the Creek plan and stay involved in the process.
- Work with CUAs to understand their operational needs for the area.
- Identify partnerships to implement recommended projects.

6.10 Develop Access Plan for Hassel Island

Description: VINP is planning to implement a fee in 2012-2013 to open Hassel Island, in St. Thomas Harbor, to commercial use. As potential activities are proposed by CUAs, the Park will need to review their access plans for safety.

Specifics: Hassel Island is planned to be a self-discovery zone, with transportation to and from the island to be commercially provided. Potential activities include:

- Kayaking
- Hiking
- Historic and cultural site visits
- Beach visits
- Self-guided tours
- Boat tours around the island



Plan Goals Supported:

3. Improve safety.
4. Improve bicycle and pedestrian facilities.
5. Improve wayfinding and traffic signage and post VITRAN schedules.
7. Provide for alternative-fueled vehicles.
8. Be accessible for physically-challenged people.
9. Reduce visitor reliance on rental cars for mobility and access.
10. Improve visitor experience and customer service.
11. Enable people to pre-plan their trip.
13. Improve mobility and accessibility within the Park.

Next Steps:

- Complete risk assessments.
- Identify risk mitigation projects (including signage and education) and enter into PMIS.
- Meet with the Historic Preservation Office, Historic Trust, adjacent landowners, and Friends of VINP to identify needs, goals and partnerships.
- Meet with CUAs and cruise ships to identify potential activities and transportation needs.
- Identify partnerships to implement recommended projects.

6.11 Coordinate on Development of a Marine Access Plan

Description: Boat access to St. John is severely limited due to lack of dock space, a pump-out facility, and a marina. The Steering Committee should initiate the development of a plan to improve boat access to St. John. It is vital that this be a coordinated effort led by community stakeholders and the local government as it impacts areas outside of the Park.

Specifics: A marine access plan would include:

- Possible sites for marinas.
- Possible sites for pump-out facilities.
- Areas where short-term and long-term dock space can be provided/increased.
- Areas for dinghy access.
- Elements necessary to adhere to requirements of Homeland Security, US Customs, Coast Guard, and other government agencies.
- Improvements to mooring facilities.
- Improvements to hurricane preparation plans.
- Ways to make VINP an “anchorless” park and protection of natural resources.
- Discussion of ferry, autobarge, charter, and water taxi access.
- Conceptual plans for improvements to the seaplane ramp.

Plan Goals Supported:

1. Reduce parking demand.
3. Improve safety.
8. Be accessible for physically-challenged people.
9. Reduce visitor reliance on rental cars for mobility and access.
10. Improve visitor experience and customer service.
11. Enable people to pre-plan their trip.
13. Improve mobility and accessibility within the Park.



Next Steps:

- Contact VIPA and DPNR to ask if there are any marine access planning efforts already in progress.
- Work with the DPNR Division of Fish & Wildlife to develop conceptual plans for improvements to the seaplane ramp.
- Identify stakeholders and candidates for a plan steering committee.
- Plan a public outreach process.
- Identify marine access needs and existing conditions.
- Through the steering committee and public outreach process, develop recommendations for access improvements.
- Identify partnerships to implement recommended projects.

6.12 Develop an Erosion and Sediment Control Plan for Unpaved Roads

Description: Research has shown that on St. John, unpaved roads increase sediment yields 5 to 40 times over undisturbed conditions.¹ In addition to polluting St. John's bays, the sediment smothers the reefs and kills the coral. Developing a plan to identify and prioritize erosion control treatments for unpaved roads would have a significant impact on this issue.

Specifics: The Coral Bay Community Council has taken the lead in addressing this problem, securing a \$300,000 EPA grant to implement the Coral Bay Watershed Management Plan. The grant includes a stormwater engineer to identify erosion and sediment control treatments for unpaved roads (which may or may not include paving).

Unpaved roads in VINP include:

- Bordeaux Mountain Road
- King Hill Road
- Lameshur Road
- Catherineberg Road
- Susannaberg Road
- Francis Bay Road

Plan Goals Supported:

- 10. Improve visitor experience and customer service.
- 12. Address sediment control from unpaved roads.



Photo of stormwater runoff entering Coral Bay from VI Resource Conservation and Development Council:
http://www.usvircd.org/NOAA-ARRA_Grant.htm

Next Steps:

- Contact VIPA, DPNR, and VI Resource Conservation and Development Council to identify common interest areas and partnership opportunities.
- Work with the Coral Bay Community Council to prioritize road segments and identify appropriate erosion/sediment control treatments.
- Possible funding sources include:
 - Repair/Rehabilitation Program
 - Regular Cyclic Maintenance
 - Water Resources Division
 - Environmental Quality Division-Environmental Impact Analysis
 - Natural Resource Preservation Program (NRPP) Disturbed Land Restoration
 - Surface Transportation Program
 - Transportation Enhancements
 - Public Lands Highway Program Discretionary Funds
 - Federal Lands Highway
 - NPS Line-Item Construction Program
 - Project Planning
 - Incentive Awards

¹ Ramos-Scharron, C. "Measuring and Predicting Erosion and Sediment Yields on St. John, U.S. Virgin Islands," PhD Dissertation at Colorado State University, Spring 2004.

POLICIES

6.13 Develop a Policy on Large Vehicles

Description: There are few alternative routes on St. John, and the realities of island life require that large vehicles, such as water trucks, are able to access every part of the island. However, the twisting, narrow roads can be challenging for passenger vehicles to negotiate, much less large vehicles. Large vehicles often take up both travel lanes when rounding curves.

As discussed in Section 5.5, North Shore Road is under the Park's jurisdiction, while Centerline Road is under the territory's jurisdiction. The Park and relevant territorial government agencies will therefore need to collaborate on the management of large vehicles.

Specifics: Correspondence with other locations facing similar issues suggests that some options are:

- Introducing restrictions on the time of day that large vehicles can use the road, so as to avoid peak travel times of other vehicles.
- Installing convex mirrors at blind curves.
- Assessing where roads could feasibly be widened.
- Working with the Bureau of Motor Vehicles to minimize vehicle sizes to the smallest possible (for example, smaller trucks making more frequent trips).
- Creating a one-way loop in the Park, using North Shore Road, King Hill, and Centerline Road.

Plan Goals Supported:

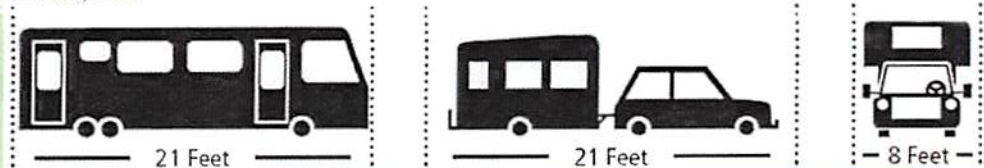
3. Improve safety.
10. Improve visitor experience and customer service.
13. Improve mobility and accessibility within the Park.

Examples and Resources:

- Colorado National Monument experiences similar issues with large vehicles traveling on narrow mountain roads with sharp curves. An NPF Transportation Scholar is studying the issue there, and will complete a report at the end of the assignment. Visit the NPF website (www.nationalparks.org) to view the report when it is complete.
- See also: Glacier National Park, Acadia National Park, Chiricahua National Monument
- Although vehicle restrictions are often aimed at recreational vehicles, they can also apply to commercial vehicles.

Vehicle Size Restrictions on the Going-to-the-Sun Road

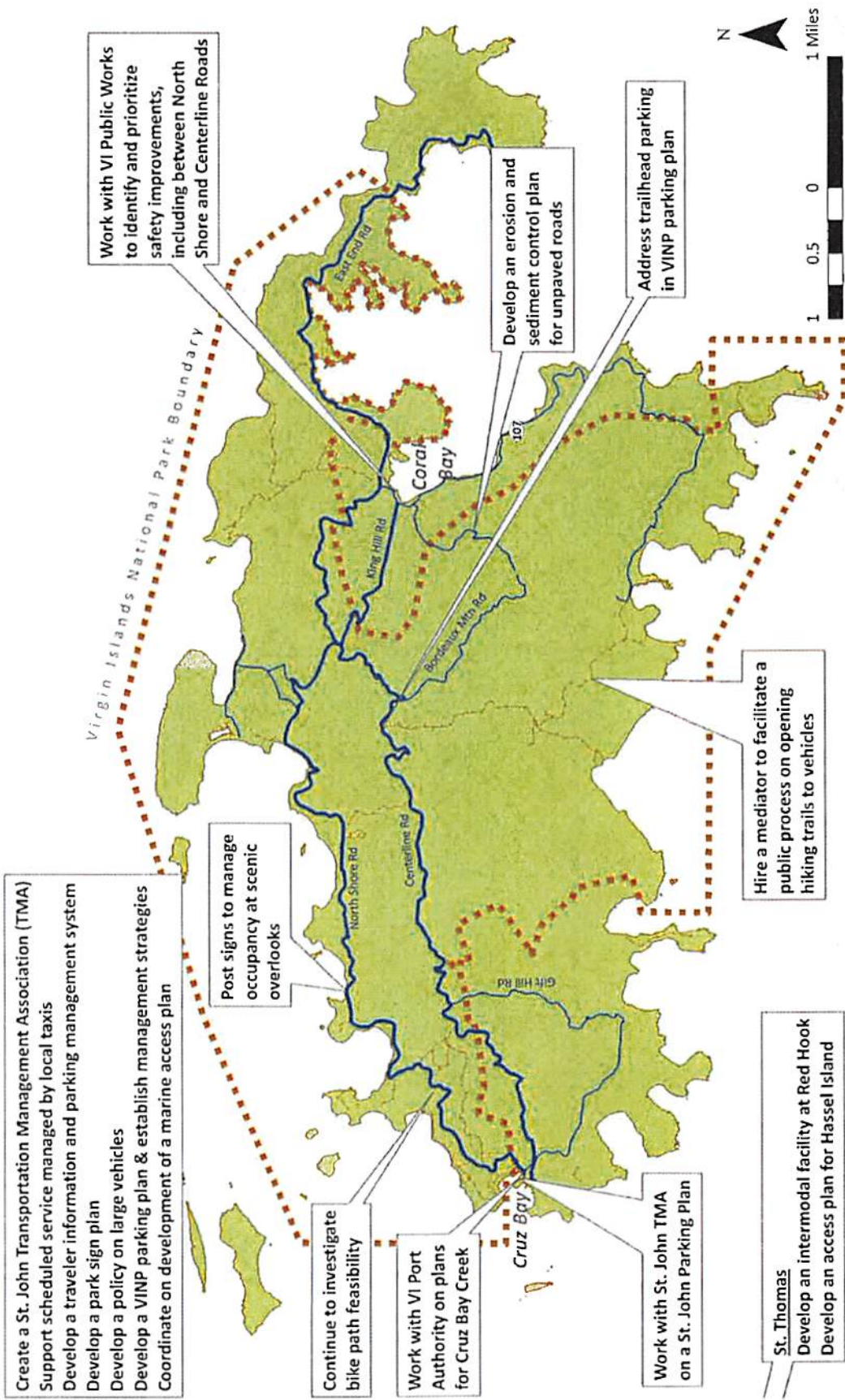
To help reduce congestion along this narrow winding road, vehicle size restrictions are in effect. Vehicles, and vehicle combinations, longer than 21 feet (including bumpers) or wider than 8 feet (including mirrors), are prohibited between Avalanche Campground and the Sun Point parking area.



Next Steps:

- Complete a safety audit on North Shore and Centerline Roads to understand the number and type of incidents involving large vehicles.
- Approach the large vehicle operators (such as construction and water delivery companies) to understand their needs and determine the best way to manage large vehicle traffic.
- Contact the VI Bureau of Motor Vehicles to find out if there are currently any length/width restrictions on vehicles and if so, how they are enforced.
- VINP, Public Works, and the Bureau of Motor Vehicles should work closely to coordinate management efforts.
- When a policy is determined, involve the VI Police Department to coordinate enforcement.

6.14 Summary of Recommendations



7.0 IMPLEMENTATION

The recommendations from Section 6.0 above and from the *VINP Transportation Study* have been organized into projects, plans, and policies (with some slight adjustments/updates based on Steering Committee discussions).¹ The process for prioritizing the recommendations is discussed below, followed by the implementation plan.

7.1 Project Prioritization

To prioritize the implementation plan, the recommended projects, plans, and policies were posted on the walls during the November Steering Committee meeting and each person was given ten stickers to place next to the projects which they considered to be most important.

The results were compiled and assigned a high, medium-high, medium, medium-low or low priority as shown below. The results are shown in Figure 19. The rankings were entered into the implementation plan and identify the order in which projects should be pursued.

of votes Assigned Priority

5-8	High
3-4	Medium-High
2	Medium
1	Medium-Low
0	Low

Originally, the items from the implementation plan were compiled in a spreadsheet to be prioritized (see example in Figure 20). A basic scoring system was developed to allow each project to be evaluated according to how well it satisfies the plan goals. Additional measures were developed to account for project momentum, public acceptability, implementability, project impact, and maintainability. The Steering Committee was tasked with scoring projects according to how well each member thought they supported the plan goals. However, for various reasons this was not successful.

It is essential that a prioritization process be transparent and reflects the plan goals. Therefore, it is recommended that the Steering Committee or VINP staff employ a more rigorous prioritization process, such as scoring the projects using the worksheet in Figure 20. In the meantime, the Transportation Scholar performed this exercise to compare the results and measure how well the recommendations meet the plan goals. The comparison is included in Figure 19. The most notable differences were in:

- the addition of guardrails
- investigating the feasibility of a bike path
- developing a VINP sign plan
- widening roads
- developing an erosion and sediment control plan
- coordinating on Cruz Bay Creek plans
- developing a marine access plan
- developing a large vehicle policy
- establishing parking management strategies for VINP

¹ In some instances, such as with the numerous parking recommendations in the 2006 study, the items have been consolidated into one recommendation, such as for a VINP Parking Plan.

Figure 19: Results of Prioritization Processes

Priorities that differ by more than two ranks are highlighted in yellow.

Projects	Steering Committee		Transportation Scholar	
	# of votes	Priority	# of points per worksheet	Priority
Taxi/Transit				
Support scheduled service managed by the local taxi industry	7	High	110	Medium-High
Manage and enforce overlooks to improve operations for users	1	Medium-Low	75	Medium
Consider annual training for taxi drivers	4	Medium-High	105	Medium-High
Parking				
Create new parking at Maho Bay	2	Medium	55	Medium-Low
Provide visitor parking around the periphery of the ballfield located east of the VC	1	Medium-Low	55	Medium-Low
Provide a trail on the north side of NSR from the Jumbie Beach parking lot to the staircase	1	Medium-Low	80	Medium
Remove trees to restore sight distance for Jumbie Beach parking lot	0	Low	60	Medium
Roadway				
Stripe all roads with centerline stripe and edge stripe	2	Medium	60	Medium
Repair open catch basin located east of Maho Bay	0	Low	60	Medium
Lower speed limit on Centerline Road near Reef Bay trailhead to 10 mph and provide signs that warn that pedestrians are ahead	1	Medium-Low	75	Medium
Correct the sight distance problems at intersections and driveways or reduce speed limits in these areas (see Section 5.4.2 in the 2006 Transportation Study)	0	Low	50	Medium-Low
Repair the gut near Oppenheimer Beach	0	Low	15	Low
Reconstruct perpendicular barrier walls to have slanted ends for safety	0	Low	20	Low
Add strategically placed guardrails for drop-offs and roadside obstructions	3	Medium-High	45	Medium-Low
Other				
Develop an intermodal facility at Red Hook	6	High	105	Medium-High
Develop Traveler Information System/Parking Management System	3	Medium-High	145	High
Plans				
Parkwide				
Finalize VINP Alternative Transportation Plan	5	High	180	High
Continue to investigate feasibility of a bike path	1 for Lind Point segment	Medium-Low	115	Medium-High
Develop VINP Sign Plan	8	High	80	Medium
Clarify definition of "access" in GMP	0	Low	30	Medium-Low
Parking				
Develop VINP Parking Plan	1	Medium-Low	95	Medium
Roadway				
Construct paved shoulders on all rural, paved roads on St. John within park boundaries	1	Medium-Low	25	Low
Replace or reduce the severity of the Trunk Bay-Peter Bay switchbacks	1	Medium-Low	5	Low
Widen North Shore Road, Centerline Road, and other park roads to NPS standards	2	Medium	15	Low
Widen and increase radius of sharp curves where autos and trucks often cross the centerline	0	Low	35	Medium-Low
Complete paving on Bordeaux Mountain Road within park boundary	0	Low	10	Low
Obtain property to reconstruct 100 degree plus Penn Corner on NSR for added safety	0	Low	15	Low
Evaluate possible improvements for access road to Francis Bay, including: widen drive to allow 2 cars to pass parked cars; add taxi turnaround	1	Medium-Low	50	Medium-Low
Erosion and Sediment Control				
Develop an erosion and sediment control plan for unpaved park roads	6	High	55	Medium-Low
Other				
Develop access plan for Hassel Island	1	Medium-Low	95	Medium
Local and Regional				
Create a St. John Transportation Management Association (TMA) to manage travel demand	3	Medium-High	180	High
Work with VIPA and stakeholders on improvement and maintenance plans for The Creek	0	Low	85	Medium
Coordinate on development of a marine access plan	1	Medium-Low	130	Medium-High
Coordinate with local agencies regarding planning and implementation of the proposed Cruz Bay parking garage	2	Medium	60	Medium
Construct paved shoulders on all rural, paved roads on St. John outside of park boundaries	0	Low	25	Low
Complete paving on Bordeaux Mountain Road outside park boundary	0	Low	10	Low
Work with VI Public Works Department to identify and prioritize safety improvements	1	Medium-Low	55	Medium-Low
Policies				
General				
Provide access to private property owners surrounded by VINP	0	Low	10	Low
Develop a policy on large vehicles	0	Low	65	Medium
Establish parking management strategies	0	Low	105	Medium-High
Enforcement				
Work with VIPD to enforce all traffic laws, particularly speed limits	2	Medium	95	Medium
Enforce handicap parking laws	1	Medium-Low	75	Medium

Figure 20: Project prioritization worksheet example

Scale		
Completely Satisfies/Higher Positive Impact	10 points	High Priority Projects score 140 points or more
Partially Satisfies/Lower Positive Impact	5 points	Medium-High Priority Projects score 100 to 140 points
Neutral/No Impact	0 points	Medium Priority Projects score 60 to 100 points
Partially Contradicts/Lower Adverse Impact	-5 points	Medium-Low Priority Projects score 30 to 60 points
Completely Contradicts/Higher Adverse Impact	-10 points	Low Priority Projects score 0 to 30 points
Highest possible score	180 points	Projects that should no longer be considered score less than 0 points

Goals													Other Measures				
1. Reduce parking demand.	2. Establish scheduled transportation service.	3. Improve safety.	4. Improve bicycle and pedestrian facilities.	5. Improve wayfinding and traffic signage and post shuttle and VITRAN schedules.	6. Manage Park overlooks/scenic pull-offs.	7. Provide for alternative-fueled vehicles.	8. Be accessible for physically-challenged people.	9. Reduce visitor reliance on rental cars for mobility and access.	10. Improve visitor experience and customer service.	11. Enable people to pre-plan their trip.	12. Address sediment control from unpaved roads.	13. Improve mobility and accessibility within the Park.	1. Project Status/Momentum (e.g. construction plans vs. conceptual plans)	2. Public Acceptability	3. Implementability	4. Impact of project (e.g. will it help many people or just a few individuals? Traffic volume can be a good measure of this.)	5. Maintainability

These are the recommendations of the 2006 VINP Transportation Study updated to reflect discussions of the ATP Steering Committee.

Projects

Taxi/Transit

Support scheduled service managed by the local taxi industry																	
Manage and enforce overlooks to improve operations for users																	
Consider annual training for taxi drivers																	

Parking

Create new parking at Maho Bay																	
Provide visitor parking around the periphery of the ballfield located east of the VC																	
Provide a trail on the north side of NSR from the Jumbie Beach parking lot to the staircase																	
Remove trees to restore sight distance for Jumbie Beach parking lot																	

7.2 Implementation Plan

The implementation plan (Table 2) identifies how to move the recommendations forward and is organized into projects, plans, and policies. It includes the priority assigned by the Steering Committee; whether the project is short-, medium-, or long-term; the project status as of November 2009; potential partners and funding sources; and specific next steps.

Regular parking counts should be conducted to monitor parking demand and evaluate effectiveness. Periodic communication with taxi drivers to understand their operational needs and progress will also be a helpful indicator of performance.

A valuable resource that should be consulted for further information is the *Park Road and Parkways Program Handbook: Guidelines for Program Implementation*.¹

A transportation funding summary for NPS projects has been compiled in Appendix H.

7.3 Next Steps

The NPS Southeast Regional Office (SERO) provided input on the various plan recommendations. Taking this input under consideration, the Transportation Scholar has drafted project statements for four of the recommendations (the sign plan, the parking plan, the erosion and sediment control plan, and the traveler information and parking management system) to apply for funding in the NPS Project Management Information System (PMIS).

Many of the recommendations are simply initiatives which require little to no funding, but rather just an effort on the part of the Park to reach out to potential partners or establish policies; for example, developing a policy on large vehicles and coordinating on development of a marine access plan.

¹ NPS and FHWA, January 2008; available at <http://www.nps.gov/transportation/roads/library.htm>.

Table 2: Implementation Plan

Implementation Plan: Recommended Projects

This plan merges the recommendations of the 2006 VMP Transportation Survey with the recommendations of the 2009 VMP Alternative Transportation Plan draft.

Description	Details	Priority	Term	Status	Potential Partners	Potential Funding Sources	Next Steps
Support scheduled service managed by the local real industry	To come from local real businesses.	High	Short	Working with real drivers to plan advisory committee	Real drivers (lead)	Vt Rail Cab Commission	N/A
Manage and enforce overlooks to improve possible due to part staff situations, the presence of signs should provide	Install signage for parking limits, although strict enforcement may not be	Medium	Short	In progress, overlook signs have been ordered	Vt Rail Cab Commission, Real drivers	Park Base	Install signs to discourage excessively long parking
operations for users		Low	Short				Possible measure of effectiveness: feedback from real drivers and visitors
Consider annual training for real drivers	Vt Rail Cab Commission is creating a professional development program for	Medium	Short	In progress (Vt TCC)	Vt Rail Cab Commission (lead agency)	N/A	N/A

Archaeological investigation	complete, Coastal Zone Certification complete, DENR contacted to request federal consistency determination, Plans complete.	Medium	Short			Park Base	Construction
Create new parking at Maho Bay	25 spaces, includes demolition of trailer, cost estimate \$40k	Medium	Short				
Provide water parking around the periphery of the dam/dike located east of the VC	Approximately 8 new spaces can be created on north side of dam/dike structure removing trees and damaging view/entrance aesthetics of VC	Low	Short	considering		Public Lands Highway Program Discretionary Funds (PLHD) Surface Transportation Program Park Roads and Pathways Program (PSP) Category 1-4a VCC	Possible measures of effectiveness: monthly parking counts to monitor changes in demand versus capacity, visitor satisfaction surveys
Provide a trail on the north side of NSH from the Lunenburg Beach parking lot to the staircase	In progress	Medium	Short	In progress		Public Lands Highway Program Discretionary Funds (PLHD) Surface Transportation Program Park Roads and Pathways Program (PSP) Category 3-4a VCC	In progress
Remove trees to restore sight distance for Lunenburg Beach parking lot		Low	Medium			Public Lands Highway Program Discretionary Funds (PLHD) Surface Transportation Program Park Roads and Pathways Program (PSP) Category 1-4a VCC	Discuss with Resource Management Possible measure of effectiveness: monitor crash data for changes in number of conflicts at site

Striped all roads with centerline and edge stripe		Medium	Short	[In progress for NSH, already complete for Centerline]		Park Base, Regular Cyclic Maintenance	Possible measure of effectiveness: monitor crash data for changes in number of head-on crashes
Repair open catch basin located east of Maho Bay		Low	Short	Completed		Park Base, Regular Cyclic Maintenance, VCC	
Lower speed limit on Centerline Road near West Bay Trailhead to 10 mph and provide sign that warn that pedestrians are ahead		Medium	Medium	May already be in progress as part of safety program		Challenge Cost-Share, Recreational Trails Program Park Base, Sign Replacement, VCC	Discuss with VI PWD Possible measure of effectiveness: monitor crash data for changes in number of conflicts at specified locations

Description	Details	Priority	Term Short: within 1 year Medium: within 5 years Long: more than 5 years	Status	Potential Partners	Potential Funding Sources	Next Steps
Correct the sight distance problems at intersections and driveways or reduce speed limits in these areas (see pages 105-107 in 2005 VMP Transportation Study)	<p>Hammers Bay</p> <p>Jumble Bay Beach Parking</p> <p>Crus Bay Overlook</p> <p>Wind Point Housing and Biosphere Reserve Center</p> <p>Cannel Bay Overlook</p> <p>Cannel Bay Truck and Employee Entrance</p> <p>Cannel Bay Entrance</p> <p>Gibney/Oppeneheimer Beach</p> <p>Peace Hill Parking</p> <p>Trust Bay Overlook</p> <p>Trust Bay Parking</p> <p>Peter Bay</p> <p>John Head Road/Catherineberg Road/House 206 at North Shore Road</p> <p>Cinnamon Bay</p> <p>Maho Bay Overlook</p> <p>Maho Bay Carriageway</p> <p>Centertine Road Pull-Off (southside of road, east of mile marker 4)</p> <p>Stipend Bay</p> <p>Araberg to Francis Bay Access Road</p> <p>Maho Bay to Annaberg Access Road</p>	Low	Medium		VI PWD	<p>Surface Transportation Program</p> <p>Public Lands Highway Program</p> <p>Discretionary Funds (PLHD)</p> <p>Federal Lands Highway</p> <p>State Roads and Pathways Program</p> <p>(PPS) Category 1-3R or 4R</p> <p>NPS Line-Item Construction Program</p> <p>Part Base</p> <p>Challenge Cost-Share</p> <p>Project Planning</p> <p>Regular Cycle Maintenance</p> <p>TCC</p>	<p>Identify remediation for each problem area</p> <p>Possible measure of effectiveness: monitor crash data for changes in number of conflicts at specified locations</p>
Repair the gut near Oppeneheimer Beach or place warning signs	<p>Opp it considered too steep and deep and drivers could lose control</p>	Low	Medium			<p>Public Lands Highway Program</p> <p>Discretionary Funds (PLHD)</p> <p>Federal Lands Highway</p> <p>Part Base</p> <p>Sign Replacement</p>	
Reconstruct perpendicular barrier walls to have flared ends for safety		Low	Medium	VI PWD is working on improvements for Centerline Road as part of Safety Program	VI PWD	<p>Surface Transportation Program</p> <p>Public Lands Highway Program</p> <p>Discretionary Funds (PLHD)</p> <p>Federal Lands Highway</p> <p>State Roads and Pathways Program</p> <p>(PPS) Category 1-3R or 4R</p> <p>NPS Line-Item Construction Program</p> <p>Part Base</p>	
Add strategically placed barriers for drop-offs and roadside obstructions		Medium-High	Medium	VI PWD is working on improvements for Centerline Road as part of Safety Program	VI PWD	<p>Surface Transportation Program</p> <p>Public Lands Highway Program</p> <p>Discretionary Funds (PLHD)</p> <p>Federal Lands Highway</p> <p>State Roads and Pathways Program</p> <p>(PPS) Category 1-3R or 4R</p> <p>NPS Line-Item Construction Program</p> <p>Part Base</p>	<p>Possible measure of effectiveness: monitor crash data for changes in number of vehicles going off road</p>

Description	Details	Priority	Term	Status	Potential Partners	Potential Funding Sources	Next Steps
<p>Develop an Intermodal Facility at Red Hook</p> <p>To include dock replacement, boat ramp reconstruction, new finger pier, improved visitor amenities such as covered waiting area, new lighting, and restrooms, and improved parking and circulation.</p>	<p>High</p> <p>Medium</p>	<p>Medium</p>	<p>Conceptual Plan in progress</p>	<p>OPM, Fish & Wildlife</p>	<p>APR/Transit in the Parks Transportation Enhancements Public Lands Highway Program Discretionary Funds Federal Lands Highway Program Park Roads and Pathways Program Category 3 NPS Line-Item Construction Program Annual Operating Funds or Park Base</p>	<p>Continue to work with the Department of Fish and Wildlife on the boat ramp reconstruction. Revise the conceptual plan. Conduct a site survey and develop preliminary plans.</p>	<p>Conduct a wireless system assessment to evaluate the "communication backbone." Identify partnerships and working relationships for coordinated jobwork. For example, VPA, ferry companies, and the VLPD are potential partners. ASL, John TMA could lead the effort for a Traveler Information and Parking Management System to help visitors plan their trip from home. This would improve communication and customer service, noted themes in public input and the plan goals. Possible measures of effectiveness: monthly parking counts to monitor changes in demand versus capacity; visitor satisfaction surveys to monitor Management System</p>
<p>Develop Traveler Information/Parking Management System</p> <p>Issues include: limited parking, parking pockets during peak season, vehicular congestion, availability of taxi shuttles/mass transit, motorist and ped safety, etc. Distribute info via VLP website, informational brochures at hotels, condos, resorts, car rental agencies, boats, etc. Promote transportation alternatives so that visitors understand that a private vehicle is not necessary Up-to-date, consistent info is essential</p>	<p>High</p> <p>Medium</p>	<p>Medium</p>	<p>Conceptual Plan in progress</p>	<p>VPA, ferry companies, VLPD, St. John TMA</p>	<p>Coordinated Technology Implementation Program Technology Deployment and Initiatives Partnership Program APR/Transit in the Parks Surface Transportation Program Transportation Enhancements Public Lands Highway Program Discretionary Funds Park Roads and Pathways Program Category 3 Challenge Cost Share</p>	<p>Conduct a wireless system assessment to evaluate the "communication backbone." Identify partnerships and working relationships for coordinated jobwork. For example, VPA, ferry companies, and the VLPD are potential partners. ASL, John TMA could lead the effort for a Traveler Information and Parking Management System to help visitors plan their trip from home. This would improve communication and customer service, noted themes in public input and the plan goals. Possible measures of effectiveness: monthly parking counts to monitor changes in demand versus capacity; visitor satisfaction surveys to monitor Management System</p>	<p>Conduct a wireless system assessment to evaluate the "communication backbone." Identify partnerships and working relationships for coordinated jobwork. For example, VPA, ferry companies, and the VLPD are potential partners. ASL, John TMA could lead the effort for a Traveler Information and Parking Management System to help visitors plan their trip from home. This would improve communication and customer service, noted themes in public input and the plan goals. Possible measures of effectiveness: monthly parking counts to monitor changes in demand versus capacity; visitor satisfaction surveys to monitor Management System</p>

Sheet

Implementation Plan: Recommended Plans

This plan merges the recommendations of the 2005 VINP Transportation Study with the recommendations of the 2005 VINP Alternative Transportation Plan draft.

Description	Details	Priority	Term		Status	Potential Partners	Potential Funding Sources	Next Steps
			Short: within 1 year Medium: within 5 years Long: more than 5 years	Medium Low				
<p>Develop VINP Alternative Transportation Plan</p> <p>Develop VINP Sign Plan</p>	<p>This document serves as the draft ATP. The most important outcome of this plan would be the creation of a St. John Transportation Management Association (see below).</p> <p>TABLE 1: investigation of three segments: 1- converting Lower Lind Point to bike trail 2- potential for traversing Caneel Bay Resort 3- Mabo Bay-Francis Bay</p> <p>TABLE 2: assess potential for traversing private property to connect Phase 1 segments</p> <p>To include regulatory, warning, and wayfinding signs: Add more speed limit signs in appropriate locations Add more roadway safety signs such as curve ahead, intersection approach, directional signs (Dress left, etc.) at appropriate locations Provide warning signs for sharp curves where radius and trucks often cross the centerline. If curves cannot be widened and/or increased in radius Provide signs that tell motorists when they are entering or leaving the park Replace yield sign with stop sign at unnamed two-way road/filing hill to Mabo Bay Intersection Improve signage throughout the park. Identifying roadway names and routes Work with local administration to implement recommendations of 2003 Cruz Bay Pedestrian and Signage Plan The definition of access is "a way or means of approaching." This access may or may not be a road. The definition of road is "a way made for traveling between places." A road is a more formal means of providing access and can vary in type and quality of surface and can vary in width. Roads are generally extended to vehicular access, while access may be by vehicle or pedestrian mode.</p>	High	Short	In progress	<p>Governor's Office, PWD, VITMAA, VI Trail Club Commission, DMHC, Dept. of Tourism, Westly, Caneel Bay, local drivers</p> <p>Friends of VINP, VI Government, others?</p>	<p>National Park Foundation</p> <p>Friends of VINP</p> <p>ATPM/Transit in the Parks</p> <p>Recreational Trail Program</p> <p>Surface Transportation Program</p> <p>Transportation Enhancements</p> <p>Public Lands Highway Program</p> <p>Discretionary Funds</p> <p>Park Lands and Pathways Program</p> <p>Category 1 (44) or 3</p> <p>Private Sources</p> <p>NPS Line-Item Construction Program</p> <p>Challenge Cost Share</p> <p>Incentive Award</p> <p>Project Planning</p> <p>National Science Foundation Grant</p> <p>Program (North Shore Road is designated a NPS [see Section 9.5])</p>	<p>The Steering Committee should continue its work to finalize the plan and develop partnerships for its implementation. Hold town meetings for public input Develop St. John TMA</p> <p>-Continue public outreach to solicit input. -Contact VI Government regarding partnership opportunities. -Develop preliminary plans for converting the Lower Lind Point Trail to a bike path. -Approach management of Caneel Bay Resort to determine the level of interest in a bike path traversing the property. -Continue to work with the Friends of VINP to secure a survey of the Mabo-Francis segment to assess potential impacts. Revise alignment and identify mitigation. Develop preliminary plans. -Begin a second phase of investigation to "fill in the gap" between Caneel and Mabo Bays. Approach land owners in Paper Bay and Haulmoet Bay to determine the level of interest in a bike path traversing these areas. -Conduct an initial assessment of natural resource impacts to propose a potential alignment.</p> <p>Contact the NPS Harpers Ferry Center to discuss options and costs.</p>	
<p>Provide the following definitions in the GAP:</p>		Low		Gap Update in progress	N/A	N/A	Add to GAP	

Description	Details	Priority	Term Short: within 1 year Medium: within 5 years Long: more than 5 years	Status	Potential Partners	Potential Funding Sources	Next Steps
<p>Develop Access Plan for Hassel Island</p> <p>Hassel Island is planned to be a self-discovery zone, with transportation to and from the island to be commercially provided. Potential activities include:</p> <ul style="list-style-type: none"> • Kayaking • Hiking • Beach visits • Self-guided tours • Boat tours around the island 	<p>Medium-Low</p>	<p>Medium-Low</p>	<p>in progress</p>	<p>Historic Preservation Office, Historic Trust, Park Roads and Pathways Program Category 3 Private Sources Challenge Coast Share Incentive Awards Project Planning Cultural Resources Preservation Program-Cultural Landscapes Inventory National or Local Historic Preservation</p>	<p>Friends of VINP Surface Transportation Program Public Lands Highway Program Descretionary Funds Office, Historic Trust, Park Roads and Pathways Program Category 3 Private Sources Challenge Coast Share Incentive Awards Project Planning Cultural Resources Preservation Program-Cultural Landscapes Inventory National or Local Historic Preservation</p>	<p>Complete risk assessments. Identify risk mitigation projects (including signage and education) and enter into bids. Align with the Historic Preservation Office, Historic Trust, adjacent landowners, and friends of VINP to identify needs, goals and partnership opportunities. Meet with CLAP and friends of VINP to identify potential access and transportation needs. Identify partnerships to implement recommended projects.</p>	<p>Other</p>
<p>Create a St. John Transportation Management Association (TMA) to manage travel demand</p> <p>The St. John TMA would be an independent organization, although it is recommended in this plan, VINP would not lead the effort.</p>	<p>Medium-High</p>	<p>Short</p>	<p>ATP Steering Committee could evolve into TMA</p>	<p>in progress</p>	<p>Gov. Governor's Office, DPRA, PWD, FCC, VITRAN, Office, Historic Trust, Dept. of Tourism, Carred Planning, Incentive Awards, others to be determined</p>	<p>Identify other partners Continue to meet monthly to develop partnerships and funding for a TMA. Hire an executive director to organize and lead the efforts of the TMA. Contact VINP to ask about the status of the Creek plan and stay involved in the process.</p>	<p>Work with VINP and stakeholders on improvement and maintenance plans for The Creek</p>
<p>Coordinate on development of a Marine Access Plan for St. John</p> <p>To include pump-out stations, marina sites, dock improvements, dinghy access, etc.</p> <p>Provide moorings for vessels larger than 50'</p>	<p>Medium-Low</p>	<p>Low</p>	<p>VPA, OPNP, St. John Transportation Enhancements TMA, OPNP, St. John Challenge Coast Share Incentive Awards Project Planning</p>	<p>in progress</p>	<p>ATP/Transit in the Parks Transportation Enhancements TMA, OPNP, St. John Challenge Coast Share Incentive Awards Project Planning</p>	<p>Identify stakeholders and candidates for a plan steering committee. Identify marine access needs and existing conditions. Through the steering committee and public outreach process develop recommendations for access improvements. Identify partnerships to implement recommended projects.</p>	<p>Coordinate with local agencies regarding planning Carriage could be potential satellite parking in conjunction with on-town shuttle and park transit system, parking at English Pond and by the tennis courts is being deposited</p>
<p>Contract with local agencies regarding planning Carriage could be potential satellite parking in conjunction with on-town shuttle and park transit system, parking at English Pond and by the tennis courts is being deposited</p>	<p>Medium</p>	<p>Medium</p>	<p>DPNP, St. John TMA</p>	<p>in progress</p>	<p>DPNP, St. John TMA</p>	<p>To be determined</p>	<p>Construct paved shoulders on all rural, paved roads on St. John outside of park boundaries</p>
<p>Complete paving on Bordeaux Mountain Road outside park boundary</p>	<p>Low</p>	<p>Low</p>	<p>PWD (lead agency)</p>	<p>in progress</p>	<p>PWD (lead agency)</p>	<p>Category 1 (4B)</p>	<p>Work with VI Public Works Department to identify and prioritize safety improvements</p>
<p>Work with VI Public Works Department to identify and prioritize safety improvements</p>	<p>Medium-Low</p>	<p>Medium-Low</p>	<p>PWD</p>	<p>To be determined</p>	<p>To be determined</p>	<p>Category 1 (4B)</p>	<p>Identify partnerships to facilitate a public outreach process on the subject of opening vehicle roads for recreational/historical/cultural access. Hire a mediator to facilitate a public outreach process on the subject of opening vehicle roads for recreational/historical/cultural access.</p>

Local and Regional

Implementation Plan: Recommended Policies

This plan merges the recommendations of the 2006 VINP Transportation Study with the recommendations of the 2009 VINP Alternative Transportation Plan draft. Some categories are not applicable to policy development (such as timeframe and funding) and are not included in this plan.

Description	Details	Priority	Next Steps
General			
Provide access to private property owners surrounded by VINP	VINP is not aware of any property owners who have been denied access and invites any such owners to contact the Park.	Low	<ul style="list-style-type: none"> -Complete a safety audit on North Shore and Centerline Roads to understand the number and type of incidents involving large vehicles. -Approach the large vehicle operators (such as construction and water delivery companies) to understand their needs and determine the best way to manage large vehicle traffic. -Contact the VI Bureau of Motor Vehicles to find out if there are currently and length/widest restrictions on vehicles and if so, how they are enforced. -The Park, VI Public Works, and the VI Bureau of Motor Vehicles should work closely to coordinate management efforts. -When a policy is determined, involve the VI Police Department to coordinate enforcement. -Possible measure of effectiveness: monitor crash data for changes in the number of conflicts involving large vehicles
Develop a Policy on Large Vehicles	<p>Some options are:</p> <ul style="list-style-type: none"> -Restrictions on the time of day that large vehicles can use the road, so as to avoid peak travel times of other vehicles. -Installing convex mirrors at blind curves. -Assessing where the roads could feasibly be widened. -Working with the Bureau of Motor Vehicles to minimize vehicle sizes to the smallest possible (for example, smaller trucks making more frequent trips). -Creating a one-way loop in the Park, using North Shore Road, King Hill, and Centerline Road. 	Low	<ul style="list-style-type: none"> -Reduce the size of the VINP fleet: implement a scheduling system for staff to reserve cars and use fewer cars more often. -Keep all but the most essential government vehicles at Maintenance to keep spaces open for visitors. -Move employee parking to Maintenance to keep spaces open for visitors. -Consider implementing an employee shuttle to circulate park housing hourly in the AM and PM to provide an alternative to driving. Consider a parking cash-out program for employees as an incentive to use the shuttle. -Issue employee parking permits. Employees living at Lind Point or within 1/4 mile of their workplace would not be eligible for a parking permit unless they have a medical condition. A policy could be issued that if they have a personal emergency, they can use a government vehicle (for example, to pick up a sick child from school). -Consider charging for parking to create a disincentive for renting a vehicle and create an incentive for taking a taxi. A trial system could be arranged at Trunk Bay to see if this approach
Establish Parking Management Strategies		Low	<ul style="list-style-type: none"> -Possible measure of effectiveness: monthly parking counts to monitor changes in demand
Enforcement			
Work with VIPD to enforce all traffic laws, particularly speed limits		Medium	<ul style="list-style-type: none"> -Hold a meeting between VINP Law Enforcement and VIPD to determine areas of shared concern and how to pool resources. -Possible measure of effectiveness: periodic collection of speed data for changes in 85th percentile speed
Enforce handicap parking laws		Medium Low	<ul style="list-style-type: none"> -Identify hazards
Maintenance: it is assumed that these policies (recommended in the 2006 VINP Transportation Study) are already established within the Park, but they are restated here for emphasis.			
Repair or remove roadside hazards			
Trim vegetation from roadway			
Remove rocks and boulders from the driving lane and shoulder			
Require that machinery and other obstructions that interfere with a travel lane be monitored by a flagman or mechanical attendant			
Repair pavement irregularities on roads throughout the park			<ul style="list-style-type: none"> -Prioritize road projects

8.0 CONNECTION TO WIDER TRANSPORTATION COMMUNITY

As difficult as the transportation challenges at VINP are, other places have similar problems. This section ties transportation at VINP to issues common at other agencies and areas. An effort has been made in the Recommendations section (under each item's "Examples and Resources") to connect the issues that VINP is experiencing to solutions being considered at other parks.

Maintenance

Like many state and local departments of transportation, maintenance of existing infrastructure is a significant issue facing VINP and St. John/VI Public Works. Regardless of the need for expanded facilities, agencies are having difficulty maintaining what they already have, much less finding resources for new construction. Determining ways to maximize capacity and operational efficiency is a challenge shared across the board. Fortunately, the National Park Service's mission leads parks to focus on resource protection, sustainability and efficient management of existing systems before resorting to expansion.

Congestion and Parking Demand

The same transportation management strategies used by municipal governments to influence user mode choice can be applied to a national park. Incentives (like attractive and convenient shuttle systems) and disincentives (like parking fees) can help to shift mode split. While shuttle systems have already been implemented at many national parks, parking fees are a new realm. As discussed in Recommendation 6.5, Golden Gate National Recreation Area and National Mall are both considering parking fees as a demand management strategy. ITS and parking demand management systems are being used at Gateway National Recreation Area and Great Smoky Mountains.

Enforcement

Nearly all transportation operations come down to enforcement. Regulations and design can only go so far in their influence on safe driving, vehicle speeds, and parking management. However, park rangers have myriad other issues to address including visitor safety, wildlife and resource protection, drug smuggling, immigration, etc., without worrying about parking and traffic. This is true for municipal and state law enforcement officers as well. Still, many of the recommendations presented here will need consistent enforcement in order to be effective. It is possible that technology might be applied (such as speed feedback signs) to help with enforcement and ease the burden of park rangers. VINP has partnered with VIPD to enforce traffic regulations in the Park.

Need for Partnerships and Regional Planning Frameworks

The benefits of regional planning (as opposed to town-wide or statewide) have been realized throughout the US. VINP and the rest of St. John and relevant territorial agencies need to coordinate planning efforts and pool resources for a more effective and efficient transportation system. While most parks attempt to cooperate with their gateway community on planning, the finite island boundaries and limited parking on St. John make this even more critical. Moreover, a regional planning framework can improve communication between agencies and make partnership opportunities more apparent. This is the basis for the recommendation for an island-wide transportation management association in Section 6.4 above.

9.0 THE NPS TRANSPORTATION LANDSCAPE

This section discusses transportation planning challenges distinct to the NPS and VINP.

VINP is currently making an effort to reach out to the community through a transparent and public process. However, a mediator would be very beneficial in helping to address long-standing issues between the Park and the community.

As experience has shown at other NPS units, sensitivity to different perspectives not only shows respect, but embraces the richness and uniqueness of a place. For example, while many people strongly support natural resource protection, for others these resources are a form of sustenance. But hopefully these perspectives can be moderated and both goals can be realized, so that cultural resources are preserved as well as natural ones.

Issues like this relate to the NPS theme of relevance: how can national parks increase their relevance to people and be sure that they are telling everyone's story?¹ At times it seems that perspectives are completely at odds with each other: broaden access to historic and cultural resources by introducing cars, or preserve natural resources and hiker experience by keeping access limited to hikers? These are significant challenges for the NPS and VINP to address.

A similar issue is communication and cooperation with the local business community. VINP recognizes the importance of local businesses in achieving the Park's mission to improve visitor experience. For example, the taxi drivers are valued by the Park for their knowledge of the island and the transportation services that they provide; in addition, their interaction with visitors can make or break one's experience and overall impression of St. John. The taxi industry is a major part of the St. John economy. The taxis understandably feel threatened by the idea of a park shuttle or the expansion of VITRAN to North Shore Road and have been resistant to these ideas. Therefore, as much as an additional transportation alternative is needed in VINP, a shuttle is unlikely for the time being.

For all these reasons, VINP is striving to work with the taxi industry to improve customer service and to manage parking demand. In order to accomplish these goals without providing a shuttle, taxis need to be more competitive with rental cars. This suggestion has been met with significant resistance by the taxi industry. Still, at the very least, a dialogue is occurring. The Park and the taxi industry have the same goal, but from different angles: the Park wants to reduce parking demand, and the taxis want to increase their mode share. Therefore, the Park and taxis can work together to reduce the number of private vehicles entering the Park.

10.0 PROFESSIONAL DEVELOPMENT

The most valuable thing I learned during this experience was how to be creative with problem solutions. Constraints required that we determine how to maximize opportunities, such as improving capacity at scenic overlooks with time limits, vegetation trimming, and signage.

In addition, I learned quite a bit about public outreach, communication, working to find common ground, and building partnerships. These were the most important parts of my work here and will continue to be for my successor.

Getting to learn the NPS planning framework and project development process has also been extremely useful. Exposure as to how to move NPS projects forward and the funding resources available is important.

Overall, I have met many very special and hardworking people who have generously shared their time and knowledge with me. I am grateful to them and for the opportunity to have served a national park, the visitors who come here, and the local community.

¹ See "Mike Snyder's Blog-Regional Director, Intermountain Region" April 30, 2009 at <http://inside.nps.gov/index.cfm?handler=npsblog>.

11.0 ACKNOWLEDGEMENTS

Many people contributed to the development of this plan and deserve special recognition. VINP Superintendent Mark Hardgrove was extremely supportive during the many challenges that arose, and this plan would not have been possible without him. The members of the Steering Committee who kindly shared their time and expertise were and are essential to the plan's development and implementation. They understand that the community can realize progress by cooperating and collaborating. Likewise, the members of the taxi industry who are willing to consider ways to improve transportation and quality of life on St. John deserve special recognition. With their knowledge of the island, they provide much more than just a transportation service to visitors.

The plan would not have been possible without the help of the following:

- The National Park Foundation
- The Eno Transportation Foundation, particularly Dr. Barbara Gannon
- VINP staff, particularly Elba Richardson, Rafe Boulon, Paul Thomas, and Paul Jones
- The National Park Service, particularly Pat Sacks at the Denver Service Center and Elisabeth Hahn in the Southeast Regional Office
- The Friends of Virgin Islands National Park
- The St. John Roadway Advisory Committee
- Resource Systems Group, Inc.

I would also like to personally thank the folks who just stopped by my office to say hello: our chats often had the most meaningful impact in helping me understand local issues and perspectives!

12.0 ACRONYMS

ATP	Alternative Transportation Plan
ATS	Alternative Transportation System
BVI	British Virgin Islands
CUA	Commercial Use Authorization
DPNR	VI Department of Planning and Natural Resources
EFLHD	Eastern Federal Lands Highway Division
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GMP	General Management Plan
ITS	Intelligent Transportation Systems
NEPA	National Environmental Protection Act
NPF	National Park Foundation
NPS	National Park Service
NSR	North Shore Road
PEPC	Planning, Environment, and Public Comment
PMIS	Project Management Information System

PWD	VI Public Works Department
TB	Trunk Bay
TCC	VI Taxi Cab Commission
TDM	Transportation Demand Management
TIS	Traveler Information System
TMA	Transportation Management Association
VI	Virgin Islands (US)
VIIS or VINP	Virgin Islands National Park
VIPA	VI Port Authority
VITRAN	Virgin Islands Transit

APPENDIX A: RELEVANT PLANS AND STUDIES

Relevant reports are summarized below, in chronological order.

Draft Land Protection Plan for Virgin Islands National Park (1984 & 1997)

By VINP

Both plans conclude that: "Federal acquisition of all private land within the authorized park boundary is neither necessary nor desirable. Continued private ownership and traditional uses are consistent with park purposes and the Biosphere Reserve concept, as long as adequate protection is provided for natural and cultural resources." Priorities for protection are:

1. Significance of natural values, including presence of rare plants and endangered species habitat.
2. Potential for development with impact on scenic values, especially popular overlooks and vistas.
3. Opportunities for public recreational use.
4. Potential for development with secondary impacts (runoff, vegetation disruption, etc.).
5. Presence of cultural resources in need of stabilization, restoration, or protection from vandalism.

The plans include a prioritized list of tracts that the Park might acquire if an opportunity presented itself.

North Shore Road Triple Switchback Safety Study (1998)

By FHWA-EFLHD for VINP

The study notes that the switchbacks immediately east of Trunk Bay going up the hill towards Peter Bay are very slippery due to their horizontal curve deficiencies and steepness. Instances of cars rolling backward and off the road are common along the quarter mile section. When the pavement is wet, two-wheel drives cannot make it up the hill. Large vehicles such as safari buses take up both travel lanes when rounding the switchbacks. The study reports that the centerline radius of the curves is as low as 20', but the American Association of State Highway and Transportation Officials Greenbook cites a standard minimum centerline radius of 107' for 20 mph design. There are also signage and sight distance deficiencies in this segment.

The study identified four alternatives:

1. Signing improvements
2. Roughening/grooving surface to improve skid resistance
3. Open-graded friction course
4. Roadway realignment.

Signage improvements were recommended to be completed as soon as possible. Roadway realignment was recommended as a permanent solution if funding, private property, and archeological issues could be addressed. Until then, roughening/grooving the surface could be used in the interim.

VINP Business Plan (2001)

By NPS and National Park Conservation Association for VINP

The Business Plan identifies serious funding and staffing shortfalls. In 2001, the investment backlog was nearly \$23 million, the budget shortfall was over \$2.6 million, and the staffing shortfall was over 41 full-time equivalents.

VINP Commercial Services Plan (2001)

By VINP

The *Commercial Services Plan* "determines the level and types of commercial visitor services necessary and appropriate in VINP over the next 10-15 years. Commercial activities within the Park managed under this plan include concessions and commercial use authorizations (CUAs), formerly known as Incidental Business Permits (IBPs)." Relevant points include:

- "Improvements in transportation services can best be effected through provisions in concession contracts and commercial use authorizations. Consequently, CUA operating conditions for land-based tour operations hold tour operators responsible for the compliance of their contracted taxi and safari bus operators with regulations and for safe driver behavior."
- "All businesses and individuals providing tour services for hire within the park are required to obtain a CUA. This requirement applies to operators providing organized tour services versus delivering a taxi fare to any one of a multitude of destinations. Resort, hotel and taxi association tour services are subject to this requirement. Exempted are regular taxi services engaged in transporting fares from point A to point B and not providing "tours", rental cars used for personal transport, and public buses operating on a fixed route with a published schedule."
- "Commercial tour group access is limited to specific locations such as Trunk Bay, Cinnamon Bay and Annaberg Historic Site and specific capacities are established for the amount of visitor activity occurring at any one time in specific areas of the park."
- "Cruise ship passengers access St. John either via tour-operated owned vessels or passenger ferries contracted through Transportation Services of St. John or Varlack Ventures. On peak days, there are typically three "pulses" of cruise ship passenger visitation. Each pulse of visitors is met by a fleet of contracted "safari buses" that transport the visitors to and from the park."
- "Scenic tours to Trunk Bay and Annaberg and "Island" tours are popular visitor activities and tours are an important source of income for local taxi and tour operators. Taxis circulate regularly but few are on fixed schedules. There are approximately 132 licensed taxi drivers on St. John, with about 120 vehicles owned by medallion holders licensed by the Virgin Islands Taxi Cab Division for organized group transport."
- "The Plan institutes measures to improve transportation services within the park, including the requirement that all businesses and individuals providing tour services within the park obtain a permit and meet certain performance standards."
- "...limitations on the number of available CUAs are intended to accommodate existing service providers providing tour services within the park, as to ensure both the protection of sensitive resources and the quality of the visitor experience. They also recognize infrastructure capacity limitations for beach facilities (e.g., restrooms and showers), on roads, and at staging areas, parking areas, and overlooks."
- "A cornerstone of National Park Service management of commercial services is a preference for out-of-park private enterprise. It is NPS policy that if adequate commercial facilities are available to serve visitors outside of park boundaries, new facilities will not be developed nor will existing facilities be expanded within parks."
- The plan suggests awarding a concession contract for a Reef Bay Trail Hiker Pickup service and operation of the NPS dock at Red Hook, and authorizing a pump out facility for vessels visiting park waters.
- "While all types of uses are expected to increase, growth in cruise ship passenger visitation to the park is of particular note. The park is experiencing a demand for new and expanded visitor venues to accommodate the growth in visitation and an increase in the number and size of commercial tour groups. There is also an increasing demand for venues for large group (120-150

persons) emanating from hotels and transported via multiple multi-passenger commercial vessels to park beaches.”

VINP Alternative Transportation System Study (2001)

By FHWA-FTA for NPS

The study provides a concise overview of transportation conditions in the park (which, incidentally, are the same conditions experienced in 2009). Community interest in a bike trail through the park is noted: “A dedicated bicycle and pedestrian right-of-way would provide a safe alternative means of traveling between Cruz Bay and Trunk Bay that would avoid the North Shore Road. Given St. John’s steep hills, however, the trail would induce only a small percentage of visitors to forgo motor vehicle transport entirely, and would thus have little impact on the island’s overall traffic patterns.”

The report concludes that alternative transportation systems “are urgently needed to improve safety, prevent damage to natural and cultural resources, and enhance the overall quality of the visitor experience.” The report does not provide any further detail as to what alternatives might be appropriate for VINP, although it was unclear whether the copy reviewed was an executive summary or the complete report.

Cruz Bay Pedestrian and Signage Plan (2003)

By NPS, the Gateway Planning Council of St. John, and the VI Gateway Committee for St. John

The Pedestrian Plan recommended:

- Working closely with the Public Works Department
- Developing partnerships with community groups and other organizations
- Developing a maintenance plan for pedestrian facilities
- Developing sidewalk standards
- Modifying zoning regulations to include design standards
- Conduct a sidewalk inventory
- Create a taxi staging area
- Develop existing roadways into pedestrian corridors
- Implementing a circular tram system for the central core of Cruz Bay.

The Signage Plan recommended:

- Developing public communication channels for input
- Appointing a coordinator to implement and monitor the sign system
- Replace the existing “Welcome to St. John” sign.

Road Inventory of VINP (1998 & 2006)

By FHWA-EFLHD for NPS

The Road Inventory Program was created through an agreement between the NPS and Federal Highway Administration (FHWA) “to provide NPS personnel at all levels with the basic information needed for effective road and road system planning, management, operations, and maintenance.” The 1998 report noted that of the park’s 12 paved miles of Functional Class I roads, 5.5 miles received an “excellent” pavement condition rating; 4.7 miles were in “good” condition; and 1 mile was in “poor” condition. The

park's 0.25 miles of paved Functional Class V road were in "fair" condition. The report indicated that it would cost \$1.3 million to improve the existing conditions of the roads to an "excellent" pavement condition rating.

The 2006 report indicated that conditions had deteriorated significantly. Of the park's 12 paved miles of Functional Class I roads, only 0.2 had an "excellent" pavement condition rating, 0.4 miles were "good," 2.7 miles were "fair," and 8.5 miles were "poor." The report indicated that it would cost nearly \$15 million to improve the roads to an "excellent" rating.

NPS Management Policies (2006)

By NPS

Section 9.2 of the Management Policies address transportation systems and alternative transportation. Most importantly, the Policies assert that "traditional practices of building wider roads and larger parking areas to accommodate more motor vehicles are not necessarily the answer. The Service must find transportation solutions that will preserve the natural and cultural resources in its care while providing a high-quality visitor experience....Depending on a park unit's size, location, resources, and level of use, the Service will, where appropriate, emphasize and encourage alternative transportation systems, which may or include a mix of buses, trains, ferries, trams, and -preferably non-motorized modes of access to and moving within parks. In general, the preferred modes of transportation will be those that contribute to maximum visitor enjoyment of, and minimum adverse impacts on, park resources and values."

Policies directly related to issues at VINP include:

Park Roads

"Park roads are generally not intended to provide fast and convenient transportation; rather, they are intended to enhance the quality of a visit while providing for safe and efficient travel with minimal or no impacts on natural and cultural resources....Before roads are chronically at or near capacity, the use of alternative destination points or transportation systems or limitations on use will be considered as alternatives to road expansion."

Non-NPS Roads

"Where practicable, and after concurrence of the entity with road jurisdiction, non-NPS roads that are no longer needed will be closed or removed, and the area will be restored to a natural condition. The Service will not permit the public or private construction of new roads for access to inholdings unless specifically authorized by law."

Commercial Traffic

"The Service will work with appropriate governments and private organizations and individuals to minimize the impacts of traffic on park resources and values....When a determination is made that existing through-traffic routes have adverse impacts on park resources and values, the Service will work with the appropriate government authorities to minimize these impacts..."

Trails, Walks and Bicycle Routes

"Trails and walks...will be planned and developed as integral parts of each park's transportation system and incorporate principles of universal design. Trails and walks will serve as management tools to help control the distribution and intensity of use. All trails and walks will be carefully situated, designed, and managed to

- Reduce conflicts with automobiles and incompatible uses;

- Allow for a satisfying park experience;
- Allow accessibility by the greatest number of people; and
- Protect park resources.”

“Bicycle routes may be considered as an alternative to motor vehicle access....The designation of bicycle routes is allowed in developed areas and in special use zones based on a written determination that such use is (1) consistent with the protection of a park’s natural, cultural, scenic, and esthetic values; (2) consistent with safety considerations; (3) consistent with management objectives; and (4) will not disturb wildlife or other park resources. A similar determination may be made to designate routes outside developed areas and special use zones; however, the designation must be made by promulgating a special regulation.”

Traffic Signs and Markings

“Signs will be limited to the minimum necessary to meet information, warning, and regulatory needs and to avoid confusion and visual intrusion.”

Parking

“When parking areas are deemed necessary, they will be limited to the smallest size appropriate, and they will be designed to harmoniously accommodate motor vehicles and other appropriate users....When overflow parking is provided to meet peak visitation, it should be in areas that have been stabilized or are otherwise capable or withstanding the temporary impacts of parking without causing unacceptable impacts on park resources. Permanent parking areas will normally be sized for the peak use day, but rather for the use anticipated on the average weekend day during the peak season of use.”

Virgin Islands National Park Transportation Study (2006)

By Parsons for NPS/VINP

This study was initiated to provide information on transportation for the General Management Plan update. Extensive data collection and observations resulted in a list of recommendations that are moved forward in the implementation plan in Section 7.0. The study includes traffic data (volume counts, vehicle classification and speed, turning movement counts, and vehicle occupancy), parking data (capacity, utilization, turnover and length of stay), a summary of motor vehicle crashes, and stakeholder meetings.

VINP General Management Plan/Development Concept Plan/Environmental Assessment (1983 & 2009)

By NPS for VINP

The Park’s General Management Plan (GMP) is currently being updated. The 1983 GMP considers:

- Enhancements to Hassel Island for visitor access and enjoyment
- Adjustments to the park boundary to preserve scenic quality and other resources
- Continued opportunities for the local economy
- Distribution of visitors/uses in the park
- Improvements to visitor information and orientation
- Development of action plans specific to VINP
- Monitoring and management of marine resources

- Insufficient staff and facilities

North Shore Road Project (2009)

By FHWA-EFLHD for VINP

This project is slated to begin Fall 2009 and last for 18 months. It will rehabilitate and resurface North Shore Road and improve drainage at the Visitor Center. The project does not change the cross-section of North Shore Road. All existing signs will be replaced and anti-skid pavement will be applied to the switchbacks on Trunk Bay Hill.

St. John Roadway Advisory Committee Report (2009)

By the St. John Roadway Advisory Committee for VI Public Works Department

A group of concerned St. John residents formed the Roadway Advisory Committee to provide input on transportation issues to the USVI Comprehensive Transportation Master Plan described later on. The committee prepared a report to identify concerns and make recommendations for areas needing attention. An overall recommendation of the Committee is that a road survey be conducted to inventory and assess existing conditions, including right-of-way widths and property lines. The recommendations of the report are summarized below:

Signage

- Identify dangerous areas with warning signs.
- At a minimum, provide dangerous curve signs and consider reduced speeds in these areas.
- Conduct an inventory of existing road signs and make needed repairs.

Road Striping

- The Public Works Department should initiate an immediate road striping program, beginning with Centerline Road/Route 10 from Cruz Bay to Coral Bay.
- Review striping issues for all roads on St. John.

Roadway Widths

- Conduct an inventory of existing road widths with special emphasis on easement mapping.
- If land must be taken to accomplish road-widening, consider a tax credit option to compensate property owners.
- Consider widening dangerous areas immediately.

Guardrails

- Survey all St. John roads to ensure compliance.
- Install and re-install additional guardrails or guardrail support structure where required.
- Assess existing guardrail conditions.

Potholes and Poor Patching

- Revisit the means and methods used to patch roads.

- Repair roads such that the patch is level with the road surface.

Conditions of Roads

- Include roadway base repairs and drainage improvements in repaving projects. Use concrete as a more sustainable surface than asphalt. Where asphalt is used, apply a thicker layer.
- Plan for roadway widening projects (see above).

Construction/Completion of Existing Roads

- Complete construction and paving of federally-funded roads, to include consideration of easements, road widths, existing base, guardrails, signage, road striping, and selection of paving materials.
- Infrastructure upgrades are needed to keep up with population increases.

Construction/Completion of Emergency Routes

- Centerline Road is currently the only paved road into or out of Coral Bay. Consider emergency egress and access for residents and supply and emergency vehicles, particularly if this major route is closed.
- Consider escape routes for residents in remote areas.

Construction/Completion of Bypass Roads

- Complete a north-south bypass around Cruz Bay for traffic from Route 104 and the Enighed Pond area.
- Complete construction of the Route 20 extension (King Hill Road) on the southeastern side of Centerline Road/Route 10, including a sufficient road bed, adequate road width, traffic control at the intersection with Centerline Road, striping, and signage.
- Complete construction of Route 108/Bordeaux Mountain Road, including striping and signage.
- Construct a vehicle road on the Johnny Horn Trail/Route 109 between Coral Bay and the Annaberg Plantation.

Construction of New Roads

- Construct a vehicle road between Fish Bay and Lameshur Bay, including striping and signage.¹
- Complete paving of Route 107 to Lameshur, including striping and signage.
- Construct a vehicle road base on the Bordeaux Mountain Trail between Route 107 in Lameshur and Route 108/Bordeaux Mountain Road; pave and provide striping and signage as needed.
- Rebuild North Shore Road from Annaberg to Route 107 in Coral Bay, including paving, striping, and signage. (This may be the same recommendation as for the Johnny Horn Trail above.)

US Virgin Islands Comprehensive Transportation Master Plan (2010)

By Parsons Brinkerhoff for US VI Government

¹ Subsequent meetings with the Roadway Advisory Committee suggested that there was not consensus on this recommendation.

The Virgin Islands Public Works Department (PWD) is currently developing the Comprehensive Transportation Master Plan (CTMP), which will be the first of its kind for the territory. The purpose is "to identify transportation strategies based on our future growth and development, and serve as a framework to prioritize what transportation investments are most important to insure our continued quality of life." The plan has a horizon of 2030 and will address motorized transportation modes. "The CTMP will result in a roadmap of how future transportation needs of the USVI will be addressed; it is based on systematic analysis of existing conditions, future needs, and alternative transportation approaches."¹

To ensure consistency and build cohesion between the territorial government and VINP, the CTMP's project manager from PWD has been invited to serve as a member of the VINP Plan Steering Committee. Likewise, the NPF Transportation Scholar serves on the CTMP's Advisory Committee.

¹ <http://usvitransportationplan.com/>

APPENDIX B: EXISTING CONDITIONS

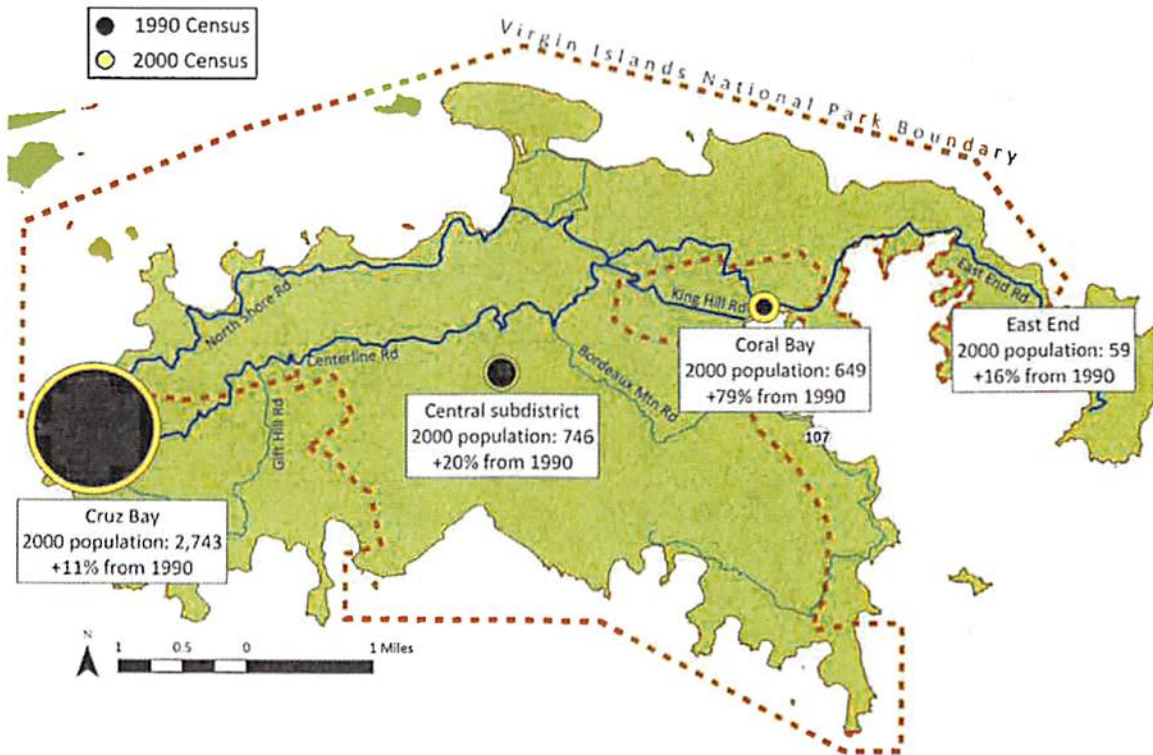
1.1 Land Use

1.1.1 Island Land Use: Travel through VINP

St. John has two towns: Cruz Bay on the west end and Coral Bay on the east end. In order to get from one town to the other, one must travel through the Park. Figure 21 shows the population distribution according to the 2000 Census. Although Cruz Bay is the main town on the island, with almost 3,000 people, Coral Bay grew by almost 80% from 1990 to 2000. The largest employers on St. John are VINP, the local government, the Westin St. John, and Caneel Bay Resort, all located in or nearby Cruz Bay on the western end of St. John.

Figure 21: St. John Population Distribution 1990 and 2000

(Source: US Census)



In addition to island residents and visitors, commercial traffic uses St. John's two main roads. The main types of traffic are construction vehicles and water trucks (Figure 22) which deliver to sites throughout the island. Since there is no alternative commercial vehicle access, these large trucks must navigate the steep and narrow roads and their sharp curves. Often large vehicles cannot round these curves without taking up both travel lanes.

Figure 22: Water trucks such as this one need to access every part of the island.



1.1.2 Destinations within VINP

Private Inholdings

As delineated by the beige areas within the Park boundary shown in Figure 1, there are many private inholdings situated in the Park. Some of these, such as Peter Bay, are developing as luxury villas and homes. There is also discussion about building a new school in Catherineberg east of the health clinic on Centerline Road.

As a condition of Rockefeller's donation of land to the National Park Service for the creation of VINP, Caneel Bay Resort (on North Shore Road just east of Cruz Bay) was to be a "retained use estate," meaning that it would continue to operate as a resort within the Park for a specified period of time. That time period has expired, and now Congress is considering a bill authorizing the Secretary of the Interior to lease the property back to Caneel Bay Resort rather than pursuing a concession contract for operation and management of the resort.

Maho Bay Camps, a private campground within the Park, is currently for sale.

Oppenheimer Beach, between Hawksnest Bay and Peace Hill, is owned by the territorial government.

Some public comments have suggested that the Park prevents property owners from accessing land that they own within the Park. This is not true and the Park invites any private inholding owners who do not have access to their property to contact the Park so that an arrangement can be made.

Beaches

St. John's beaches are one of the main attractions in the Park:

- Some, like Salomon Bay and Honeymoon Beach, are only accessible by foot or by boat.
- Hawksnest Bay has parking, restrooms, and pavilions that can be reserved for special events.
- Moving east along North Shore Road, there is a small parking area for the beach at Jumbie Bay, which is accessible via a staircase roughly 250' down the road.
- Trunk Bay is a world famous beach with an underwater snorkeling trail. It is the only site in the Park with a fee. Amenities at Trunk Bay include showers, restrooms, a snack bar, snorkeling equipment rentals, and a gift shop. The beach has lifeguards and a taxi stand. There is parking at Trunk Bay, but excess parking demand causes vehicles to park along the road. The VINP Calendar Year Highlights for 2007 note that there were 181,521 visitors to Trunk Bay in 2006 and 142,221 in 2007.
- Cinnamon Bay is the site of the Park campground. There is a cafeteria, amphitheater, camp store, snorkel rentals, restrooms, and showers. There is some parking at Cinnamon Bay, but like Trunk Bay, the lot frequently overflows.
- Parking at Maho Bay is very limited. There are plans for a small lot at the east end of the beach on the southeast side of North Shore Road. There are currently no amenities at Maho.
- Francis Bay has a restroom and picnic tables. Parking is very limited. In summer 2009, The Friends of VINP completed a wheelchair-accessible boardwalk on a portion of the Francis Bay trail.
- Saltpond Bay at the southeast corner of the island has a restroom and limited parking, but is accessible via the VITRAN bus. There are some other remote beaches near Lameshur that sometimes require four-wheel drive to access.
- Other beaches are only available by foot or boat.

Figure 23: Francis and Maho Bays



Figure 24: Saltpond Bay



Hiking Trails

Some beaches, scenic views, historic plantations, and sugar mill ruins are reached via hiking trails. Parking at trailheads is often quite limited (as will be discussed in Section 1.2.8), sometimes consisting of pulling over onto the shoulder of the road. Some trailheads are not clearly marked.

An interesting phenomenon at VINP is the "Trail Bandit," an individual who clears (using herbicides and saws) and maps trails in the Park. In some ways this is very helpful, because the Park's limited resources prevent it from maintaining every hiking trail, so the Trail Bandit essentially performs maintenance that the Park cannot. In addition, the Trail Bandit has developed a very detailed and accurate map using GPS which is far superior to the Park's trail map. VINP and the Trail Bandit have reached an agreement by which a version of the Trail Bandit's map (Figure 26), called "The Hiker's Guide," is sold at the Visitor Center and he donates a portion of the proceeds to the Park. His stated objective is "to help spread the word about hiking on St. John and make it easier and more enjoyable for all."¹

However, there are some negative aspects to the Trail Bandit's actions. The guerilla clearing disregards private property lines and impacts fragile habitats, sometimes destroying very rare species of plants. Some of the clearing is of old roads or trails that are growing over with vegetation, but some are new trails that he has created to access different destinations.

In all, there are 33 hiking trails recognized by the Park in the "Hiker's Guide." Most are less than 1 mile long, and the longest is 2.6 miles. Some are the remnants of Danish roads from the colonial period. The majority of the trails run north-south through the mountains. Hiking is the only way to access the area of the Park south of Centerline Road and west of Bordeaux Mountain and Lameshur.

Figure 25: Some areas are only accessible by hiking trails.



¹ The Trail Bandit's website is <http://trailbandit.org>.

Figure 26: Trail Bandit's Hiking Map
(Note: this is not the Hiker's Guide described above.)

The Trail Bandit Guide

To
The Hiking Trails
Of
St. John, V.I.

A variety of hiking trails, including old Dutch roads, beckon you to discover St. John, with its lovely beaches and bays, rugged volcanic forest, dry cedar woodlands, historic sugar factory ruins and sweeping views of the sea and green world.

HIKE PLANNING AND PREPARATION

Plan your hike with care, and know how to read a map. Hike safely where you are going and which you will return. Plan some time for an uphill climb, especially in winter, and wear shoes. Nothing on St. John is flat so plan for a lot of uphill hiking.

Wear and loose clothing that includes long pants, a shirt, and a hat to protect against sunburn, insects, and fire hazards. Carry a raincoat and a small, comfortable walking shoe, boots, or sneakers are recommended footwear. Sandals are also advisable. Light energy and water intake is needed for hiking on the rugged, volcanic island. A half gallon of water is recommended for the first four hours of hiking time. There is no safe drinking water along the coast. Other practical hiking necessities include a first aid kit, a watch, an extra lens, extra batteries, and a flashlight. When the sun sets, it gets dark very quickly down here!

Do not cut wildflowers, ferns, or herbs. Some are poisonous. Avoid handling or picking plant life that may harbor stinging insects, cancer-causing, or other poisons. Please leave better flowers for the next hiker to enjoy.

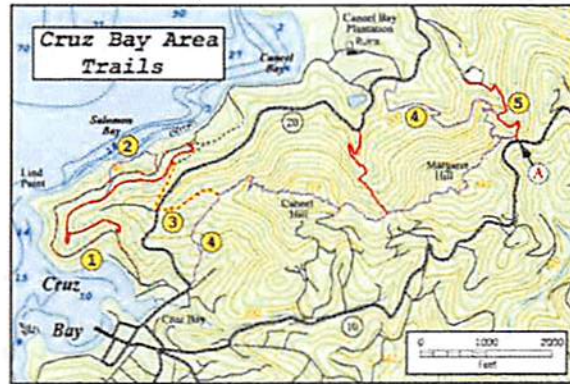
Do not climb on or alter historic structures as much as fragile and valuable. Much of St. John is in the Virgin Islands National Park, so please leave artifacts in place for others to see and enjoy. Please respect the rights of private property owners so we will continue to enjoy these trails.

Many of the hiking trails are accessible by vehicle. Public parking lots are available at the end of the trail. The VITRAN bus system is accessible and runs along Cruz Bay from Cruz Bay to Coral Bay and out to Salt Pond Bay. Check the schedule and make sure the bus is running. Local taxis between the North Shore Road and the rest of the island. Bikes are available in Cruz Bay. They are expensive and you should reserve a car before you come if you need one.

When walking along the edge of roads, face incoming traffic and be ready to jump in the bushes. The roads are narrow and it is easy to be run over. Remember, we drive on the left. All of the trails on this map were laid out and accurately located using a GPS receiver. A number of hikers to find trail breaks are marked on the map and a table of the coordinates is provided.

The secondary roads shown on the map were accurately located using aerial photography taken in 1999 and 2004. In general, these have not been field checked. Just because there is a road on the map, does not mean that you can drive there. Some of these roads are under construction or may be abandoned and not maintained. How roads are constructed just as in more and more places here are sold. Many are private property. They are shown to help those not exploring to figure out what goes where.

As with all activities, there are some risks. You can read an article or brochure to see what you can do. It is a good idea to take with a compass or altimeter can get for help if necessary. St. John is beautiful, enjoyable.



North Shore Trails

1 Lind Point Trail (0.1 mile)
This trail begins at the National Park Visitor's Center in Cruz Bay to Historic Point at Lind Point. The trail follows an old Dutch road which passes (at 0.1 mile) on the left a side trail to Salomon Beach and an upper trail that ascends to the Lind Point overlook.

2 Salomon Beach Trail
This trail ascends from the Lind Point trail down to the beach, along the beach and back up again.

3 Canceled Spar Trail (0.4 mile)
This trail starts from the upper Lind Point Trail, crosses the North Shore Rd. (Rt. 20) at a point overlooking Cruz Bay and Cruz Hill, and continues up to join the Canceled Hill Trail.

4 Canceled Hill Trail (2.4 miles)
This trail joins Cruz Bay Village with the North Shore Road at the entrance to Cruz Hill. It is a 2.4 mile climb from Cruz Bay leads to a scenic overlook above Cruz Hill (elevation 719 feet). At the top of the climb, a half gallon of water is recommended for the next four hours of hiking time. There is no safe drinking water along the coast. Other practical hiking necessities include a first aid kit, a watch, an extra lens, extra batteries, and a flashlight. When the sun sets, it gets dark very quickly down here!

5 Water Catchment Trail (0.6 mile)
This trail starts from the North Shore Road, just west of the entrance to Cruz Hill. It follows a road as far as the water catchment, ascends a short wooded cut section and follows an old road to Cruz Hill. The trail crosses Cruz Hill Trail on the right.

6 Turtle Point Trail (0.2 mile)
This trail is located inside the Cruz Hill. It follows along the shore around the peninsula and ends at the beach at Turtle Bay. There are great views of the North Shore and convenient benches to sit along the way.

7 Hawknest Bay Trail (0.6 miles)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

8 Peace Hill Trail (0.6 miles)
This trail starts from a parking lot up to a private overlook with an old sugar mill foundation. A mile trail on the right leads to Cruz Bay and Porters Cay.

9 Susannah Trail (0.2 mile)
This trail ascends to Rt. 204 (elevation 600 feet) to a hill with a view of Cruz Bay. The Johnny Horn trail continues past the end of the Cruz Hill trail at 0.7 mile, to the top of Peace Hill where there are great views of Cruz Bay. Also, at this point, there is a great trail ascends to the top of Cruz Hill.

10 Catharineberg Road (1.4 miles)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

11 Cinnamon Bay Self Guiding Trail (0.4 miles)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

12 Brown Bay Trail (0.4 miles)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

13 Cinnamon Bay Self Guiding Trail (0.4 miles)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

14 Cinnamon Hill Trail (0.4 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

15 Maria Hope Trail (0.4 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

16 Macho Goat Trail (0.25 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

17 Francis Bay trail (0.4 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

18 Leinster Bay Trail (0.4 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

19 Johnny Horn Trail (0.4 miles)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

20 Bordeaux Mountain Trail (0.2 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

21 Bordeaux Mountain Trail (0.2 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

22 Yawzi Point Trail (0.3 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

South Shore Trails

23 L'Esperance - Reef Bay Trail (2.8 miles)
This trail begins at Cruz Hill, 0.2 miles East of the Cinnamon Bay trail and follows the old Dutch road back down to Reef Bay. At 0.2 miles, a short trail on the left leads to the L'Esperance ruins. The main trail crosses Fall Bay Hill, and leads out to the dry scrub forest of the South shore. Shortly after your first view down Fall Bay, the Cruz Hill trail leads off to the right. Further along, after crossing a ridge, you will get many great views of Reef Bay and the ruins work along the old road between Cruz Hill and Reef Bay. There is a short trail that leads to the right, down to the beach. The main trail continues until it reaches the short trail from the Reef Bay Sugar Factory to the beach, at its highest point.

24 Great Sieben Trail (0.2 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

25 Parrot Bay Trail
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

26 Reef Bay Trail (2.8 miles)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

27 Europa Bay Trail (0.25 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

28 Bordeaux Mountain Trail (0.2 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

29 Bordeaux Mountain Trail (0.2 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

30 Yawzi Point Trail (0.3 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

31 Leinster Bay Trail (0.4 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

32 Johnny Horn Trail (0.4 miles)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

33 Bordeaux Mountain Trail (0.2 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

34 Bordeaux Mountain Trail (0.2 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

35 Yawzi Point Trail (0.3 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

36 Leinster Bay Shoreline Trail (0.7 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

37 Tekite Trail (0.7 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

38 Salt Pond Bay Trail (0.25 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

39 Ram Head Trail (0.9 miles)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

40 Drunk Bay Trail (0.25 mile)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

41 King Hill Road (1.4 miles)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

42 Reef Bay Trail (2.8 miles)
This trail ascends above Cruz Hill to Cruz Hill. It follows an old road for a way then heads up to the best of great views of Hawknest Bay and the rest of the island.

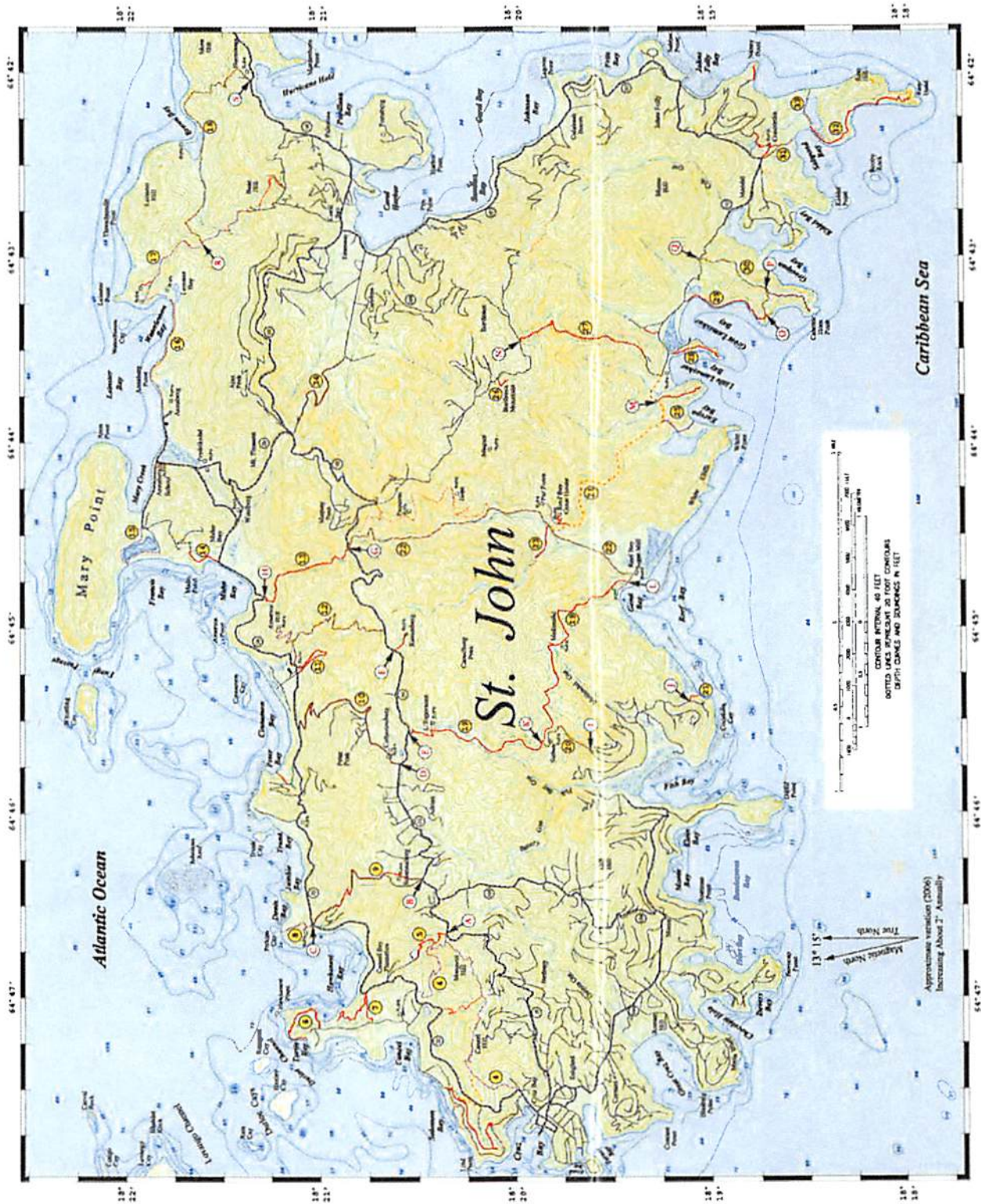
GPS Waypoint Locations

1	N 18° 20' 21.21" W 64° 46' 38.73"
2	N 18° 20' 28.84" W 64° 46' 41.21"
3	N 18° 21' 02.18" W 64° 46' 36.23"
4	N 18° 20' 35.81" W 64° 45' 44.02"
5	N 18° 20' 33.17" W 64° 45' 33.69"
6	N 18° 20' 37.34" W 64° 45' 02.09"
7	N 18° 20' 51.30" W 64° 44' 34.74"
8	N 18° 21' 16.97" W 64° 44' 49.85"
9	N 18° 19' 37.04" W 64° 45' 39.35"
10	N 18° 19' 06.43" W 64° 45' 24.13"
11	N 18° 19' 52.10" W 64° 45' 37.31"
12	N 18° 19' 25.39" W 64° 44' 45.17"
13	N 18° 19' 15.77" W 64° 43' 46.96"
14	N 18° 19' 58.24" W 64° 43' 27.12"
15	N 18° 14' 41.83" W 64° 43' 19.00"
16	N 18° 18' 42.88" W 64° 43' 10.63"
17	N 18° 19' 02.88" W 64° 43' 00.59"
18	N 18° 21' 36.37" W 64° 42' 55.07"
19	N 18° 21' 20.83" W 64° 42' 02.29"

These latitude and longitude coordinates were measured with a Garmin GPSMAP 745 hand positioning system (GPS) receiver. The map data was a WGS84. The accuracy of the locations is located to be repeatable to about ± 30 feet. All the trails were laid out with the GPS receiver, and placed on the map using PUAWI mapping software. A high performance active antenna was used and provided much better signal than the common built into the GPS unit. This was needed to ensure with these locations are of your reception, the accuracy of a GPS receiver can be degraded, or it won't work at all. For those interested in doing their own mapping, the map projection is UTM, and a general coordinate of 18445E was used for setting the UTM software. Make sure that both your GPS receiver and UTM are set to the WGS84 map datum. The map is available in digital form on a CD, so you don't have to get a map of the map. If you want more copies of this map, you can contact me at the address below.

Please feel free to copy or use this map for any purpose. The best way to save these trails for future generations is to spread the word and get people out there hiking.

Happy Hiking, 2006
The Trail Bandit
Bob Garrison
P.O. Box 394
Henrico, N.H. 03242
bob@trailbandit.org
603-938-2529



Historical and Cultural Sites

Among the most popular historic and cultural sites within the Park are the Annaberg Sugar Mill and School ruins northeast of Maho Bay; the Reef Bay Sugar Mill ruins on the south shore, and the Petroglyphs about ½ mile north of Reef Bay. The Reef Bay Sugar Mill and the Petroglyphs (Figure 27) are accessible only by hiking, and the Park offers guided hikes to these spots. Ruins such as Catherineberg and Trunk Bay are alongside of the road. Cultural demonstrations are periodically offered at Annaberg.

1.1.3 Park Visitation

Park visitation is measured in recreational and non-recreational visits; recreational visitors use park facilities, while non-recreational visitors do not (for example, they drive through the Park but do not stop).

The NPS *Five Year Annual Recreation Visits Report* for 2008 indicates that the average number of annual recreational visits over the past five years is 662,867. Visitation is affected by the severity of a previous year's hurricane season and the damage that the region experiences as a result. Figure 28 shows that visitation has declined over the past five years. However, Figure 29 shows that non-recreational visits have stayed relatively consistent, while recreational visits have declined. The *2009-2010 Forecast of Recreation Visits* for VINP suggests that there will be no change in visitation between 2009 and 2010.

Figure 27: Annaberg Sugar Mill and the Petroglyphs



Figure 28: Annual Park Visitation 1957-2008
(Source: NPS Public Use Statistics Office)

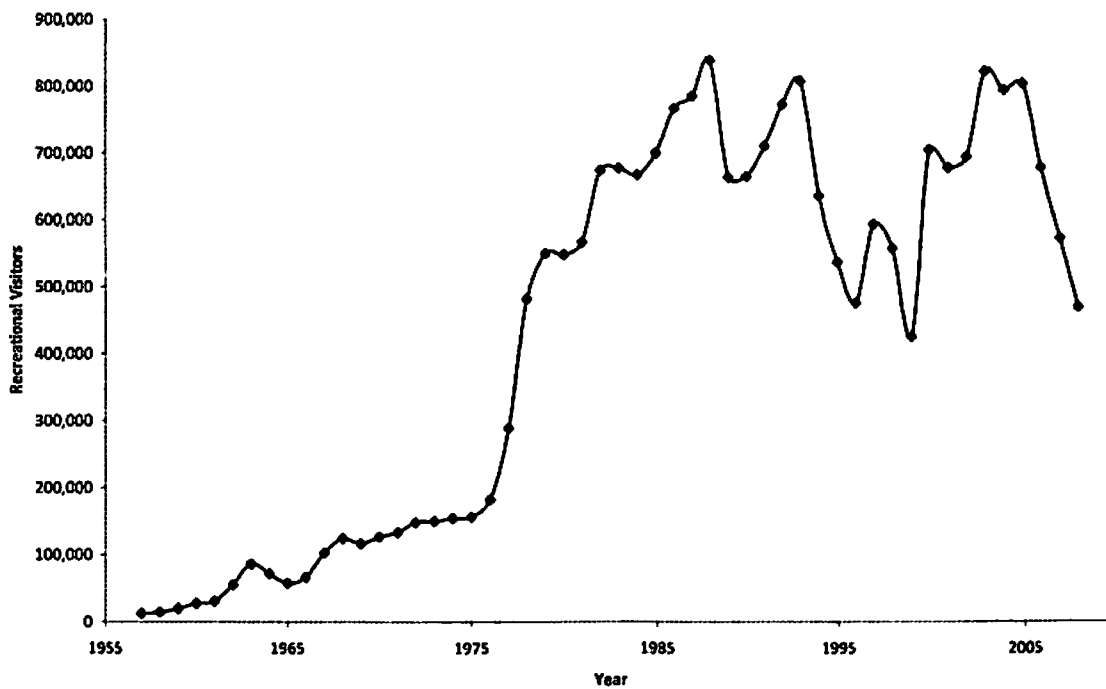


Figure 29: VINP Visitation: Recreational and Non-Recreational 2004-2008
 (Source: NPS Public Use Statistics Office)

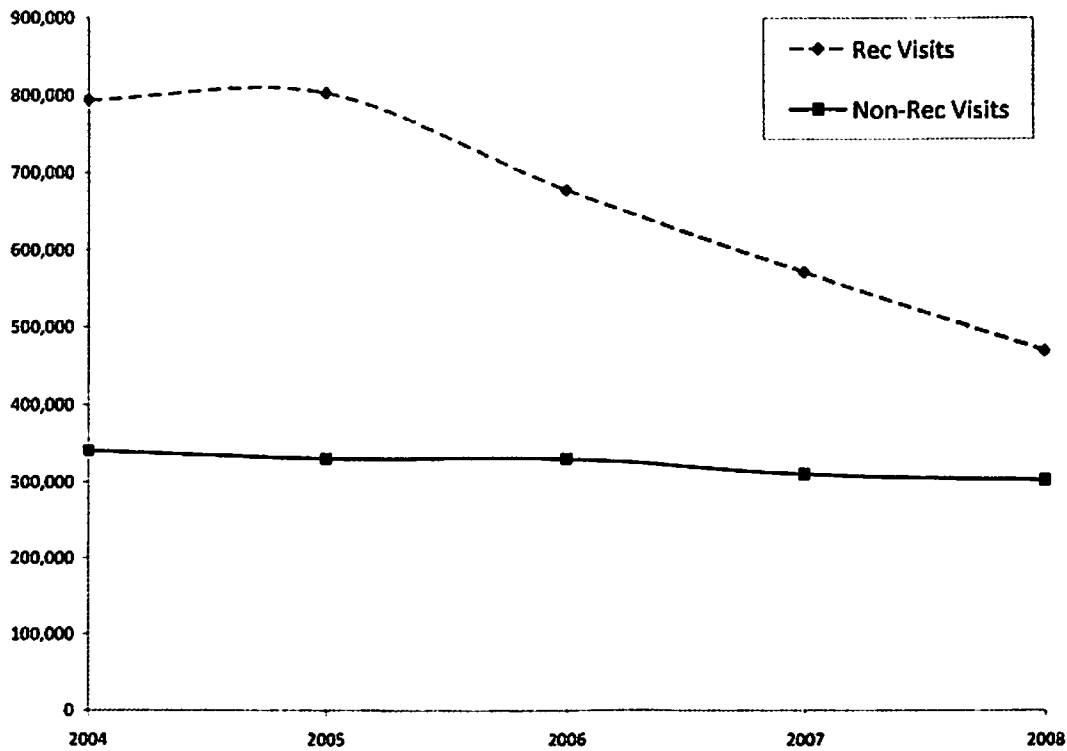


Table 3 shows that approximately 20% of recreational visitors stay overnight in the Park. The 2001 *Alternative Transportation Study* noted that about 30% of visitors to VINP are cruise ship passengers and that the market share at the time was growing. Cruise ship passengers typically visit VINP for a few hours on a planned tour. The other 70% of visitors typically use a car or taxi and are on the island for more than a day.

Table 3: 2004-2008 VINP Visitation by Month/Year

(Source: NPS Public Use Statistics Office)

	2004	2005	2006	2007	2008
Rec Visits	793,590	803,040	677,289	571,382	469,034
Non-Rec Visits	340,844	330,225	329,592	310,067	302,384
Total Visits	1,134,434	1,133,265	1,006,881	881,449	771,418
Concession Lodging	20,209	20,531	29,789	20,867	21,519
Tent Campers	0	0	0	0	0
RV Campers	0	0	0	0	0
Concession Campgrounds	21,913	21,973	23,630	19,341	22,354
Back Country Campers	0	0	0	0	0
Misc Campers	118,375	102,964	69,567	62,100	54,353
Total Overnight Stays	162,229	146,422	124,120	104,099	99,914

Table 4: VINP Year-to-Date Report

(Source: NPS Public Use Statistics Office)

Report Date: July 2009		Visits This Month	Same Month Last Year	% Change	This Year YTD	Last Year YTD	% Change YTD	Fiscal YTD
Recreation Visits								
	TOTAL RECREATION VISITORS	34,753	40,849	-14.9	313,113	346,538	-9.6	394,848
1	MAHO BAY CAMPGROUND GUESTS	5,031	5,654	-11	43,294	47,611	-9.1	52,026
2	CANEEL BAY RESORT GUESTS	6,727	7,489	-10.2	44,733	58,341	-23.3	59,240
3	BOAT VISITORS AT TRUNK BAY BEACH	793	1,211	-34.5	5,613	6,449	-13	7,097
4	BEACH USE AT TRUNK BAY BEACH (OTHERS)	7,649	7,131	7.3	51,879	56,109	-7.5	68,676
	TRUNK BAY TOURS	48	60	-20	413	522	-20.9	569
5	TRUNK BAY PASSENGERS OFF BOATS	326	488	-33.2	2,162	2,488	-13.1	2,762
6	TRUNK BAY PASSENGERS OFF TOURS	2,576	4,256	-39.5	21,019	31,888	-34.1	27,905
7	VISITORS AT NATIONAL PARK CENTER	4,192	4,323	-3	35,504	35,108	1.1	45,214
8	TORTOLA FERRY PASSENGERS	0	0	0	0	0	0	0
	ANNABERG SUGARMILL RUINS VISITORS	730	2,464	-70.4	17,519	16,504	6.2	22,225
Overnight (O/N) Stays								
9	CINNAMON BAY CABIN O/N STAYS	1,485	1,930	-23.1	14,597	16,795	-13.1	18,287
10	TENT O/N STAYS	452	295	53.2	9,477	9,248	2.5	10,724
	RV O/N STAYS	237	362	-34.5	6,525	6,754	-3.4	8,549
	GROUP O/N STAYS	90	153	-41.2	1,148	2,431	-52.8	1,390
11	NORTHSHORE BOAT O/N STAYS	1,370	1,395	-1.8	42,037	30,001	40.1	47,262
12	SOUTHSHORE BOAT O/N STAYS	209	676	-69	11,978	14,536	-17.6	13,647
13	NONRECREATION O/N STAYS	21	68	-69	1,198	1,454	-17.6	1,365

Notes per "VINP Public Use Counting and Reporting Instructions"

Recreation Visits

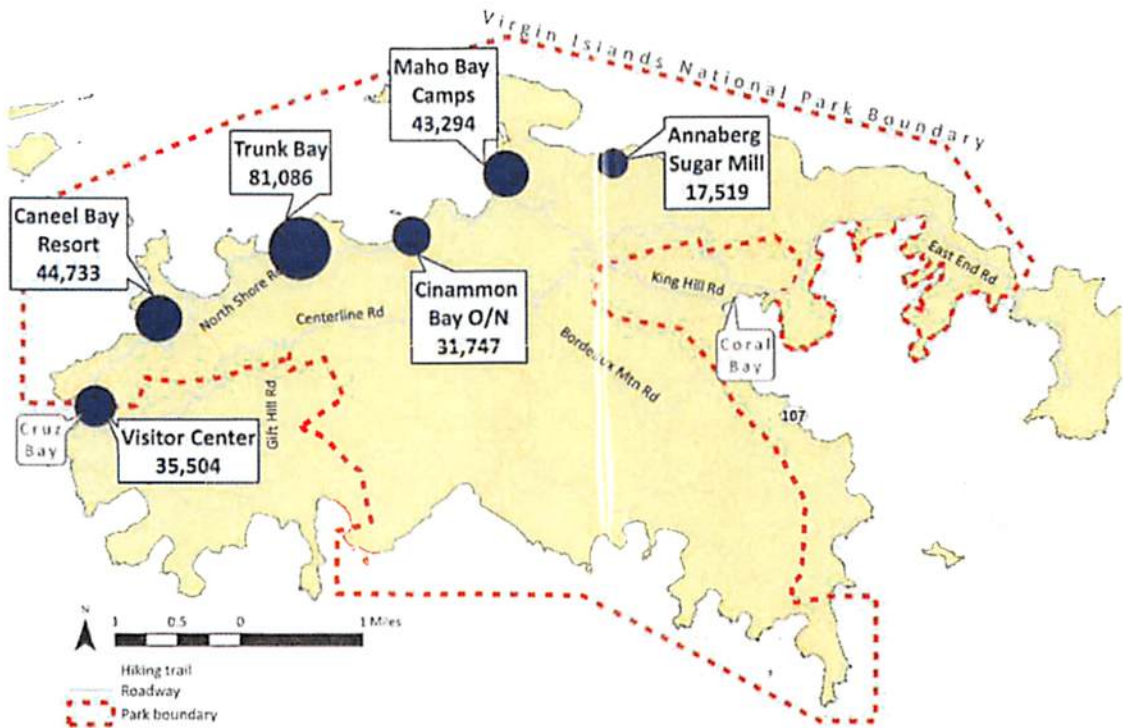
1. The number of registered guests at Maho Bay Campground.
2. The number of registered guests at Caneel Bay Resort.
3. The number of boats observed offshore at Trunk Bay Beach. The number of boats is multiplied by the persons per boat (PPB) multiplier of 8.53.
4. The number of visitors on the beach at Trunk Bay.
5. The number of visitors coming off boats at Trunk Bay.
6. The number of visitors coming off tours at Trunk Bay.
7. The number of visitors at the National Park Center.
8. The number of passengers on Tortola Ferries that enter park waters.

Overnight Stays

9. Concessioner Lodging - Cinnamon Bay Cabins: The number of visitors staying overnight as reported by the concessioner.
 10. Concessioner Campgrounds - Cinnamon Bay Concessioner Campground: The number of visitors staying overnight as reported by the concessioner at the tent sites, bare sites, and group sites.
 11. The number of visitors by boat at Northshore is determined by dividing the number of boats counted (from ranger logs) by the number of counts made. The average number of boats per count is multiplied by the number of days in the reporting month. The estimated number of boats is increased by 25 percent to account for boats missed (before and after hours).
 12. The number of visitors by boat at Southshore is determined by dividing the number of boats counted (from ranger logs)
- Non-recreation Overnight Stays
13. Ten percent of the boat use at Northshore and Southshore is estimated as non-recreation overnight stays.

Figure 30: Visitor Destinations in VINP

Based on year-to-date (July 2009) visits. Note: there are other destinations within the Park, but these are the ones for which visits are recorded.



1.2 Transportation System Characteristics

This section describes the travel modes to and on St. John; describes marine access to the island; explains roadway characteristics; summarizes traffic volume, vehicle classification, and vehicle occupancy data collected for the *VINP Transportation Study*; and describes parking.

Much of the following information is discussed at length in the *VINP Transportation Study*; a summary is provided here to provide an overview of the most significant aspects.

1.2.1 Travel Modes to St. John

Table 5 summarizes the ways in which one gets to St. John. Nearly all access to the island is through Cruz Bay. In addition to the public modes described below, the Westin and Caneel Bay resorts both have their own boats to transport their guests between St. John and St. Thomas. VINP employees can commute to St. John from St. Thomas for free via the Caneel Bay ferry. It is also helpful to note that the VI Port Authority owns and operates the three ferry docks in Cruz Bay: 'the Creek,' 'the ferry dock,' and the Enighed Pond autobarge terminal (see Figure 31).

Table 5: Summary of Travel Modes to St. John

Air



There is no air service to St. John. The Park's Commercial Services Plan notes that "Although at one time seaplane service was permitted from the NPS boat ramp in Cruz Bay, it was discontinued based upon a determination that vessel traffic, other water-related activities, park operations at the ramp, and environmental values would be adversely affected." (See Figure 31 for the location of the seaplane ramp.)

Passenger Ferry



- Service between Cruz Bay on St. John and Red Hook or Charlotte Amalie on St. Thomas.
- Departs from and arrives at the Ferry Dock (Figure 31).
- Operated by Transportation Services and Varlack Ventures.

Fare	Schedule	Ridership
Red Hook Trip takes about 20 minutes Fare is \$5 one-way + \$2 per piece of luggage	Hourly 6:30AM to 12:00AM	1,220,000 passengers in 2004 (per the VINP Transportation Study)
Charlotte Amalie Trip takes about 45 minutes Fare is \$10 one-way + \$2 per piece of luggage	About every 2 hours 7:15AM to 5:30PM	Over 130,000 passengers in 2004 (per the VINP Transportation Study)

Auto Barge



- Service between Cruz Bay on St. John and Red Hook on St. Thomas (Figure 3 on page 7).
- Terminal in Enighed Pond (Figure 31).
- Operated by Love City Car Ferries, Boyson's, Inc., and Global Marine.

Fare	Schedule	Ridership
<p>\$27-\$30 one-way, \$42-\$50 roundtrip, + \$3 port fee. <i>Passengers ride with car at no extra charge.</i> This is a critical factor in mode choice. For example, it is more convenient and affordable for visitors arriving at the St. Thomas airport to a rent a car there and bring it to St. John on the auto barge than it is to take a taxi (with a per person charge) to the passenger ferry to St. John and then another taxi to their hotel or villa rental.</p>	<p>Depending on operator, barge schedule is either every 2 hours 6:15AM to 6:15PM or hourly 7:30AM to 6:00PM</p>	<p>Nearly 50,000 vehicles (one-way) in 2004 (per the VINP Transportation Study)</p>

Private Boat



- There is little to no dock space in Cruz Bay for more than 15-minute docking, as shown in Figure 31.
- Figure 33 shows that private boats are allowed to anchor or use a mooring in designated areas of Park waters depending on the length of the boat. Yet accessing land from an anchored or moored boat is still challenging for dinghies due to the lack of dock space.
- Another issue for boaters is the island's lack of a pump-out station and other marina facilities.
- Use of overnight moorings in the Park: 9,375 nights in 2006 and 9,997 in 2007 (per VINP Calendar Year Highlights for 2007).

BVI Ferries



- See Figure 31 for arrival and departure points.
- Proof of citizenship required.
- There is no US Customs station on St. Thomas, so all international ferries must clear Customs in St. John, even if their destination is St. Thomas.
- Operator is Inter-Island Boat Services. (Speedy's operates serves STT to VG but must stop in STJ to clear US Customs.)

Fare	Schedule
<u>Tortola</u> 30 min trip \$45 roundtrip, \$26 one-way	Departs Cruz Bay at 8:30AM & 11:30 AM daily, with a 3:30PM trip M,T,W,Th,Sat; 5:00PM Fri; 4:30PM Sun; upon reaching Tortola, the boat picks up passengers for the return trip to St. John.
<u>Virgin Gorda</u> 1 ½ hour trip \$70 roundtrip	Operates on Thursday and Sunday only, departing St. John at 8:30AM and Virgin Gorda at 3:00PM.
<u>Jost Van Dyke</u> 45 min. trip \$60 roundtrip	Departs St. John MTFSS at 8:30AM & 2:20PM Upon reaching Jost Van Dyke, the boat picks up passengers for the return trip to St. John.

Cruise Ship Excursions



Note passengers transferring from Island Girl to safari bus tours on right side of photo.

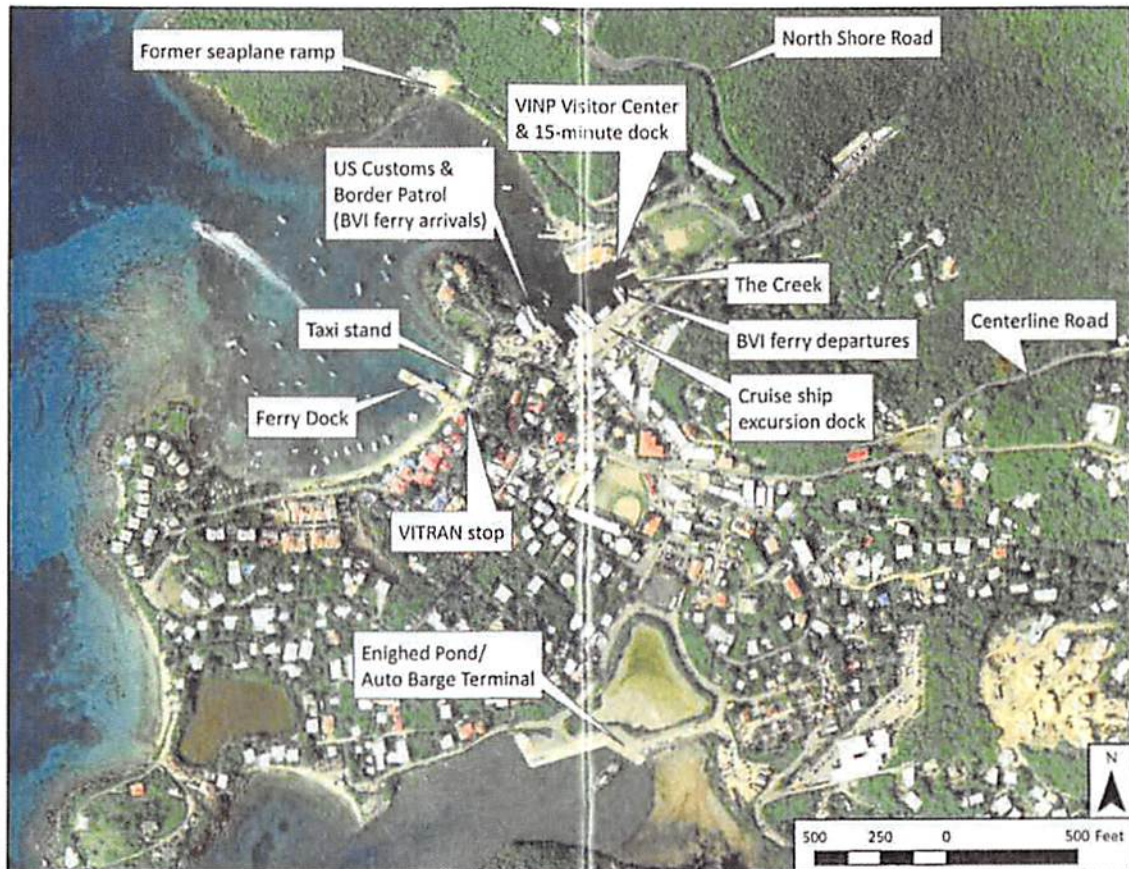
- Cruise ships coming to the region typically dock in St. Thomas (Charlotte Amalie).
- Cruise ships offer their passengers excursion trips to St. John for various activities such as snorkeling at Trunk Bay, taking an island tour on a safari bus, visiting the Annaberg Sugar Mill, or hiking.
- The *VINP Transportation Study* notes that nearly 2 million cruise ship passengers arrived in St. Thomas in 2004. VINP records show that there were more than 64,000 excursion trips to Trunk Bay that year. The peak season is November to March.
- As shown in the photo above, passengers take a boat such as the *Island Girl* from St. Thomas to St. John and transfer directly to waiting safari buses which take them to their chosen activity. Figure 6 shows the location of the excursion transfer area in Cruz Bay.
- The Park requires excursion providers to have a CUA. Sub-contracted service providers such as the safari buses are permitted to operate in the Park under this CUA. Per the 2001 *VINP Commercial Services Plan*, "tour operators [are] responsible for the compliance of their contracted taxi and safari bus operators with regulations and for safe driver behavior."
- Operators include Cruise Ship Excursions, Inc. and Transportation Services, Inc..

Water Taxi



- There are three water taxi operators: Calvin Thomas, Dolphin Water Taxi, and Dohm's Catamaran Power Boat.
- Water taxis are demand responsive and serve practically any water accessible point on St. Thomas, St. John, and the BVI.
- Water taxis were using the Waterfront in Charlotte Amalie and the Park Dock in Red Hook to pick up and drop off passengers until Homeland Security regulations went into effect and restricted this access.
- A CUA is required if the water taxi uses one of the VINP docks or were to do tours within the park boundary.
- According to watertaxi-vi.com, rates are generally:
 - \$25/person with a 5 person minimum between Red Hook and St. John
 - \$50/person with a 5 person minimum between Frenchman's Reef or Crown Bay and St. John
 - \$35/person with a 5 person minimum between the Ritz and St. John
 - Custom day trips available for hourly rates of \$200-\$300 (2 hour minimum)
- There is some confusion as to whether water taxis are under the jurisdiction of the VI Taxi Cab Commission. If they are a "vehicle-for-hire," they are required to have a taxi medallion; if they are a "charter boat," they are not under the jurisdiction of the VI TCC.

Figure 31: Cruz Bay Transportation Facilities



1.2.2 Travel Modes on St. John/within VINP

This section provides an overview of the transportation modes on St. John. More detailed information is available in the *VINP Transportation Study*.

Table 6: Summary of Travel Modes on St. John/within VINP

<p>Bicycle</p> <p>Due to the narrow roads with blind curves and formidable grades, bicycling is not a safe or attractive mode. There is generally not a shoulder on the Park roads. In fact, the "Getting Around" section of the VINP website promotes motorized vehicles for transportation: "The best and safest way of getting around the Park and the Island would be by vehicle. Bicycles are not recommended due to steep and winding roads."</p>
<p>Pedestrian</p> <p>Walking along the side of the roads is not a safe or attractive mode for the same reasons that bicycling is not. Hiking for the sake of hiking is enjoyable, but since trails are generally not available between major attractions, they cannot be used for general transportation (for example, as a means to get from the Cinnamon Bay Campground to Cruz Bay). Hitchhiking is a valid and frequently used mode on the island, although waiting for a ride on the side of the road can be dangerous depending on the location.</p>

Motorcycle/Scooter

Motor scooter rentals are available on the island, but previous experience is recommended given the steep roads, particularly the switchbacks on Trunk Bay Hill.

Taxi/Safari Bus



A typical safari bus is a Class 6 vehicle with about four forward-facing bench seats in the bed shaded by a canopy. This configuration can hold about 24 to 27 passengers. There are also smaller taxis (Class 3 or 5 vehicles) which have two bench seats along the sides of the truck bed facing each other; these vehicles accommodate about 14 passengers. The territorial government recently ruled both of these vehicles illegal and they are being phased out from the VI taxi industry. It is unclear what types of vehicles will take their place.

Taxis are regulated by the VI Taxi Cab Commission (TCC), which sets rates and requires any vehicle-for-hire to have a medallion to operate (see Appendix F). There is a limit on the number of medallions in the industry. The TCC also regulates taxi stands to ensure fair dispatch.

VI taxis offer different services: some cater to cruise ship excursions, transporting cruise ship passengers to their chosen activity; others specialize in island tours, providing narrated trips around the island and describing history, culture, and ecology; some attend to particular hotels or villa rentals; others focus on street fares.

Per the 2001 *VINP Commercial Services Plan*, "All businesses and individuals providing tour services for hire within the park are required to obtain a CUA. This requirement applies to operators providing organized tour services versus delivering a taxi fare to any one of a multitude of destinations. Resort, hotel and taxi association tour services are subject to this requirement. Exempted are regular taxi services engaged in transporting fares from point A to point B and not providing "tours", rental cars used for personal transport, and public buses operating on a fixed route with a published schedule."

There are about 140 taxis on St. John. While some drivers operate independently, others organize in associations or cooperative arrangements and specialize in a type of service as described above.

Fares (provided in Appendix F) are charged per person by distance. It is therefore most cost-effective for drivers to load as many passengers as possible (without exceeding the safety limit) onto their vehicle before departing. This practice often results in poor customer service, as people may be loaded onto a taxi and asked to wait while the driver waits for more passengers. In addition, not all passengers may be going to the same location, so stops may be made along the way to a final destination. In these ways, the service is more of a paratransit operation than conventional taxi service which is private and demand responsive. In fact, one of the TCC regulations is that "any person requesting a taxi exclusively for himself must pay for a total of six seats."

Rental Car



Many rental cars are identifiable by the large sticker at the top center of the windshield.

Car rental agencies are regulated by the VI Bureau of Motor Vehicles. There is a quota limiting the number of rental cars that the agencies on St. John can offer, which is based on "traffic safety, traffic flow, and the numerical needs or demand for drive-yourself cars" according to the VI Code. In 2003 this maximum was set at 625. Each agency on the island is allocated a portion of the quota and cumulatively they have approximately 625 vehicles at any given time. There are approximately 20 rental agencies on St. John. Approximate rates are \$70/day to \$100/day and \$420/week to \$600/week depending on the type of vehicle.

The VI Code regulating rental cars (a.k.a. "drive-yourself car") states that rental cars are to be identifiable by their license plates and that:

All drive yourself cars shall be operated exclusively on the island for which the registration license and corresponding license plate(s) were issued and shall not be transported for use on any other island.¹

However, in practice rental car license plates are not distinguishable from other vehicles because there is a sense that doing so would make tourists more vulnerable to crime. In addition, the VI Attorney General determined that rental cars can travel between islands, although further information on this decision could not be found for this report. While St. John rental car agencies do not allow their vehicles to be transported between islands on the auto barge, some St. Thomas agencies allow their vehicles to come to St. John, but will not provide motorist assistance there: the renter is responsible for any repairs or service needed off St. Thomas.

Private villa rentals often include a car rental. St. John's car rental agencies frequently sell out of vehicles because they are being provided with villa rentals.

As noted in the auto barge section above, some visitors rent a car at the St. Thomas airport, finding it less expensive and more convenient than getting one on St. John, especially since car passengers ride the auto barge for free.

St. John rental agencies often provide parking in Cruz Bay for clients using their cars. This is a significant incentive given the lack of available parking in Cruz Bay.

¹ VI Code Title 20, Part II, Chapter 38, §422h.

VITRAN



- VITRAN is the local transit agency and operates under the auspices of VI PWD.
- Provides fixed route service between Cruz Bay and Saltpond via Coral Bay along Centerline Road.
- Operates Dial-a-Ride services and is wheelchair accessible.
- The FTA has prohibited VITRAN from operating on North Shore Road until it acquires vehicles suited to the steep grades and tight turns, particularly the switchbacks on Trunk Bay Hill. VITRAN and PWD expect the vehicles to arrive within one year.
- The St. John Community Foundation also operates a Dial-a-Ride service.

Fare	Schedule	Ridership
Fare is \$1	The bus leaves the Cruz Bay Ferry Dock hourly at 20 minutes past the hour beginning at 6:00AM and ending at 7:25PM.	The VINP Transportation Study noted that VITRAN transports about 100 people per day.

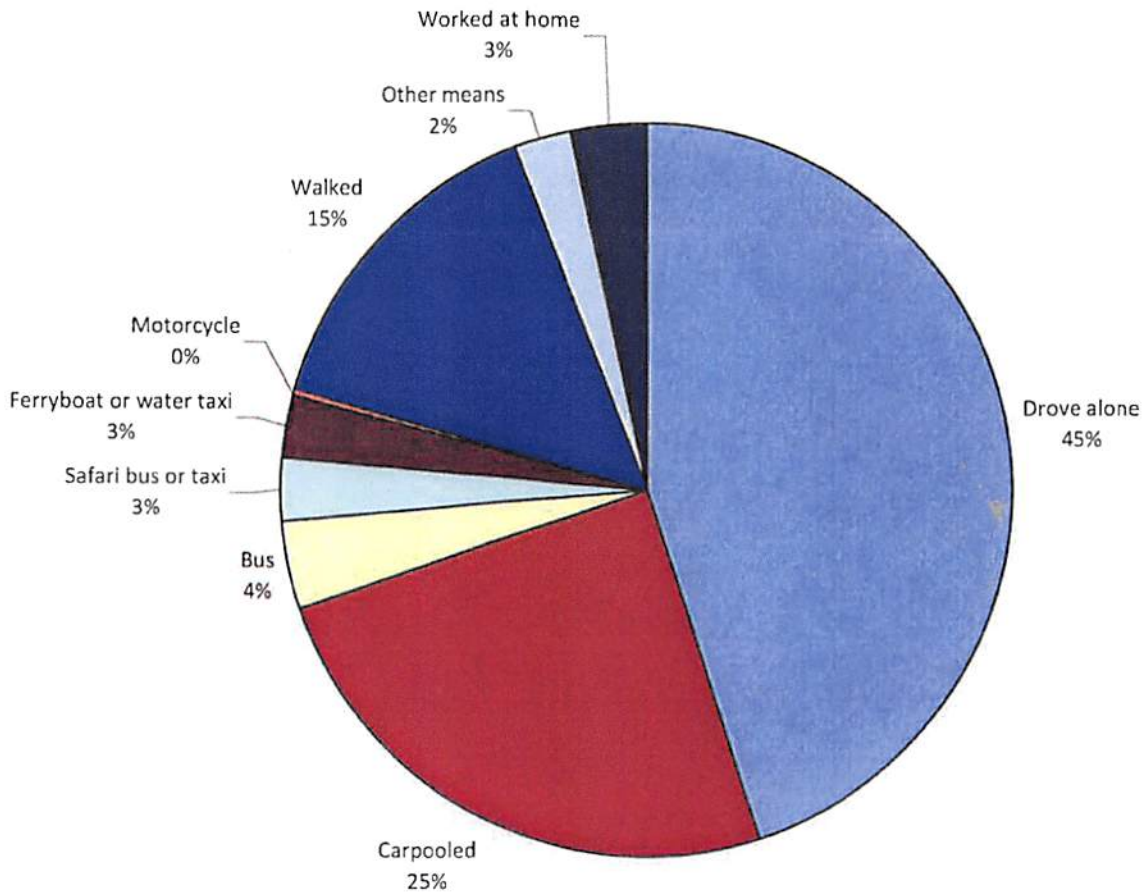
Private Vehicle (owned/leased by island resident, a.k.a. "island car")



The VINP Transportation Study indicates that depending on data source, there are 2,000 to 5,000 private vehicles located on St. John.

A transportation survey of visitors and residents was conducted in 2009 for the territory's Transportation Master Plan. **The responses should be able to provide valuable insight as to mode split, and may be available for review when that plan is complete in 2010.** In the meantime, Figure 32, based on 2000 Census data, shows the mode split for St. John residents traveling to work. A substantial portion carpooled or walked, which may reflect the popularity of hitchhiking on the island. The VITRAN bus has a reputation in the community for being unreliable and schedules are not published, so this may explain the low mode share of the bus.

Figure 32: Means of Transportation to Work for St. John Residents
 (Source: 2000 US Census)



1.2.3 Marine Access to St. John

Figure 33 describes provisions for boat access to St. John; VINP regulations for mooring and anchoring within park boundaries are summarized in Table 7. There are no boater facilities such as a marina or pump-out station on St. John. There are two boat ramps, one in Coral Bay and the "Sea Plane Ramp" in Cruz Bay. The only docks on the island are in Cruz Bay (see Figure 31), Coral Bay (Figure 34), the Westin, Caneel Bay Resort, and the VINP/Virgin Islands Environmental Resource Station in Lameshur. There are dinghy channels marked by buoys to most beaches. Dinghies are allowed to pull on to the beach to pick up or drop off, but cannot stay for longer periods of time.

While it is free to use a Park mooring during the day, there is a \$15 fee for mooring or anchoring in the Park overnight, with a 30 night maximum per year. There are seven pay stations in the Park (such as in Figure 35) and during the peak visitation season, Bay Hosts are present to answer questions and collect fees.

Hurricane Hole on the eastern side of St. John provides a relatively safe haven for boats during tropical depressions, storms, and hurricanes. The Park and Friends of VINP have installed chains at the bottom of Hurricane Hole to which boats attach storm moorings; there are 124 storm berths.

Figure 33: Boat Access to St. John

(Numbers adjacent to symbols represent the number of that type of mooring; source: VINP Mariner's Resource Protection Guide.)

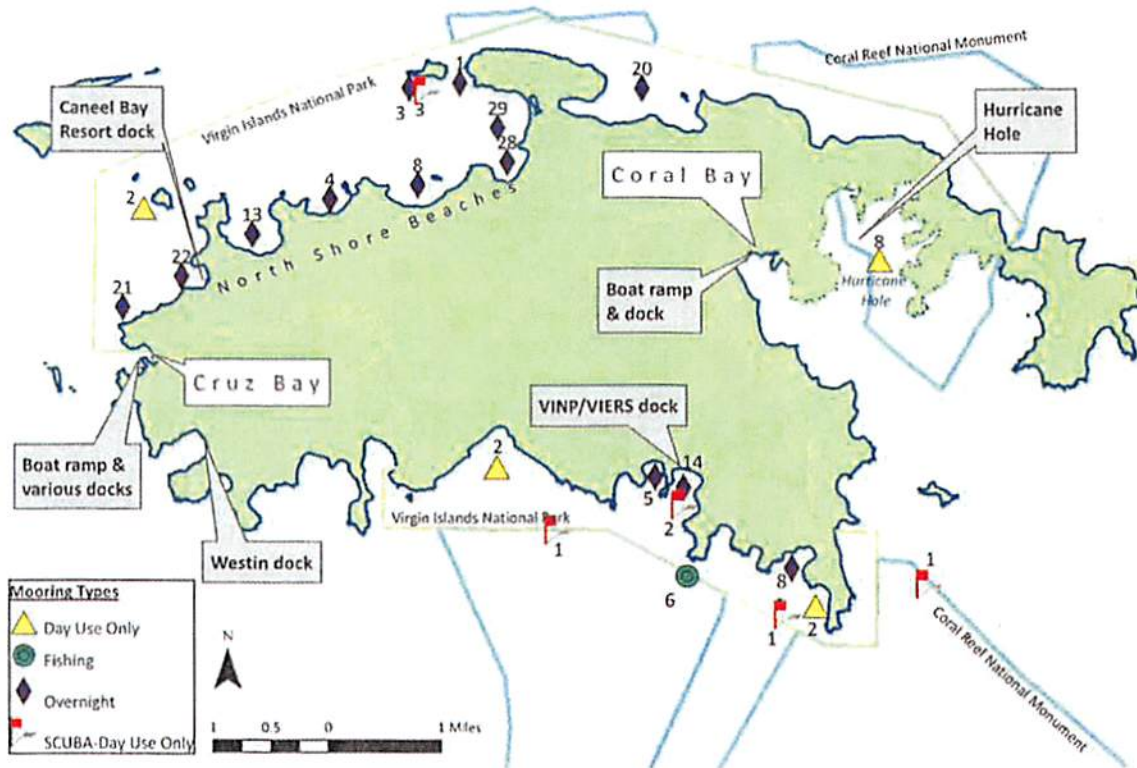


Table 7: Limitations for anchoring and mooring within park boundaries

Private Vessel Size Limits for North Shore

Length on Deck

16' or less	May anchor only in sand and not within 200' of mooring field
17' to 60'	Must use mooring if available
61' to 125'	Prohibited from using moorings- must anchor in sand 200' seaward of mooring field
126' to 210'	Prohibited from using moorings- must anchor in sand at Francis Bay 200' seaward of mooring field at depths greater than 50'
Greater than 210'	Prohibited from mooring or anchoring

Private Vessel Size Limits for South Shore

Length on Deck

16' or less	May anchor only in sand and not within 200' of mooring field
17' to 60'	Must use mooring if available
61' to 125'	Prohibited from mooring or anchoring
126' to 210'	Prohibited from mooring or anchoring
Greater than 210'	Prohibited from mooring or anchoring

Figure 34: There is significant demand for the dock in Ccral Bay.



Figure 35: Pay Station in Caneel Bay



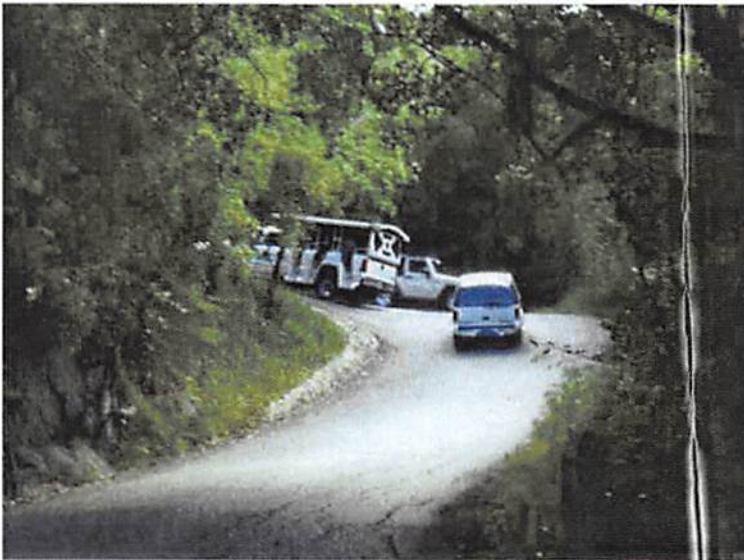
1.2.4 Roadway Characteristics

This section summarizes observations of the roads in VINP as well as data from the 2006 NPS Road Inventory of VINP by FHWA and the Eastern Federal Lands Highway Division.

Vehicles drive on the left side of the road in the US Virgin Islands, but vehicles typically have the steering wheel on the left. Roads through the Park are posted for a 20 mph speed limit with some sections posted at 10 mph. The cross section widths vary, but all roads are two lanes. Due to terrain, there are some especially steep sections, such as immediately east of Trunk Bay. This segment has three switchbacks which typically force large vehicles to use both travel lanes as they round the curves (Figure 36). Two-wheel-drive vehicles have difficulty making it up the hill when the pavement is wet, as noted in the 1998 FHWA *North Shore Road Triple Switchback Safety Study* (see summary in Appendix A).

There are many other blind curves in the Park, and when large vehicles round them, they take up both travel lanes. Appendix D of the *VINP Transportation Study* reviewed the Environmental Assessment for

Figure 36: Trunk Bay Switchbacks



the Rehabilitation of North Shore Road and notes that the road's cross-section is not up to standard, but there is not a plan to change it:

"The section of North Shore Road (V.I. Route 20) between Cruz Bay and the area of Annaberg access road is a paved, two-way roadway with an average pavement width of 18 feet. The pavement width does not meet the minimum requirements set in the 1984 Park Road Standards (D.O. 87A) and is substandard for two-way traffic. The inadequate lane widths have created unsafe driving conditions, as evidenced by areas where vehicles clearly travel on the existing shoulders. Damage to roadside vegetation occurs due to visitors pulling off the road on to undesignated areas. The existing pavement surface is rough and undergoing severe deterioration in some areas. The road has inadequate drainage structures that have worsened the condition of the road and severely deteriorated the

shoulders. FHWA representatives also indicated that the widening of North Shore Road was not considered as a serious alternative and was dismissed early in the process.

[The North Shore Road EA] also states that "When the [NPS] is faced with a choice between creating a severe road scar to bring visitors to a destination point, or requiring visitors to walk a considerable distance or to utilize alternative transportation systems, the decision should be against the scar."

The North Shore Road project began in October 2009 and is expected to take 18 months to complete. It will rehabilitate and resurface North Shore Road and improve drainage at the Visitor Center. The project does not change the cross-section of North Shore Road. All existing signs will be replaced and anti-skid pavement will be applied to the switchbacks on Trunk Bay Hill.

Based on public comments, there appears to be a shortage of striping, regulatory and warning signs, and guardrails/guardwalls. Road striping has faded and the centerline is no longer visible for the majority of North Shore Road. There may be road sections which would be suitable for a centerline rumblestrip trial.

Road jurisdiction is a significant issue at VINP as discussed in Section 5.5.

As of November 2009, the Public Works Department is constructing a roundabout in Cruz Bay at the intersection of routes 10 (Centerline Road), 104, and 102 (Southside Road). A safety program is underway which focuses on repairing and replacing guardrails throughout the island. Gift Hill Road (route 104) is being repaved/improved. Public Works projects to be initiated within the next six months include the completion/paving of Bordeaux Mountain Road, King Hill Road, and Bethany Road.

1.2.5 Traffic Volumes

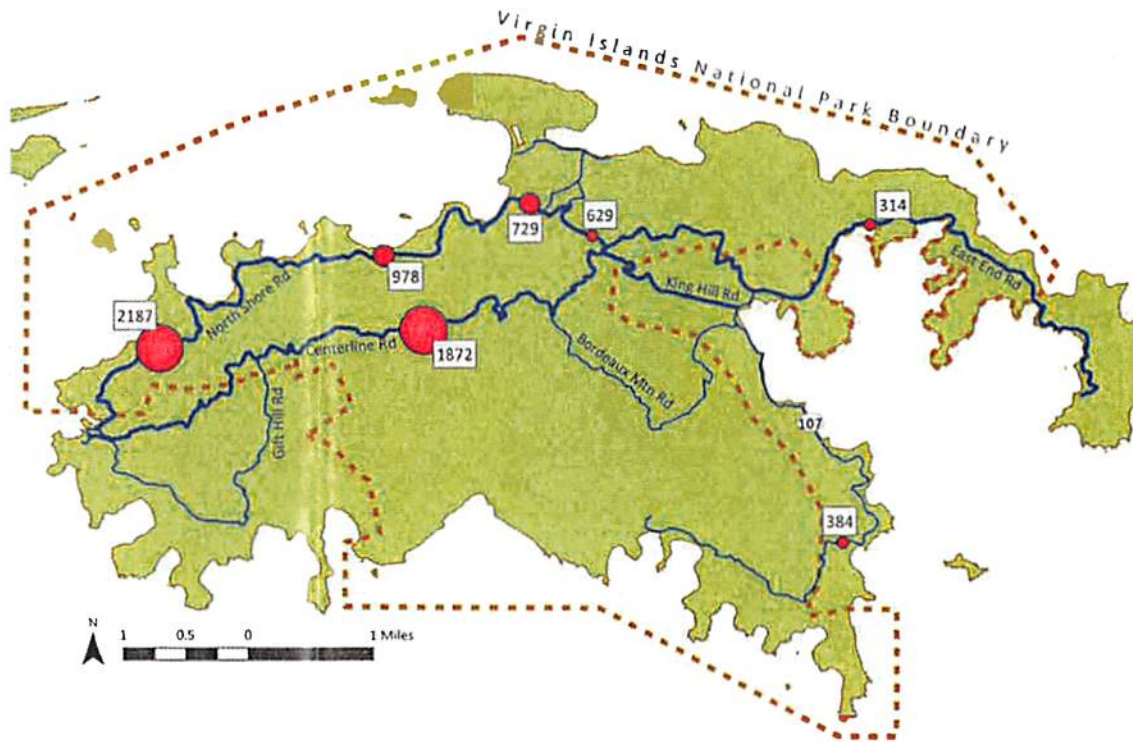
Existing Conditions (2005)

During January 2005, vehicle classification and hourly volumes were recorded using tubes at:

- North Shore Road west of the Caneel Bay entrance
- North Shore Road at Peter Bay
- North Shore Road east of Maho Bay
- North Shore Road on King Hill, north of the intersection with Centerline Road
- East End Road at Hermitage
- Route 107 at Johns Folly, north of Saltpond
- Centerline Road west of the Cinnamon Bay Trail

Using these data an average daily traffic (ADT) volume was calculated for January, as mapped in Figure 37.

Figure 37: 2005 Average daily traffic volumes-January
 (Traffic data source: 2006 VINP Transportation Study)



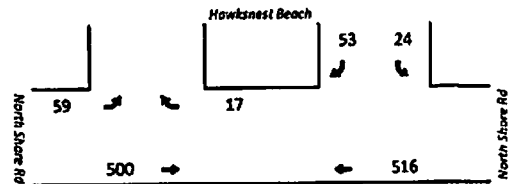
The VI Public Works Department collected data in 2009 for the territory's Transportation Master Plan. These data may be available when the plan is complete in 2010 and may provide a more up-to-date snapshot of existing conditions.

The *VINP Transportation Study* conducted turning movement counts at the beach parking lots at Hawksnest, Trunk Bay, and Cinnamon Bay, and at the intersection of North Shore Road and Centerline Road. The volumes for an average day are provided in Figure 38. The beach parking lots have separate entrances and exits. The amount of through traffic is lower at the more eastern beach destinations.

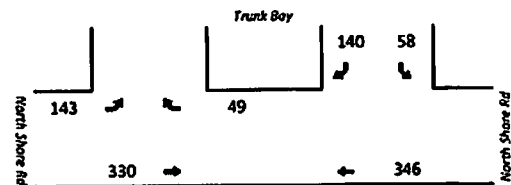
Figure 38: Turning Movement Count Volumes-Average Day in January 2005
 (Traffic data source: 2006 VINP Transportation Study)

Average Day

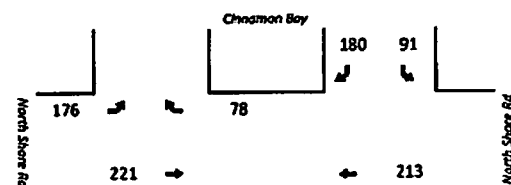
	EB	WB	NB	SB	
LT	59	0	0	24	
TH	500	516	0	0	
RT	0	17	0	53	1169
Enter	559	533	0	77	1169
Exit	524	569	76	0	1169



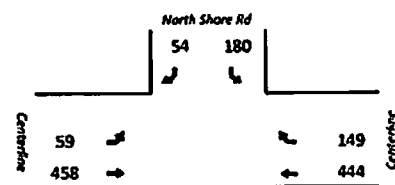
	EB	WB	NB	SB	
LT	143	0	0	58	
TH	330	346	0	0	
RT	0	49	0	140	1066
Enter	473	395	0	198	1066
Exit	388	486	192	0	1066



	EB	WB	NB	SB	
LT	176	0	0	91	
TH	221	213	0	0	
RT	0	78	0	180	959
Enter	397	291	0	271	959
Exit	312	393	254	0	959



	EB	WB	NB	SB	
LT	59	0	0	180	
TH	458	444	0	0	
RT	0	149	0	54	1344
Enter	517	593	0	234	1344
Exit	638	498	208	0	1344



Future Conditions (2030)

Historical trends and/or planning estimates for future conditions could not be obtained for this plan. The VI Public Works Department is working on projections as part of the territory's Transportation Master Plan. These data may be available when the plan is complete in 2010.

In the meantime, a basic estimate can be made using the 2005 data provided above and assuming a growth rate of 2% per year. This estimate suggests that in 2030, average daily traffic would increase to the levels shown in Table 8 and Figure 39.

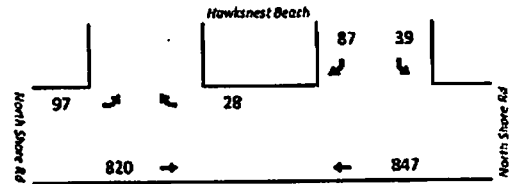
*Table 8: 2030 ADT Estimates
(Assuming 2% annual growth.)*

	2005 Ave. Daily Traffic	2030 Ave. Daily Traffic
North Shore Rd west of Caneel Bay	2187	3588
North Shore Rd at Peter Bay	978	1604
North Shore Rd at Maho Bay	729	1196
King Hill	629	1032
Centerline Road	1872	3071
East End	314	516
Saltpond	384	630

Figure 39: 2030 Average Daily Volumes at North Shore Road Intersections
(Assuming 2% annual growth.)

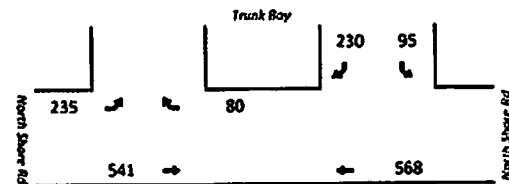
Hawksnest

		Average Day				
		EB	WB	NB	SB	
LT		97	0	0	39	
TH		820	847	0	0	
RT		0	28	0	87	1918
Enter		917	874	0	126	1918
Exit		860	934	125	0	1918



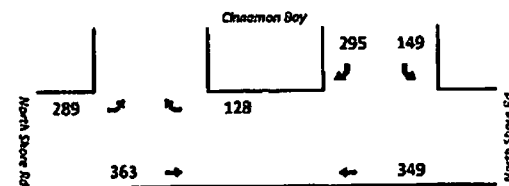
Trunk Bay

		Average Day				
		EB	WB	NB	SB	
LT		235	0	0	95	
TH		541	568	0	0	
RT		0	80	0	230	1749
Enter		776	648	0	325	1749
Exit		637	797	315	0	1749



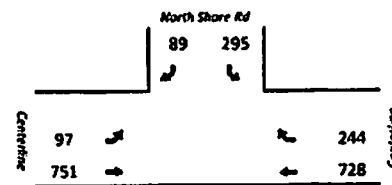
Cinnamon Bay

		Average Day				
		EB	WB	NB	SB	
LT		289	0	0	149	
TH		363	349	0	0	
RT		0	128	0	295	1573
Enter		651	477	0	445	1573
Exit		512	645	417	0	1573



**NSR & Centerline
(King Hill)**

		Average Day				
		EB	WB	NB	SB	
LT		97	0	0	295	
TH		751	728	0	0	
RT		0	244	0	89	2205
Enter		848	973	0	384	2205
Exit		1047	817	341	0	2205



1.2.6 Vehicle Classification

For the purposes of this plan, vehicle classes (as shown in Figure 40) are grouped as follows:

- passenger vehicles include Classes 1,2 and 3;
- medium trucks (including safari buses) are Class 5, 6, & 7;
- large trucks are Class 8 and higher.

Small safari buses (2 bench seats facing each other) are Class 5 trucks; large safaris (~24 passengers) are Class 6 trucks.

As shown in Table 9 and Figure 41, Class 2/passenger cars (small/medium SUVs) constitute the majority of all vehicles on St. John's roads, ranging from 66.3% (on a weekday) on North Shore Road near Caneel Bay to 88.7% (on a weekend) on Centerline Road in the East End. There is a water plant immediately west of Caneel Bay Resort which accounts for the high percentage of large vehicles there.

The VI Public Works Department collected vehicle classification data in 2009 for the territory's Transportation Master Plan. These data may be available when the plan is complete in 2010.

Figure 40: FHWA Vehicle Classification

(Source: <http://www.sarasota-manateeempo.org/Figures/figure1.pdf>)






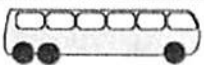
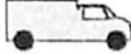

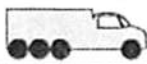
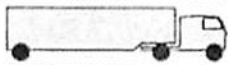
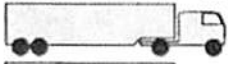


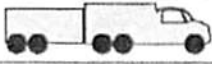



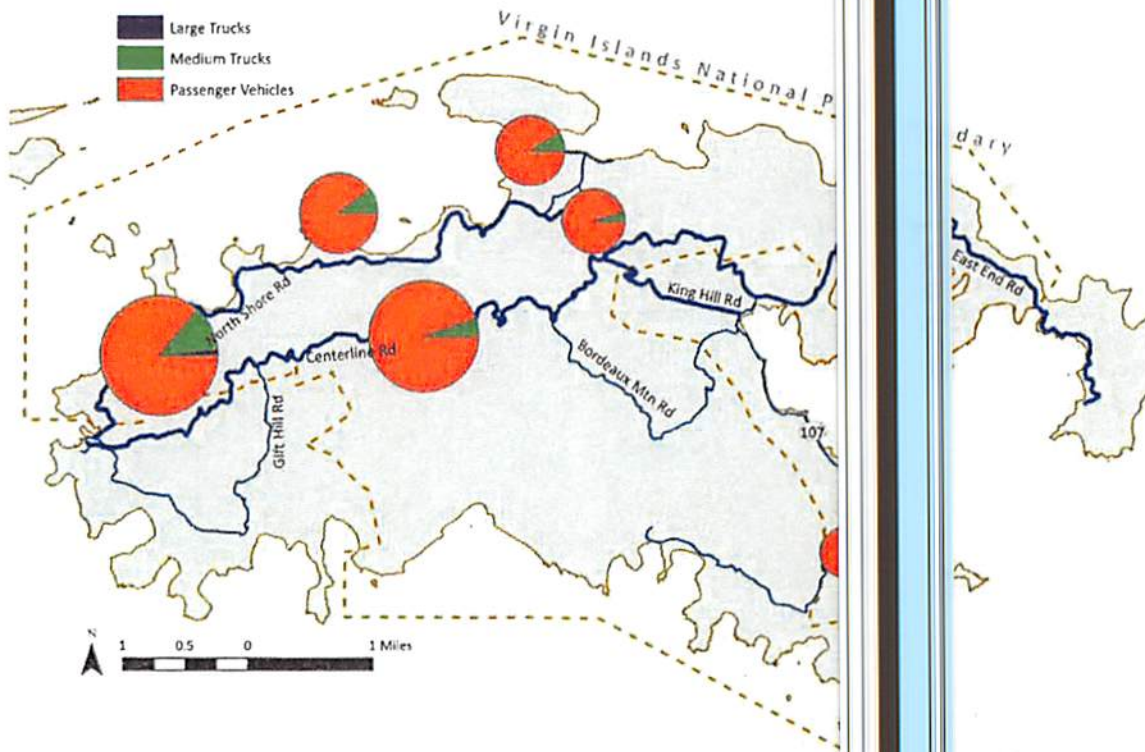
CLASS GROUP	DESCRIPTION	NO. OF AXLES
1	 MOTORCYCLES	2
2	 ALL CARS CARS	2
	 CARS W/ 1-AXLE TRAILER	3
	 CARS W/ 2-AXLE TRAILER	4
3	 PICK-UPS & VANS 1 & 2 AXLE TRAILERS	2, 3, & 4
4	 BUSES	2 & 3
5	 2-AXLE, SINGLE UNIT	2
6	 3-AXLE, SINGLE UNIT	3
7	 4-AXLE, SINGLE UNIT	4
8	 2-AXLE, TRACTOR, 1-AXLE TRAILER (2&1)	3
	 2-AXLE, TRACTOR, 2-AXLE TRAILER (2&2)	4
	 3-AXLE, TRACTOR, 1-AXLE TRAILER (3&1)	4
9	 3-AXLE, TRACTOR, 2-AXLE TRAILER (3&2)	5
	 3-AXLE, TRUCK W/ 2-AXLE TRAILER	5
10	 TRACTOR W/ SINGLE TRAILER	6 & 7
11	 5-AXLE MULTI-TRAILER	5
12	 6-AXLE MULTI-TRAILER	6
13	ANY 7 OR MORE AXLE	7 or more
14	NOT USED	
15	UNKNOWN VEHICLE TYPE	

Table 9: Vehicle Classification January 2005
 (Data source: 2006 VINP Transportation Study)

Segment	North Shore Rd west of Caneel Bay	North Shore Rd at Peter Bay	North Shore Rd at Maho Bay	King Hill	Centerline
Ave. Daily Traffic	2,187	978	729	629	1,87
Vehicle Classification (% both directions)					
Class 1	0.4%	0.3%	1.0%	0.4%	0.4%
Class 2	66.7%	72.9%	80.2%	85.6%	76.8%
Class 3	18.8%	16.0%	9.7%	9.2%	16.7%
Class 4	0.2%	0.1%	0.1%	0.0%	0.1%
Medium trucks (Class 5-7)	12.3%	10.0%	8.7%	4.5%	5.3%
Large trucks (Class 8+)	1.4%	0.6%	0.4%	0.2%	0.8%
Vehicle Classification (% applied to ADT)					
Class 1	9	3	7	2	7
Class 2	1460	713	585	539	1438
Class 3	412	156	70	58	313
Class 4	4	1	1	0	2
Medium trucks (Class 5-7)	269	98	64	28	99
Large trucks (Class 8+)	32	6	3	2	14

Segment	Saltpond
Ave. Daily Traffic	384
Vehicle Classification (% both directions)	
Class 1	0.3%
Class 2	82.9%
Class 3	9.2%
Class 4	0.0%
Medium trucks (Class 5-7)	7.3%
Large trucks (Class 8+)	0.1%
Vehicle Classification (% applied to ADT)	
Class 1	1
Class 2	318
Class 3	35
Class 4	0
Medium trucks (Class 5-7)	28
Large trucks (Class 8+)	0

Figure 41: Vehicle Classification January 2005
 (Data source: 2006 VINP Transportation Study)



1.2.7 Vehicle Occupancy

The VINP Transportation Study also measured vehicle occupancy, as summarized in Table 10.

Table 10: Vehicle Occupancy Summary from 2006 VINP Transportation Study

Vehicle Type	Average Occupancy
Class 2 (passenger cars (small/medium SUVs)	2.38
Class 3 (light trucks)	1.93
Class 5 taxi (2-axle single unit trucks)	4.38
Class 6 taxi (3-axle single unit trucks)	7.56

1.2.8 Parking

A brief parking inventory was conducted in October 2009 and is included in Appendix D. The most frequently cited problem areas are the Visitor Center and Trunk Bay. There are 38 vehicles in the fleet, which park at the Visitor Center, Maintenance, and the Biosphere Reserve Center. There is also employee parking at these sites as well.

The VINP Transportation Study found that the most frequent parking turnover occurred at the Sugar Mill, where 60% of the vehicles stayed less than ½ hour. The lowest short-term turnover was at Maho Bay, where only 16% of the vehicles remained less than ½ hour. The Trunk Bay occupied the longest, where 27% of the vehicles were parked for more than 3 hours.

The Reef Bay and L'Esperance (see Trail Bandit's map in Figure 26) Trails are on Centerline since taxis do not travel on Centerline as frequently as on North Shore Road, people often have to get to the trailheads, despite the lack of parking.

A sleeping giant in the realm of parking demand appears to be villa rentals. The density of demand associated with the villas is such that they require cars for access. Moreover, the number of villas on the island has not approached build-out, so demand from this source will only increase. One option for managing this issue, if not already underway, is for the VI government to work with developers to increase density so as to make transit more feasible, and/or charging transportation impact fees. Another option is to work with the villa rental companies to determine how best to manage transportation for the villas, such as contracting with a local taxi business to arrange for transportation.

There will always be parking demand from rental cars associated with villas. But reducing demand from other sources, such as visitors coming from St. Thomas for the day, employees, and guests staying at hotels may be more manageable.

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APPENDIX C: COMMITTEE INFORMATION

Virgin Islands National Park (VINP) Alternative Transportation Plan

Steering Committee Meeting, Thursday, August 20, 2009 at VINP Visitor Center

Meeting Minutes by B. Isler

Attendees:

Leona Smith, St. John Administrator
Monique Sibilly Hodge, VI Department of Tourism
Leia LaPlace, DPNR Division of Planning
Camille Parris, Jr. Paradise Taxi and Board Member of VI Taxi Cab Commission
Judy Wheatley, VI Taxi Cab Commission Executive Director
Ulric Pilgrim, VI Taxi Cab Commission Chairman of the Board
Javier Estrill, VI Taxi Cab Commission Supervisor of Taxi Enforcement
Mark Hargrove, VINP Superintendent
Paul Jones, VINP Concessions
Laurelly Anthony, VINP Commercial Use Authorizations
Beth Isler, NPF Transportation Scholar

- The first order of business was introductions.
- Beth explained the purpose of the VINP Alternative Transportation Plan which is to build working mitigate excess parking demand, improve safety, and improve flow and circulation within the Park.
- Described the planning process, which involves developing a vision and goals, identifying issues and then identifying ways of addressing the issues to achieve the vision.
- Noted that VI Public Works is currently developing a Transportation Master Plan, so this is an important opportunity for collaboration to ensure consistency and maximize effectiveness.
- Described role of Steering Committee
- Described role of Advisory Committee
- The group considered the draft vision statement; no comments. Can be revisited over subsequent
- The group brainstormed goals:
 1. Reduce parking demand.
 2. Establish scheduled transportation service through the VI Taxi Cab Commission.
 3. Improve safety.
 4. Improve bicycle and pedestrian facilities.
 5. Improve wayfinding and traffic signage.
 6. Manage Park overlooks/scenic pull-offs.
 7. Provide for alternative-fueled vehicles.
 8. Be accessible for physically-challenged people.
 9. Reduce number of rental cars coming over from St. Thomas.
 10. Improve visitor experience.
 11. Enable people to pre-plan their trip.

12. Address sediment control from unpaved roads.

- Like the vision statement, the goals may be revised over subsequent meetings.
- Talked about holding Open Houses to listen to public comments.

Next Steps:

- Beth will forward meeting minutes to SC members and coordinate next meeting (most likely focus on developing evaluation criteria to prioritize projects).
- Beth will contact taxi drivers to solicit a proposal from them regarding scheduled runs to next SC meeting and will be reviewed by VINP and VI Taxi Cab Commission.
- Beth will forward electronic copies of 2006 *VINP Transportation Study* to SC members.
- VINP will organize Open Houses, one in Cruz Bay and one in Coral Bay. These are likely coming weeks.

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Virgin Islands National Park (VINP) Alternative Transportation Plan

Steering Committee Meeting, Wednesday, September 9, 2009 at VINP Red Hook

Meeting Minutes by B. Isler

Attendees:

Donna Roberts, VITRAN
Monique Sibilly Hodge, VI Department of Tourism
Jullus Jessup, DPNR Division of Planning
Keith Richards, Public Works Department
Judy Wheatley, VI Taxi Cab Commission Executive Director
Ulric Pilgrim, VI Taxi Cab Commission Chairman of the Board
Javier Estrill, VI Taxi Cab Commission Supervisor of Taxi Enforcement
Nikolay Hotze, Caneel Bay
Elba Richardson, VINP
Beth Isler, NPF Transportation Scholar
Via phone: Leia LaPlace, DPNR Division of Planning

- Beth recapped the purpose of the VINP Alternative Transportation Plan and roles of the Steering Committees. Noted that VI Public Works Department is developing a territory-wide Comprehensive Master Plan, so this is a great opportunity to work together.
- Went around the room for introductions and to describe what each committee member wants to plan:
 - Improve safety; increase parking availability; improve transportation alternatives like a s hear from the public with their recommendations; increase visitation to the island and n more accessible in terms of cost and customer service.
 - Improve customer service (one bad review on tripadvisor.com can be very bad for the re can provide better service by not making people wait for a full load before leaving for th balance incentives and disincentives- for example, people may be willing to use transpor alternatives so that they don't have to pay for parking; improve safety and security, part visibility of park rangers; improve Cruz Bay parking and congestion.
 - Improve customer service; improve signage; make parking more available; improve safe projects so that they can be implemented.
 - Implement annual driver training for safety (safety IS a customer service) for taxi drivers drivers, etc. (VITRAN drivers currently do go through annual training); first contact with y island, for example, on the ferry; VINP should increase its presence at Saltpond; Reef Bay improvements, particularly with visibility and safety; improve signage to make locations hiking trail obvious; need transit service on North Shore Road- people staying at Cinnam Campground take VITRAN along Centerline Road and then hike the Cinnamon Bay Trail to campground AT NIGHT- this is a safety concern but people do it because of the lack of tr alternatives.
 - Need effective, efficient, and safe movement of people and goods; have a coordinated p the government and VINP; vision and goals are important to establish what we need to develop short- and long-term implementation plans that identify resources for impleme

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- signage; manage vehicle drivers; include periodic review of plan with com to-date and measure progress.
 - Provide best customer service possible.
 - Understand the balance of the transportation modes in the system and the St. John and the land use.
 - Improve mass transit system in order to improve taxi service (taxis are som they are dollar rides and it is not possible to tell which- taxis must be taxis, in order for taxis to stop providing dollar rides).
 - Provide people with a better transportation experience; address rental car
- Discussed rental cars traveling between St. John and St. Thomas
 - Each car rental agency has their own policy regarding their cars traveling b
 - Perception is that cars from St. Thomas are inundating St. John transportat parking capacity; need more research, like surveys on auto barges. The US website will have visitor survey data which may shed some more light on tl
 - Villa rentals often include rental cars.
 - Most convenient for people to rent a car at the airport and bring it straight carrying luggage onto taxi, then ferry, then another taxi. Need a convenien order to compete with rental cars.
 - Need to consider from the visitor standpoint- what is most convenient and
 - Need to provide transportation information so that people can plan their t
- Don't restrict alternatives- give people as many options as possible and increase co
- Consider a park & ride system to alleviate parking issues in the park.
- There is demand for VITRAN service on North Shore Road; only road block is equipm federally approved to negotiate the switchbacks on Trunk Bay hill); medlum-sized b year.
- Need to expand transit service.
- VITRAN is one of the few wheelchair-accessible transportation providers; there are wheelchair accessible.
- Taxi Cab Commission is working on a professional development program for drivers
- Need to keep in mind that taxi fares have not changed since 2005, despte increase; VITRAN is subsidized- taxi businesses are not.
- Be sure that both tourists and residents benefit from transportation improvements.
- Reviewed the vision and goals, with the following revisions/additions (goals are not
 1. Reduce parking demand.
 2. Establish scheduled transportation service through the VI Taxi Cab Commission
 3. Improve safety.

28 October 2009
Page 2 of 3

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4. Improve bicycle and pedestrian facilities.
 5. Improve wayfinding and traffic signage and post shuttle and VITRAN schedules.
 6. Manage Park overlooks/scenic pull-offs.
 7. Provide for alternative-fueled vehicles.
 8. Be accessible for physically-challenged people.
 9. Reduce visitor reliance on rental cars for mobility and access number-of-rental-cars-coming-to Thomas.
 10. Improve visitor experience and customer service.
 11. Enable people to pre-plan their trip.
 12. Address sediment control from unpaved roads.
 13. Improve mobility and accessibility within the Park.
- Ran out of time before discussing evaluation criteria/prioritization and public outreach.

Next Steps:

- Beth will forward meeting minutes to SC members and coordinate next meeting (October) on St.
- Beth will contact the St. John Administrator for guidance on what public outreach formats have been successful on the Island.
- Beth will meet with the Bureau of Motor Vehicles to learn more about rental car operations.

Virgin Islands National Park (VINP) Alternative Transportation Plan

Steering Committee Meeting, Tuesday, October 20, 2009 at VINP Visitor Center, St. John

Meeting Minutes by B. Isler

Attendees:

Ira Wade, Public Works Department

Donna Roberts, VITRAN

Keith Richards, Public Works Department

Judy Wheatley, VI Taxi Cab Commission Executive Director

Ulric Pilgrim, VI Taxi Cab Commission Chairman of the Board

Javier Estrill, VI Taxi Cab Commission Supervisor of Taxi Enforcement

Camille Parks, Jr., VI Taxi Cab Commission Board Member

Aubrey Bridgewater, VI Taxi Cab Commission Enforcement Officer

Dustin Prudhomme, Westin St. John Director of Safety

Arno Pfeffer, Westin St. John Director of Rooms

Elba Richardson, VINP

Paul Jones, VINP

Beth Isler, NPF Transportation Scholar

- Went around the room for introductions and to hear what new committee members had to say about the plan:
 - Improve transportation system efficiency.
 - Address congestion.
 - Provide public transit.
 - Provide environmentally sustainable/"green" transportation options.
 - Provide bike paths and sidewalks; more options for bicyclists and pedestrians.
 - Improve parking.
 - Public Works has many projects already in progress and several that will be completed in the next six months:
 - Roundabout
 - Safety program (will replace guardrails, etc.)
 - Route 104/Gift Hill Road paving
 - Sidewalk between 7th Day Adventist Church and roundabout
 - Paving Bordeaux Mountain Road
 - Paving King Hill Road
 - Paving Bethany Road.
 - Improve customer service.
 - Make transportation safe and effective.
 - St. John rental car quota cannot be increased because transportation system is currently at over-capacity (congestion and not enough parking). As transportation providers, VITRAN and other providers would be able to make up the difference.

- o Ensure that the projects come to fruition. Make sure something comes out of this plan.
 - o Public Works is developing a Comprehensive Transportation Master Plan that will provide of projects for each island over the next twenty years. This presents an excellent opportunity for shared solutions to shared problems. The process for prioritizing and organizing the projects is similar to the process for the VINP transportation plan.
 - o Provide a safe and reliable transportation system for everyone (not exclusively residents) together toward common goals rather than against each other.
- Beth described the concept of a Transportation Management Association (TMA) and suggested that it be developed to continue the work started for this plan. The TMA would be an independent organization, not any one agency. It would be a cooperative framework in which to plan the St. John transportation projects. There would be an interim period between Beth's departure and the establishment of the TMA during which someone would have to take the lead in calling regular meetings. The first step is to identify funding sources to hire an executive director for the TMA.
 - Beth explained the project prioritization process. The recommendations of the 2006 VINP Transportation Master Plan have been organized into a spreadsheet to be scored according to how well they satisfy the planning criteria established by the committee in earlier meetings. Other measures such as maintainability, public acceptability, momentum, implementability, and impact are also to be considered. Asked the committee if there were any other measures to add, but there were none at the time.
 - **Through the prioritization process and subsequent discussion, the committee will identify projects, steps, and timeframes, and develop partnerships to implement projects.**
 - Discussed the first project listed in the spreadsheet: "Support scheduled shuttle service managed by the taxi industry." Confusion arose by use of the term "shuttle." What was meant was scheduled service on a regular route to be provided by taxis. The service would charge the usual point-to-point fares regulated by the TCC. The TCC has suggested to the drivers that they consider providing this option and submit a proposal to the Park. The proposal is to come entirely from the drivers and the system would be self-managed by the drivers. The Park will support the system in ways that it can, such as providing shelters with benches at various locations. The Park cannot manage, regulate, or dictate how the system would operate. Taxi drivers interested in providing the service should work out the details and come forward with a proposal.
 - Committee members are requested to peruse the prioritization sheet and score projects by Tuesday, October 27th. Beth will then compile the results and prioritize the list.

Next Steps:

- Coordinate next meeting (November) in Red Hook.
- Continue to develop the implementation plan.

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Virgin Islands National Park (VINP) Alternative Transportation Plan

Steering Committee Meeting, Thursday, November 12, 2009 at VINP Red Hook, St. Thomas

Meeting Minutes by B. Isler

Attendees:

Julius Jessup, DPNR
Keith Richards, Public Works Department
Judy Wheatley, VI Taxi Cab Commission Executive Director
Ulric Pilgrim, VI Taxi Cab Commission Chairman of the Board
Javier Estrill, VI Taxi Cab Commission Supervisor of Taxi Enforcement
Mark Hardgrove, VINP
Elba Richardson, VINP
Paul Jones, VINP
Beth Isler, NPF Transportation Scholar

- Discussed proposed sign for park overlooks (see right); no comments. VINP will buy signs and install two at each of the Caneel, Trunk, and Maho overlooks on North Shore Road. Signs are 12"x18". This should help taxi operations by increasing capacity at the overlooks. VINP will also work on trimming vegetation at the overlooks.
- Beth had only received one response regarding the prioritization worksheet provided at the last meeting. Therefore, a different prioritization process is proposed to identify committee members' top priorities: the items from the implementation plan¹ were posted on the wall and each person was given ten stickers to place next to the projects which they considered to be most important. The results are below:

Eight votes

Plans

- Develop a Park Sign Plan

Six votes

Projects

- Support scheduled service managed by the local taxi industry
- Develop an intermodal facility at the VINP dock in Red Hook

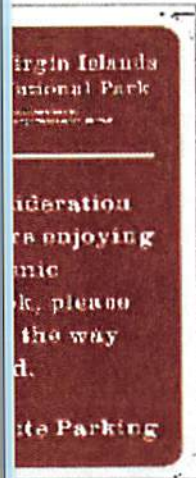
Plans

- Develop an erosion and sediment control plan for unpaved roads

Five votes

Plans

¹ The implementation plan includes the recommendations of the 2006 VINP Transportation Study as well as Beth Isler's recent experiences at VINP.



...ndations based on her

- o Finalize VINP Alternative Transportation Plan

Four votes

Projects

- o Consider annual training for taxi drivers

Three votes

Projects

- o Add strategically placed guardrails for drop-offs and roadside obstructions
- o Develop a Traveler Information System/Parking Management System

Two votes

Projects

- o Create new parking at Maho Bay

Plans

- o Coordinate with local agencies regarding planning and implementation of the proposed C garage
- o Create a St. John Transportation Management Association to manage travel demand

One vote

Projects

- o Manage and enforce overlooks to improve operations for users
- o Provide a trail on the north side of NSR from the Jumbie Beach parking lot to the staircase
- o Stripe all roads with centerline stripe and edge stripe

Plans

- o Replace or reduce the severity of the Trunk Bay-Peter Bay switchbacks
- o Widen North Shore Road, Centerline Road, and other park roads to NPS standards
- o Continue to investigate the feasibility of a bike path: the Lind Point segment
- o Work with VI Public Works Department to identify and prioritize safety improvements
- o Develop access plan for Hassel Island
- o Coordinate on development of a marine access plan

Policies

- o Use Park Rangers and VIPD to enforce all traffic laws, particularly speed limits

No votes

Projects

- o Provide visitor parking around the periphery of the ballfield located east of the VC
- o Remove trees to restore sight distance for Jumbie Beach parking lot

- Repair open catch basin located east of Maho Bay
- Lower speed limit on Centerline Road near Reef Bay trailhead to 10 mph as pedestrians are ahead
- Correct the sight distance problems at intersections and driveways or reduce
- Repair the gut near Oppenheimer Beach
- Reconstruct perpendicular barrier walls to have slanted ends for safety

Plans

- Clarify definition of "access" in GMP
- Construct paved shoulders on all rural, paved roads on St. John within park
- Widen and increase radius of sharp curves where autos and trucks often cross
- Complete paving on Bordeaux Mountain Road within park boundary
- Obtain property to reconstruct 100 degree plus Penn Corner on NSR for additional
- Evaluate possible improvements for access road to Francis Bay, including: repave, pass parked cars; add taxi turnaround
- Construct paved shoulders on all rural, paved roads on St. John outside of park
- Complete paving on Bordeaux Mountain Road outside park boundary
- Develop a VINP Parking Plan and establish parking management strategies
- Work with VI Port Authority and stakeholders on improvement and maintenance

Policies

- Provide access to private property owners surrounded by VINP
- Enforce handicap parking laws
- Develop a policy on large vehicles
- Discussed the top five projects:
 - **Develop a Park Sign Plan:** VINP will enter this project into its project management
 - **Support scheduled service managed by the local taxi industry:** the taxi drivers have potential for scheduled service and some are planning out the service.
 - **Develop an intermodal facility at the VINP dock in Red Hook:** VINP is working with Fish & Wildlife to make improvements to this area, to include restrooms, dock replacement, and an improved passenger waiting shelter. VINP will continue to use Use Authorization permit holders to provide transportation between the VINP Park on St. John, which will allow a more convenient and seamless trip for visitors and reduce reliance on rental cars. Caneel Bay Resort should provide some kind of transport bags from taxis to boats.
 - **Develop an erosion and sediment control plan for unpaved roads:** VINP will work with the Community Council and others to identify treatments for roads and develop

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- o **Finalize VINP Alternative Transportation Plan:** Beth will send out a draft for committee review. The deadline for comments will be December 1st. Beth will then make revisions based on feedback and finalize her report by December 8th. The committee can continue to revise the plan as needed after that time.
- Discussed how to keep the cooperative planning process for St. John moving forward after Beth learned. It was agreed that most logical and effective way is to continue the process through the territory's Comprehensive Transportation Master Plan (CTMP). Public Works will take the lead on this.
- Suggestions for the plan: 1) include a "Safety and Security" heading in the Implementation plan. This was identified as a public priority during the CTMP development; 2) remove "feasible" from the recommendation. "Work with VI Public Works Department to identify and prioritize feasible safety improvements." Please provide feedback on these revisions.

Next Steps:

- Beth will combine the prioritization results from this meeting with the completed worksheet that was distributed after the last meeting.
- Committee to review the draft report/plan that Beth will send out during the week of 11/16. Please provide feedback by 12/1.
- Coordinate next meeting (January) in St. John.

Virgin Islands National Park (VINP) Alternative Transportation Plan

Advisory Committee/Taxi Cab Meeting, Thursday, August 20, 2009 at VINP Visitor Center

Meeting Minutes by B. Isler

Attendees:

Beaver/Austin Hendricks
Camille Parris, Jr. Paradise Taxi and Board Member of VI Taxi Cab Commission
Ana Penn, Neal's Taxi
Kenneth Williams, Kitch Tours
Doreen Callwood, Love City Taxi
Benedict Registe, VI Taxi Association
Earl Thomas, St. John Taxi Association
Judy Wheatley, VI Taxi Cab Commission Executive Director
Ulric Pilgrim, VI Taxi Cab Commission Chairman of the Board
Javier Estrill, VI Taxi Cab Commission Supervisor of Taxi Enforcement
Mark Hargrove, VINP Superintendent
Paul Jones, VINP Concessions
Laurelly Anthony, VINP Commercial Use Authorizations
Beth Isler, NPF Transportation Scholar

- The first order of business was introductions.
- Beth explained her role, which is to address parking overflow, improve safety and
- Described the purpose of the meeting and why this group was brought together, 1. operation issues and 2. Identify solutions/make recommendations for improvement
- Noted that there is much to talk about, so there will likely be several meetings over
- The meeting then turned to a discussion of taxi issues:
 - It would be illegal for VINP to operate its own shuttle service without a medal vehicle-for-hire and therefore under regulation of the VI Taxi Cab Commission
 - Communication is a significant issue; for example, eventhough visitors at Frer they can catch the Maho shuttle back to Cruz Bay, they may forget or be unsure back for them since there are no signs. The lack of communication also prevent plan a trip in advance, so they might end up renting a car.
 - Public roads like Johnny Horn and the South Shore have been closed to vehicle property.
 - Curves should be widened. This has been brought up in the past but nothing
 - The roads are owned by the VI government but maintained by the Park.
 - The entrance fee for Trunk Bay was supposed to be temporary, but it is still in
 - There is not enough parking at Trunk Bay. It should be expanded on the top of visitors for parking in a "No Parking" zone when there are not enough spaces
 - Perhaps there could be a staging area for Trunk Bay taxis at another location for visitors

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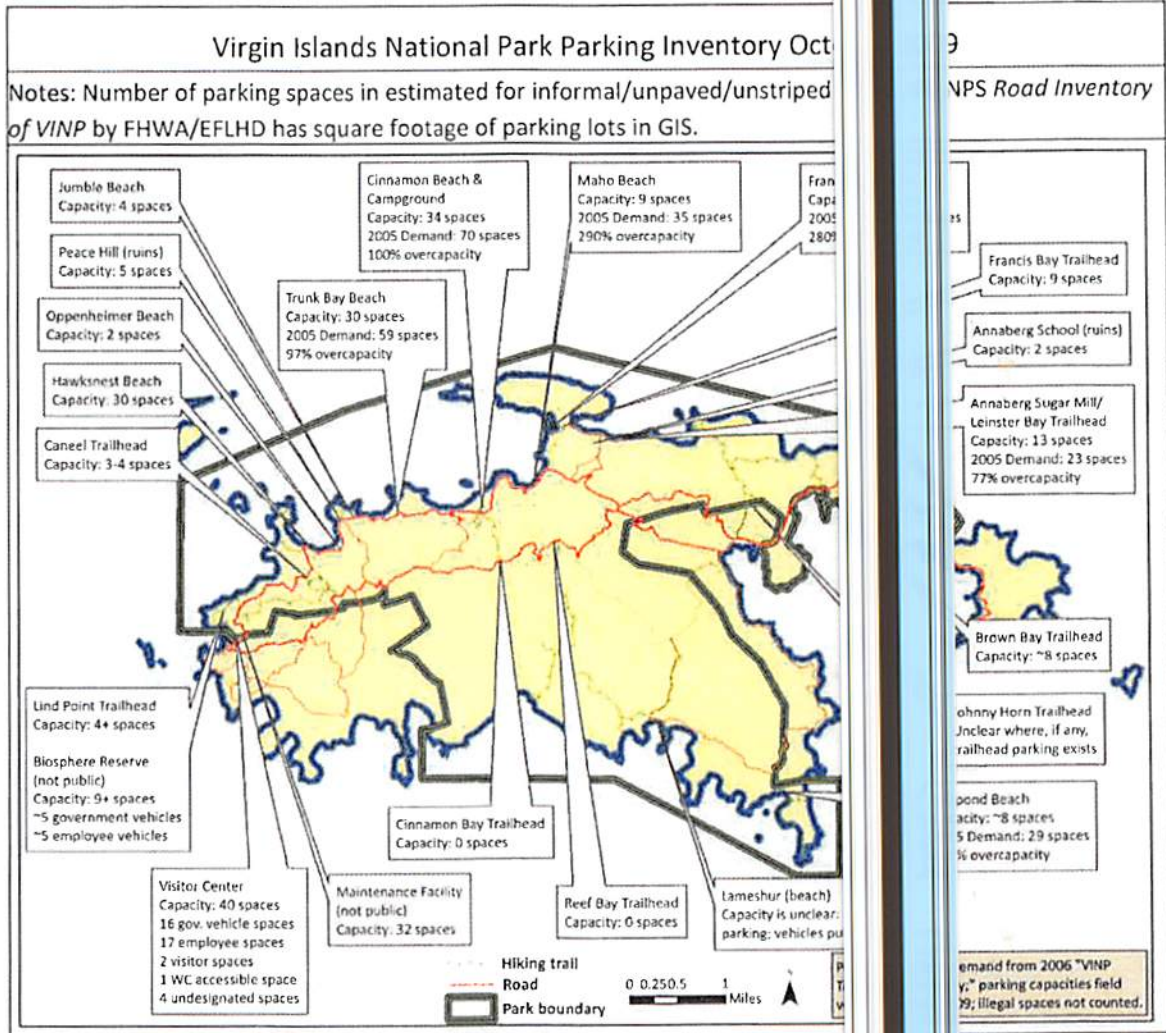
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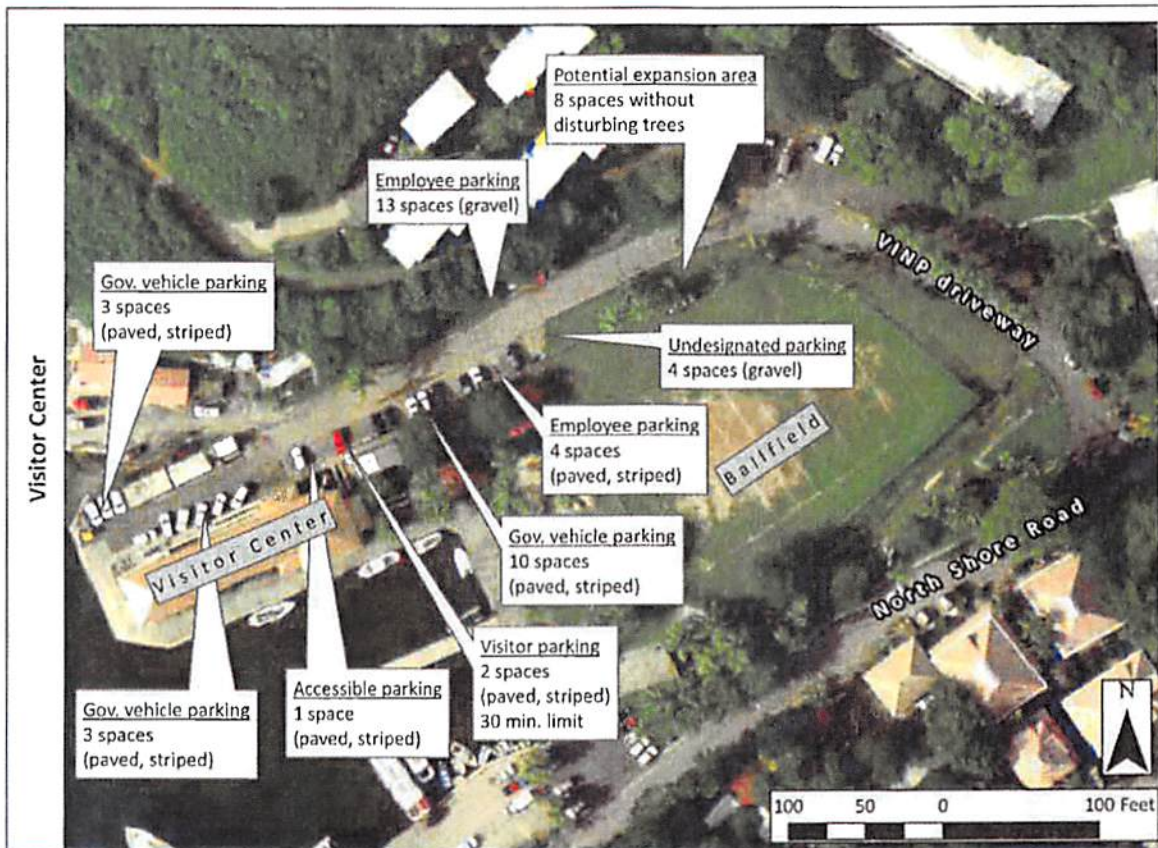
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arking spaces for

- There should be a connection between the North Shore and Centerline roads for emergency vehicles and to provide an alternative route when the Park entrance on North Shore Road (NSR) is closed for Carnival.
- Perhaps the VI government and VINP could form a partnership to investigate the potential of other roads.
- VINP is reaching out to the taxi businesses to consider running scheduled routes. The operation should be managed by the taxis. The Park should not be overseeing it.
- Taxis want structure
- It's a new day for the taxi industry. The Taxi Cab Commission is bringing consistency in management and enforcement. There will be a staff member stationed in Cruz Bay to enforce rules.
- Park overlooks need to be better managed. Currently people pull in and picnic there, blocking the way from getting their turns. The Park should do something to keep people moving so everyone gets their turn.
- Enforcement is essential for success.
- The Park might consider charging for parking.
- At this point, the meeting began to focus on non-Park related issues such as regulation of taxis, etc..

APPENDIX D: VINP PARKING INVENTORY





Visitor Center



- 40 spaces
 - 17 employee spaces
 - 16 gov. vehicle spaces
 - 2 visitor spaces
 - 1 accessible space
 - 4 undesignated spaces
- There are 38 vehicles in the VINP fleet; they are parked at the VC, Maintenance, and the Biosphere Reserve Center.
- The designation of spaces (e.g. visitor versus gov. vehicle) is not always clear.
- Gov. vehicles sometimes parked in visitor spaces.
- Some parking spaces are shared with VIPD and St. John Rescue.
- Public has suggested expanding parking around the ballfield. 8 spaces could be added next to existing parking without removing trees.
- Photos to left:
 - Top=VINP driveway, looking west from the bend towards VC.
 - Middle=employee parking on north side of driveway.
 - Employee and gov. vehicle parking on south side of driveway.

Maintenance Facility



- 32 spaces
- Paved & striped
- Single access (in/out)

Lind Point Trailhead



- 4 spaces + ~7 overflow spaces closer to residences
- Gravel with concrete bumpers
- Located on Lind Point Road

Biosphere Reserve Center



- ~9 spaces + 4 on grass opposite parking
- Paved, not striped
- ~ 5 government vehicles, ~5 employee vehicles

Caneel Trailhead



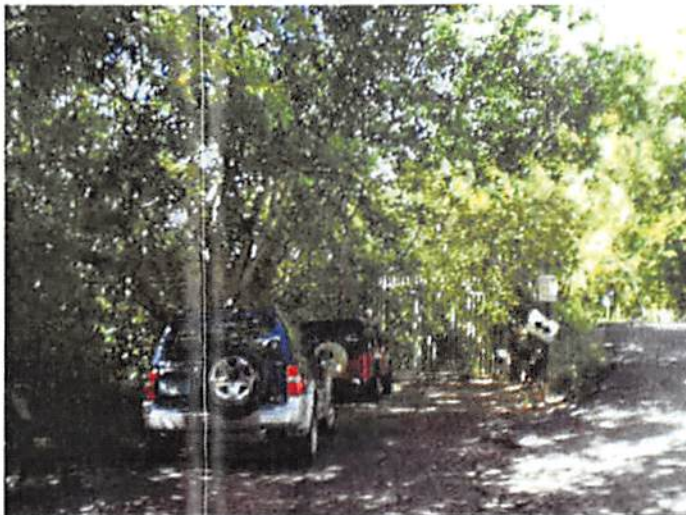
- Pull-off for 3-4 vehicles
- Paved
- Adjacent to taxi pull-off

Hawksnest Beach



- 30 spaces (including two accessible spaces)
- One-way configuration; separate entrance and exit
- Spaces slightly angled
- Paved & curbed
- There is an area that appears to be a taxi pull-out, but it is not signed; perhaps it is excess parking?

Oppenheimer Beach



- About 2 spaces along side of driveway before gate

Peace Hill (ruins)



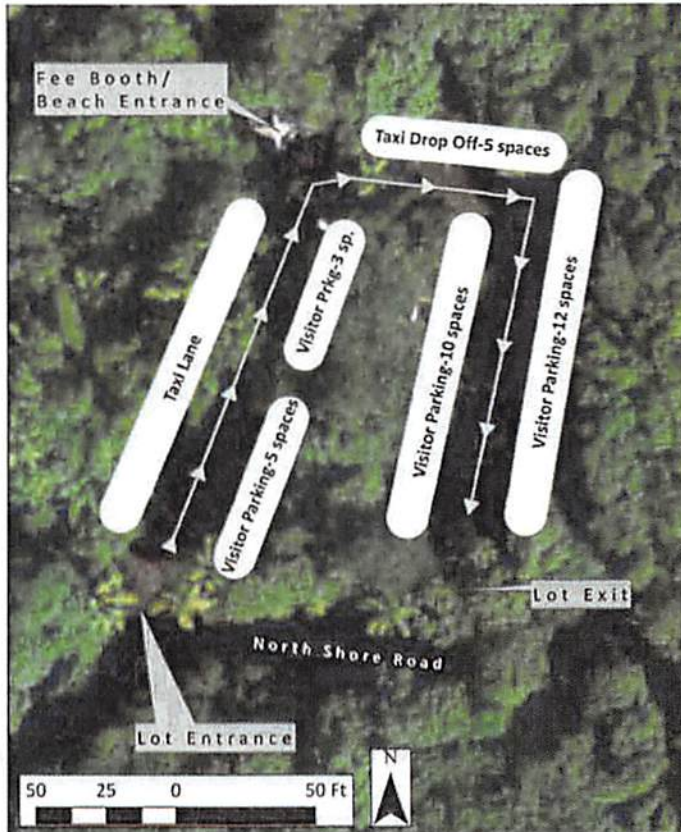
- About 5 spaces
- Single access (in/out)
- Access is not perpendicular to road
- Pavement is in very bad condition

Jumbie Beach



- 4 spaces
- Vehicles must back into North Shore Road to exit
- Poor sight distance
- Project in progress to build ped connection between parking and beach
- Paved
- Drainage issues

Trunk Bay Beach



- 30 spaces (visitor, not taxi; includes 1 accessible space)
- Taxi lane and 5 spaces for taxi drop-off
- Paved & curbed
- Striped
- One-way configuration; separate entrance and exit
- Grades on west side of lot (adjacent to taxi lane) favorable for parking expansion.



Cinnamon Bay Campground



- 19 spaces in lower lot (including 1 accessible space), ~15 in upper lot
- Lower lot is paved
- Upper lot is gravel with no formal boundaries
- Taxi stand adjacent to lot
- One-way configuration/separate entrance and exit to site, but single in/out access to parking lot

Maho Beach



- Parallel pull-off for about 9 vehicles
- Paved
- Stone wall
- Approximately 9 illegal spaces on southeast side of road as shown below



Francis Bay Trailhead



- 9 spaces
- Paved & curbed
- Vehicles must back into road to exit
- Significant drainage problem (see sediment collection at northern end of lot in photo below)



Francis Bay Beach



- 9 spaces
- Dirt lot
- Driveway posted "No Parking" on east side, but not on west side

Annaberg School



- Parallel pull-off for 2 vehicles
- Pull-off is too narrow
- Paved
- No ped connection between parking (at Danish Road) and trail to Annaberg School
- Signage for Annaberg School is inadequate

Annaberg Sugar Mill/Leinster Bay Trailhead



- 13 spaces
- Single access (in/out)
- Paved & curbed
- No handicap accessible spaces
- Splitter island (flush with pavement)
- Staircase connects lot to mill
- Taxi turn-around adjacent to mill
- Lot seems especially wide; different configuration may be more efficient; spaces seem very wide on east side

Johnny Horn Trailhead



- Official park map suggests that trail begins at end of dirt road at park boundary, but sign for trailhead is on Route 10 next to the Moravian Church in Coral Bay (outside the park boundary).
- It is unclear where to park.
- VITRAN has a stop on Route 10 adjacent to the Church.

Brown Bay Trailhead



- ~8 spaces
- Single access (in/out) (very wide)
- Dirt lot
- Trail is not maintained; trailhead is signed eastbound on East End Road, but not westbound.
- Approximately 6" vertical drop between road and lot on eastern side of access (see below).



Saltpond Bay



- ~8 spaces
- Dirt lot
- Single access (in/out) (very wide)
- Located on 90-degree curve in road
- Adjacent VITRAN stop

Great Lameshur Bay Beach



- No formalized parking
- Small turnaround: vehicles can pull around the tree to reverse direction
- Unpaved

Little Lameshur Bay Beach/Trailheads



- No formalized parking; vehicles pull to side of road (top left) or can go to end of the road by the Ranger's driveway and park in the very wide turnaround (bottom left).
- Unpaved

Reef Bay Trailhead



- No formal parking; vehicles pull off on both sides of road, but there are very steep drop-offs adjacent to these shoulders.
- Trailhead located on blind curves on Centerline Road. Sight distance is very poor.
- Taxis stop in the middle of the road to drop off passengers for the ranger-guided hike.
- 2006 *VINP Transportation Study* recommended locating parking on the hairpin turn 0.3 miles west of trailhead on Centerline Road. (see below).



Cinnamon Bay Trail (Centerline Road)



- No formal parking; vehicles pull off on south side of road (trailhead is on north side of road).
- Grades on south side of road favorable for parking expansion.
- No approach signs or ped warning signs.
- Vertical drop of +12" between road and trailhead.



Scenic Pull-Offs/Overlooks

General Observations



- Sight distances at each overlook should be measured; many seem to be inadequate.
- Place signs ahead of overlooks to warn approaching vehicles.
- Pavement marking for North Shore Road overlooks shown far left.
- Guardwall for North Shore Road overlooks shown near left.

Cruz Bay



- Room for ~10 vehicles

Caneel Bay



- Room for about 3 vehicles

Trunk Bay



- Room for about 5 vehicles
- Poor sight distance at entrance due to vertical curve.

Maho Bay



- Room for about 3+ vehicles
- Trimming trees at far end would encourage drivers to pull forward and maximize use of overlook length.

Centerline Road (by Cinnamon Bay)



- Room for about 2 vehicles
- Very narrow
- Inadequate sight distance

ACT. NO. 806

BILL No. 1562

FOURTH LEGISLATURE OF THE VIRGIN ISLANDS

OF THE UNITED STATES

Regular Session

1962

Act Accepting and Authorizing National Park Service Participation in the Building and Maintaining Public Roads in St. John, Virgin Islands.

----0----

WHEREAS the lack of decent roadways has been and continues to be one of the major deterrents to the economic growth and development of the island of St. John; and

WHEREAS the National Park Service has informed the Governor of the Virgin Islands, by letter dated October 26, 1961, that it will improve and maintain the following public roads in St. John: (1) the North Shore Road from the park boundary at Cruz Bay to the intersection of said road with the Center Line Road at King Hill; (2) the spur road to Annaberg and Mary Point; (3) the Bordezux Road; (4) the Lameshur Road from Park boundary to Lameshur; and (5) the East End Road from Park boundary at Coral Bay eastward to the East boundary of the Park and to cooperate fully to the end that all private properties have passable road access, wherever necessary, to the aforesaid public roads; and

WHEREAS the undertaking by the National Park Service to improve and maintain the roadways specified is hereby recognized as a substantial financial benefit to the government of the Virgin Islands; Now, therefore

BE IT ENACTED by the Legislature of the Virgin Islands:

SECTION 1. The Legislature of the Virgin Islands hereby accepts the offer of the National Park Service to improve and maintain the following named public roads in St. John: the North Shore, Annaberg and Mary Point, Bordeaux, Lameshur and East End Roads and the said National Park Service is hereby authorized to proceed to make improvements to said roads in accordance with the following conditions:

A. All road improvement plans initiated by the National Park Service shall be first submitted to the Commissioner of the Department of Public Works for approval before the particular road improvement project is commenced.

B. All road improvement plans for the North Shore and East End Roads shall, where the topography of the terrain permits, meet the minimum construction specifications as to materials, width of road, depth of roadbed, curbs, drains and culverts as set by the Department of Public Works or any applicable law existing at the commencement of any road improvement project.

SECTION 2. Nothing contained in this Act shall be construed as conveying title or any other proprietary interest in and to the aforesaid roadways to the National Park Service nor as transferring control and jurisdiction to the National Park Service.

The roads involved herein shall retain their character as public roads. The Government of the Virgin Islands retains title to said roads as well as its usual rights with respect to public thoroughfares, subject only to the rights herein conferred upon the National Park Service.


SECTION 3. The Commissioner of the Department of Public Works is hereby authorized, when called upon, to cooperate fully with the National Park Service in road design and planning and in such other ways as may be feasible, in order to facilitate any public road improvement project undertaken by the National Park Service pursuant to the authority contained herein.


SECTION 4. Should any provision of this Act be in conflict with any provision of any other presently existing law, the provisions of this Act shall take precedence during, but only during, such time as may be required for the improvement of the roads or parts of roads referred to in Section 1 of this Act.

SECTION 5. This Act shall become effective upon approval of the Governor of the Virgin Islands.

Thus passed by the Legislature of the Virgin Islands on January 10, 1962.

Witness our Hands and the Seal of the Legislature of the Virgin Islands this 10th Day of January, A. D., 1962.

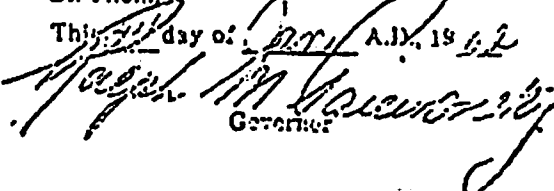

WALTER I. M. HODDE
President


JOHN L. MADURO
Legislative Secretary

The above Bill is hereby sanctioned and approved.

Witness my hand and Seal of the Government of the Virgin Islands of the United States at Charlotte Amalie, St. Thomas

This 10th day of Jan, A.D., 1962


Governor



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE
SOUTHEAST REGIONAL OFFICE

75 Spring Street, S.W.
Atlanta, Georgia 30333

L14(6...-015)
x030

Memorandum

To: Superintendent, Virgin Islands

From: ^{Acting} Associate Regional Director, Operations, Southeast Region

Subject: Roadway Ownership

Enclosed is a copy of the Regional Solicitor's opinion on the ownership of certain roads within Virgin Islands National Park. The date of the original request for the opinion was December 29, 1982.

As for question number 1, particularly the last two sentences of the reply on page 3, we were advised by attorney/advisor John Harrington that he will review for legal sufficiency any evidence of entitlement that you question or so desire to have reviewed.

Enclosure



United States Department of the Interior

OFFICE OF THE SOLICITOR
SOUTHEAST REGIONAL OFFICE

Richard B. Russell Federal Building
75 Spring Street, S.W.
Atlanta, Georgia 30303

IN REPLY REFER TO

JHH:kk
NPS.SE.0202
84-12-2362
LG-13-2

March 8, 1985

MEMORANDUM

To: Regional Director, Southeast Region, NPS
From: Regional Solicitor, Southeast Region
Subject: Virgin Islands National Park - St. John Island Road

The Superintendent, Virgin Islands National Park, has posed a number of questions relating to the status of roads, trails, and ways on St. John Island. Prior to answering the Superintendent's questions it would be helpful to set forth some basic principles relating to roads.

The Virgin Islands recognizes two different ways in which public roads can be created. First, the government may acquire by purchase, gift, dedication, or condemnation fee and easement interests in land. See V.I. ANN. Tit. 20 § 3. Second, long public usage of land for road purposes may ripen into a prescriptive easement, thereby creating a public road. See 3 V.I. Op. A. G. 209.^{1/}

Private roads may be created in a similar fashion through conveyance or reservation of an easement by a landowner. Likewise, a person may obtain a private right to use another's land by the prescriptive easement method.

By law, all public roads must be displayed on a map maintained by the Commissioner of Public Works. V.I. Code ANN. Tit. 20 § 2. The Commissioner is the public official who determines the types of usage to which a public road is open and the width of the road. Id. The Commissioner's discretion is limited in making these determinations. The width of a public road may not exceed the

^{1/}To establish a prescriptive easement, usage of another's land for road purposes must be adverse, uninterrupted, exclusive, continuous, and under a claim of right for 15 years. See V.I. Code ANN. Tit. 28 § 11; 3 V.I. Op. A. G. 228.

width of the easement acquired by the government. In the case of public roads created by prescription, under the common law, the Commissioner may not authorize uses that are vastly different from the original uses of the prescriptive easement. See Restatement, Property, §§ 478, 479 (1944).^{2/} In order to determine whether new uses are permissible a comparison must be made between the new and original uses with respect to the character of such uses, the purpose of such uses, and the burden of such uses on the servient estate. Id. § 478. Also, the normal evolution of uses must be considered. Id. § 479. In the context of road improvement and vehicular traffic, each case must be analyzed on its own particular set of facts. In Glenn v. Poole, 423 N.E. 2d 1030 (App. Ct. Mass. 1981), the court stated:

The progression from horse or ox teams to tractors and trucks is a normal development which, in the language of the Restatement . . . accords with common experience.

423 N.E. 2d at 1032

The Court also noted however, that if the use of a road or path during the creation of the prescriptive easement was infrequent, it may not be improved to accommodate constant traffic which seriously impinges on the servient estate.

Keeping these general principles in mind, I will now endeavor to answer the Superintendent's specific questions.

1. Can the owners of tracts 05-101, 103, 104, 105, 106, and 108 use an existing trail to gain access to their property?

The Official Public Road Map of St. John Island depicts a private road passing through or near all of these tracts except 05-108. Under the law of the Virgin Islands, a private dedicated road may be accepted by the government in which case it becomes a public road. See Op. Att'y Gen. 1956-31, 3 V.I. Op. A.G. 209 (1956). I cannot determine from an examination of the Official Map whether the private road serving these tracts has been dedicated and accepted by the Virgin Islands government. However, in the absence of evidence that the road has been abandoned, you should allow the affected tract owners to continue using it. Tract 05-108 is a different matter. Neither the Official Map nor your trail brochure identifies any road or trail providing access to this tract. This does not necessarily mean that the owner of that tract has no

^{2/}V.I. Code ANN. Tit. 1, § 4 provides that in the absence of local laws to the contrary, the rules of common law shall be those expressed by the American Law Institute in the restatements of the law.

lawful access. The land should be examined to determine whether an access route exists. If it does, the owner of tract 05-108 should be requested to provide evidence of his right. If such evidence cannot be produced, the Superintendent may exercise his sound discretion in the matter of Special Use Permit issuance.

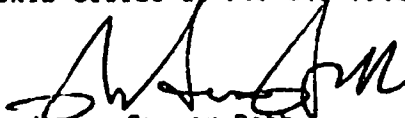
2. Does the Virgin Islands government have the right to reopen an old way from Lameshur through Reef Bay to Fish Bay?

The Official Map depicts no public or private road in this area. Hence, it is my opinion that the Virgin Islands Government has no right to open a road in this location.

3. Does the Virgin Islands government have the right to improve an existing trail in the Susannaberg vicinity, connecting with the North Shore Road?

The Official Map depicts no public or private road in the Susannaberg area. Hence, the Virgin Islands government has no right to open the existing trail and improve it for use as a public thoroughfare. If long, continuous use of the trail depicted in the trail brochure resulted in a prescriptive right in the public to use the trail, prior to acquisition of land by the Park Service, this would not enable the government to declare it a public road and improve it for constant vehicular traffic.

Further inquiries regarding this matter may be addressed to John H. Harrington of this office at FTS 242-6342.



Roger Sumner Babb



BY ONLY REFER TO

MPS
NPS.SE.2305
O-00610
LG-13

United States Department of the Interior

OFFICE OF THE SOLICITOR
Southeast Regional Office
Richard B. Russell Federal Building
75 Spring Street, S.W., Suite 304
Atlanta, Georgia 30303

October 19, 2004

TO: Art Frederick, Superintendent, Virgin Islands National Park

FROM: Horace Clark, Regional Solicitor

SUBJECT: Ownership of and jurisdiction over public roads in Virgin Islands National Park

In order to aid in the preparation of a new General Management Plan for Virgin Islands National Park (Park), as well as to clarify the law enforcement jurisdiction and responsibilities of the National Park Service (NPS), you have asked us to determine whether the United States owns the public roads located within the exterior boundaries of the Park. Although there is evidence to the contrary, we believe that the United States owns these roads, and therefore has law enforcement jurisdiction over them.

1. **Statutory background.** The 1916 Convention under which Denmark ceded the Virgin Islands to the United States provided that all lands that were public property within the Virgin Islands became the property of the United States. 39 Stat. 1706 (Aug. 4, 1916). The 1936 Organic Act that formed the Virgin Islands government provided that any property acquired by the United States in 1916, and not reserved by the United States for public purposes before June 22, 1937, would be placed under the control of the Government of the Virgin Islands. 49 Stat. 1808, ch. 699, § 4(a) (June 22, 1936), *codified at* 48 U.S.C. § 1405c(a). This was reaffirmed by the Revised Organic Act of 1954, 68 Stat. 510, ch. 558, § 31(b). A 1936 opinion of the Virgin Islands Attorney General concluded that the Organic Act did not convey title to public lands. 1 V.I. Op. A.G. 42.

In 1956, the United States Court of Appeals for the Third Circuit held that streets in the town of Charlotte Amalie, placed under the control of the Virgin Islands government pursuant to § 4(a), were thereby the property of the municipality, which was a subdivision of the Virgin Islands government. *Harris v. Borsham*, 233 F.2d 110, 114. However, the court did not state that the Virgin Islands had title to the streets.

Also in 1954, the Park was established. 70 Stat. 940, ch. 835 (Aug. 2, 1956), *codified at* 16 U.S.C. § 398 *et seq.* Among other things, the legislation establishing the Park stated that

any federal properties situated within the areas selected for the park, upon agreement by the particular agency administering such properties that [they] should be made available for the park, may be transferred without further authorization to the Secretary by such agency for purposes of this Act.

Id. § 2(d). In 1962, Congress established the exterior boundaries of the park and authorized the Department of the Interior to acquire lands within the boundaries by purchase, exchange or donation. Pub. L. 87-750, § 2, 76 Stat. 746 (Oct. 5, 1962), codified at 16 U.S.C. § 3984(a).

Also in 1962, the NPS and the government of the Virgin Islands entered into a Memorandum of Understanding (MOU) under which NPS would improve several roads on St. John located within the boundary of the Park. On January 24, 1962, the MOU was codified in a statute by the Virgin Islands Legislature. Virgin Islands Act No. 806. In accepting NPS's offer to improve the roads, which included North Shore, Annaberg and Mary Point, Bordenaux, Lanester, and East End Roads, the Virgin Islands stated that its acceptance would not be construed as conveying title or any other proprietary interest in the roads, or transferring control or jurisdiction, to NPS. Rather, "[t]he Government of the Virgin Islands retains title to said roads." *Id.* § 2. It is not clear, however, whether the MOU itself contemplated that the Virgin Islands would have title. No copy of the MOU has been found, and correspondence between the parties prior to its execution does not address this issue. *See, e.g.*, October 3, 1961 letter from Ralph M. Palwoosky, Governor, U.S. Virgin Islands, to Conrad Wirth, Director, National Park Service; October 26, 1961 response from Wirth to Palwoosky.

In 1963, Congress provided that, except under certain circumstances, the government of the Virgin Islands would have concurrent jurisdiction with the United States on property "owned, reserved, or controlled" by the United States in the Virgin Islands. Pub. L. 88-183, § 4(a), 77 Stat. 339 (Nov. 20, 1963). Congress renewed this grant of concurrent jurisdiction in 1986. Pub. L. 99-396, § 3, 100 Stat. 839 (Aug. 27, 1986), codified at 48 U.S.C. § 1704(a).

In 1974, Congress conveyed to the government of the Virgin Islands all of the United States' right, title, and interest in property that had been placed under the Virgin Islands' control by the Organic Act and that was not subsequently reserved in the United States by the Secretary of the Interior. Pub. L. 93-435, § 3, 88 Stat. 1210 (Oct. 5, 1974), codified at 48 U.S.C. § 1545(b)(1). The statute excepted from conveyance land administered by the Secretary as part of the National Park System. *Id.* The stated purpose of this statute was to turn over to the Virgin Islands title to properties that had been placed under control of the Virgin Islands government in 1937 by the Organic Act. A subsequent transfer of lands not retained or reserved by Public Law 93-435 took place in 1980. Pub. L. 96-205, § 401(a), 94 Stat. 88 (March 12, 1980), codified at 48 U.S.C. § 1545(b)(2).¹

¹The Department of the Interior had supported an identical provision as part of legislation proposed in 1962. In a March 23, 1962 letter to the Chairman of the House Committee on Interior and Insular Affairs, the Secretary of the Interior recommended amending a proposed bill to add this language:

2. **Application.** Most of the authorities above indicate that the United States owns the so-called "public" roads located within the boundary of the Park and, therefore, has jurisdiction to perform law enforcement activities on them. Weighing in favor of this conclusion are (1) the actual language of the Organic Act, under which the United States relinquished only control of public property to the Virgin Islands government; (2) the opinion of the Virgin Islands Attorney General that only control was relinquished; (3) the 1962 letter from the Secretary of the Interior asserting that the Organic Act did not convey title; and (4) the 1974 conveyance of title under Pub. L. 93-435, which would not have been necessary if such title had been conveyed by the Organic Act. Evidence to the contrary is (1) the Third Circuit's decision in *Harria v. Bonham*, which states that roads transferred to a Virgin Islands municipality under the Organic Act became the property of the municipality; and (2) Act No. 806, in which the Virgin Islands government claimed title to most major roads within the Park.

Of these authorities, the Organic Act states only that the United States relinquished "control" of the public property, and nothing about its relinquishing title. The plain meaning of a statute is conclusive unless the literal application will produce a result demonstrably at odds with Congressional intent. *United States v. One "Piper" Aztec "P" Deluxa Model*, 321 F.3d 359, 359 (3rd Cir. 2003). A court should not read words into a statute that are not there. *United States v. Watkins*, 278 F.3d 961, 965 (9th Cir. 2002). Here, since the plain language of the Organic Act does not say that the United States conveyed title to public property, but only control, we must assume that it was not intended to convey title. But even if the Organic Act alone may be read as conveying title, when read together with Pub. L. 93-435, it clearly shows that the United States granted only control in 1936, or else the later conveyance of title would not have been necessary.

We have examined the legislative history of the [1936 Organic Act and 1954 Revised Organic Act] in an effort to learn the reasons why control only, and not title, to the lands in question, was given to the . . . territorial government[.]. We find no indication of the reason . . . we therefore believe that amendments to transfer title to them of the lands in question would be desirable.

The recommendation went on to exclude NPS lands:

There exist in the Virgin Islands a number of areas administered by [NPS] on lands subject to the local government's control, under the statute above quoted, but with respect to which the United States has title. We would propose to exclude from the lands to be conveyed to the Government of the Virgin Islands all such areas, and they are consequently expressly excluded in [sic] our proposed amendment.

¹This analysis assumes that at least the major roads within the Park have remained in public ownership. Based on the 1962 Act No. 806 (see above) and accompanying documentation, it seems clear that all of the roads discussed therein—which seems to include all of the major roads in the Park—were considered public at the time. As to the subsequent history of these roads, and the status of other roads in the Park, a review of the extensive title records for the Park would be necessary to state with certainty that any roads are in public ownership, and thus within the scope of this analysis. If you believe that this review should be conducted, please advise.

The 1962 letter from the Secretary of the Interior, which for all intents and purposes is the legislative history of a Congressional bill identical to Pub. L. 93-435, supports this interpretation.

Although there are authorities to the contrary, we believe that they carry less weight, and are not as conclusive. The Third Circuit decision in *Harris v. Borsham*, in which the court held that roads transferred under the Organic Act are the "property" of a Virgin Islands municipality, does not go so far as to state that the municipality has "title" to them. Act No. 806, in which the government of the Virgin Islands asserts ownership of a number of roads supposedly pursuant to an MOU with the United States, appears to be a unilateral assertion of ownership; we do not know whether the MOU itself contained the same acknowledgment of the Virgin Islands' claims. It seems unlikely that the Director of NPS would concede in 1961 that the Virgin Islands has title of public roads in the Park, and then in 1962 the Secretary of the Interior would assert that the United States owns public lands, including roads, within the same park. At the very least, the evidence for Virgin Islands ownership is less compelling than that favoring ownership by the United States.

Therefore, absent other evidence of conveyance (see footnote 2), we conclude that the United States acquired ownership of the public roads in the Virgin Islands from Denmark in 1916, granted control of those roads but not their title to the Virgin Islands in 1936, regained control of those roads within the Park boundaries when those boundaries were established in 1962, and retained control of those same roads when it conveyed title in 1974 to other lands over which the Virgin Islands had been given control. In concluding that the United States holds title to these roads, we also conclude that it has jurisdiction over them concurrently with the government of the Virgin Islands based on the 1963 and 1986 grants of concurrent jurisdiction.²

If you have any questions or comments, please call Michael Stevens of this office at (404) 331-0722, x238.


Horace G. Clark
Regional Solicitor

²The same conclusion was reached in our June 30, 1994 opinion.

APPENDIX F: TAXI RATES

Island of St. John			
Official Minimum/Maximum Rates			
Motor Vehicles for Hire			
FROM CRUZ BAY TO:	1 PER.	2 PER.	3+ EACH
Adrian Housing	\$5.00	\$7.00	\$3.50
Annaberg	\$11.00	\$18.00	\$7.00
Bethany Moravian Church	\$3.00	\$5.00	\$2.50
Bordeaux Mt.	\$14.00	\$23.00	\$9.00
Beth Cruz	\$4.00	\$6.00	\$3.00
Caneel Bay Plantation	\$4.00	\$6.00	\$3.00
Catherineburg	\$5.00	\$7.00	\$3.50
Chatcau De Bordeaux	\$7.00	\$12.00	\$5.50
Chocolate Hole	\$5.00	\$8.00	\$3.50
Cinnamon Bay	\$7.00	\$11.00	\$4.50
Contant	\$4.00	\$6.00	\$3.00
Coral Bay	\$11.00	\$18.00	\$7.00
Dennis Bay	\$5.50	\$9.00	\$4.00
Desoto Bock House (East End)	\$18.00	\$30.00	\$11.00
Fish Bay	\$9.00	\$14.00	\$6.00
Francis Bay	\$11.00	\$18.00	\$7.00
Frank Bay	\$3.00	\$5.00	\$2.50
Gallows Point	\$3.00	\$5.00	\$2.50
Gift Hill	\$5.00	\$7.00	\$3.50
Goat Path/Maho Bay Beach	\$8.00	\$14.00	\$5.00
Great Cruz Bay	\$4.50	\$7.00	\$3.50
Grunwald	\$4.00	\$6.00	\$3.00
Hawksnest	\$4.00	\$6.00	\$3.00
Hurricane Hole	\$15.00	\$24.00	\$10.00
John's Head	\$6.00	\$8.00	\$4.00
Jumbie Beach	\$5.50	\$9.00	\$4.00
Lamishur	\$18.00	\$30.00	\$11.00
Leinster Bay	\$11.00	\$18.00	\$7.00
Little Maho Bay Campground	\$11.00	\$18.00	\$7.00
Mandahl	\$15.00	\$24.00	\$10.00
Pine Piece	\$3.00	\$5.00	\$2.50

Power Boyd Plantation	\$4.00	\$6.00	\$3.00
Rendezvous Bay (Cline Bay)	\$5.50	\$9.00	\$4.00
Reef Bay Trail	\$7.00	\$12.00	\$5.00
Rosenberg (Center Bay Trail Centerline Rd.)	\$6.00	\$8.00	\$4.00
Salt Pond	\$15.00	\$24.00	\$10.00
Sunset Ridge	\$5.00	\$8.00	\$3.00
Susannaberg (Clinic)	\$4.00	\$6.00	\$3.00
Susannaberg (Laundry)	\$4.00	\$6.00	\$3.00
Trunk Bay	\$5.50	\$9.00	\$4.00
Vie's (East End)	\$17.00	\$28.00	\$11.00
Westin	\$4.00	\$6.00	\$3.00
Zootenvaal	\$14.00	\$23.00	\$9.00

FROM CORAL BAY TO:

Adrian Housing	\$7.00	\$12.00	\$5.00
Annaberg	\$6.00	\$10.00	\$4.00
Bloomingle (Freeman Ground)	\$4.00	\$6.00	\$3.00
Calabash Boom	\$4.00	\$6.00	\$3.00
Cancel Bay (Via Northshore)	\$11.00	\$18.00	\$7.00
Cinnamon Bay	\$7.00	\$11.00	\$4.00
Desoto Bock House (East End)	\$7.00	\$11.00	\$4.00
Hurricane Hole	\$5.00	\$7.00	\$3.00
John's Folly School	\$4.00	\$7.00	\$3.00
Lamishur	\$7.00	\$11.00	\$4.00
Little Maho Bay	\$7.00	\$11.00	\$4.00
Mandahl	\$5.00	\$7.00	\$3.00
Public Works	\$8.00	\$14.00	\$5.00
Salt Pond	\$5.00	\$8.00	\$4.00
Susannaberg (Clinic)	\$8.00	\$14.00	\$5.00
Trunk Bay (Via Centerline Rd.)	\$17.00	\$28.00	\$11.00
Trunk Bay (Via North Shore)	\$7.00	\$11.00	\$4.00
Vie'S (East End)	\$5.50	\$9.00	\$3.50
Zootenvaal	\$4.00	\$6.00	\$3.00

FROM CANEEL BAY TO:

Chateau Bordeaux	\$10.00	\$16.00	\$6.00
Cinnamon Bay	\$7.00	\$11.00	\$4.00
Coral Bay (Via Centerline)	\$14.00	\$22.00	\$9.00
Gallows Point	\$5.00	\$8.00	\$3.00

Goat Path/Maho Bay Beach	\$8.00	\$14.00	\$5.00
Maho Bay Campground	\$11.00	\$18.00	\$7.00
Truk Bay	\$5.50	\$9.00	\$3.50
Westin	\$6.00	\$11.00	\$5.00

FROM WESTIN TO:

Annaberg	\$13.00	\$23.00	\$9.00
Chateau Bordeaux	\$9.00	\$17.00	\$7.50
Cinnamon Bay	\$9.00	\$16.00	\$6.50
Coral Bay	\$13.00	\$23.00	\$9.00
Dennis Bay	\$7.50	\$14.00	\$6.00
Goat Path/Maho Bay Beach	\$10.00	\$19.00	\$7.00
Hawksnest	\$6.00	\$11.00	\$5.00
Maho Bay Campground	\$13.00	\$23.00	\$9.00
Trunk Bay	\$7.50	\$14.00	\$6.00

FROM GALLOWS POINT TO:

Annaberg	\$12.00	\$20.00	\$8.00
Caneel Bay	\$5.00	\$8.00	\$3.50
Cinnamon Bay	\$8.00	\$14.00	\$5.00
Goat Path/Maho Bay Beach	\$9.00	\$16.00	\$6.00
Hawksnest	\$5.00	\$8.00	\$3.50
Maho Bay Campground	\$12.00	\$20.00	\$8.00
Trunk Bay	\$6.50	\$11.00	\$4.50

FROM CHATEAU BORDEAUX TO:

Trunk Bay	\$6.00	\$10.00	\$4.50
Cinnamon Bay	\$5.00	\$8.00	\$3.50

**ADDITIONAL CHARGES AND SPECIAL PROVISIONS
FROM ANY TERMINAL POINT**

A. This tariff must be posted in all public vehicles used as a taxi.

B. The charges not listed on this tariff shall be arrived at by using the nearest tarified place crossed and the next tarified place ahead, based on the one nearest to the passenger's destination.

C. Taxi drivers must adhere to Rules and Regulations Governing Taxi Operators while on duty (259-52 R. & Regs.). These rules include: "A Taxi Operator, while on duty, shall not refuse a passenger unless the passenger is intoxicated and disorderly or in possession of a pet or animal (other than a seeing-eye dog) that is not properly and adequately secured in a kennel case or other suitable container. There shall be no charge for the seeing-eye dog."

D. Round-trip fares: double the one way fare plus waiting charges.

E. Waiting charges: \$0.25 per minute after first ten minutes.

F. Radio call: one-third plus the basic fare.

G. Between midnight and 6:00 a.m., there shall be an additional charge of \$2.00 per trip for out-of-town fares; there shall be an additional charge of \$1.50 per trip for in-town fares.

H. Within town limits: \$3.00 minimum.

I. Any person requesting taxi exclusively for himself must pay for a total of six seats, using the price from the three or more persons each column. (e.g. From Cruz Bay to Trunk Bay two persons must pay for four additional seats – two persons will pay \$9.00 plus \$16.00 for the four additional seats, three persons must pay for three additional seats).

J. For boxes, suitcases, grips, and liquor boxes, the charges shall be \$1.00 each, after the first one. For excessively heavy or oversize pieces, a price shall be agreed upon between the taxi operator and the passenger.

K. All taxis must have ON-DUTY/OFF DUTY signs posted. When on duty, taxis must pick up passengers going in the same direction, unless as stipulated in provisions "I & C" of this section, or, unless a contract or franchise has been awarded to a specific group of persons.

L. All children six (6) years of age and under will pay half price.

M. RATE FOR SIGHTSEEING TOURS:

TOUR 1

ONE OR TWO PASSENGERS \$45.00
THREE OR MORE PASSENGERS \$16.00 Each
LIMITED TIME OF TOUR Two Hours

TOUR 2

ONE OR TWO PASSENGERS \$55.00
THREE OR MORE PASSENGERS \$22.50 Each
LIMITED TIME OF TOUR Three Hours

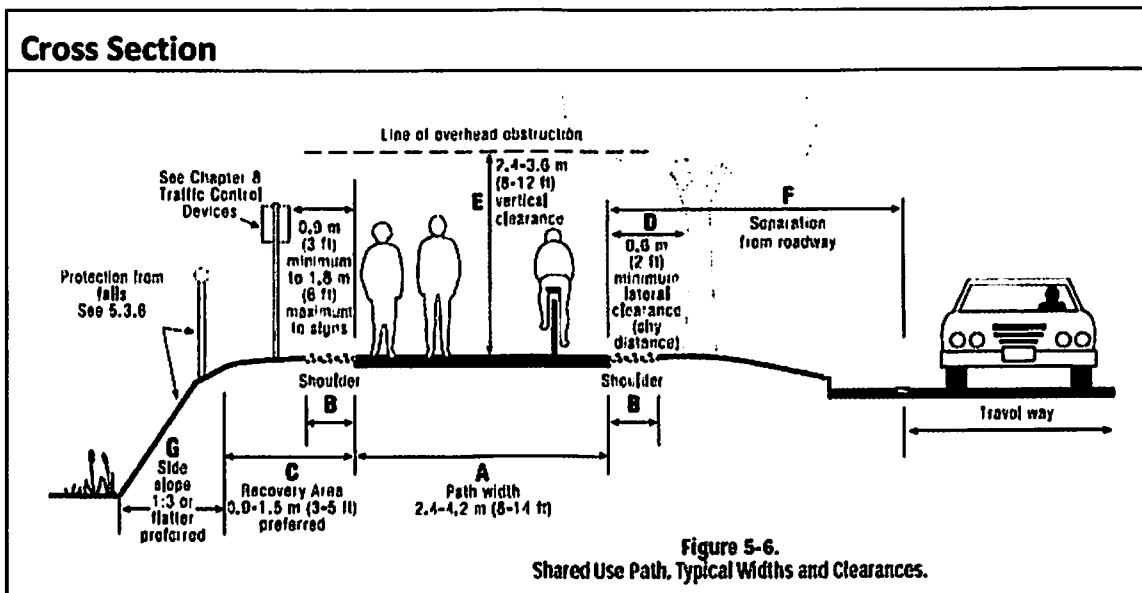
N. HOURLY RATE: WOULD BE DECIDED UPON BETWEEN THE DRIVER AND THE PASSENGER(S).
Fare subject to change made by the V.I. Taxicab Division. Please contact the Executive Director's Office at (340) 776-8294, if there are any questions. Above rates effective December 1, 2000.

APPENDIX G: BIKE PATH SPECIFICATIONS

References

American Association of State Highway and Transportation Officials, *Guide for the Development of Bicycle Facilities*.

Vermont Agency of Transportation, *Pedestrian and Bicycle Facility Planning and Design Manual*, Chapter 5 "Shared Use Paths."



Dimension A-Path Width	Paved: 8' minimum; 10'-14' is preferred		Unpaved: 8' minimum; 8'-10' is preferred		
Dimension B-Shoulders	2' wide with max slope of 1:6				
Dimension C-Recovery Area	Width depends on slope				
Table 5-2 Recovery Area Widths					
	<i>Unpaved Surface</i>		<i>Paved Surface</i>		
Slope	Minimum	Preferred	Minimum	Preferred	Barrier Recommendations
1:4 or flatter	0	0.6 m (2 ft)	0	0.9 m (3 ft)	Generally no barrier necessary
1:3	0.6 m (2 ft)	0.9 m (3 ft)	0.9 m (3 ft)	1.2 m (4 ft)	If vertical drop 1.5 m (5 ft) or greater, consider use of barrier unless preferred recovery area provided
1:2	0.9 m (3 ft)	1.5 m (5 ft)	1.2 m (4 ft)	1.5 m (5 ft)	If vertical drop 1.2 m (4 ft) or greater, consider use of barrier unless preferred recovery area provided
Steeper than 1:2	1.5 m (5 ft)	>1.5 m (5 ft)	1.5 m (5 ft)	>1.5 m (5 ft)	If minimum recovery area not provided, barrier is necessary
Dimension D-Lateral Clearance	Measured from edge of path: 2' minimum; 3' is preferred				

Dimension E-Vertical Clearance	8' minimum, 10' is preferred
Dimension F-Separation from Roadway	5' minimum, preferred is to maximize separation Physical barrier recommended for sections with less than 5' of separation.
Dimension G-Side Slopes	As flat as possible, but without excessive project footprint.

Grades

- | | |
|--|--|
| <ul style="list-style-type: none"> Grades steeper than 3 percent may not be practical for shared use paths with crushed stone or other unpaved surfaces for both handling and drainage erosion reasons. The total running grade that exceeds 8.33 percent should be less than 30 percent of the total path length. If path must exceed 5%, try to do so only for short sections (see right). ADA- where grades exceed 5%, include level "staging areas" for wheelchair accessibility at regular intervals. | 5-6% for up to 240 m (800 ft)
7% for up to 120 m (400 ft)
8% for up to 90 m (300 ft)
9% for up to 60 m (200 ft)
10% for up to 30 m (100 ft)
11+% for up to 15 m (50 ft) |
|--|--|

Options to mitigate excessive grades:

- When using a longer grade, an additional 2-4 ft of width to permit slower speed bicyclists to dismount and walk may be considered.
- Provide signing that alerts bicyclists to the maximum percent of grade (MUTCD).
- Provide recommended descent speed signing.
- Exceed minimum stopping sight distance.
- Exceed minimum horizontal clearances, recovery area and/or protective bike rails.
- Increase lateral clearances and recovery area dimensions.
- Provide a series of short switchbacks or level landing areas to contain the speed of descending bicyclists.
- Install a yellow centerline to better delineate travel lanes.

Cross Slope

- Max cross slope:
 - 2% (paved)
 - 5% (unpaved), although less is preferred
- Slope path in one direction as opposed to crowning
- Include ditches on uphill side of path
- Max superelevation: 2% with 25' of transition distance

Horizontal Curvature

Minimum curve radius:	R = Minimum radius of curvature (ft) V = Design Speed (mph) A = Lean angle from the vertical (degrees)
$R = \frac{0.067V^2}{\tan A}$	Assuming V = 20mph and A = 20°, R = 74'

Where project constraints such as right-of-way, topographical or environmental resources require that smaller curve radii be used, standard curve warning signs and supplemental pavement markings, such as centerline stripes should be installed in the vicinity of the curve. Widening the path through the area of the curve can further mitigate the negative effects of sharp curves.

Design Speed

- Minimum design speed: 20 mph (paved)
- Where a downgrade of >4% exists, design speed: 30 mph
- Unpaved sections: 15 mph

Surface Materials

Table 5-3.
Suitability of Surface Materials for Shared Use Paths.

Surface Material	Firmness	Stability	Slip Resistance (dry conditions)
Asphalt	firm	stable	Slip resistant
Concrete	firm	stable	Slip resistant*
Soil with Stabilizer	firm	stable	Slip resistant
Soil with High Organic Content	soft	unstable	Not slip resistant
Crushed rock (3/4" minus) with Stabilizer	firm	Stable	Slip resistant
Crushed Rock w/o Stabilizer	firm	stable	Not slip resistant
Wood Planks	firm	stable	Slip resistant
Engineered Wood Fibers – that comply with ASTM F1951	Moderately firm	Moderately stable	Not slip resistant
Grass or Vegetative Ground Cover	Moderately firm	Moderately stable	Not slip resistant
Engineered Wood Fibers - that do not comply with ASTM F1951	soft	unstable	Not slip resistant
Wood Chips (bark, cedar, generic)	Moderately firm to soft	Moderately stable to unstable	Not slip resistant
Pea Stone or 1-1/2" minus Aggregate	soft	unstable	Not slip resistant
Sand	soft	unstable	Not slip resistant

Source: Adapted from Federal Highway Administration *Designing Sidewalks and Trails for Access, Part II, Best Practices Design Guide.*

APPENDIX H: NPS TRANSPORTATION FUNDING SUMMARY

Name	Admin-istered by	Eligibility/Project Type	Notes
ATPPL/Transit in the Parks	FTA/DOI	Primary source of funds for transit, trail, and bike/ped facilities implementation/capital alt. trans. projects and planning Does not support program development and administration, system level planning, unforeseeable cost changes, emergencies and strategic initiatives	Part of SAFETEA-LU; grant funding on yearly basis
National Scenic Byways (NSB) Program	FHWA	National Scenic Byway (NSB)-one of 6 intrinsic qualities: archaeological, cultural, historic, natural, recreational, scenic All-American Road (AAR)-must contain multiple intrinsic qualities that are nationally significant and contain one-of-a-kind features that do not exist elsewhere; road must be considered a 'destination unto itself'	Grassroots-community led Park can submit GMP or MPS Management Policies in lieu of Corridor Management Plan; docs must meet the 14 requirements of a corridor mgmt plan 20% match required; NPS can use appropriated funds, other NPS program funds and/or Federal Lands Highway Program funds as their match
Recreational Trails Program	FHWA	Develop, construct, maintain, and rehabilitate trails and trail facilities (including hiking, biking, and other uses)	
Surface Transportation Program	FHWA	Improvements to all modes of transportation except railroads	
Transportation Enhancements (TE)	FHWA	Bike/ped facilities; bike/ped safety & education activities; acquisition of scenic or historic easements and sites; scenic or historic highway programs; landscaping and beautification; historic preservation; rehab and operation of historic transportation buildings; structures or facilities; preservation of abandoned railway corridors; inventory, control and removal of outdoor advertising; archaeological planning and research; environmental mitigation to address water pollution due to highway runoff or critter crossings; establishment of transportation museums	Requires applying through the state (VI PW Dept?)
Public Lands Highway Program Discretionary Funds (PLHD)	FHWA	"Any land of transportation project eligible for assistance under Title 23, US Code, that is within, adjacent to, or provides access to" federal lands or facilities Transportation planning, research, engineering, and construction of highways, roads and parkways, and transit facilities within the federal public lands. PLHD FUNDS ARE ALSO AVAILABLE FOR OPERATION AND MAINTENANCE OF TRANSIT FACILITIES LOCATED ON FEDERAL PUBLIC LANDS. Also: adjacent parking areas, interpretive signs, acquisition of scenic easements and scenic or historic sites, provision for peds and bikes, other appropriate public road facilities such as visitor centers	Application submitted through state DOT (VI PW Dept?)
Transportation Fees	NPS	"for the use of transportation services provided either by the National Park Service or an entity under a service contract with the NPS"	Requires PMIS and approved NPS Fee Implementation Plan
Coordinated Technology Implementation Program (CTIP)	FHWA	Technology deployment and sharing program that provides a forum for identifying, studying, documenting, and transferring technology to the transportation community	
Technology Deployment and Initiatives Partnership Program	FHWA	Accelerates adoption of innovative technologies by the transportation community	
Private sources	Private	Donations from individuals, foundations, corporations, associations Frequent partners include Chambers of Commerce and land trusts Partnership requirements described in NPS Director's Order #21	If private funds are anticipated to be used on a FHWA-administered project, the NPS must be the recipient of the funds. (FHWA can't legally accept private funding)

Name	Admin-istered by	Eligibility/Project Type	Notes
Federal Lands Highway Program	FHWA	Public roads and transit facilities serving federal and Indian lands; supplements ATPPL funding for projects	No match required
Part Roads and Pathways Program (PRP)	NPS/ FHWA	Main source of funding for improvement of transportation infrastructure including resurfacing, rehabilitation, and reconstruction of public roads, bridges, parking areas and maintenance of NPS-owned alternative transportation systems.	PRP is a component of Federal Lands Highway Program (FLHP) See PRP Program Handbook
PRP Category 1		2 subcategories: Resurfacing, Restoration and Rehabilitation (RR) projects Reconstruction or Realignment (RR) projects Majority of Category 1 spending is for 3R, not 4R	3R projects must extend the service life of an existing road and/or enhance safety 4R projects alter geometry of the roadway either through widening or modifying the current horizontal and/or vertical alignment; includes construction of new roads, parking areas, parallel bicycle paths
PRP Category 2		Development of alternate modes of transportation and integration of all modes of travel	
PRP Category 3: Transportation Management Program (a.k.a. Alternative Transportation Program)		Transportation planning, capital expenses, GMP Transportation Component Planning: Alternative Transportation System (ATS) planning studies, transportation partnership studies, environmental studies, design, ROW acquisition, construction engineering & items	Reserved for special needs that are not met by ATPPL
Repair/Rehabilitation Program	NPS	Minor repairs to roads and bridges	
NPS Line-item Construction Program	NPS	Major construction and reconstruction projects which generally require a three-year schedule for completion. The first year funding is for obtaining surveys and preparing preliminary design plans. The second year is for completion of project planning (construction drawings). Actual construction is generally scheduled in the third year. Projects under this program are usually accomplished by the Denver Service Center. Project estimates are over \$500,000."	http://classinside.nps.gov/budget3/fundsourc.htm
Federal Lands Recreation Enhancement Act (FLREA) Program (formerly the Fee-Demo Program)	NPS	Allows park to charge fees for access to specific areas/attractions; park can use portion of funds for transportation projects	
Emergency Relief for Federally Owned Roads (ERFO)	NPS	Provides funding and engineering services to restore access to public lands after a natural or man-made disaster or emergency.	
Emergency Relief Program	NPS	Rarely used emergency repair program: federal share is 80 to 100%	
Emergency and Unscheduled Projects	NPS	"Small new construction or rehabilitation projects that require little or no professional architectural or engineering services. Funding permits minor unscheduled and emergency construction projects to protect and preserve park resources, provides for safe and uninterrupted visitor use of facilities, accommodates unanticipated concessioner expansion projects, and ensures continuity of support and service operations."	http://classinside.nps.gov/budget3/fundsourc.htm
Congressional Earmark in Multiyear Transportation Authorizations (SAFEA-U)	NPS	Transit, highway, bikeway, trail, visitor centers,viewsheds, ferry terminals, etc. (SAFEA-U Titles 23 and 49)	Match is usually 20% Federal Highway Program funds can be used as for match

Name	Admin- istered by	Eligibility/Project Type	Notes
Annual Operating Funds or Park Base (Recurring)	NPS	"This is the primary source of operational funding for parks. Recurring funds are used for the management, interpretation, visitor services, maintenance, and resource protection of National Park Service areas. Parks request increases to their park base through the Operations Formulation System (OFS)."	http://classicinside.nps.gov/budget3/fundsource.htm
Challenge Cost-Share	NPS	"Program provides a maximum of 50% cost-share grant to expedite and complete mutually beneficial projects with outside sources. The purpose is to increase awareness and participation by both neighboring communities and the public at large in the preservation and improvement of National Park Service recreational, cultural, and natural resources. Park partners (outside resources) include individuals, groups, companies, corporation, State and local agencies, and other non-Federal entities which will donate funds, equipment, supplies or in-kind labor to complete a park project. Projects are generally intended to be small, able to be completed in one year, and consistent with park planning documents. Projects will fall into one of three categories: 1. Director's Share 2. Region's Share 3. Trail"	http://classicinside.nps.gov/budget3/fundsource.htm
Concessions Franchise Fees	NPS	"All concession contracts contain franchise fee and other financial obligations that reflect the probable value of the authorization consistent with the law. Beginning in FY 1999, as provided for in Section 407 of Public Law 105-391, all franchise fees paid to the United States pursuant to concession contracts are deposited to a special Treasury account. Twenty percent of the funds are made available, without further appropriation, to support concession activities throughout the National Park System. Eighty percent of the funds are made available, without further appropriation, to the park in which the funds were collected. Criteria is for funding expired and expiring contracts and associated tasks. If a park has no contracting projects they must meet criteria previously set forth and approved by the regions. All projects over \$500,000 must come to WASO for approval and be considered by DAB."	http://classicinside.nps.gov/budget3/fundsource.htm
Cultural Resources Preservation Program (CRPP) Cultural Landscapes Inventory	NPS	"Projects include conducting the Cultural Landscape Inventory (CLI) and entering the existing backlog of data into the Cultural Landscape Automated Inventory System (CLAIMS) to respond to the NPS Strategic Plan long-term goal 1b2B. Preferred projects are those that provide information that is lacking and consequently adversely affecting preservation or management of the resource or is required for current or proposed park planning, resource management efforts, cultural and natural resource research projects (Historic Resource Study, Cultural Landscape Report, Vegetation Management Plan) or development and construction projects (utilities upgrade, Federal Highways projects)."	http://classicinside.nps.gov/budget3/fundsource.htm
Environmental Quality Division- Environmental Impact Analysis	NPS	"Projects will be accepted for environmental impact analysis (environmental assessments and environmental impact statements) that qualify as follows: Projects must show: Park specific issues or problems having precedent setting implications. Significant or long standing resource issues that require decisions. Background studies and reasonably foreseeable information needs are complete. Other funding sources are unavailable. Preparation of environmental impact analysis is subject to a court order."	http://classicinside.nps.gov/budget3/fundsource.htm

Name	Administered by	Eligibility/Project Type	Notes
GIS Projects	NPS	<p>"GIS project funding is allocated to each of the Regional GIS Program Offices from WSOO for distribution to the parks and for use by Regional Technical Support Centers. Criteria from each Regional GIS Coordinator determines distribution to parks based on their regional needs and appropriate criteria. Project dollars must relate to the development, continuation or advancement of a GIS System, GPS data collection, integration of other data into a geospatial format, development of existing and current metadata and posting of data to a clearinghouse. Project funds may also be used for data production/acquisition and/or GIS application or modeling development via contract or in house including the cost of metadata production."</p>	<p>http://classinside.nps.gov/budget3/fundsource.htm</p>
Incentive Awards	NPS	<p>"Funding may be available from regional offices or WSOO. Parks may use base funding to supplement the program."</p>	<p>http://classinside.nps.gov/budget3/fundsource.htm</p>
Informational Publications Program	NPS	<p>"Park folders, handbooks, posters, and other publications are prepared by Harpers Ferry Center for park areas and funded from this account. Funding for folders is frequently supplemented by regional offices. Parks usually pay the shipping costs on park brochures from base funding."</p>	<p>http://classinside.nps.gov/budget3/fundsource.htm</p>
Land Acquisitions	NPS	<p>"Funding for the acquisition of land and interest in land for inclusion in the National Park System in order to preserve nationally important natural and historic resources. Funds are also provided to coordinate and administer this acquisition program, and to administer grant and administrative assistance program for state governments."</p>	<p>http://classinside.nps.gov/budget3/fundsource.htm</p>
Natural Resource Preservation Program (NRP) Disturbed Land Restoration	NPS	<p>"Projects involve actions to reestablish natural processes or to correct resource damage caused by human developments that have significantly altered the landscape structure and function. Examples of such disturbances include abandoned structures; abandoned mineral lands; abandoned or unauthorized roads; disrupted natural stream channels, floodplains, wetlands, or shoreline processes; and other abandoned developments or facilities (excluding prescribed fire, fire rehabilitation, and grazing). Restoration activities should address the biological and physical components of impaired natural systems as necessary to reestablish naturally functioning terrestrial and aquatic habitats and processes. Site-specific activities may include mitigating impaired soil conditions; reestablishing natural hydrologic patterns, original contours, and native vegetation; and reestablishing critical habitat elements. Activities connected to site restoration, such as characterization, compliance, design etc., are eligible as long as the primary project purpose is the mitigation of natural resource impacts caused by human development."</p>	<p>http://classinside.nps.gov/budget3/fundsource.htm</p>
Project Planning	NPS	<p>"The second phase of the construction process which provides final estimates, construction drawings, and contract bidding documents for individual construction projects. Generally accomplished by the Denver Service Center. Comprehensive design prior to a specific construction project is programmed under the Line Item Construction Program."</p>	<p>http://classinside.nps.gov/budget3/fundsource.htm</p>
Regular Cyclic Maintenance	NPS	<p>"Funds are used to maintain park roads, trails, building, utility systems, and other facilities on a fixed periodic basis as long as the cycle is longer than one year, but no longer than ten years. Budget submissions for the cyclic maintenance program are extracted from the park's ten-year cyclic maintenance program. The work may require the preparation of simple designs and specifications and is performed by contract or day labor. Funding from the cyclic maintenance program may not be used for the new construction of any kind unless clearance has been received from the Regional Office and Washington. Permanent employee's salaries should be base funded and therefore, not charged to cyclic accounts."</p>	<p>http://classinside.nps.gov/budget3/fundsource.htm</p>

Name	Administered by	Eligibility/Project Type	Notes
Sign Replacement	NPS/ FHWA	Funding for signs eligible under Federal Highway criteria for replacing signs to meet MUTCD standards (not cyclic replacement of signs).	http://classinside.nps.gov/budget3/fundsourc.htm
Water Resources Division	NPS	<p>Projects will be accepted in the following three categories:</p> <p>Water Quality Mitigation, Restoration and Assessment: Projects support park-based activities, including the design of information management systems, regulatory assessments, riparian/stream and watershed restoration and protection projects with water quality goals or other water quality improvement projects. May also include design and implementation of Best Management Practices required to improve water quality to meet state-mandated polluted runoff or nonpoint source pollution control or other park water quality goals and objectives. In addition, projects that encompass one-time assessments or inventories of water quality baseline conditions or contaminants may be submitted.</p> <p>Wetlands Restoration, Inventory, and Protection: Projects include wetland restoration design and implementation, impact or condition assessments, inventories, functional assessments, applied research, protection efforts, monitoring, and other wetland projects consistent with NPS policies, directives, and procedures.</p> <p>Hydrology, Watershed Management and Planning: Projects include groundwater assessment and monitoring, well and spring</p>	http://classinside.nps.gov/budget3/fundsourc.htm
Youth Conservation Corps (YCC)	NPS	<p>The park will determine the areas under their administrative jurisdictions, which are appropriate for carrying out the program, and select appropriate work and environmental awareness projects. Work project submissions for the Youth Conservation Corps program are submitted to the Washington Youth Programs Division for approval prior to the beginning of the program. Recruitment of enrollees will be conducted by local school systems, Employment Security Offices, and/or hosting agencies. Permanent employee's salaries should be base funded and, therefore, not charged to Youth Conservation Corps account. Funds are used to maintain trail construction; timber management; pest and exotic weed control; drainage ditch and culvert maintenance; campsite construction and maintenance; fencing construction and planting; range vegetation control projects; restoration of historical areas and monuments; landscaping, beautification and planting; range vegetation control projects; and other conservation work projects. The Youth Conservation Corps is a 8 - 10-week summer program for youth between the ages of 15 to 18 years old.</p>	http://classinside.nps.gov/budget3/fundsourc.htm
National or State Historic Preservation		Grant funding for preservation/maintenance of road features that are cultural resources	