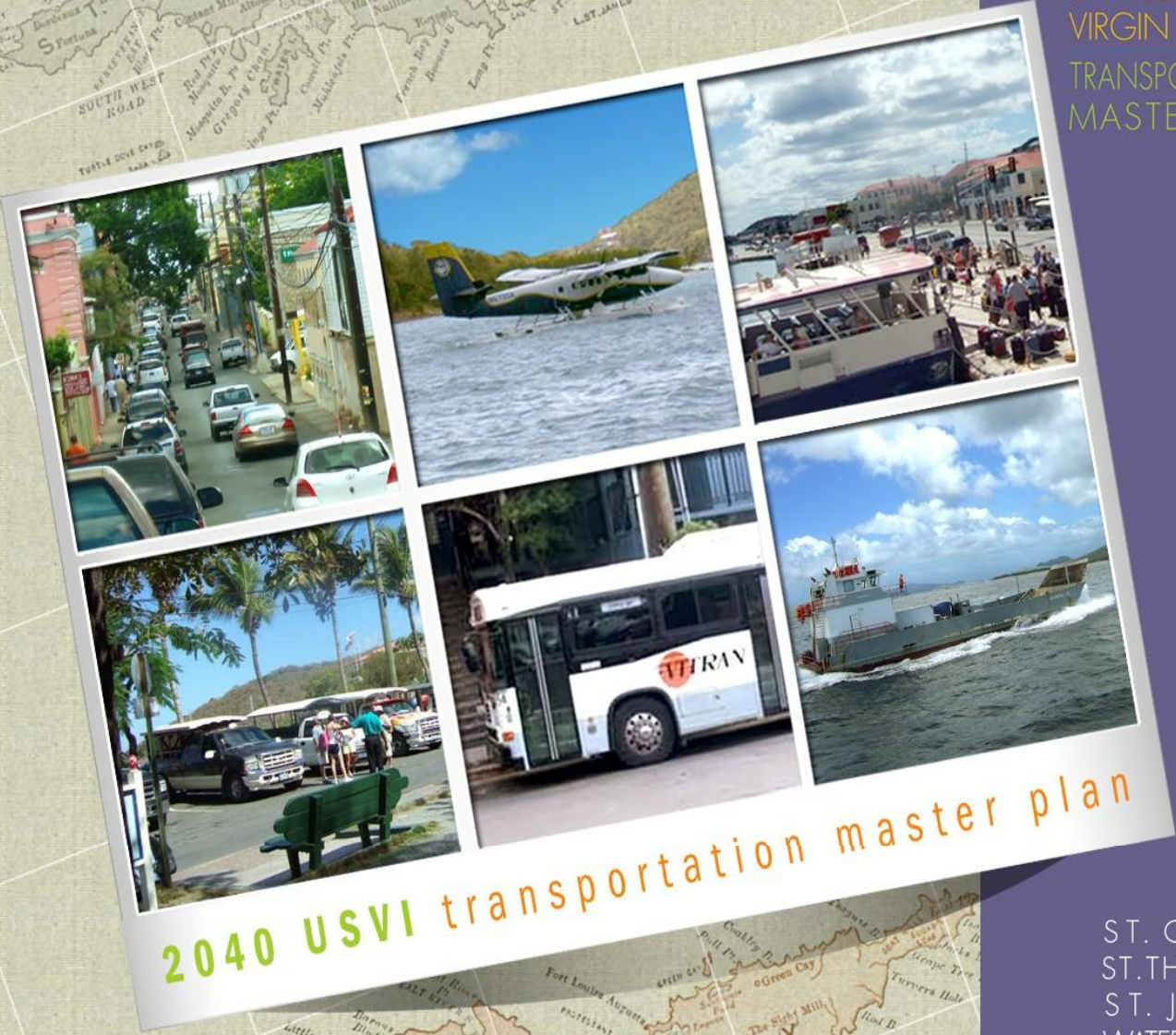




# 2040 UNITED STATES VIRGIN ISLANDS TRANSPORTATION MASTER PLAN



## 2040 USVI transportation master plan

ST. CROIX  
ST. THOMAS  
ST. JOHN  
WATER ISLAND



# U.S. Virgin Islands

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## 2040 Comprehensive Transportation Master Plan Report



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Department of Public Works

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## 1.0 Purpose and Vision



The Government of the United States Virgin Islands (USVI), through its Department of Public Works (USVI DPW) and Virgin Islands Transit Agency (VITRAN), and the Federal Highway Administration (FHWA), have partnered to prepare this 2040 USVI Comprehensive Transportation Master Plan (CTMP), the first long range transportation plan for the Territory. The purpose of the CTMP is to present a strategy to improve transportation infrastructure throughout the USVI through the year 2040.

A vision statement was adopted early in the CTMP process to serve as the foundation of this plan. The vision was simply stated: **An integrated transportation system which serves the needs of the USVI community.**

The mission statement was similarly straightforward: Develop, operate and maintain an integrated transportation system that promotes safe, reliable, cost effective and efficient movement of people, services and goods. The vision and mission are further clarified through the identification of specific goals and objectives to support the vision based on existing and future transportation, land use, and economic conditions.

In essence, this plan proposes to:

- Identify short- and long-range transportation needs and improvement strategies
- Establish sustainable financing and project implementation recommendations
- Identify data collection and management system needs to monitor the state of the transportation system
- Identify policy and institutional improvements to promote better decision making

The CTMP documents the transportation needs for the USVI in both the short- and long-term, and also includes performance measures focused on establishing an inventory of the existing transportation system as well as measures to improve the efficiency, safety, and effectiveness of existing roadways and maintaining them in future years. Also included in the plan are recommendations for enhancing the USVI's mass transit system.

### 1.1 Background

The CTMP builds on the Virgin Islands Highway Functional Classification and Needs Study prepared for the USVI Department of Public Works in 1973 as well as on guidelines for the development of a comprehensive plan adopted in Executive Order 333-1991. Both of these documents addressed the need of the USVI to develop a comprehensive transportation plan.

The Functional Classification and Needs Study was predicated on several goals and objectives related to the organizational and technical needs of sound transportation planning. The document resulted in several useful products for transportation planners on island. These include the first complete set of public road maps of the Virgin Islands, roadway and pavement design standards, a functional classification system and projection of highway needs through 1990. The results of the needs and deficiency analysis done at the time indicated that every section of the existing 369 miles would become deficient in one respect of another during the 18-year study period. Specific improvements were established for each section of highway and summarized for each design standard for each of the islands. Included in the report were observations that *"highway data in the Virgin Islands is scarce. With the highway data as rare as it is, it is difficult to project future highway needs for the islands because there is very little historical information upon which to base a projection. We have developed a program for continuing data collection that will*





provide the Virgin Islands with the basic information necessary to provide for proper planning for highway. This data collection program is included as a part of this study under separate title, *Virgin Islands Highway Functional Classification and Needs Study—Program for Continuing Data Collection.*”

This observation, that the USVI is in need of data gathering and analysis methods about the transportation system is still true today. The CTMP contains several recommendations to address the lack of available data and analysis to support the development of the CTMP

The purpose of Executive Order 333-1991 was to give direction to all departments and agencies of the USVI Government in drafting a comprehensive plan for the Territory. The guidelines were developed and adopted through an extensive public outreach process run by the Planning Division. Executive Order 333-1991 directed all departments and agencies to conduct their programs and operating procedures in conformity with the guidelines, so that the implementation of the Comprehensive Plan would not be jeopardized by development inconsistent with the policies established in the Executive Order. Guidelines were developed for twenty categories of activity, including transportation. The overall goal for Transportation in the Guidelines was to:

Achieve a reliable transportation system that promotes safe, energy efficient, convenient, affordable and efficient movement of people and goods.

This Transportation Guideline adopted in 1991 under Executive Order 333-1991 is provided in Error! Reference source not found.. The goals and objectives developed for the Guidelines and Needs Assessment formed the basis for the goals discussion for this CTMP.

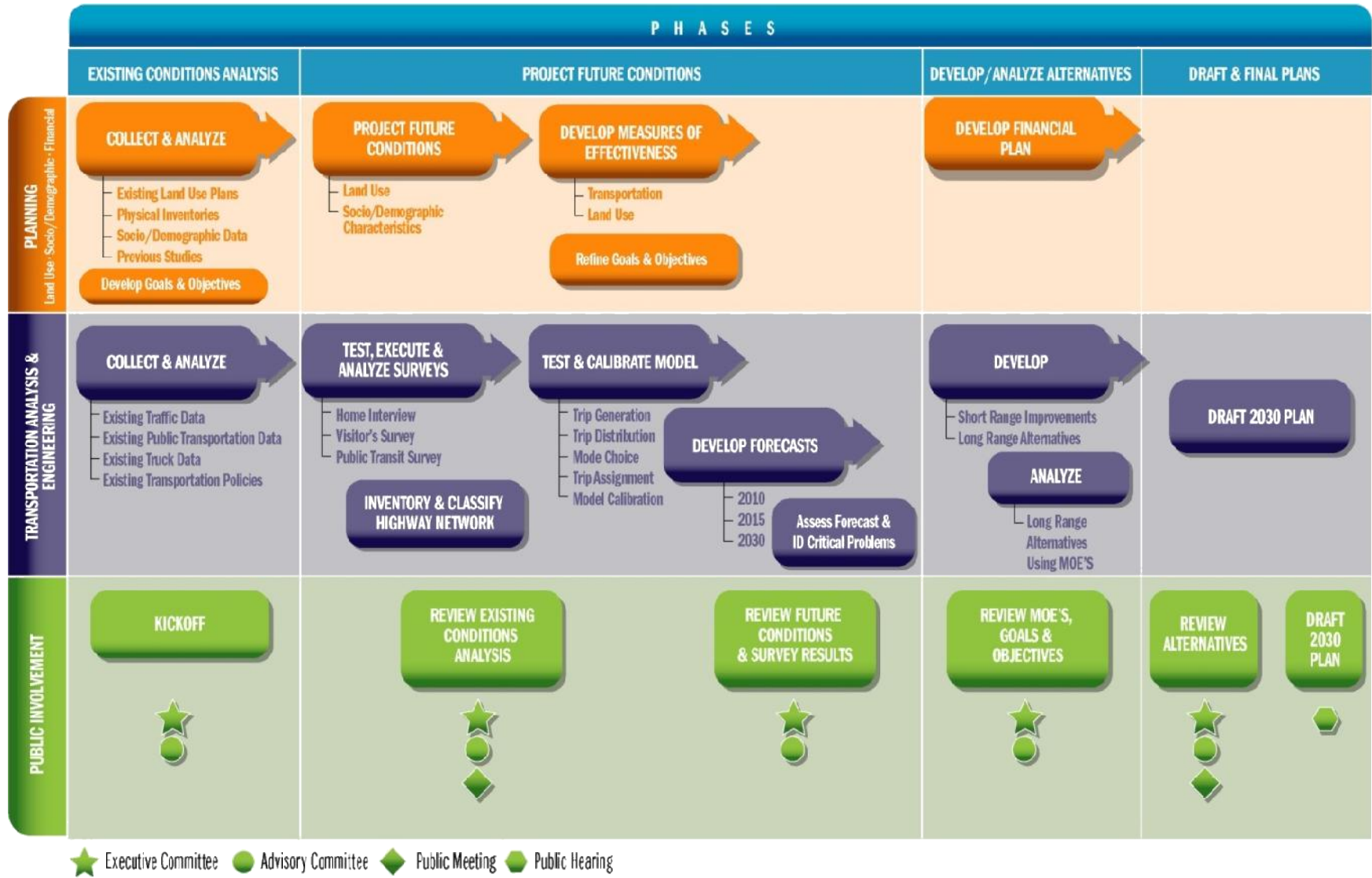
## 1.2 Planning Process and Public Outreach

The CTMP was developed through a coordinated, comprehensive and continuous process composed of three technical areas progressing through several stages. As shown in Figure 1.1, the CTMP resulted from the integration of planning tasks with traffic analysis and public involvement. Elements of the planning process included:

- A community outreach program to engage USVI’s citizens and stakeholders in the process to identify project goals and objectives, determine transportation needs, and obtain feedback regarding recommendations for projects to be included in the CTMP
- An inventory of existing transportation system conditions to establish a baseline for determining future needs
- A review of historical transportation and demographic data and trends
- An analysis of previous planning efforts, including the Executive Order 333-1991
- The development, concurrence, and application of performance measures in order to identify, evaluate, and prioritize transportation improvements
- Development of the USVI’s travel demand forecasting model
- Identification of transportation improvements to address existing and anticipated congestion
- Review of potential federal and local funding sources
- Prioritization of projects based on available funding, goals and objectives, and public comments
- Development of the 2040 USVI CTMP document



Figure 1.1 - Planning Process







Public and stakeholder outreach was conducted to assist in the identification of the USVI's transportation needs and priorities. Key stakeholders, including local and federal agencies were involved through the creation of three island-based community advisory groups and two territory wide committees, the executive committee and technical advisory committee. The various groups met periodically throughout the development of the master plan and will remain involved throughout its implementation. Key committee members also participated in a Speaker's Bureau, which met as requested with civic, professional, business, environmental and homeowners associations on the three islands. Additional public outreach included territory wide meetings and a website, [www.usvitransportationplan.com](http://www.usvitransportationplan.com). A brief description of the roles, responsibilities, and function of each of the groups is discussed below.

**Technical Advisory Committee** meetings facilitated the information exchange with agency planners and statisticians crucial to the development of the CTMP. Organized meetings with specific goals were conducted for Territory and Federal officials to ensure that accurate statistics were gathered and all policy and process requirements were met as part of the planning effort.

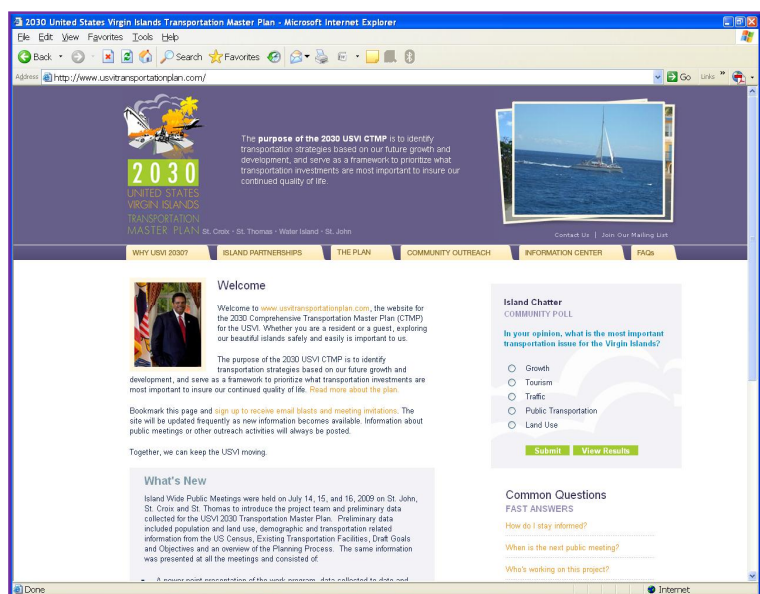
**Executive Committee** meetings were held to brief senior staff of DPW, the Port Authority, FHWA, FTA, DPNR and the Office of the Governor of the plan's progress. The purpose of the executive committee was to set policy and oversee the study.

**Public Information** meetings occurred in two steps, beginning with a series of community meetings which were held in on St. John, St. Thomas, and St. Croix in July 2009. The purpose of these meetings was to gather community input pertaining to the draft goals, objectives, existing conditions, and transportation issues. The public was encouraged to identify existing problems that need to be addressed, as well as potential improvements required for the future transportation system. A second series of public meetings was held in May 2013 where a draft of the CTMP was presented and discussed. Specifically, the public was given the opportunity to review the roadway plan, the transit plan, and the methodology by which projects were selected. The public was asked for their input to assure that the recommendations were relevant to their concerns and preferences.

**Media Relations** was accomplished through press releases, press conferences, print, radio and television interviews, local talk shows and a limited amount of paid advertising.

**Speaker's Bureau** - Executive and Technical Advisory Committee members spoke at civic and business organization meetings, such as the Chamber of Commerce and other venues.

**Community Advisory Group** - Three island-wide Community Advisory Groups (CAG), consisting of representatives of business, cultural, homeowners and social service organizations, met at key decision points in the planning process. These CAGs identified and prioritized future transportation projects and provided feedback on local transportation needs.





The CTMP is a living document that has been developed as a foundation for making sound transportation policy decisions to improve the overall quality of life for the people of the United States Virgin Islands now and in the future.

### 1.3 Relationship to Territorial Transportation Improvement Plan

The CTMP is designed to conform to the requirements of SAFETEA-LU, examines a 30-year span, and establishes the priorities and framework for future transportation improvements. The CTMP is a planning document that identifies those projects that are likely to be funded by a combination of local and federal resources within the year 2010-2040 timeframe. It also provides an illustrative list of projects that, while unfunded, are directly related to documented needs arising from anticipated growth.

In contrast, the Territorial Transportation Improvement Plan (TTIP) is a short-term budgeting document that identifies transportation projects that will be implemented during the current four-year period. The link between the two documents is that the projects identified in the long-range CTMP provide the basis for selection and prioritization of projects in the TTIP. The CTMP identifies a list of needed improvements and the TTIP establishes funding for those deemed to be the highest priority within the immediate future. Projects are required to be included in the CTMP before they can be programmed (funded) in the TTIP.

The TTIP programs projects in terms of their stage, such as preliminary design, final design, right-of-way acquisition/environmental clearance, or construction. It includes a more detailed description of the project's design concept and scope (number of lanes and location), a cost estimate, and an anticipated funding source. The TTIP alerts FHWA and FTA of the need to process funding requests for project implementation to meet established schedules.

### 1.4 Statutory Requirements

The CTMP is subject to and must address several laws and regulations applicable to transportation planning and funding, the most recent of which is Moving Ahead for Progress in the 21st Century (MAP-21). MAP-21 was signed into law in July 2012 and is the current national transportation legislation providing the guiding principles behind transportation decision-making throughout the United States. It is a two-year authorization effective for federal fiscal year (FFY) 2013 and FFY 2014.

MAP-21 sets eight Planning Factors to guide transportation decisions and includes the following mandates:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
2. Increase the safety of the transportation system for all motorized and non-motorized users.
3. Increase the security of the transportation system for motorized and non-motorized users.
4. Increase the accessibility and mobility of people and for freight.
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns.
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
7. Promote efficient system management and operation.





8. Emphasize the preservation of the existing transportation system.

Additionally, the CTMP must have a minimum 20-year horizon at time of adoption and must be updated no less than every five (5) years.

## 1.5 Plan Administration

The 2040 CTMP is a dynamic document that prioritizes projects and makes recommendations based on the most current information available. It will be administered by the USVI Department of Public Works in coordination with the Port Authority, Department of Natural Resources (DPNR), and the Governor's Office. The plan should be updated at a minimum of every five years. At each update, current conditions and future trends will be assessed and the appropriate modifications made to the plan.

Future financial conditions are one example of a trend that will need to be re-assessed periodically. The credit crisis during the fall of 2008 placed severe financial limitations on both government entities (including the federal government) and private firms in acquiring funds to maintain business operations. Conversely, the American Reinvestment and Recovery Act (ARRA) stimulated the economy by providing access to a substantial amount of funds for transportation infrastructure. These are just a few examples of changes in policies both at the local and federal levels that may affect priorities and projects.

## 1.6 Plan Approval Process

Input from the Executive Committee, the Technical Advisory Committee, the Community Advisory Groups, and the community at large was used by DPW staff to prepare the draft plan. The draft plan was reviewed by the Executive Committee and the Technical Advisory Committee in November 2014. The Community Advisory Groups met in November 2014 to review the draft plan. This final plan includes their review and comments.

## 1.7 Vision, Mission, Goals and Objectives

The development of the Vision, Goals and Objectives for the plan is an important step in the planning process. The first step in the development of these goals and objectives was a review of the Guidelines for Transportation in Executive Order 333-1991. Although much has changed since the adoption of those guidelines, the vision, goals and objectives articulated in 1991 provided a substantive base from which to build the CTMP. Combined with a review of existing conditions, advanced traffic forecasting techniques, and sound engineering practices, the vision, goals, and objectives provide a framework for the eventual evaluation and prioritization of transportation solutions.

This Vision, Mission, Goals and Objectives were presented to the citizens of USVI in draft form on the website, [www.usvitransportationplan.com](http://www.usvitransportationplan.com), and in a series of three meetings in July 2009. The public response was positive and supportive of the developed goals as presented at these meetings. The goals and objectives are provided in Table 1.1.





Table 1-1 - Vision, Goals and Objectives

Plan Layer	Definition	Developed By
Vision	Broad, overarching theme that underlies all advancements of the Transportation Master Plan.	USVI DPW leaders Project team Public Involvement
Goals	General statements of direction for the entire transportation system.	USVI DPW leaders Project team Public Involvement
Objectives	Specific outcomes to achieve the goal.	USVI DPW leaders Project team Public Involvement
Vision	An integrated transportation system which serves the needs of the USVI community.	
Mission	Develop, operate and maintain an integrated transportation system that promotes safe, reliable, cost effective and efficient movement of people, services and goods.	

<u>Goal 1 –Economic Development</u>	Provide an integrated transportation system that grows the economy of the USVI
OBJECTIVES	
1.1	Provide smooth and efficient transfers of passengers and freight between ports, airports, railroads, and highways.
1.2	Support economic development in specific geographic areas by providing access to redevelopment and infill areas, central business districts, and designated activity centers.
1.3	Examine institutional or regulatory modifications that will improve efficiency and service.
<u>Goal 2 – Safety and Security</u>	Improve the safety and security on all transportation modes in the Territory through education, enforcement and engineering solutions
OBJECTIVES	
2.1	Develop a management system to store crash data and analyze trends in crash location, frequency and types on a semi-annual basis.
2.2	Reduce the overall crash rate on UVSI roadways
2.3	Reduce the overall fatality rate for all transportation modes, including automobiles, mass transit, bicycles, and pedestrians.
2.4	Reduce emergency response time.
2.5	Ensure the safe transport of elementary and secondary school students regardless of mode chosen.
2.6	Plan for and provide transportation options during emergency evacuation for special needs populations.





Table 1.1 (Continued) - Vision, Goals, and Objectives

<p><u>Goal 3 – Operation and Maintenance</u></p>	<p>Maximize the efficiency of existing transportation facilities and services through upgraded facilities and improved management, operations and maintenance activities</p>
<p>OBJECTIVES</p>	
<p>3.1 Bring the existing infrastructure into a state of good repair.</p>	
<p>3.2 Develop standards and schedules for maintaining transportation facilities, services and equipment for all modes of transportation to extend their life and reduce maintenance costs.</p>	
<p>3.3 Integrate operations and maintenance activities into the planning and programming process by developing specific system performance measures.</p>	
<p>3.4 Identify and implement the best available technologies to improve the reliability and efficiency of the transportation system.</p>	
<p><u>Goal 4 - Environmental Sustainability and Land Use</u></p>	<p>To ensure that the transportation system supports the development of communities that provide transportation choices and preserves the Territory's natural, historic, and cultural resources.</p>
<p>OBJECTIVES</p>	
<p>4.1 Support in-fill development and the concentration of new commercial and office space in activity centers that can be interconnected by transit, bikeways and sidewalks.</p>	
<p>4.2 Avoid, minimize, or mitigate potential adverse effects of transportation on the natural, historic and cultural resources of the USVI.</p>	
<p>4.3 Reduce the reliance on fossil fuel use of the transportation system.</p>	
<p>4.4 Improve mobility, promote healthy lifestyles, and reduce air pollution and congestion through increased public transit services and bicycle and pedestrian facilities.</p>	
<p>4.5 Maintain limits on the number of rental and taxi vehicles to reduce congestion and air pollution.</p>	
<p>4.6 Reduce impervious surfaces where possible.</p>	
<p>4.7 Build projects that support pedestrians, bicycles and transit.</p>	
<p><u>Goal 5 – Manage Congestion to Optimize Mobility and Accessibility</u></p>	<p>To maximize mobility and accessibility by strategically managing transportation facilities and services to reduced travel times and levels of congestion</p>
<p>OBJECTIVES</p>	
<p>5.1 Develop a Congestion Management System that employs a mode-neutral analytical framework to improve mobility for residents and tourists.</p>	
<p>5.2 Provide effective and economical transportation choices and alternatives for people and goods movement.</p>	
<p>5.3 Improve transportation system operating efficiency.</p>	



Table 1.1 (Continued) - Vision, Goals, and Objectives

<p><u>Goal 6 - Provide a Seamless and Integrated Transportation Network</u></p>	<p>To improve on-island and inter-island accessibility and mobility for people and goods across all modes of transportation; ensure interconnected access to all areas of the Territory, the nation and the world</p>
<p>OBJECTIVES</p>	
<p>6.1</p>	<p>Plan and develop each mode of transportation in coordination with other modes to promote convenience, efficiency, and cost effectiveness.</p>
<p>6.2</p>	<p>Increase mode choice and access for persons with disabilities, low-income residents, non-English speaking citizens and elderly populations.</p>
<p>6.3</p>	<p>Provide an integrated network of pedestrian and bicycle facilities.</p>
<p>6.4</p>	<p>Improve connections for freight and passenger movements within the USVI and to additional Caribbean and global destinations.</p>
<p>6.5</p>	<p>Provide efficient access to existing and planned activity and employment centers.</p>
<p><u>Goal 7—Agency and Public Outreach in Transportation Planning and Programming</u></p>	<p>To improve coordination, communication, and cooperation among transportation professionals, users, providers, and those affected by transportation activities, regardless of race, religion, national origin, or income.</p>
<p>OBJECTIVES</p>	
<p>7.1</p>	<p>Coordinate transportation planning and programming activities among the Department of Public Works, the Port Authority, the Department of Interior and Homeland Security.</p>
<p>7.2</p>	<p>Implement an effective and ongoing community outreach program that supports informed decision-making through improved communications and responsive planning and programming methods and techniques.</p>
<p>7.3</p>	<p>Provide underserved groups, populations and areas with equal access to information and input into the decision-making process for transportation planning, financing, construction, operations and maintenance activities.</p>
<p>7.4</p>	<p>Ensure that all stakeholder communications and outreach efforts are properly coordinated, consistent, understandable and simply presented.</p>
<p>7.5</p>	<p>Ensure that all required public input is properly documented, interpreted and distributed as necessary in a timely and effective fashion.</p>
<p>7.6</p>	<p>Provide adequate time for public review and comment at key milestones of the transportation planning process.</p>
<p>7.7</p>	<p>Support collaborative working relationships among federal, territorial and local interests with the objective of removing barriers, aligning interests, and developing innovative, equitable solutions.</p>



Table 1.1 (Continued) - Vision, Goals, and Objectives

<p><u>Goal 8 - Financial Accountability</u></p>	<p>To create a transportation funding structure that is stable and reliable and supports a viable transportation system to achieve territorial and local goals now and into the future.</p>
<p style="text-align: center;"><b>OBJECTIVES</b></p>	
<p>8.1</p>	<p>Develop a financially responsible implementation plan that allocates and maximizes the use of all available financial resources.</p>
<p>8.2</p>	<p>Seek out and promote public-private partnerships for innovative delivery of services and projects.</p>
<p>8.3</p>	<p>Explore alternative funding sources</p>

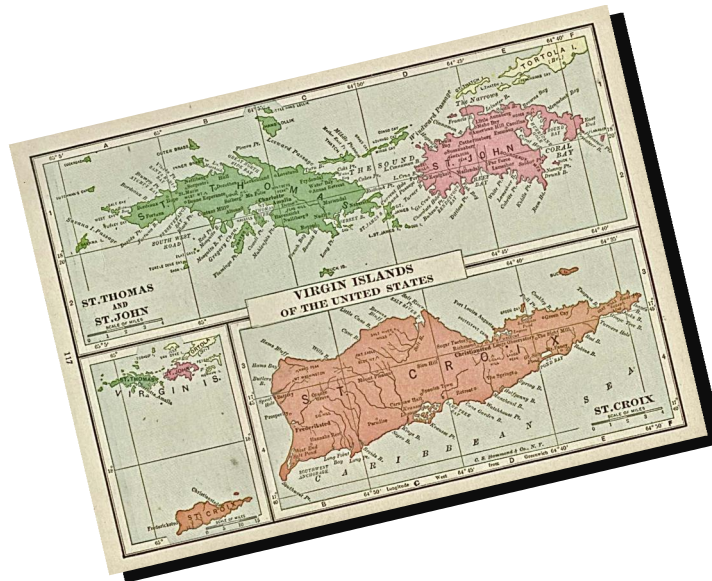




## 2.0 Overview of the Territory

The U.S. Virgin Islands are comprised of three main islands and many small cays. The islands are approximately 150 square miles in size, but are spread across several hundred square miles of area. St. Croix is the largest island, being approximately 80 square miles; St. Thomas is approximately 33 square miles, and St. John is approximately 22 square miles.

The population of the Territory is approximately 107,000 people. Most of the population lives on the three main islands, with a small amount on Water Island. In terms of population distribution and based on 2010 Census data, St. Croix has approximately 51,000 people; St. Thomas 52,000 people; and St. John 4,200 people. Water Island is a small cay south of St. Thomas. It is a bedroom community with approximately 200 residents. About half of the residents of Water Island are seasonal residents and reside on the island part time. The other half of the residents that live on Water Island primarily work and attend school on St. Thomas.



Historically, each island has developed differently according to its geography. St. Thomas has traditionally been, and continues to be a commercial port due to the deep water harbor of Charlotte Amalie. St. Thomas is also one of the most popular cruise ship destinations in the Caribbean. St. Croix at one time thrived as a plantation island producing sugar, but has since developed light industry due to its abundance of flat land. Attempts to develop a tourist economy on par with St. Thomas on the island of St. Croix continue to be a primary goal of the Virgin Islands government. St. John started as a plantation island, but the Danish government abandoned the island economically after the slave revolt in 1733. As such, much of the island was undeveloped when the Virgin Islands National Park was created in 1956. As a result of the park, privately owned property is a valuable resource on St. John, providing sites for luxury residences. Figure 2.1 shows a map of the Territory.



Figure 2.1 - USVI Territory





## 2.1 Overview of St. Thomas



St. Thomas is a very mountainous island with very little flat land. Although St. Thomas is 13 miles long, more than 80 percent of the population lives in the eastern half of the island. Economic activity in the construction of luxury residences has produced a recent surge in real estate values in St. Thomas.

Charlotte Amalie remains one of the number one cruise ship destinations in the world. More than 2,000,000 tourists visit St. Thomas yearly on cruise ships. Most of those visitors arrive at the West Indian Company Ltd. Dock at the eastern end of Charlotte Amalie. The Virgin Islands Port Authority recently expanded the Crown Bay facility in Subase to accommodate larger vessels that will become the norm in the cruise industry, replacing the smaller ships presently in use. The Red Hook facility on the eastern end of the island provides inter-island commuter travel between St. Thomas, St. John and Tortola. The Virgin Islands Port Authority recently began expanding the Red Hook facility to address the growing needs of that community. Inter island commuter travel also is provided in Charlotte Amalie harbor at the Edmund Wilmoth Blyden IV Marine Terminal. Air travel is provided through the Cyril E. King Airport, which is located in the western portion of the island.

The automobile is the preferred mode of transportation in St. Thomas. Public transportation is provided along the primary east-west route to the major population centers. The existing system lacks equipment and frequently breaks down. There is a system of taxi jitneys, locally referred to as “dollar taxis” that provide an ad hoc alternative to the public transportation system. No public transportation is provided along the northern and southern sides of the island, only through the central spine. This is due to the mountainous terrain and density of population in those areas.

## 2.2 Overview of St. Croix

St. Croix geographically is a contrast to St. Thomas. The island is approximately 21 miles long and seven miles wide. Much of the land is relatively flat, with two mountain ranges in the north and east end of the island. There are two main towns, Christiansted in the east and Frederiksted in the west. Most of the population lives between these two towns.



Christiansted was once the capital of the Danish West Indies, and as such, is rich in historical public and private buildings. Frederiksted was originally developed as a shipping port for the plantations in the west and has historically been a secondary town to Christiansted. St. Croix abandoned agriculture as its primary industry in the 1960's and since that time has developed light industry and tourism as its primary industries. Much of the agricultural land between Christiansted and Frederiksted has been redeveloped with light industry, residential communities, and shopping centers. The mid-island area used to include the third largest oil refinery in the world (HOVENSA) and includes the Sunny Isle Shopping Center, a major commercial center on the island. However, the economy of St. Croix has been in





a state of decline since Hurricane Hugo in 1989. The Virgin Islands Government, working through the Virgin Islands Public Finance Authority, recently completed the Frederiksted Revitalization Project. This ambitious project, developed in concert with the cruise ship industry, included enhancing the existing Ann Abramson Pier and the creation of a new beach. As a result of these improvements, cruise ships have returned to St. Croix.



The recently renovated and expanded Henry Rohlsen Airport is located on the western edge of the mid-island area. It is hoped that the expansion of the runway to 10,000 feet will allow St. Croix to attract direct flights from Europe. There are several roadways that traverse the island from east to west. The primary arteries are the Melvin Evans Highway and the Queen Mary Highway. Many north-south roads traverse both streets, making vehicular traffic much less congested than St. Thomas. Public transportation, like St. Thomas, is relegated to areas of greater population density. However, the geography and roadway network of St. Croix allows for a much easier expansion of the system than St. Thomas.

## 2.3 Overview of St. John



St. John is a mountainous island approximately 22 square miles in size. More than 70 percent of the island is owned the U.S. National Park Service. Since 1956, the park has been, and continues to be the major attraction of St. John. There are two main population centers, Cruz Bay on the eastern end and Coral Bay on the western end. Most of the people visiting St. John arrive at Cruz Bay. The economy of Cruz Bay is presently very active, as a result of the development of luxury housing communities primarily in the eastern end of the island. Congestion in Cruz Bay and along the north shore beaches tends to be the major problem in St. John's transportation network. The Virgin Islands Port Authority recently constructed the Enighed Pond Freight facility to alleviate congestion in the Cruz Bay area. The passenger ferry still lands in Cruz Bay and likely will continue to do so until additional roadway and parking improvements adequately link the new facility with other areas of Cruz Bay.



## 2.4 Overview of Water Island

Water Island is a bedroom community of St. Thomas. The marine facilities serving the island are inadequate and need to be expanded and repaired. The main ferry landing has been damaged since Hurricane Marilyn in 1995. A floating dock now serves as its replacement. Cargo and trash removal is presently done at Flamingo Pond. However, these facilities are inadequate and are not properly integrated into the existing roadway system. Flamingo Pond appears to be an area where it will be appropriate to develop commercial and institutional activities on the island if the residents so desire.





## 3.0 Characteristics of the Territory

Outlined in this chapter are several major demographic, transportation, land use, employment, and economic development trends that provide important context for the actions specified in the 2040 Comprehensive Transportation Master Plan. The Territory has experienced almost constant growth over the last 20 years. Although this growth slowed in 2008 and 2009 due to worldwide economic conditions, the long term trends show a future of steady population and visitor growth, which could easily result in greater congestion, longer travel times, and more pollution. The results of these trends are a greater need for an efficiency and multimodal transportation system in order to avoid significant adverse impacts that affect the quality of life of the residents and visitors to the Territory.

The analysis included in the following sections use various sources in order to have an assessment of existing conditions and growth trends. The data were available for a wide range of years between 1989 and 2014. While the same set of years is not consistent throughout the analysis, it does provide an overview of the characteristics of the islands and the potential future growth.

### 3.1 Community Characteristics

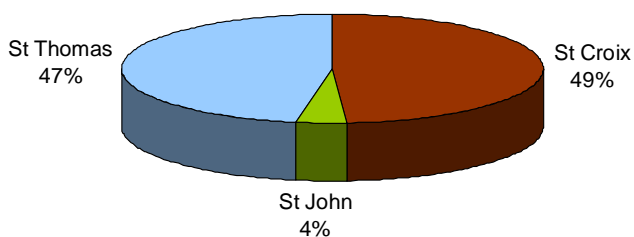
The following data describes the existing condition of the social, economic and travel characteristics of island residents.

#### 3.1.1 Population and Households

Since 1980, the US Census Bureau has established “census sub-districts” as the primary subdivisions of the U.S. Virgin Islands for the reporting of decennial census data. The 20 census sub-districts are legally established entities intended to be permanent areas that reflect land use planning districts<sup>1</sup>.

A breakdown of the percentage of the Territory by island is illustrated on Figure 3.1. The graph shows St. Croix and St. Thomas with similar population, between 49 and 47 percent of the total territory population. Four percent of the population live in St. John based on the 2010 Census data.

Figure 3.1 - USVI 2010 Population by Island



Source: U.S. Census

Overall, the older more urban cities and towns are losing population on average while areas outside these centers are gaining population creating more dispersed developments, longer trips, auto dependency

As shown in Table 3-1, population in the Territory increased moderately on St. Croix and St. Thomas, with St. John experiencing the greatest percent change over the last 40 years. On St. Croix, the Sion Farm

<sup>1</sup> The 2000 Census was the first decennial census for which the entire United States and its territories are covered by census tracts.





sub-district contains the greatest concentration of the population, with 25 percent residing in this sub-district in 2010. Christiansted and Frederiksted, which are the two major towns on the island, decreased in population, while the East End, South Central and Anna’s Hope sub-districts each gained population.

In St. Thomas, the Charlotte Amalie sub-district (which includes the USVI capital and the island’s major urban center) had the highest population concentration of approximately 36 percent of all island residents in the year 2010. However, this sub-district experienced a four percent decline in population from 1980 to 2010. St. Thomas, which has the greatest population density of all the islands, grew by 16 percent between 1980 and 2010. Areas with the most significant growth since 1980 included the West End, East End and Northside sub-districts as indicated in Table 3.1 below. Despite the island having the smallest population density, St. John has experienced significant growth in the Central and Coral Bay sub-districts over the last 30 years. This data was used as a base to estimate future population growth.

Table 3-1 - 1980, 1990, 2000 and 2010 Census Data – Population

Geography Location (Sub-District)	Population							2010 Avg HH Size	2010 Median Age
	1980	1990	2000	2010	Absolute Change (2010-1980)	% Change (2010-1980)	2010 Avg Pop Density		
St. Croix	49,730	50,140	53,230	50,600	880	1.8%	610	2.5	38.2
Anna's Hope Village	3,290	3,660	4,190	4,040	750	22.8%	410	2.44	40.6
Christiansted	3,410	3,200	2,870	2,630	-790	-23.2%	3460	2.2	38.5
East End	1,650	1,740	2,340	2,450	810	49.1%	190	2.19	48.6
Frederiksted	3,950	4,070	3,770	3,090	-860	-21.8%	2240	2.49	33.1
Northcentral	5,770	5,500	5,760	4,980	-790	-13.7%	390	2.49	39.5
Northwest	5,710	4,830	4,920	4,860	-850	-14.9%	270	2.52	35.5
Sion Farm	12,560	11,880	13,570	13,000	440	3.5%	1380	2.49	38
Southcentral	6,310	7,430	8,130	8,050	1,740	27.6%	640	2.7	36.4
Southwest	7,070	7,840	7,700	7,500	430	6.1%	1360	2.6	37.8
St. John	2,470	3,500	4,200	4,170	1,700	68.8%	210	2.18	41.9
Central	250	620	750	780	530	212.0%	60	2.11	40.1
Coral Bay	260	360	650	630	380	146.2%	330	2.09	45.3
Cruz Bay	1,930	2,470	2,740	2,710	780	40.4%	980	2.23	41
East End	40	50	60	50	10	25.0%	60	1.7	58.5
St. Thomas	44,370	48,170	51,180	51,630	7,260	16.4%	1650	2.35	39.8
Charlotte Amalie	19,300	20,590	18,910	18,480	-820	-4.2%	5500	2.3	38
East End	4,720	5,930	7,670	8,400	3,680	78.0%	1600	2.36	40.2
Northside	5,730	6,400	8,710	10,050	4,320	75.4%	950	2.22	41.6
Southside	4,450	4,670	5,470	5,410	960	21.6%	1220	2.51	39.1
Tutu	8,940	9,080	8,200	6,870	-2,070	-23.2%	4530	2.59	40.2
Water Island	150	170	160	180	30	20.0%	190	1.96	55.3
West End	1,080	1,320	2,060	2,240	1,170	108.3%	430	2.33	40.7
TOTALS	96,570	101,810	108,610	106,410	9,840	10.2%	790	2.41	39.2





Figures 3.2 through 3.4 illustrate the population densities for each of the island. Population density is a gauge for identification of the most populated areas in the Territory.

Figure 3.2 - St. Croix – 2010 Population Density by Census Block Group

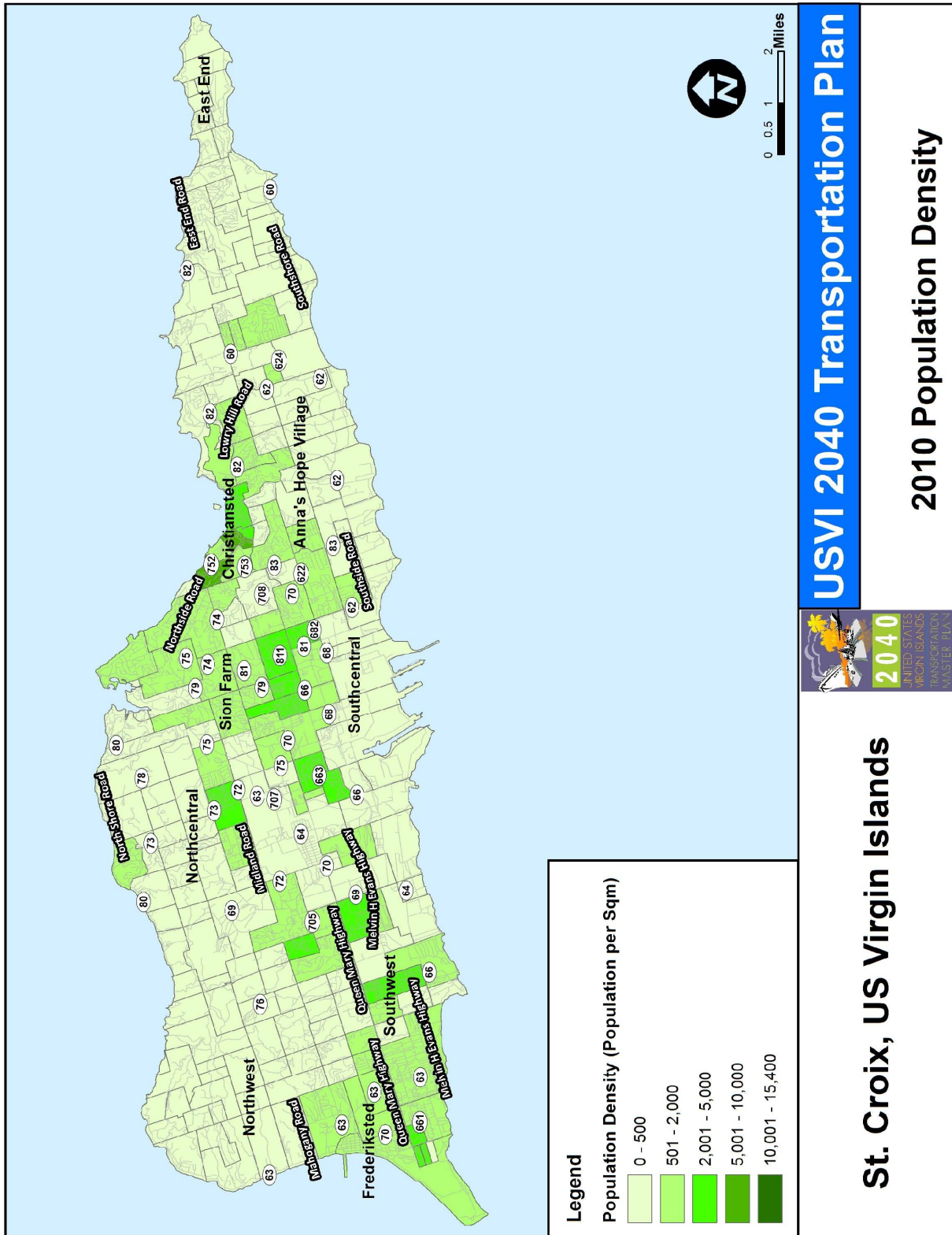




Figure 3.3 - St. John – 2010 Population Density by Census Block Group

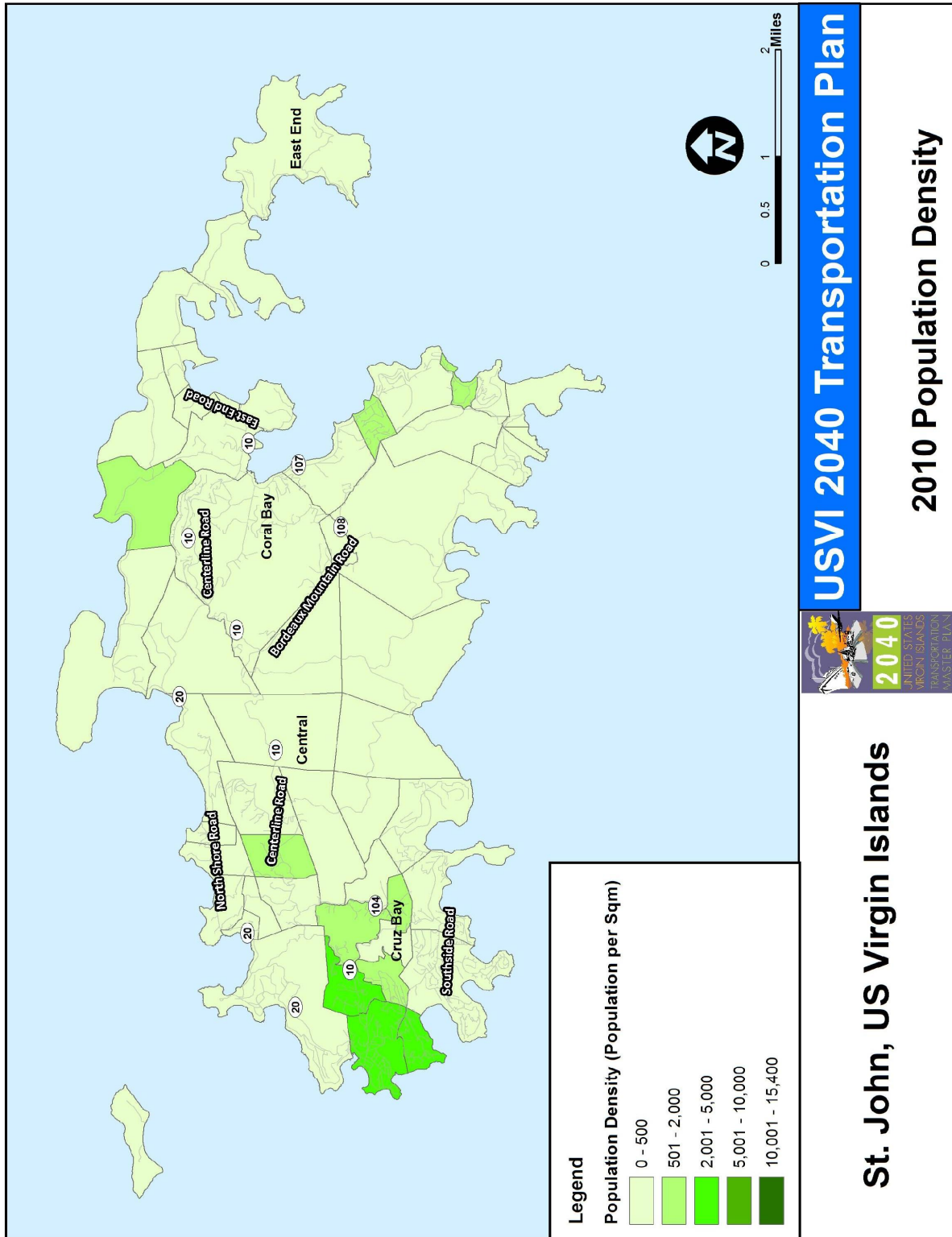
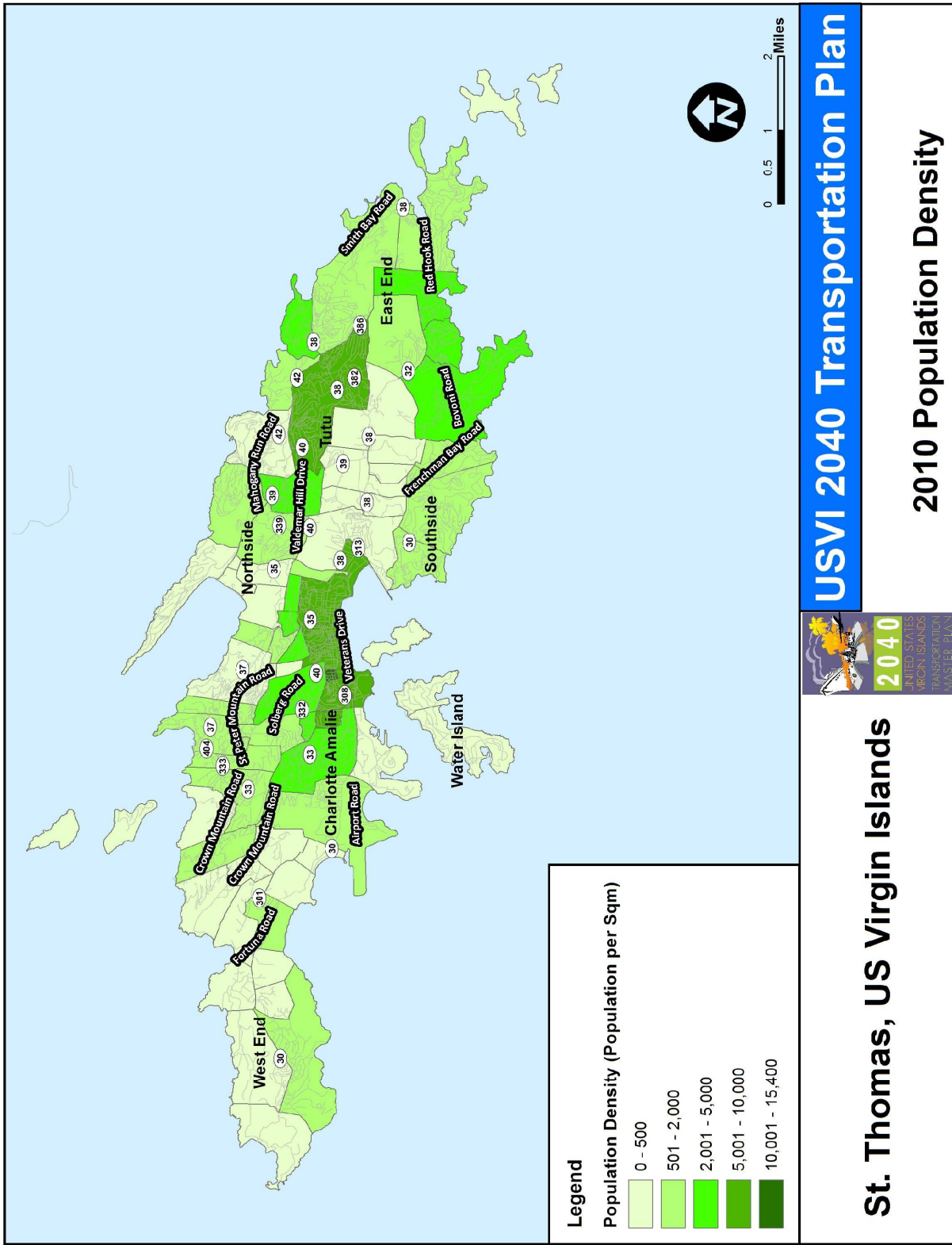




Figure 3.4 - St. Thomas – 2010 Population Density by Census Block Group





Recent figures from the Bureau of Economic Research indicate the USVI population grew to 115,430 in 2008 but continues to decline at a rate of approximately four percent per year as seen on Table 3-2.

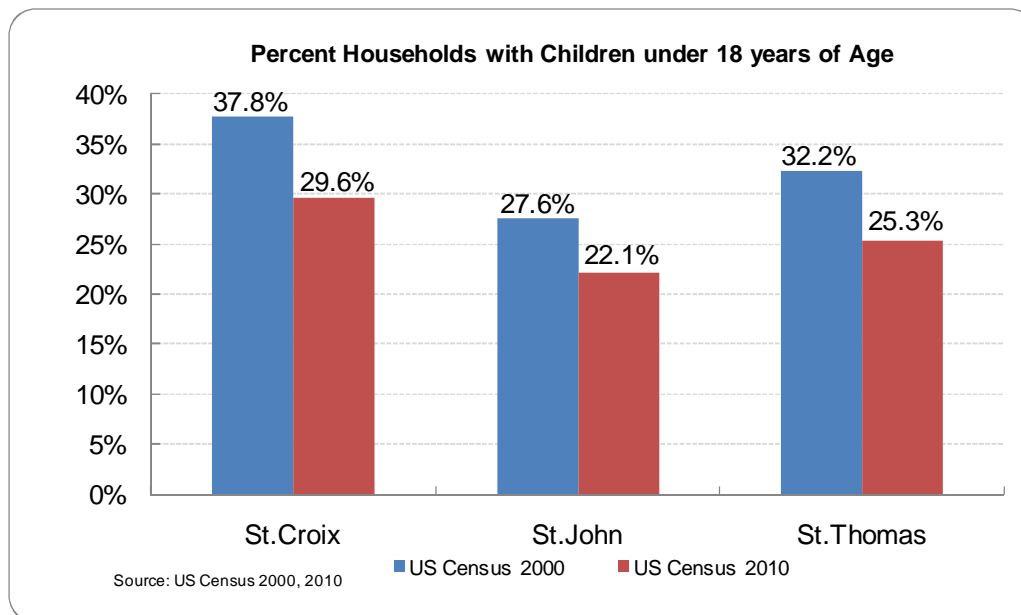
Table 3-2 - 2001-2012 Population by Island

Year	St. Croix	St. Thomas	St. John	Territory Population
2001	53,670	51,510	4,220	109,400
2002	53,930	51,850	4,250	110,030
2003	54,280	52,180	4,280	110,740
2004	54,630	52,520	4,310	111,460
2005	54,640	52,530	4,310	111,480
2006	55,720	53,570	4,390	113,680
2007	56,240	54,070	4,430	114,740
2008	56,580	54,390	4,460	115,430
2009	52,612	50,583	4,148	107,343
2010	50,601	51,634	4,170	106,405
2008 to 2012 Average Annual Percent Change	-5%	-2%	-3%	-4%
2011 to 2012 Annual Percent Change	-3.8%	2.1%	0.5%	-0.9%

Source: USVI Bureau of Economic Research – USVI Annual Economic Indicators

Between 1980 and 2010, the number of households increased in the U.S. Virgin Islands from 28,330 to 43,210 a change of 52 percent (an average household size of 2.4 percent). This results in a marked decrease in household size. Furthermore the number of households with children has decreased by almost eight percent from 2000 to 2010 with roughly one quarter of each island’s households containing children. This is illustrated on Figure 3.5.

Figure 3.5 - 2000 – 2010 Percentage of Household with Children





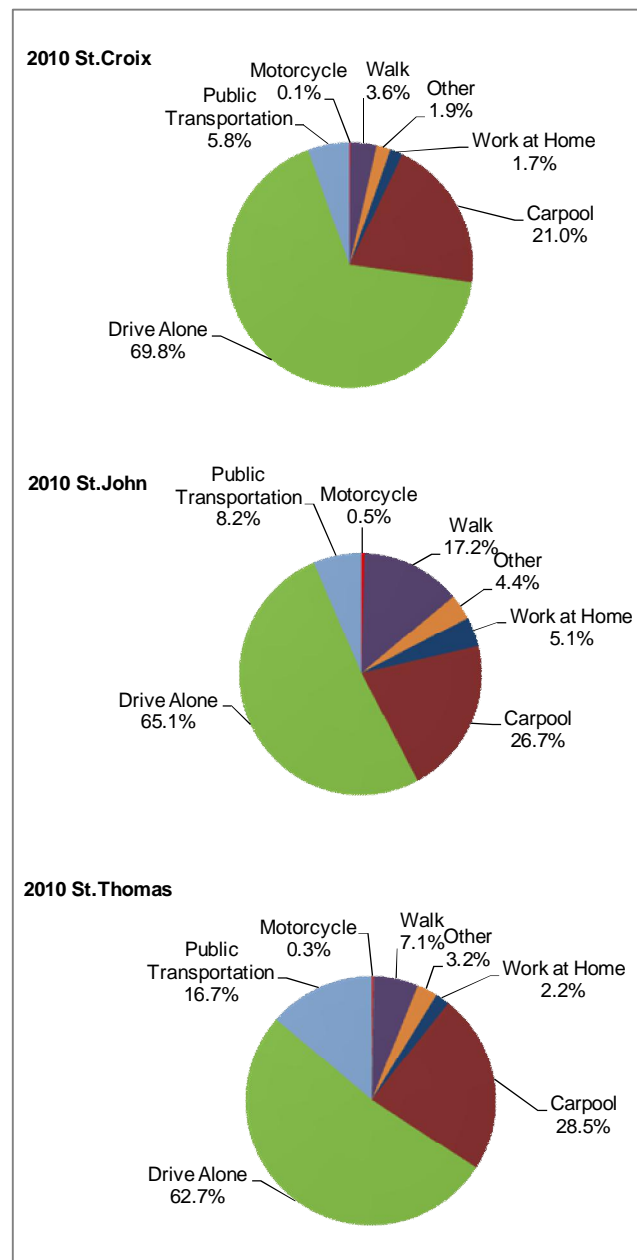


### 3.1.2 Travel Characteristics

The number of households with vehicles has increased significantly from 2000 to 2010. St. Thomas has experienced a 24 percent increase of one and two car households while St. Croix has seen almost 50 percent increase in households with three or more vehicles.

Several modes of travel are available to residents of USVI, however on average 66 percent of all workers drove alone to work in 2010, representing a 14 percent increase from 2000 to 2010. Carpooling experienced a mild increase on all the islands. People taking public transportation in St. Thomas increased by four percent in 2010 whereas in St. Croix and St. John people taking public transportation decreased by three percent and 0.8 percent respectively. This is illustrated on Figure 3.6.

Figure 3.6 - Mode of Transportation



Each island has distinctive travel characteristics. St. Thomas and St. Croix have higher ages of single drivers and numbers of vehicles, as well as the longest travel times to work. St. John's residents tended to walk more while achieving shorter commute times. Overall carpooling in the USVI as a percentage of total transportation usage is significantly higher than in the United States, demonstrating unique travel patterns on the islands. This may indicate a need for improved bus coverage and service.

The number of workers walking to work increased in St. John from 2000 to 2010. On St. Thomas and St. Croix people walking to work remained same at seven percent and four percent respectively.

The majority of workers on St. Thomas and St. Croix (who did not work at home) experienced commutes of 15 to 19 minutes and 30 to 34 minutes respectively. Additionally, for St. Croix the number of commuters experiencing travel times over 45 minutes from 2000 to 2010 increased by 40 percent. For St. John, half of the workers had travel times less than 14 minutes.

The USVI average travel time to work in 2000 and 2010 was 20 and 16 minutes, a slight decrease (four percent) from 2000 (the US average commute time was 26 minutes (ACS 2006-2010)).

Table 3.3 summarizes the changes in car availability in the USVI Territory between 2000 and 2010. The data, obtained from the US Census Bureau, shows an almost 43 percent increase in the number of households with three cars or more





and 10 percent decrease in the number of households without a car in the period analyzed. This demonstrates the continued reliance on personal vehicle as a means of transportation in the Territory.

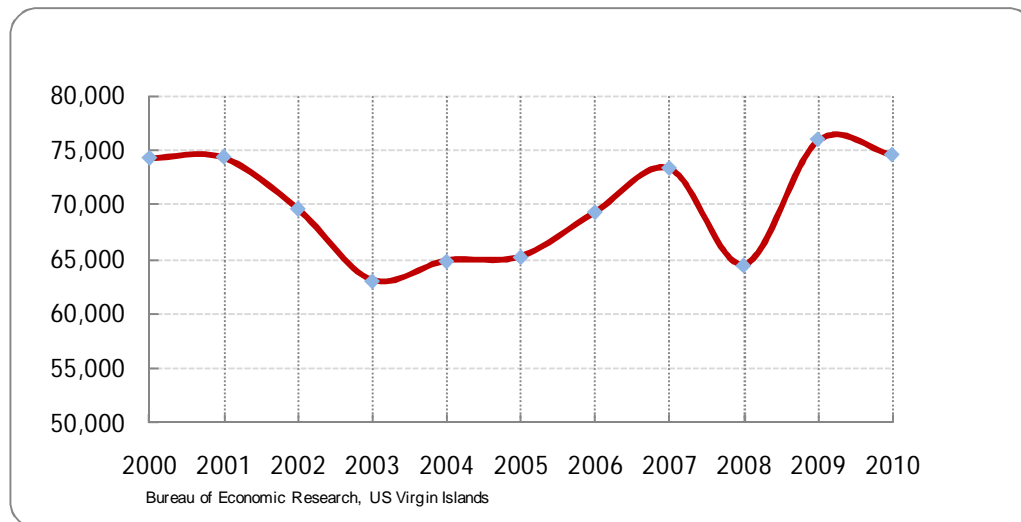
Table 3-3 - Household Vehicles

Vehicle Availability	Total	St. Croix	St. John	St. Thomas
2000				
None	9,860	4,520	370	4,970
1	18,370	8,640	820	8,910
2	9,610	4,860	450	4,300
3 or more	2,810	1,440	90	1,280
2010				
None	8,910	3,530	380	5,000
1	19,480	8,690	870	9,920
2	10,800	5,420	520	4,860
3 or more	4,030	2,130	130	1,770
% Change				
None	-10%	-22%	3%	1%
1	6%	1%	6%	11%
2	12%	12%	16%	13%
3 or more	43%	48%	44%	38%

Source: US Census 2000 and 2010.

Vehicle registrations in all the islands between the years 2000 and 2010 are shown in Figure 3.7. FY 2003 showed lowest vehicle registrations in the decade and FY 2009 showed highest number of vehicle registrations. Average number of vehicles registered between 2001 – 2010 increased nine percent when compared to average vehicles registered between FY 1991 – 2000. In short, USVI residents are becoming increasingly auto-dependent.

Figure 3.7 - 2000 – 2010 USVI Vehicle Registration





### 3.1.3 Safety

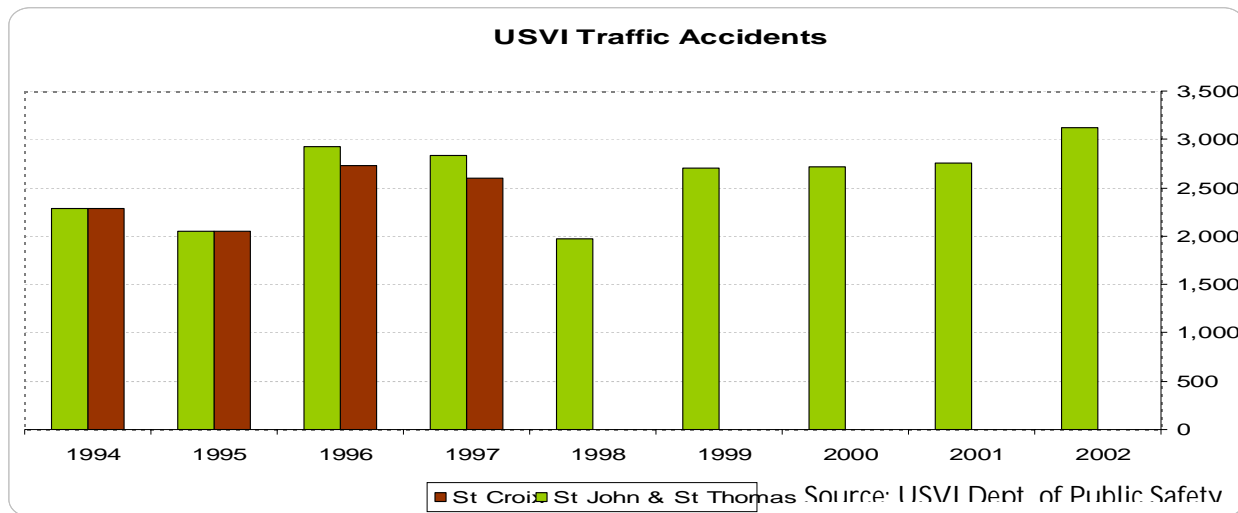
Crash data has been compiled intermittently over the years as staff and budget has allowed. The accident data on Figure 3.8 was obtained from the USVI Police Department (VIPD) and shows that traffic accidents on St. John and St. Thomas have risen slightly over a five-year period from 1998 through 2002 after declining in the 1990s. Comparable data was not available for St. Croix beyond 1997.

The Department is in the process of implementing a new software that would allow obtaining information about the location of the accidents. That software would also support keeping accurate crash data with details as to location, type of accident, weather and road conditions and time of day to help the agency identify high crash locations and analyze the underlying reasons. These causes may range from access management issues (too many curb cuts), roadway geometry issues, enforcement, and road users (drivers, pedestrians, bicyclists, students) education. Once the causes have been identified, effective solutions, which could include improved public awareness campaigns on vehicle safety, increased law enforcement, better signage and redesign of transportation facilities, can be implemented. With an aging population ages, these options will become especially vital to protect the health and safety of the traveling public.

A leading cause of accidents today is "distracted driving", often caused by cell phone use. Many states are regulating the use of cell phones while driving. If it has not already done so, the USVI should enact cell phone legislation.

The USVI does have a primary seat belt law, allowing officers to ticket a driver for not wearing a seat belt, without any other traffic offense taking place, with maximum fines of up to \$250.

Figure 3.8 - 1994 – 2002 Summary of Traffic Accidents



\*Vehicle registration data from 1994 to 2002.



### 3.1.4 Public Schools

The U.S. Virgin Islands currently has 33 public schools comprised of 23 elementary, five junior high, and five high schools. Sixteen of the schools are found on St. Thomas, 15 on St. Croix, and two on St. John. The St. Croix District had a total of 8,054 students as of September 2009; St. John/St. Thomas District had 7,714 students in September 2009<sup>2</sup>. Table 3.4 shows the address of the public schools in the Territory.

Table 3-4 - Public Schools

School	Address	Island
Elementary		
E. Benjamin Oliver	#148-325 Anna's Retreat, Tutu, Saint Thomas, VI 00802	St. Thomas
Edith Williams	#1 Estate Charlotte Amalie, Saint Thomas, VI 00802	St. Thomas
Jane E. Tuitt	#19 Levoki Straede, Charlotte Amalie, Saint Thomas, VI 00802	St. Thomas
Joseph Gomez	#142 Anna's Retreat, Tutu, Saint Thomas, VI 00802	St. Thomas
Joseph Sibilly	#14, 15 & 16 Estate Elizabeth, Saint Thomas, VI 00802	St. Thomas
Gladys Abraham	#68a Estate Lindberg, Saint Thomas, VI 00802	St. Thomas
Leonard Dober	#9-a & 10-b Kronprindsens Gade, Saint Thomas, VI 00802	St. Thomas
Herbert Lockhart	#41 Estate Thomas, Charlotte Amalie, VI 00802	St. Thomas
Yvan Bowski	#15b & 16 Estate Mandahl, Saint Thomas, VI 00802	St. Thomas
Ulla F. Muller	#7b Estate Contant, Charlotte Amalie, VI 00802	St. Thomas
Alexander Henderson	#73 Estate Concordia, Frederiksted, VI 00820-4665	St. Croix
Evelyn Williams	13- A Mount Pleasant, Frederiksted, 00841	St. Croix
Claude O. Markoe	Plots 7175 Mars Hill	St. Croix
Eulalie Rivera	Route #1 Grove Place, Frederiksted, VI 00840	St. Croix
Juanita Gardine	Estate Richmond, Christiansted, St. Croix, VI 00820-4665	St. Croix
Lew Muckle	317 Sion Farm, Christiansted, VI 00820-4665	St. Croix
Pearle B. Larsen	Estate St. Peters, Christiansted, VI 00820-4665	St. Croix
Ricardo Richards	#491 Barren Spot, Christiansted, VI 00850	St. Croix
Charles H. Emanuel	Kingshill Star Route #1, St. Croix, VI 00851	St. Croix
Alfredo Andrews	RR #1 Kingshill, St. Croix, VI 00850	St. Croix
Guy Benjamin	#1 & 2 Emmanus, Coral Bay, St. John, VI 00830	St. John
Julius E. Sprauve	#14-18 Estate Enighed, St. John, VI 00831	St. John

<sup>2</sup> USVI Department of Education, Office of Planning, Research, and Evaluation.



Table 3.4 (Continued) - Public Schools

School	Address	Island
Junior High		
Bertha Boschulte	#9-1 & 12a Bovoni (western), St. Thomas, VI, 00802	St. Thomas
Addelita Cancryn	#1 Crown Bay, Charlotte Amalie, VI 00804	St. Thomas
Arthur A. Richards	#20-21 Stoney Ground, Frederiksted, VI 00840	St. Croix
Elena L. Christian	64-65ad La Grande Princesse, St. Croix, VI 00820-4665	St. Croix
John H. Woodson	Rural Route #1 Kingshill, St. Croix, VI 00850	St. Croix
High		
Charlotte Amalie	#8 & 9 Estate Thomas, Charlotte Amalie, VI 00802	St. Thomas
Ivanna Eudora Kean	Tract A Of 1 & 2 Est. Nazareth, St. Thomas, VI 00802	St. Thomas
St. Croix Central High	RR #2 Kingshill, St. Croix, VI 00851	St. Croix
St. Croix Educational Complex	RR #2 Kingshill, St. Croix, VI 00850	St. Croix
St. Croix Educational Complex Vocational	RR #2 Kingshill, St. Croix, VI 00850	St. Croix

### 3.1.5 Key Travel Indicators

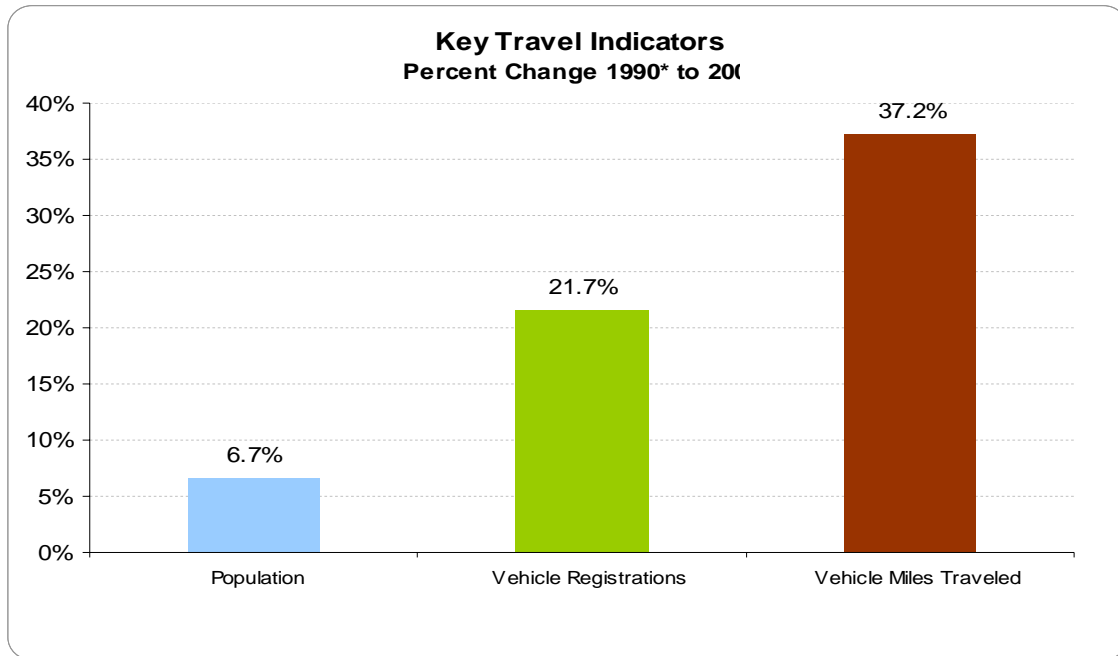
Continuing reductions in household size, widespread auto availability, and the ongoing suburbanization of population and jobs have resulted in intense use of the region’s roadways. VMT (or the total miles traveled by all vehicles for a section of roadway in a given amount of time) will continue to exceed population and automobile growth in the future as USVI becomes more auto-oriented and car depended for work and non-work trips. The results of this sprawl phenomenon are well documented leading to more congestion, wasting time and money, as well as degradation of air quality and health. Figure 3.9 shows that the increase in VMT (37 percent) is significant when compared to the increase in population (seven percent).







Figure 3.9 - 1990 – 2000 Key Travel Indicators

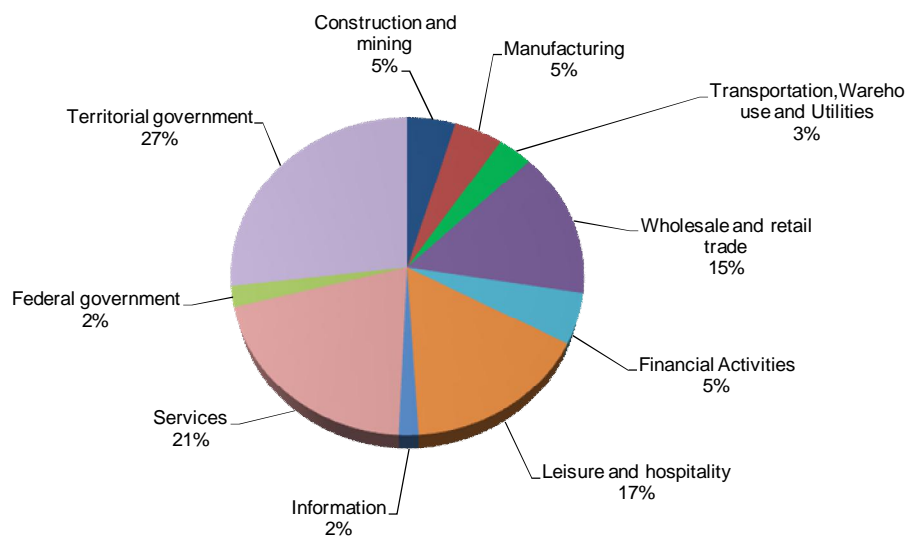


Source: Bureau of Economic Research, U.S. Virgin Islands; US Department of Transportation, US Census and Consultant Team

### 3.1.6 Employment

The number of jobs in the USVI did not grow appreciably from 2000 to 2010; however the distribution of occupations and professions changed considerably as shown on Figure 3.10.

Figure 3.10 - 2010 Employment by Sector





In 2011, the leisure and hospitality sector employed 17 percent of the USVI work force - one of the largest non-governmental sectors - mainly from tourism related activities.

Between 2000 and 2011, leisure and hospitality occupations had the greatest increase. As seen on Table 3.5, transportation, warehouse, and utilities employment decreased by approximately 40 percent from 2000 to 2011. Hovensa, Ritz-Carlton, and K-Mart were the three largest employers on the islands.

Table 3-5 - USVI Employed Population 16 Years and Older

Category	2000	2010	2011	Change 2000 to 2011	Change 2010 to 2011	Change 2000 to 2011
Private sector	29,020	31,030	30,550	6.9%	-1.5%	5.3%
Construction and mining	1,950	2,100	2,040	7.7%	-2.9%	4.6%
Manufacturing	2,480	2,120	2,050	-14.5%	-3.3%	-17.3%
Transportation, Warehouse and Utilities	2,450	1,510	1,500	-38.4%	-0.7%	-38.8%
Wholesale and retail trade	8,950	6,710	6,750	-25.0%	0.6%	-24.6%
Financial Activities	1,950	2,360	2,360	21.0%	0.0%	21.0%
Leisure and hospitality	0	7,300	7,220	0.0%	-1.1%	0.0%
Information	0	770	800	0.0%	3.9%	0.0%
Services	11,240	9,140	9,320	-18.7%	2.0%	-17.1%
Federal government	860	960	960	11.6%	0.0%	11.6%
Territorial government	12,170	12,120	11,560	-0.4%	-4.6%	-5.0%
Total	42,050	44,110	43,080	4.9%	-2.3%	2.4%

Source: USVI Bureau of Economic Research

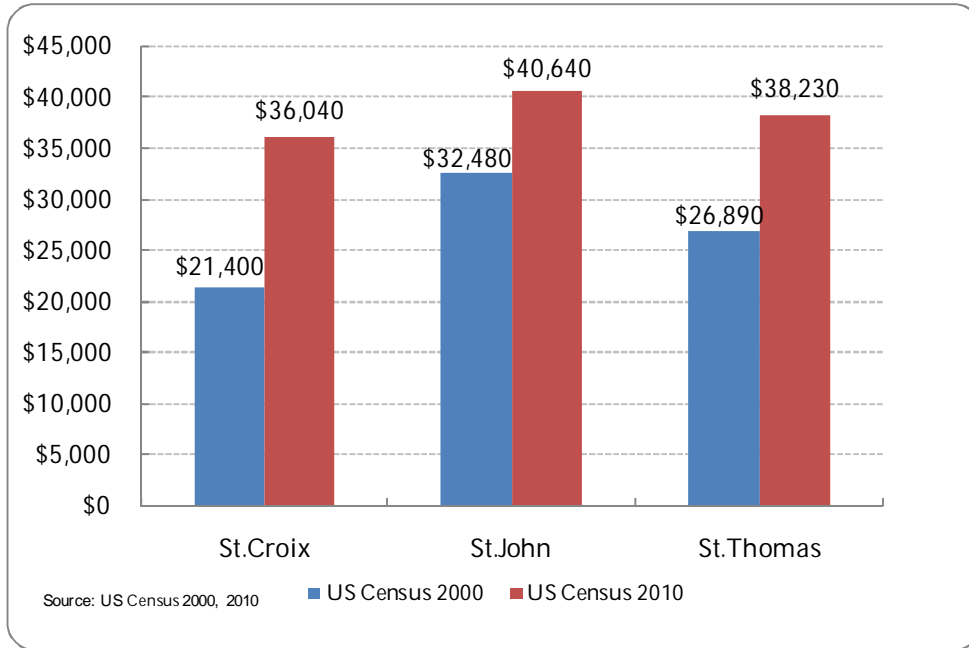
### 3.1.7 Income

Household income distribution, though a less significant indicator of transportation need, does help to set the contextual environment for the study area. St. Croix experienced the largest increase in median household income at 68 percent from 2000 to 2010, whereas St. John has the highest per capita and household income for the Territory. Based on the 2010 Census, the overall median household income of \$37,250 and per capita income of \$21,360 were much less than the US average of \$51,920 and \$27,330 respectively. Figure 3.11 reflect the change in overall income between 2000 and 2010.





Figure 3.11 - USVI Median Household Income Distribution (2010-2040)



### 3.1.8 Tourism

The USVI's economy is driven by tourism, which has been very volatile and extremely competitive in recent years. After experiencing near steady increases for several years, visitor arrivals peaked in 2005 and have gone down or leveled off. The USVI Department of Tourism, the Virgin Islands Port Authority, and the Department of Public Works are actively working in developing programs and putting infrastructure in place to reverse that trend. Any deviation in the number of excursionists and tourists can have a major impact on the government's tax revenue (for maintaining older or building new transportation facilities), as well as the spillover effect on retail stores and restaurants. The Territory's revenue collections in the first six months of fiscal year 2009 declined 22 percent, below 2008 levels. However, there are several factors that could mitigate against an even sharper decline and lay ground for recovery. First, the American Reinvestment and Recovery Act of 2009 may bring some stability to the economy by stimulating jobs and investment. Second, as energy prices remain subdued due to the recession, additional disposable income may encourage consumer spending and travel. As the economy grows, new transportation challenges will be introduced to serve new businesses in new locations and attract skilled workforce as the quality of life is enhanced.

As incomes increase so does the purchase of private automobiles for work-based and non-work trips over other means of transportation such as public transit or walking. Moreover, as incomes and population increase the transportation network will become more congested with cars (as shown in the next section) given limited capacity.

Figure 3.12 shows a summary of visitor activity by island and my mode of arrival.

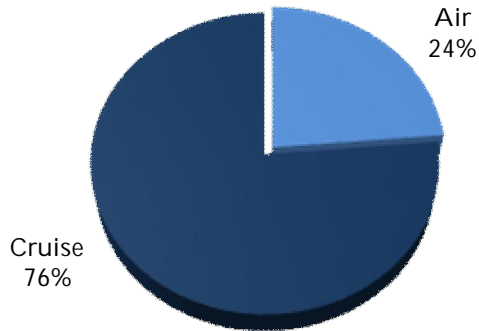




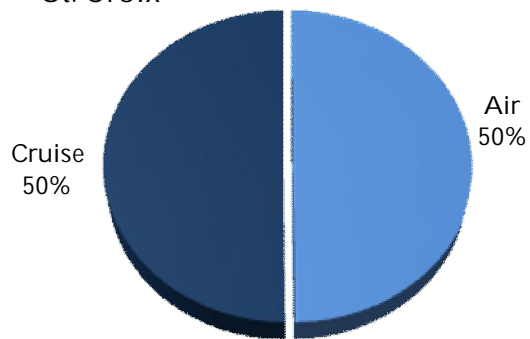
Figure 3.12 - 2010 Visitors by Island and by Mode

Percentage of Visitors by Island

St. Thomas/ St. John

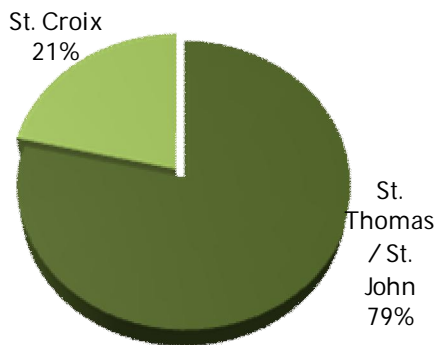


St. Croix

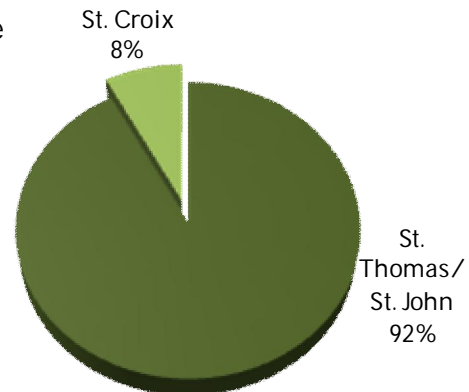


Percentage of Visitors by Mode

Air



Cruise



Source: Bureau of Economic Research, U.S. Virgin Islands

### 3.1.9 Air and Cruise Visitors

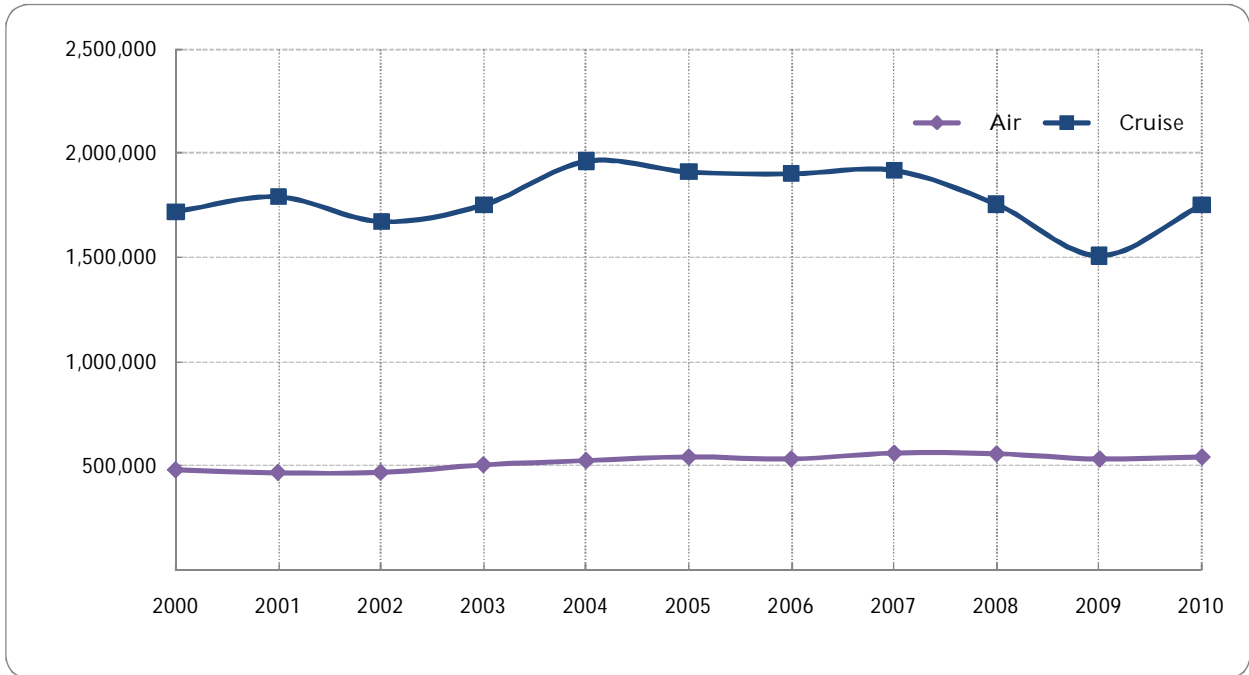
Almost all cruise passengers enter the USVI through St. Thomas' ports. As shown on Figures 3.13 and 3.14, the number of cruise passengers decreased on St. Croix by 92 percent from 2000 to 2008 as service was suspended for a couple of years. Cruise ship activity resumed on St. Croix in 2009 and 2010. The number of cruise passengers has seen a steady increase of 14 percent on St. Thomas/St. John between 2000 and 2004 with some fluctuations until 2007 and not much growth was observed from 2008 - 2010.

Based on 2010 data, three quarters of the visitors to St. Thomas/St. John arrived via cruise ships. The majority of all visitors arriving by air fly into St. Thomas (Cyril King International Airport) with only 21 percent utilizing Henry Rohlsen International Airport on St. Croix. St. John does not have an airport for visitors, requiring ferry service to reach the island. With the influx of tourists entering St. Thomas and St. Croix, maintenance and improvement of transportation facilities will be required to accommodate future growth and sustain a vibrant service oriented economy.



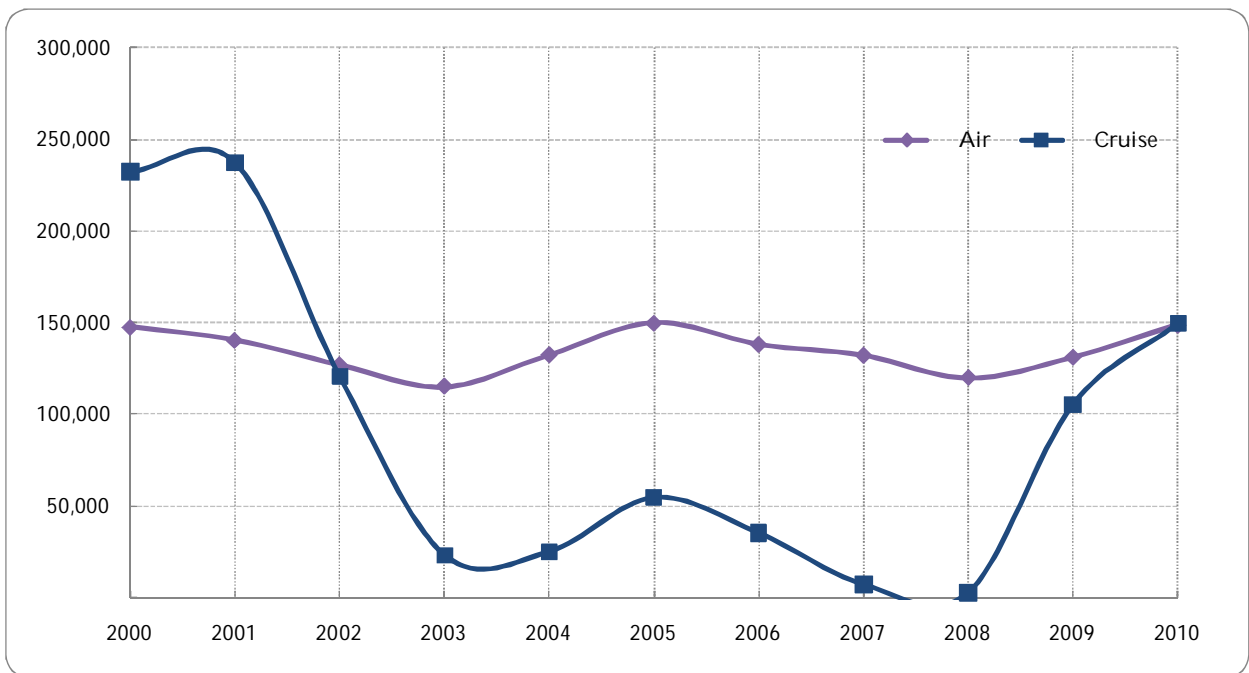


Figure 3.13 - Visitor Arrivals to St. Thomas/St. John



Source: Bureau of Economic Research, U.S. Virgin Islands

Figure 3.14 - Visitor Arrivals to St. Croix



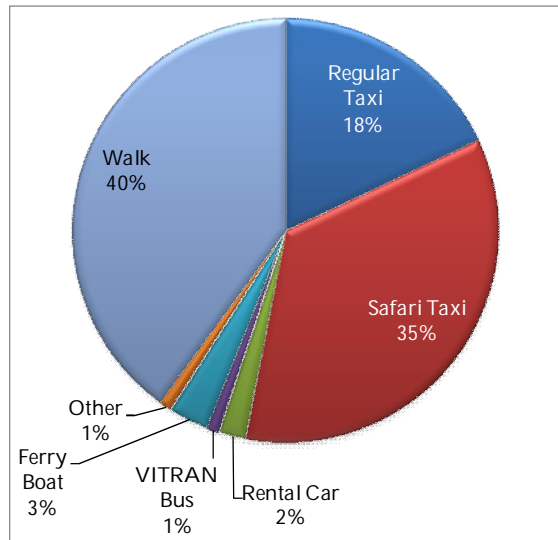
Source: Bureau of Economic Research, U.S. Virgin Islands







Figure 3.15 - Short Term Visitor Mode of Transportation



Source: NuStats, Inc.

### 3.1.10.2 Long Term Visitor Results

Long-term Visitors traveled to the U.S. Virgin Islands by plane or boat, stayed on the islands at least one night and the average stay was eight nights. Ninety-nine traveled by airplane to the U.S. Virgin Islands. As seen on Figure 3.16, the most popular trip modes for long-term visitors were rental car (41), walking (19), and regular taxi (17). Only one percent of respondents traveled using the VITRAN Bus. The most visited destinations, with each garnering over 20 responses, were:

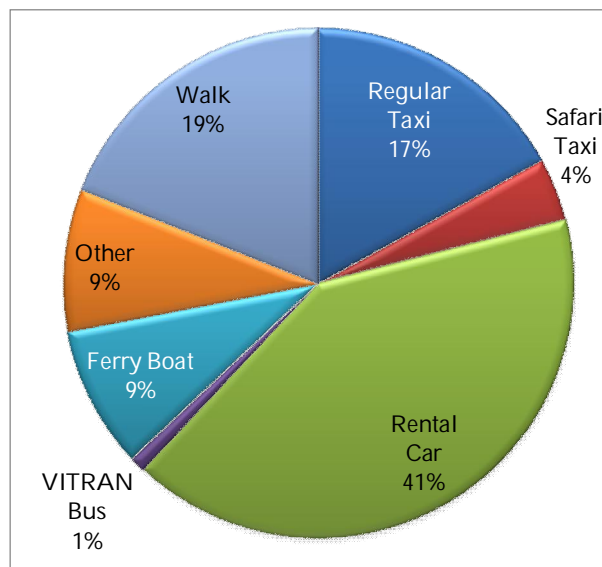
Cruz Bay Town, St. John

Cinnamon Bay Beach, St. John

Charlotte Amalie Downtown, St. Thomas

Magen's Bay Beach, St. Thomas

Figure 3.16 - Long Term Visitors Mode of Transportation



Source: NuStats, Inc.



### 3.1.11 Hotel Occupancy

Examining historical information regarding the usage and occupancy of hotels serves as a proxy for determining future economic growth related to the service sector on USVI. These rates typically reflect longer stay visitors and business persons that entered the Territory via airplane versus daily cruise ship excursionists. As seen on Table 3.6, on St. Thomas/St. John the number of hotels remained same whereas hotel rooms, average hotel size and occupancy rates increased slightly by 0.2 percent over the 10-year period from 2000 to 2010. St. Thomas has experienced a higher occupancy rate than the other islands.

On St. Croix, the number of hotel and occupancy rates declined by 10 percent and 6 percent respectively, but average hotel size has been increased by 15 percent between 2000 and 2010. Both of these occupancy levels are below the Caribbean hotel occupancy rate of 66.3 percent<sup>4</sup> in 2010. St. Croix tends to have smaller hotels on average than St. Thomas, possibly as a result of fewer air visitors.

Table 3-6 - 2000 – 2010 Hotel Data

Category	2000	2010	% Change
St. Thomas/St. John			
Number of hotels	30	30	0.0%
Number of hotel rooms	3,793	3,799	0.2%
Average hotel size (rooms per hotel)	126	127	0.2%
Occupancy rate ( )	60.6	60.7	0.2%
St. Croix			
Number of hotels	19	17	-10.5%
Number of hotel rooms	889	915	2.9%
Average hotel size (rooms per hotel)	47	54	15.0%
Occupancy rate ( )	48.6	45.8	-5.8%

Source: Bureau of Economic Research, U.S. Virgin Islands

Leisure and hospitality is one of the main sources of non-governmental employment in the USVI. As the economy of the Territory grows, so does the demand for better infrastructure and transportation facilities to accommodate further economic expansion.

<sup>4</sup>Caribbean Hotel and Tourism Association < [www.caribbeanhotelandtourism.com/.../State-of-the-Industry\\_STR.pptx](http://www.caribbeanhotelandtourism.com/.../State-of-the-Industry_STR.pptx)>



### 3.1.12 Land Use

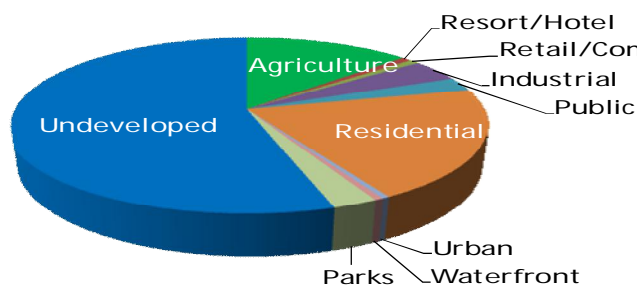
The USVI is a well known popular tourist destination because of its white sandy beaches, nightlife, and quaint historic towns. Cruz Bay, Charlotte Amalie, Christiansted and Frederiksted remain vital centers of commerce and housing. However, the islands have also undergone rapid suburbanization, with the resultant dispersal of housing units, shopping centers, resorts and employment centers.

Land use data represented in this section is collected from different agencies. Department of Planning and Natural Resources (DPNR) grants building and environmental permits associated with new construction; the Office of the Lieutenant Governor is the owner of the GIS data system. The most recent complete land use data available is from 1999 when the Eastern Caribbean Center of the USVI compared the 1989 Land Use Inventory to 1999 aerial photography. The resulting report was titled *Land Use Inventory Automation and Update Final Report*, and dated December 17, 2004. According to the inventory and consistent with the population and employment growth experienced in the Territory, land use characteristics changed appreciably over the 1989 to 1999 decade as the tourism trade grew and developed in the Virgin Islands. This analysis showed considerable development territory wide in residential homes, businesses, tourist facilities and marinas.

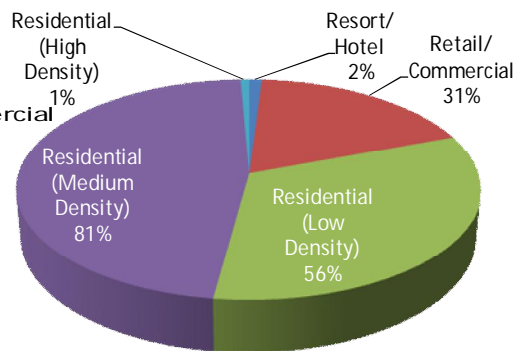
In 1999, over 50 percent of St. Croix was still undeveloped, with residential properties occupying 20 percent of the land followed by agricultural uses at 13 percent. St. Croix has two historic towns, Christiansted and Frederiksted, and a relatively large shopping center called Sunny Isle located in the central region of the island. While still relatively undeveloped, Figure 3.17 shows that between 1989 and 1999, the land use sectors that showed the most growth were residential/medium density communities (81 percent) followed by residential/low density (56 percent) and retail/commercial (31 percent).

Figure 3.17 - St. Croix Land Use Summary

St. Croix Land Use Characteristics-1999



St. Croix, Change in Land Use 1989-1999



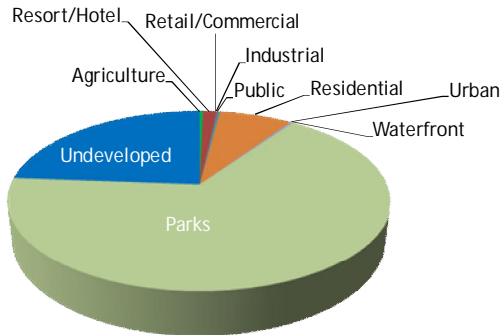
As illustrated on Figure 3.18, the largest land-use on St. John is National Park land, followed by undeveloped and residential categories

As shown below, residential development, particularly low density uses such as single-family homes, have significantly increased in number between 1989 and 1999. The number of residential units on St. John more than doubled over this ten-year period.

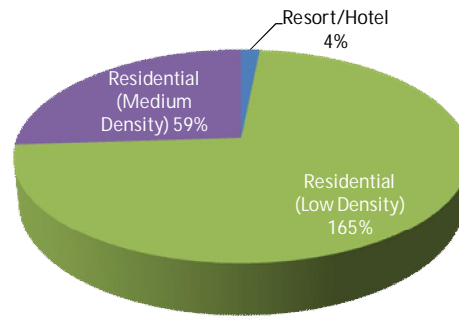


Figure 3.18 - St. John Land Use Summary

St. John Land Use Characteristics -1999



St. John Change in Land Use 1989-1999

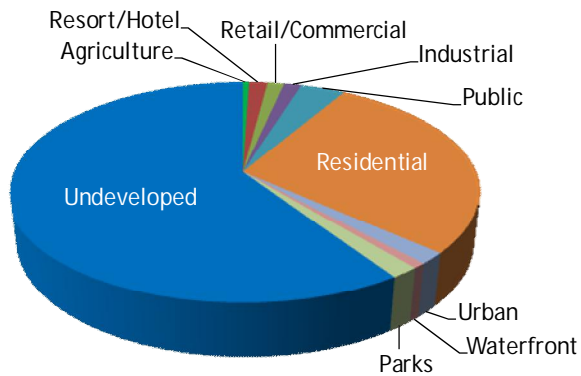


Based on the data provided by DPNR, the majority of the island of St. Thomas was undeveloped in 1999 as shown on Figure 3.19. Residential areas also occupied a great portion of the island.

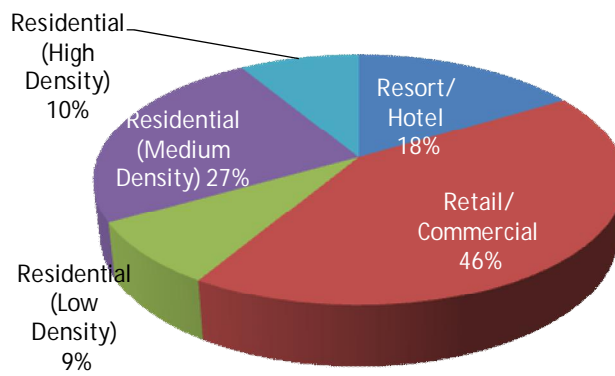
However, similar to the other two islands, between 1989 and 1999, growth on St. Thomas also exploded. The land use sectors that showed the most growth were Retail/Commercial which almost doubled in size, followed by medium-size residential units and hotels.

Figure 3.19 - St. Thomas Land Use Summary

St. Thomas Land Use Characteristics-1999



St. Thomas Change in Land Use-1989-99



Since 1999, the land use parcel data has not been consistently updated, so more recent comprehensive land use data is not available. In an effort to track where development has been happening, several meetings were held with officials of Department of Planning and Natural Resources, the agency responsible for issuing building and environmental permits, and the Office of the Lieutenant Governor, the developer and owner of GIS parcel-based data for the Territory. As a result of these meetings, some recent development data was obtained by island. However, a thorough analysis could not be completed since the individual permits were not correlated to the land use parcel number. Using available data, Figures 3-20 through 3-22 show land use by island and reflect 1999 development patterns.





Figure 3.20 - USVI St. Croix Land-use Map (2009)

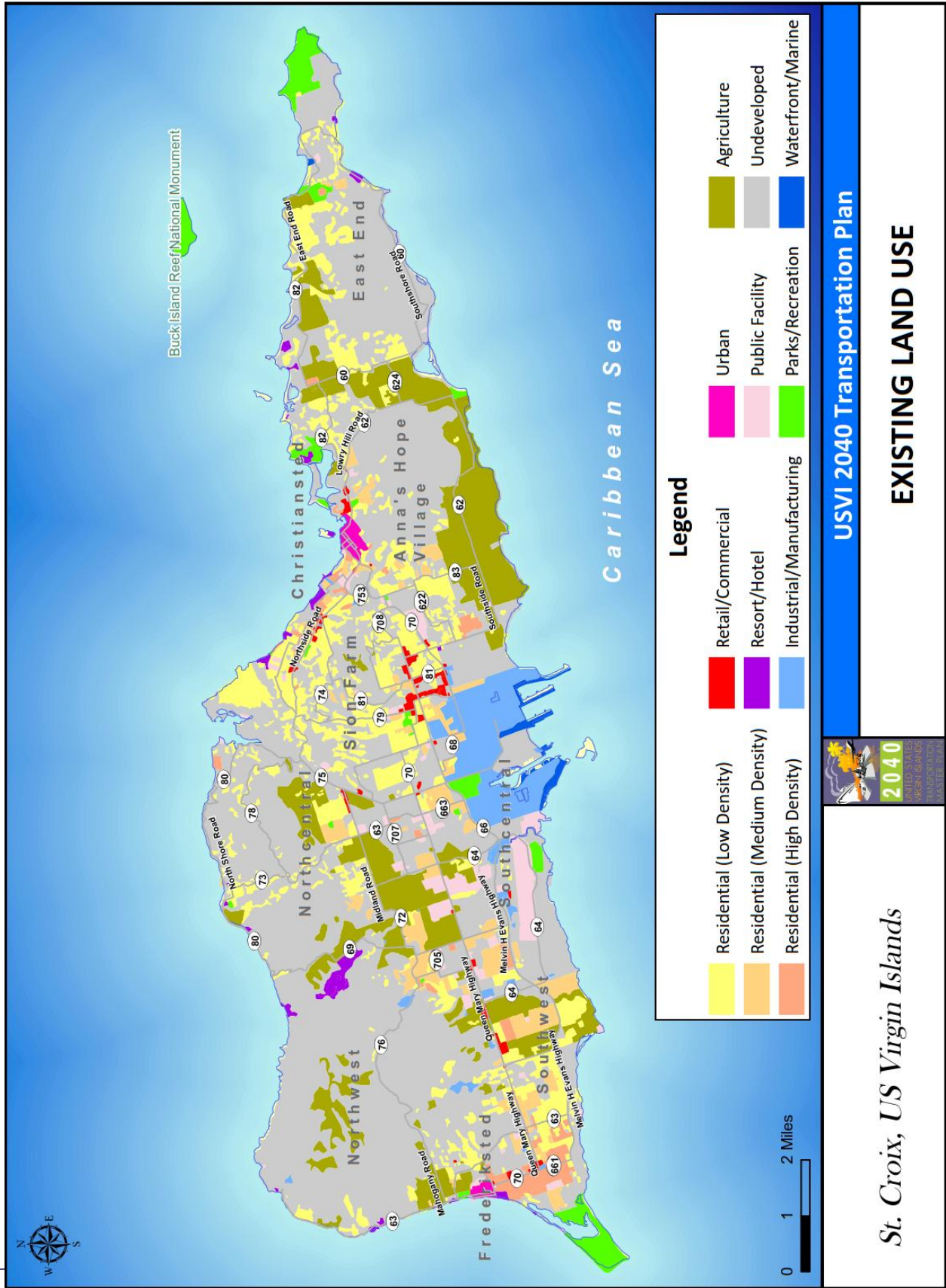
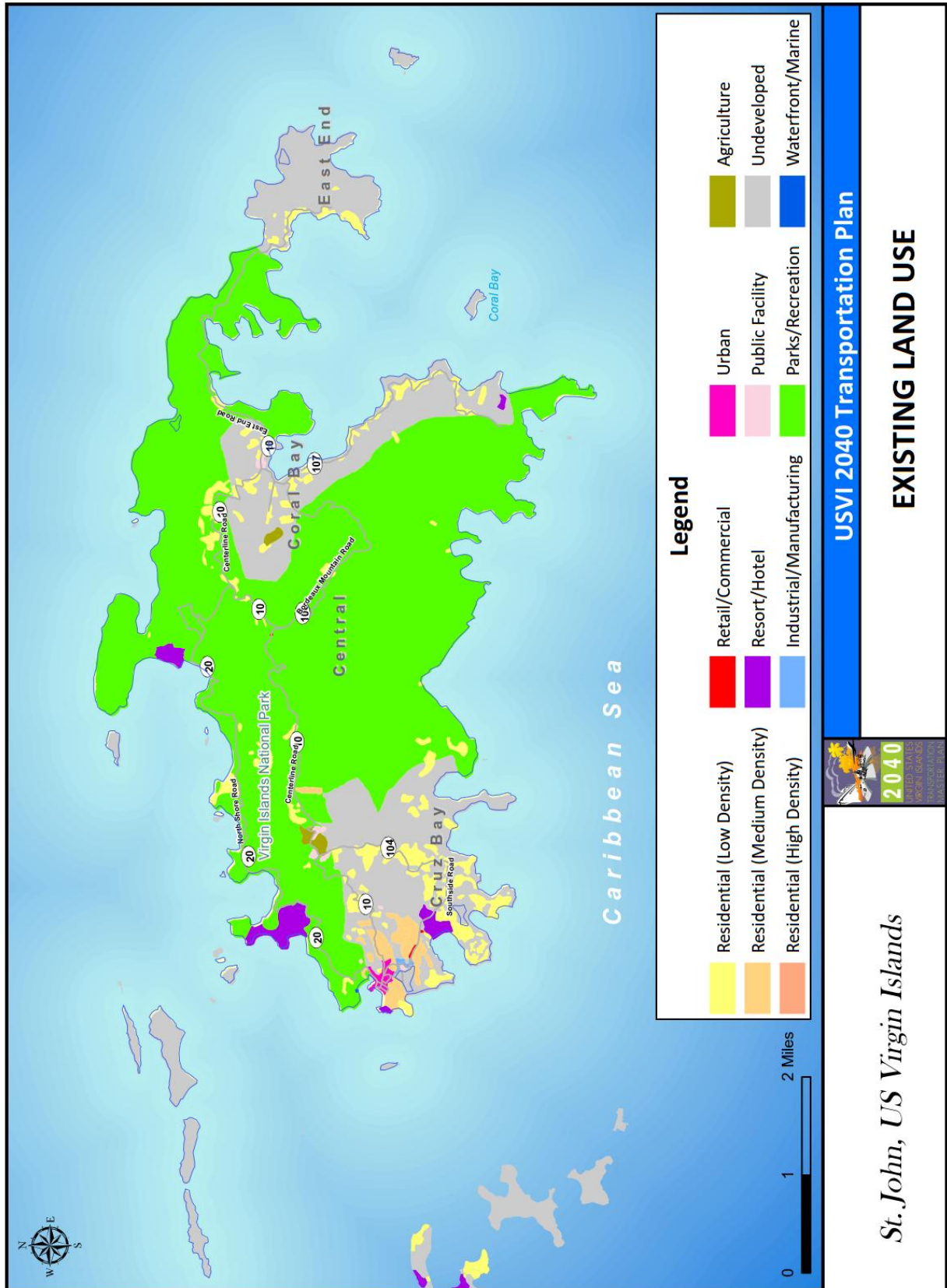




Figure 3.21 - USVI St. John Land-use Map (2009)









### 3.1.13 Development and Redevelopment Trends

Tables 3.7 and 3.8 summarize the number of major building permits issued in the Territory over a three-year period between 2005 and 2008. These data give some indication of the type and amount of development that has occurred in the Territory over the past several years. There was no correlation, however, between the permits granted and the land use parcel number, so the location of development cannot be mapped easily. Discounting “all other building permits” a category developed to encompass the many small and miscellaneous building permits issued, the number of single family residential permits outpaced all others.

Table 3-7 - 2005-2008 Building Permits St. Thomas/St. John

Type of permit	St. John	St. Thomas	Total for 4 years	Average per year
Commercial	16	108	124	31
Residential-multi family	120	378	498	125
Residential-single family	179	363	542	136
All other building permits	263	1,057	1,320	330
Total	578	1,906	2,484	621

Source: Building Permits Databases from St. John/St Thomas

Table 3-8 - 2009 Building Permits St. Croix

Type of permit	St. Croix
Commercial	21
Residential-multi family	58
Residential-single family	145
All other building permits	428
Total	652

Source: Building Permits Databases from St. Croix

The trend evidenced in the building permit data is confirmed by the construction permit data shown on Table 3.9 and Figures 3.23 through 3.26. The dollar value associated with residential construction is more than twice that of non-residential construction.



Table 3-9 - Construction Permit Value by Year/Type in Thousands of Dollars

Category	Year	St. John/St. Thomas	St. Croix	Total
Total Construction Permit Value	2010	\$80,676	\$106,557	\$187,233
	2009	\$85,888	\$175,932	\$261,820
	2008	\$183,803	\$89,530	\$273,333
	2007	\$172,899	\$93,175	\$266,074
	2006	\$217,658	\$225,046	\$442,704
	2005	\$274,267	\$115,910	\$390,177
	2004	\$210,214	\$129,222	\$339,436
	2003	\$174,721	\$80,915	\$255,636
	2002	\$190,539	\$68,769	\$259,308
	2001	\$106,662	\$57,595	\$164,257
Private Residential Construction Permit Value	2010	\$52,785	\$73,432	\$126,217
	2009	\$69,589	\$66,061	\$135,650
	2008	\$135,506	\$74,975	\$210,481
	2007	\$110,147	\$69,892	\$180,039
	2006	\$143,551	\$86,128	\$229,679
	2005	\$157,888	\$68,100	\$225,988
	2004	\$121,635	\$89,025	\$210,660
	2003	\$109,738	\$54,379	\$164,117
	2002	\$74,942	\$49,798	\$124,740
	2001	\$72,231	\$45,061	\$117,292
Private Non-Residential Construction Permit Value	2010	\$11,430	\$20,108	\$31,538
	2009	\$8,653	\$48,077	\$56,730
	2008	\$31,028	\$8,591	\$39,619
	2007	\$57,056	\$18,748	\$75,804
	2006	\$64,798	\$121,557	\$186,355
	2005	\$79,265	\$39,535	\$118,800
	2004	\$63,954	\$37,128	\$101,082
	2003	\$27,391	\$15,201	\$42,592
	2002	\$20,006	\$4,292	\$24,298
	2001	\$7,889	\$6,315	\$14,204





Table 3.9 (Continued) - Construction Permit Value by Year/Type in Thousands of Dollars

Category	Year	St. John/St. Thomas	St. Croix	Total
Public Construction Permit Value	2010	\$16,462	\$13,017	\$29,479
	2009	\$7,330	\$55,214	\$62,544
	2008	\$17,268	\$5,964	\$23,232
	2007	\$2,887	\$4,534	\$7,421
	2006	\$9,309	\$17,361	\$26,670
	2005	\$37,114	\$33,963	\$71,077
	2004	\$24,624	\$33,963	\$58,587
	2003	37,591	11,335	\$48,926
	2002	95,592	14,680	\$110,272
	2001	13,989	2,813	\$16,802

Source: Bureau of Economic Research, USVI

Figure 3.23 - Total Construction Permit Value in Thousands of Dollars

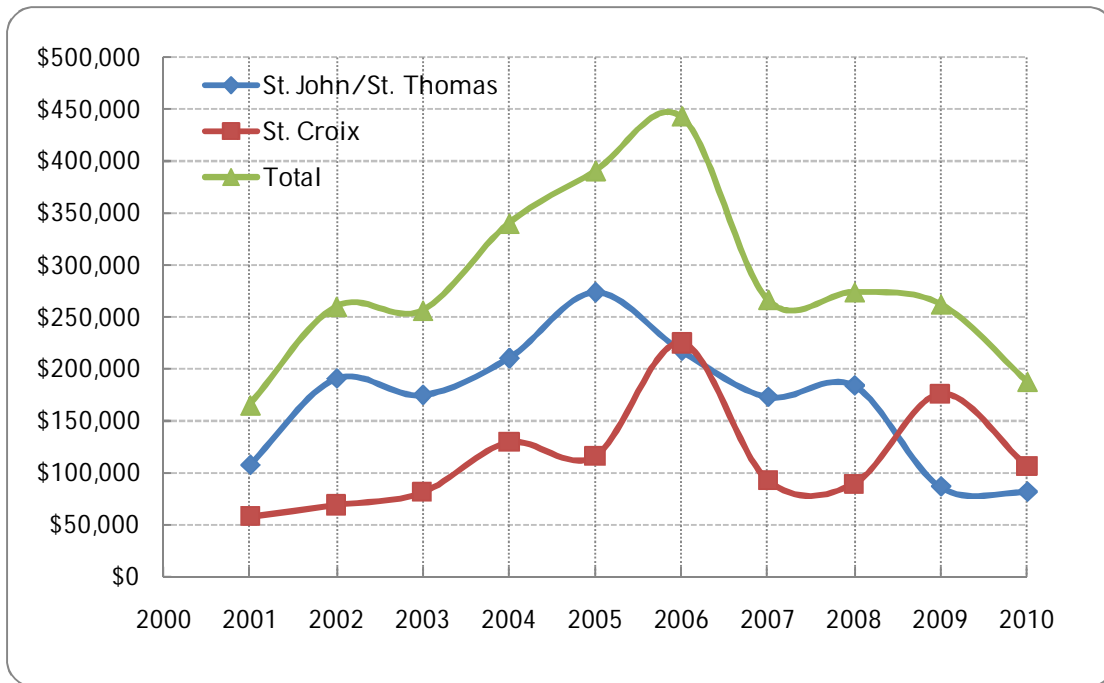




Figure 3.24 - Private Residential Construction Permit Value in Thousands of Dollars

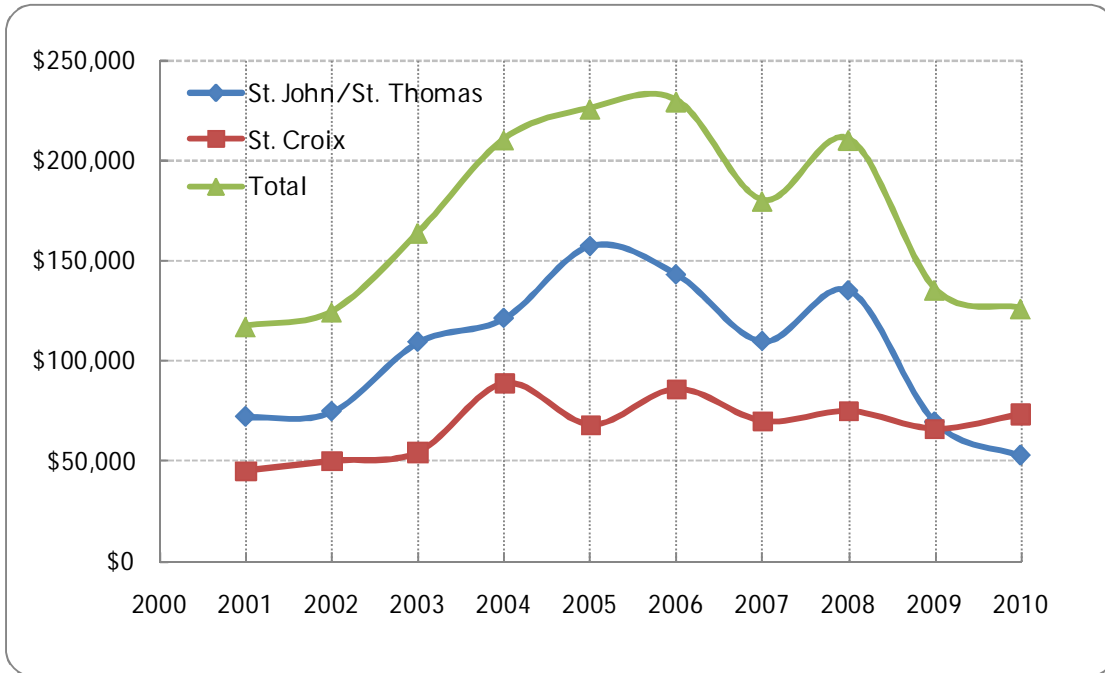


Figure 3.25 - Private Non-Residential Construction Permit Value in Thousands of Dollars

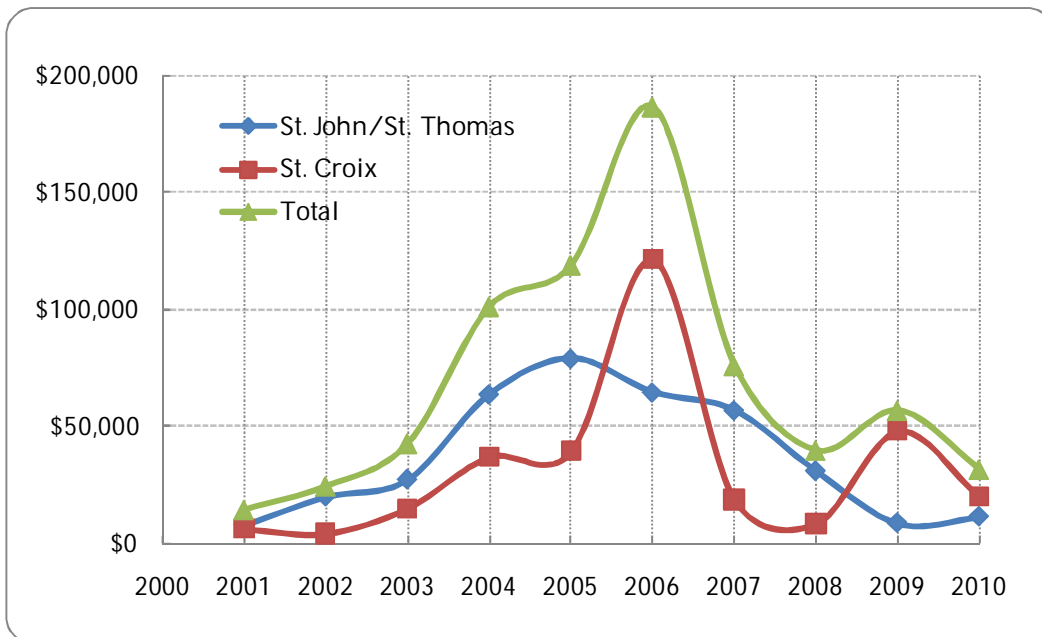
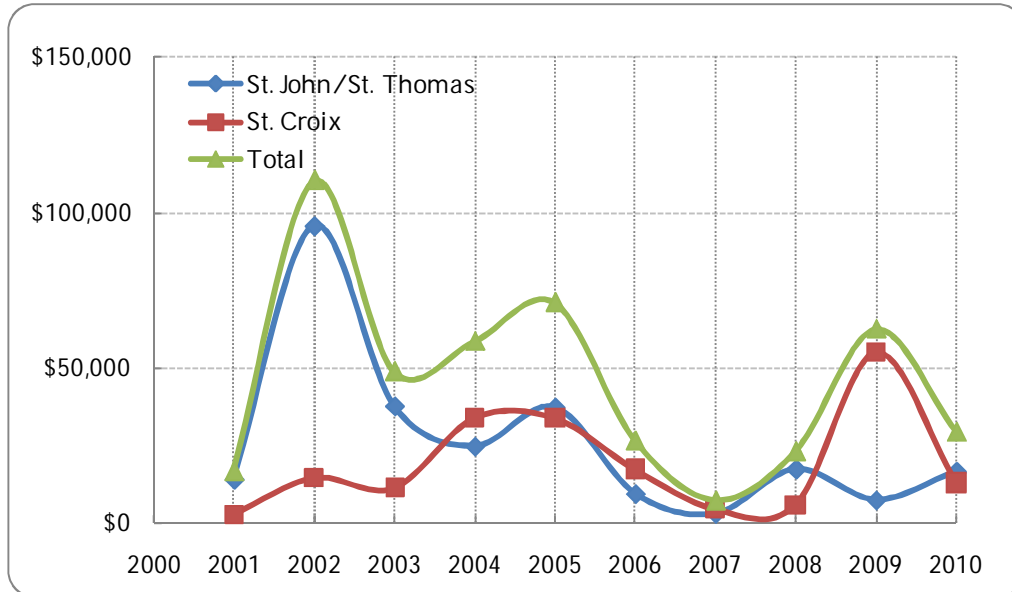




Figure 3.26 - Public Construction Permit Value in Thousands of Dollars



The relationship of land use and transportation facilities, as shown in Figure 3-26, is a cyclical one: transportation facilities prompt land development; land development prompts expansion of transportation facilities.

Figure 3.26 - Land Use and Transportation Cycle





The absence of updated land use information, combined with the fact that the USVI does not yet have an adopted Future Land Use Plan, prevented the development of future travel forecasts using the transportation model developed as part of the Comprehensive Master Plan effort. Traffic flow analysis requires a thorough understanding of roadway capacity and existing and future commercial, residential, resort and industrial land development, which generate traffic. Uncertainties like when and where the development happens and not knowing the magnitude and type of development limits the model developing capabilities in forecasting future travel demand for the various modes of transportation in the Territory. The model, which is designed to simulate traffic conditions and decision making behavior over time, estimates traffic generation based on different types of land use and density of development. The model is however an excellent tool as developed to identify existing congested roadway within the Territory as well as test impacts of proposed development in specific areas as well as roadway and transit improvements scenarios. For additional information on the travel demand model developed for the Territory, refer to *Travel Demand Model Development Report, June 2014* developed by Parsons Brinckerhoff, Inc.



## 4.0 Transportation System and Facilities

The transportation system on the US Virgin Islands contains several facilities and services including roads, bridges, buses, ferries, airports, water ports and trails for walking and cycling.

These modes often work together to provide mobility within and between each island. For instance, at most locations ferry service connects each of the islands to public transportation – bus service – providing service within each of the islands. Pedestrian facilities exist within the urban centers and tourist areas but are not often found in the rural areas. Several recreational trails exist (mainly on St. John) but are not used for daily commuting. Figures 4.1 through 4.3 show the transportation facilities in the Territory for each island.

The ability to maintain existing infrastructure and especially to build new capacity depends on several factors including proper planning, programming, obtaining political and public support and funding. Prior to determining future needs it is important to ascertain the existing conditions and their current levels of service and condition. The following section outlines briefly the current bridge and road facilities, as well as ferry, aviation, and transit services by island in the USVI.

### 4.1 Roadway and Bridge Facilities



The US Virgin Islands' road network covers all three islands and transverses mountainous topography and coastal towns. USVI places responsibility for highways to the territorial Department of Public Works. In the US Virgin Islands, highways which begin with the numbers 1-2 are located on the island of St. John, 3-4 are located on St. Thomas, and 5-7 are located on St. Croix and 9 on Water Island.

The existing transportation network includes roadways, bridges, transit, sidewalks, other bicycle and pedestrian facilities, harbors, and airports. As shown in Table 4.1, the USVI DPW maintains a roadway network with 483 miles of federal-aid highways and 310 miles of other public roadways. In addition to roadways, USVI DPW maintains 19 bridges and culverts throughout the island. An FHWA bridge inspection program indicated two bridges are in immediate need of repair or replacement as shown on Table 4.1.

Roadways require maintenance, such as repaving, signage, pavement markings, or lighting. Many states have adopted an asset management program to assist in developing their maintenance budgets. Under asset management, the condition of existing roadways is rated from acceptable (with no major safety or geometric concerns) to poor (minor safety issues, geometric issues, pavement disrepair) and unacceptable (major alignment, safety, or pavement repair issues). These ratings are tied into GIS, and as repairs are made they are noted.

DPW recently collected information on their roadway system, notably the pavement conditions of the various roadways. This data can be obtained from DPW upon request.





Figure 4.1 - St. Croix Transportation Facilities Network

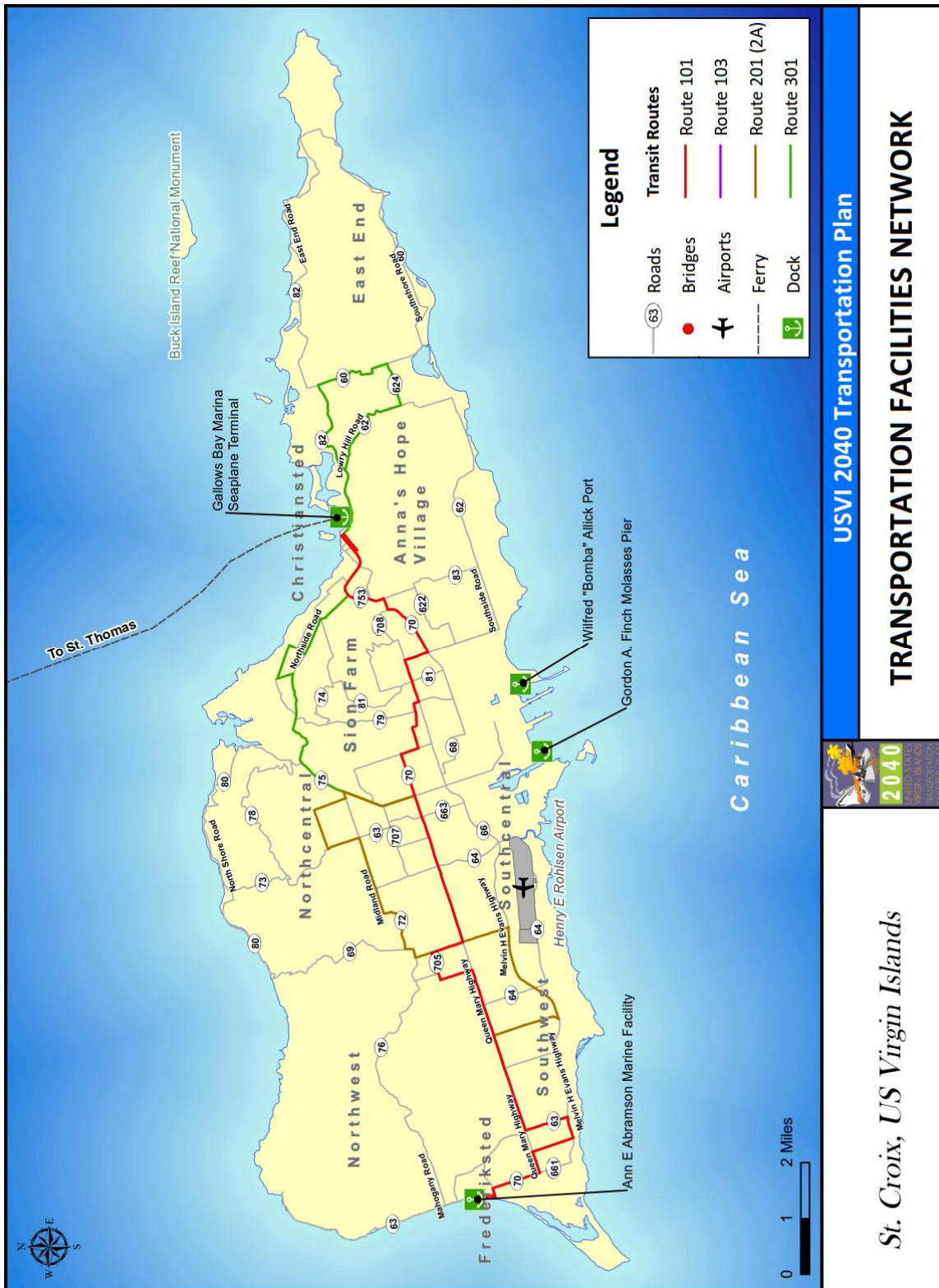




Figure 4.2 - St. John Transportation Facilities Network

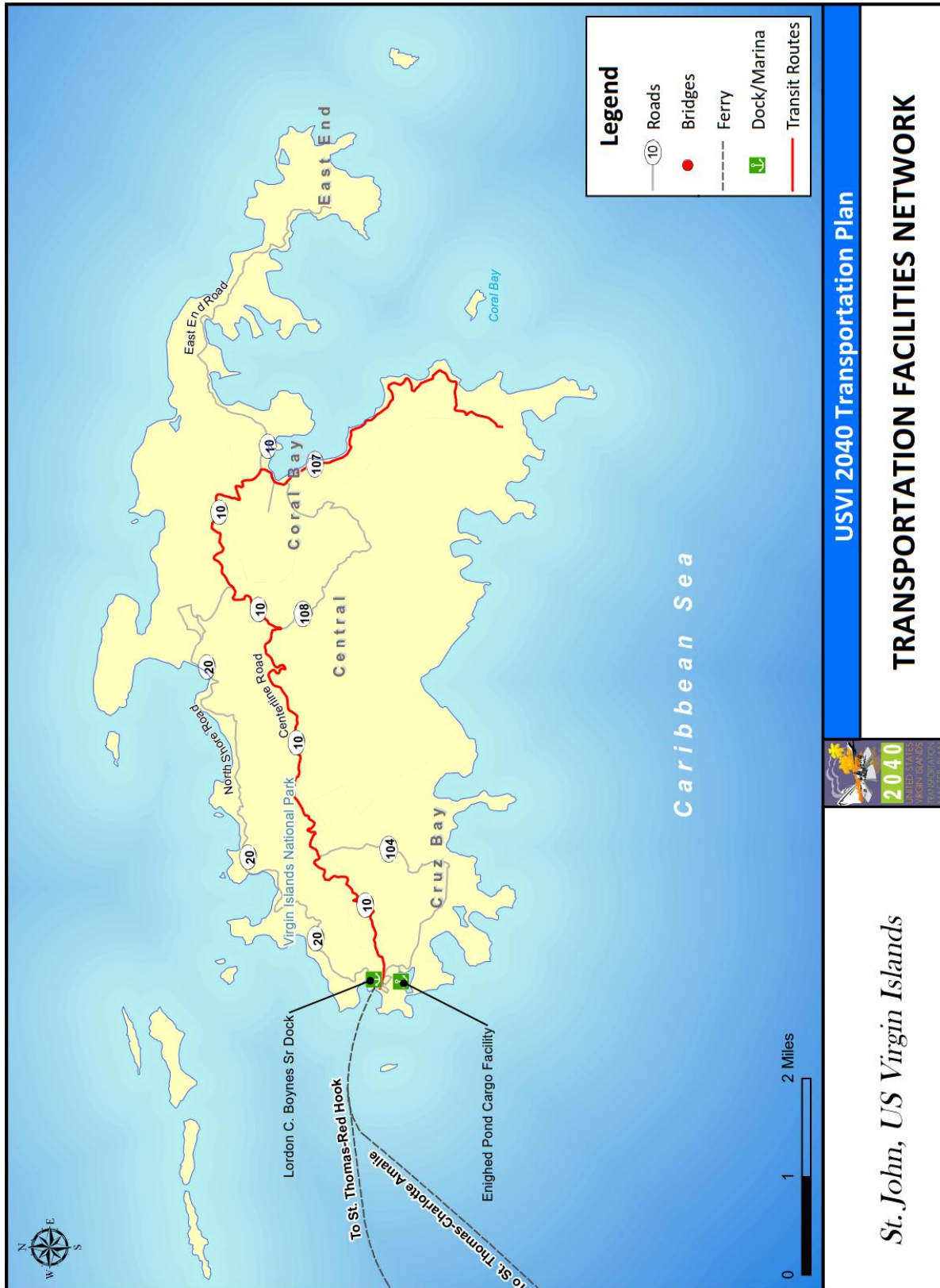
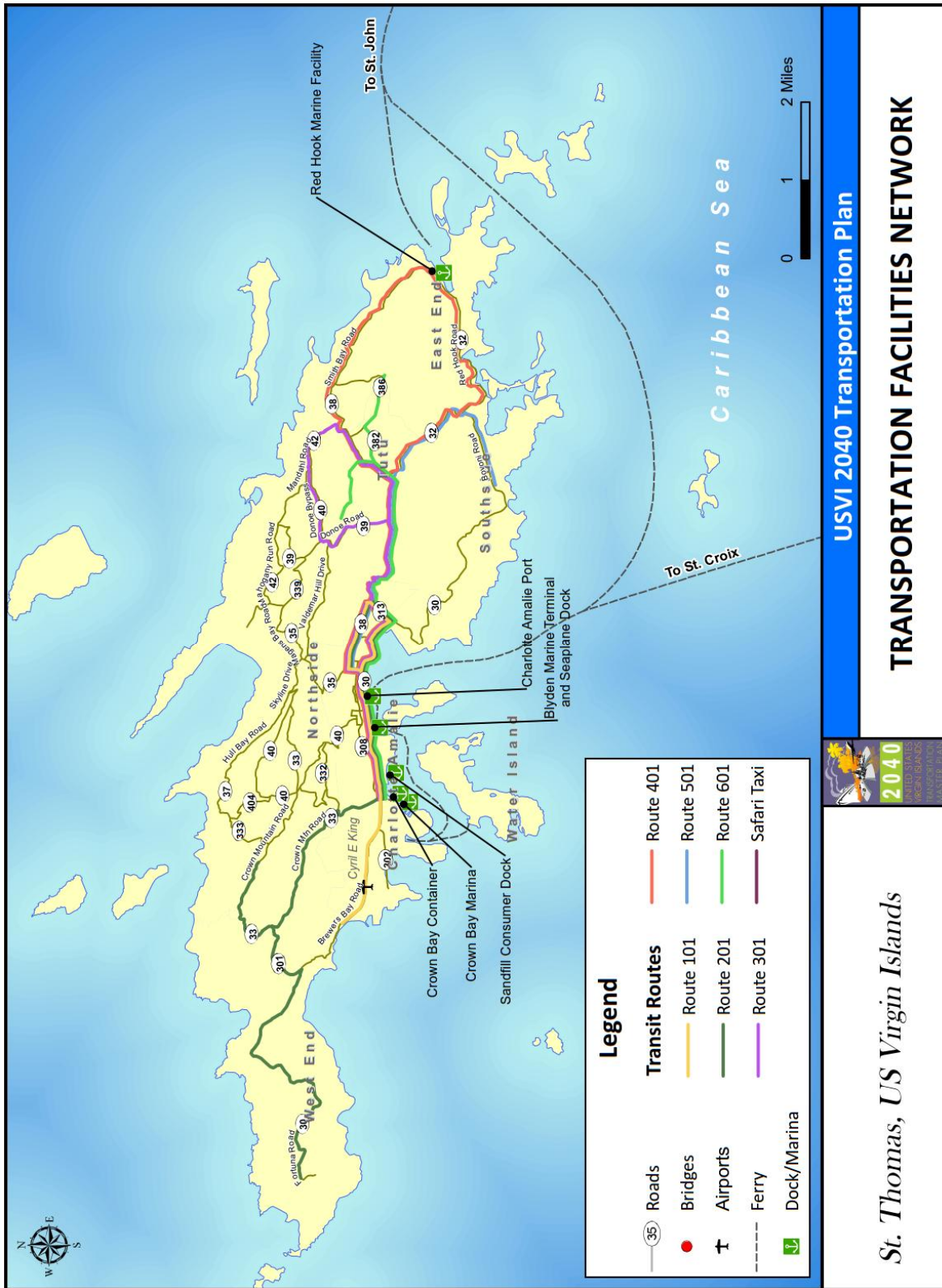




Figure 4.3 - St. Thomas Transportation Facilities Network







### 4.1.1 Roadway Facilities

The USVI recently embarked on setting the base for development of an asset management system and program. Based on informal field surveys conducted during the preparation of the CTMP and development of the database for the asset management system, the condition of most of the roads in the Territory is fair to poor in St. Thomas and St. John, and good in St. Croix. On St. Thomas and St. John, most roads are narrow, two lanes with no or narrow shoulders. Because of the topography, there are many blind corners. Pavement markings are mostly faded and on many facilities, guardrails are damaged or non-existent. These issues were confirmed by the community advisory groups for each island. Several reconstruction, repaving and safety projects were identified by each community advisory group. Table 4.1 shows a summary of the highways in the Territory.

Table 4-1 – Summary of Roadways

Roadway	Number of	Lane Miles	Roadway	Number of	Lane Miles
St. John			St. Croix		
Highway 10	2	16.72	Highway 58	2	5.6
Highway 20	1	1.03	Highway 60	2	14.84
Highway 20	2	12.89	Highway 62	2	17.3
Highway 104	1	0.22	Highway 63	2	13.22
Highway 104	2	5.99	Highway 64	2	12.08
Highway 107	2	7.76	Highway 65	2	2.4
Highway 108	2	1.37	Highway 66	4	37.08
Highway 206	2	2.6	Highway 68	2	4.74
St. John Total Lane Miles		48.58	Highway 69	2	10.16
St. Thomas			Highway 70	2	27.8
Highway 30	2	22.1	Highway 72	2	6.44
Highway 30	3	0.78	Highway 73	2	7.56
Highway 30	4	9.72	Highway 74	2	4.78
Highway 32	2	6.9	Highway 75	1	0.41
Highway 33	2	12.8	Highway 75	2	15.52
Highway 35	2	4.27	Highway 76	2	11.02
Highway 37	2	3.6	Highway 78	2	7.5
Highway 38	2	12.49	Highway 79	2	5.82
Highway 38	3	2.1	Highway 80	2	13.42
Highway 39	2	4.37	Highway 81	2	5.02
Highway 40	2	13.93	Highway 82	2	16.94
Highway 42	2	6.1	Highway 83	2	3.84
Highway 301	2	1.94	Highway 85	2	4.58
Highway 302	2	1.57	Highway 622	2	3.06
Highway 303	2	2.4	Highway 624	2	1.58





Table 4.1 (Continued) - Summary of Roadways

Roadway	Number of Lanes	Lane Miles	Roadway	Number of Lanes	Lane Miles
St. Thomas			St. Croix		
Highway 304	2	2.2	Highway 661	2	1.18
Highway 305	2	0.38	Highway 663	2	2.86
Highway 306	2	0.6	Highway 669	2	3.6
Highway 308	1	0.21	Highway 681	2	1.2
Highway 308	2	3.28	Highway 682	2	0.86
Highway 313	2	0.69	Highway 701	2	4.6
Highway 314	2	0.8	Highway 702	2	2.12
Highway 315	2	1.8	Highway 704	2	1.8
Highway 318	2	1.4	Highway 705	2	2.2
Highway 322	2	2.54	Highway 707	2	2.66
Highway 332	2	2.08	Highway 708	2	2.54
Highway 333	2	1.64	Highway 751	2	1.28
Highway 334	1	0.3	Highway 752	2	3.82
Highway 379	2	2.4	Highway 753	2	0.88
Highway 381	2	1.54	Highway 763	2	3.6
Highway 382	2	1.07	Highway 765	2	2.4
Highway 384	2	2.06	Highway 7010	2	2.2
Highway 386	2	3.29	Highway 7013	2	1.8
Highway 388	2	1.2	Highway 7532	2	0.8
Highway 394	2	1.7	St. Croix Total Lane Miles	295.11	
Highway 404	2	2.12	TOTAL Territory Lane Miles 483.7		
Highway 405	2	1.64			
St. Thomas Total Lane Miles	140.01				

Source: Parsons Brinkerhoff roadway survey and DPW GIS aerial maps.

#### 4.1.2 Bridges and Culverts

As shown in Table 4.2, there are 20 bridges and culverts in the Territory and all of them are in St. Croix. Seven of these structures are rated “satisfactory” or above and two rated as “failing”. The remaining 11 are rated as fair, poor or serious. As this inspection data was last updated in 2001, the conditions may have changed.





Table 4-2 - 2001 Bridge Inspection Condition Rating

Route & Structure Number	Bridge Name	Rating of Structure/ Substructure	Location	Date Built/ Reconst.	Structure Type
63-05	Creque Dam Bridge	4/5	Butler Bay	Unknown	1 Arch Mort. Rubble
63-10	Rainbow North	5	Sprat Hall	Unknown	3 Arch Mort. Rubble
64-05	Bethlehem Old Work	2/3	Bethlehem Middle	Unknown	I-Beam/ Conc. Deck
64-10	Treatment Plant	5/4	Bethlehem Middle	Unknown	T-Beam Reinf. Conc.
66-10	Williams Delight West	7/7	William's Delight	1978	3-Cell RCBC
66-11	Williams Delight East	6/7	William's Delight	1978	3-Cell RCBC
66-20	Mannings Bay West	6/4	Bethlehem Middle	1971	T-Beam Reinf. Conc.
66-21	Mannings Bay East	5/3	Bethlehem Middle	1971	T- Beam Reinf. Conc.
69-10	River road	6/5	River	Unknown	1 Arch Mort. Rubble
70-20	Agriculture	5/4	Lower Love	Unknown	3 Arch Mort. Rubble
70-25	Castle Burke	4/1	Bethlehem Old Work	Unknown	T- Beam Reinf. Conc.
72-10	Holy Cross	5/5	Jealousy	Unknown	1 Arch Mort. Rubble
72-15	Calquohoun	6/5	Calquohoun	Unknown	3- Cell RCBC
82-05	Pearl B. Larsen	6/6	St. Peters	Unknown	T- Beam Reinf. Conc.
85-05	Tulipan	5/4	Mount Welcome	Unknown	T- Beam Reinf. Conc.
7025-05	Paul E. Joseph	2/3	King St. Federiksted	1927	T- Beam Reinf. Conc.
652-05	National Guard	8/8	Bethlehem	1998	3-Cell RCBC
669-05	VIPD	7/7	Golden Grove	1984	T- Beam Reinf. Conc.
766-10	Grove Place	4/4	Grove Place	Unknown	3-Cell RCBC

N	Not Applicable	6	Satisfactory Condition	2	Critical condition
9	Excellent Condition	5	Fair Condition	1	Failure Condition
8	Very Good Condition	4	Poor Condition	0	Failed Condition
7	Good Condition	3	Serious Condition		

Source: Department of Public Work





### 4.1.3 Traffic Counts

An extensive data collection program was conducted as part of this master plan preparation. Based on the counts collected in the Spring of 2009, the roadways with the highest average daily traffic volumes on each island are discussed in the following sections.

#### 4.1.3.1 St. Croix

Route 681, south of Route 70 Queen Mary Highway carries the highest number of vehicles per day on St. Croix – 19,200 vehicles per day. Route 70 in Christiansted and west of the US Virgin Islands Department of Agriculture, Route 75 north of Christiansted, and Melvin Evans Highway (Route 66) by HOVENSA carry the next highest number of vehicles per day, around 17,000.

#### 4.1.3.2 St. Thomas

Alton Adams Highway (Route 38) by the Hospital area carries the highest number of vehicles per day in the Territory or 27,300 vehicles per day. Veterans Drive (Route 30) through Charlotte Amalie and Weymouth Rhymer/Raphune Hill carry the next highest number of vehicles per day, around 21,000 vehicles.

#### 4.1.3.3 St. John

Traffic on St. John is considerable less than on the other islands but it concentrated around the Cruz Bay area. The counts show that on average, 4,000 vehicles use Centerline Road (Route 10), Northshore Road (Route 20), and Southside Road (Route 104) on a daily basis interacting with numerous pedestrians in that area.

The traffic count data also showed high truck ages in St. Croix on Route 62 (by Humbug) and Southshore Road (Route 60) by Robin Bay, with trucks accounting for 17 percent of the vehicular traffic on these roads. In St. Thomas, the percentage of trucks on Veterans Drive through Charlotte Amalie ranges from 16 to 24 percent of the total number of vehicles on that road. This is reflective of the fact that currently, this is the most manageable roadway for heavy vehicles (flat grade) connecting the west and east ends of the island. On St. John, particularly in Cruz Bay, trucks account for close to 17 percent of the vehicular traffic on Centerline Road, Northshore Road, and Southshore Road.

### 4.1.4 Public Transit

The Virgin Islands Transit System (VITRAN), under the auspices of the Department of Public Works, Office of Transportation, is responsible for providing public transportation to residents of the Virgin Islands. VITRAN-PLUS Paratransit Services provides public transportation to certified disabled persons, in accordance with the Americans with Disabilities Act.

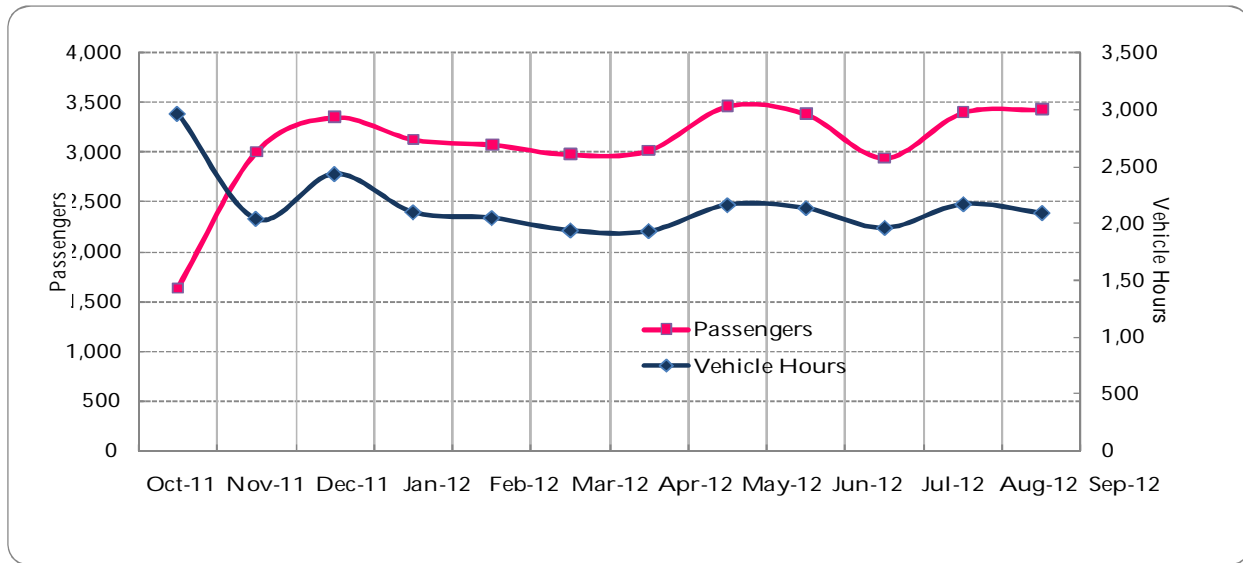


VITRAN buses, except VITRAN-PLUS minivans for disabled individuals, are equipped with an electronic farebox system. The fares are: basic fares - \$1; senior citizens - \$0.55; students - \$0.75; and, transfers - \$0.25. Fares for disabled persons are \$4 for a round trip, and \$2 one-way.

Between March 2009 and September 2009, amount of service provided, as measured by revenue hours of operations, decreased from 1,420 annual hours of service to 1,115. On the other hand, demand increased from 6,983 passengers to 7,553 in the same period as illustrated Figure 4.4.



Figure 4.4 - Transit Service and Demand



4.1.4.1 St. Croix

The VITRAN Public Bus System covers various areas of the island. Air-conditioned buses run between Christiansted and Frederiksted every two hours daily (except Sundays) from 5:30 am to 9:00 pm. From Christiansted, buses travel along Route 75 to Golden Rock shopping center. They continue on Route 70 with stops at Sunny Isle Shopping Center, La Reine Shopping Center, St. George's Botanical Gardens and Whim Plantation before getting to Frederiksted. Bus service is also available from the airport to Christiansted and Frederiksted. The fare is \$1 a person and senior citizens receive a discounted fare of \$.55. Students pay \$.75 discounted fare and people with disability ride free of charge with an ID. Figure 4.31 provided in a previous section of this report shows the current transit routes on St. Thomas. <sup>5</sup>



4.1.4.2 St. John

VITRAN buses run along Centerline Road. The buses travel from the Cruz Bay ferry dock, through to Coral Bay and then to Salt Pond Bay. From Cruz Bay the bus leaves at 6 am, 7 am and then 25 minutes past the hour until 7:25 pm. From Salt Pond Bay the bus leaves at 5 am, 6:00 am, 7:00 am, 8:00 am and then 10 minutes after the hour until 8:10 am. The fare is \$1 a person. Senior Citizens receive a discounted fare of \$.55. Figure 4.2 provided in a previous section of this report shows the current transit routes on St. John<sup>6</sup>.

<sup>5</sup> *St. Croix Island Guide*. VInow.com Virgin Islands Transportation Guide & Community Transportation. Web. 15 Apr. 2009. <[http://www.vinow.com/stcroix/getting\\_around\\_stx/](http://www.vinow.com/stcroix/getting_around_stx/)>.

<sup>6</sup> *St. John Island Guide*. VInow.com Virgin Islands Transportation Guide & Community Transportation. Web. 15 Apr. 2009. <[http://www.vinow.com/stjohn/getting\\_around\\_stj/](http://www.vinow.com/stjohn/getting_around_stj/)>.





#### 4.1.4.3 St. Thomas

Both city and county buses run on the island of St. Thomas. County buses run from 5:30 am until 7:00 pm, servicing the area between "town" (Charlotte Amalie) and Red Hook once every hour. There are also buses that travel west of the airport toward Bordeaux. City buses travel between the Schneider Regional Medical Center bus stop to town starting at 6:15 am and running until 8:00 pm. The first bus from the Airport to town is at 6:00 am and the last is 8:00 pm. The city bus fare is \$0.75, slightly less than the county bus, at \$1.

Figure 4.3 provided in a previous section of this report shows the current transit routes on St. Thomas.

An extensive transit ridership survey was conducted in 2009 for the CTMP. In Table 4.3, the cumulative number of transit boardings per island is reported. Table 4.3 shows that St. Thomas' totals were approximately four times that of the other islands, given that the transit service provided is more frequent and extensive than on St. Croix or St. John<sup>7</sup>.

Table 4-3 - VITRAN Observed Boardings

Island	VITRAN Observed Daily Boardings (by Island)
St. Thomas	1,330
St. John	316
St. Croix	334
Total	1,980

Source: Transit On-Board Survey Spring 2009 – NuStats, Inc.

#### 4.1.4.4 Other Private Transit Service

Taxis are available on St. Thomas, St. John and St. Croix with fixed taxi fares between major points on each island. Taxis are regulated by the USVI Taxi Commission, which sells medallions to licensed drivers. The number of taxis per island is also strictly regulated by the Taxi Commission. As shown in Table 4.4, the number of taxis allowed is reaching the maximum point.



Safari buses, sometimes called "dollar rides" are a transportation mode unique to the Territory. A safari is a truck that has been outfitted with bench seating in the back. It is open air but covered. The 'dollar rides' do not have signs identifying them as such; however they generally run the same route as the public bus and pull in or close to bus stops. They are generally unregulated and operate mostly to assist with the transportation needs of residents.

<sup>7</sup> St. Thomas Island Guide. VInow.com Virgin Islands Transportation Guide & Community Transportation. Web. 15 Apr. 2009. < [http://www.vinow.com/stthomas/getting\\_around\\_stt/](http://www.vinow.com/stthomas/getting_around_stt/)>.



From the survey, the number of observed riders on the Safari Taxis is approximately 6,000 per day.

Table 4-4 - Taxis by Island

Island	Number of Taxis Permitted	Number of Medallions Granted to Date
St. Croix	800	500
St. Thomas	1,500	1,200
St. John	300	150

#### 4.1.5 Transit Service and Population Density

Transit service planning suggests that transit service offered follows transit demand. Review of current transit services on USVI suggests that most transit services offered is used by residents while visitors are more likely to use other mode of transportation.

St. Croix offers several publicly operated buses and is also the island with the highest number of local residents. St. Thomas has several bus routes that operate between Charlotte Amalie, Tutu, Southside, and East End. There is currently no public transportation service going to the beaches on the north side of the island.

On St. John, there is one bus route between Cruz Bay and Coral Bay, currently VITRAN buses do not provide service to the northern portion of the island where most tourist destinations are located.

To understand transit demand in areas that are not primarily tourist oriented, one usually looks at residential and employment density as a marker of trip origins and destinations. Pushkarev and Zupan<sup>8</sup> attempted to set minimum densities that support various types of transit.

Pushkarev and Zupan took into account density of development at both ends of the trip, residential densities at the start of the trip and downtown commercial densities at the end of the trip. This is illustrated on Figure 4.5.

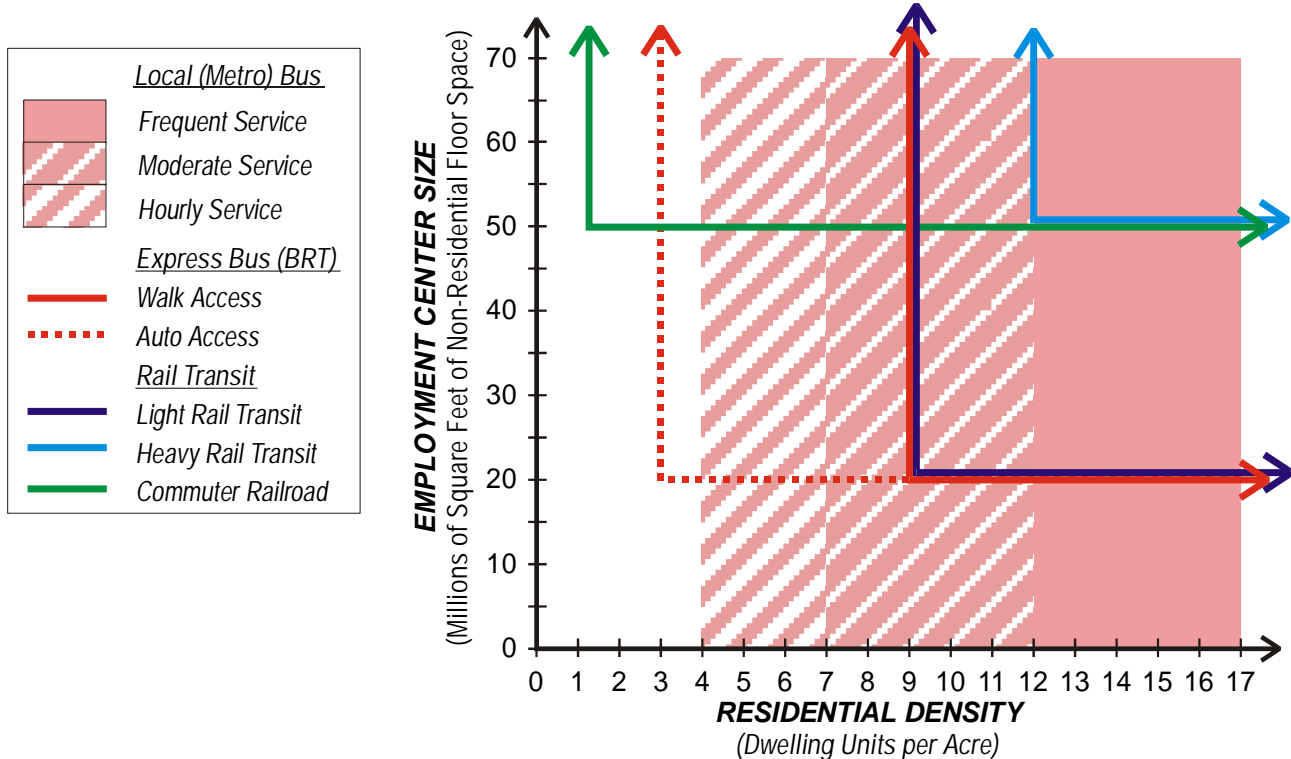


<sup>8</sup> Pushkarev, B., J. M. Zupan, and R. S. Cumella. *Urban Rail in America: An Exploration of Criteria for Fixed-Guideway Transit*. Indiana University Press, Bloomington, 1982





Figure 4.5 - Transit Demand and Residential Density



Research shows that a minimum of four dwellings per acre is needed to develop a transit demand of hourly service. As shown in Table 4.5, the existing population density of the islands does not meet these requirements. The sub-districts with the highest density in the Territory such as Charlotte Amalie, Tutu and Christiansted, have population densities of 3.61, 2.76 and 2.44 dwellings/acre. Most of the territory has a population density of well under one dwelling/acre as seen on Table 4.5. However, transit service in most parts of the territory is a crucial element of the transportation system as it is often the only means of transportation for aging population and school-age children.

St. John and St. Thomas islands have 2.3 million annual visitors on cruise ships and airlines combined. Of this number, nearly 34 percent, or 788,480 tourists visit the islands in the first quarter of the year 2010. In other words, nearly 262,830 additional visitors come to the islands in each of those three months. This means that there are approximately 4.8 visitors for every local resident during the month of January, resulting in a combined population density (including visitors) of 6,230 people per square mile. This makes St. Thomas/St. John combined density higher than Atlanta at 3,154 and just slightly lower than Baltimore at 7,672 people per square mile when visitors are included.

To get a general idea of whether additional transit service is warranted to serve the Territory, tourist demand can be converted to residential and employment travel used by Pushkarev. In doing so, we obtain comparable population density of 5.5 dwelling units per acre and nearly 36 million square feet of employment space. Using the graphic previously developed by Pushkarev and Zupan, an "hourly" to "moderate" bus service is warranted using current population and tourist numbers.



Table 4-5 - Residential Development Density

Geography (Sub-district)	2010 Population Density (Pop per Sq. Mile)	2010 Household size (persons per household)	2010 Household Density (HH per Sq. Mile)
St. Croix	610	2.50	238
Anna's Hope Village	410	2.44	167
Christiansted	3,460	2.20	1,471
East End	190	2.19	87
Frederiksted	2,240	2.49	856
Northcentral	390	2.49	157
Northwest	270	2.52	107
Sion Farm	1,380	2.49	548
Southcentral	640	2.70	220
Southwest	1,360	2.60	516
St. John	210	2.18	95
Central	60	2.11	28
Coral Bay	330	2.09	158
Cruz Bay	980	2.23	435
East End	60	1.70	36
St. Thomas	1,650	2.35	689
Charlotte Amalie	5,500	2.30	2,289
East End	1,600	2.36	675
Northside	950	2.22	426
Southside	1,220	2.51	481
Tutu	4,530	2.59	1,737
West End	190	1.96	1,001
Water Island	430	2.33	18

Source: US Census Bureau

This includes demand not only from local resident population but also transient populations such as visitors and tourists. Tourists to the USVI are likely to take large number of trips given how spread out tourist destinations or areas on the islands. However, many of the tourist trips are very specific – from the larger towns such as Charlotte Amalie or Tutu to the beaches on the northern or eastern section of the island on St. Thomas and from Cruz Bay to the beaches on the northern section of St. John. VITRAN does not presently serve these destinations. However, the consistency of visitors travelling to these areas could create a transit demand similar to commuter behaviour, especially during high tourist seasons on the island.

This sketch level overview demonstrates that more frequent bus service would likely be warranted if the tourism market and routes were considered in transit service planning. A more detailed analysis of



travel patterns is needed, particularly for the local resident population. Data presented earlier shows an increase in service demand to further attenuate this suggestion.

To address service needs territorywide, DPW is completing a Comprehensive Transit Plan which looks at all aspects of their transit service from routes, existing and future needs, and fare structure.

#### 4.1.6 Ferry Service

There is privately run ferry service provided both within the USVI as well as to the British Virgin Islands. This transportation mode is an essential part of the transportation system in the Virgin Islands allowing both tourists and residents a way to travel from island to island<sup>9</sup>.



##### 4.1.6.1 Within the USVI

Several private passenger ferries and car-barge service operates daily between St. Thomas (Red Hook and Charlotte Amalie), St. John (Cruz Bay) and St. Croix (Christiansted). Figures 4.1 through 4.3 in previous section, show the location of the docks and the ferry routes providing service between the islands in the USVI Territory.

Other inter-island ferry services include:

- Water Island Ferry: Crown Bay, St. Thomas - Water Island
- Frenchman's Reef Resort - Charlotte Amalie, St. Thomas Ferry

##### 4.1.6.2 Outside the USVI

Several regular scheduled service private passenger ferries shuttle between the British and US Virgin Islands:

- St. Thomas to Tortola, British Virgin Islands
- St. John to West End, Tortola, British Virgin Islands
- St. Thomas/St. John to Virgin Gorda, British Virgin Islands
- St. Thomas/St. John to Jost Van Dyke, British Virgin Islands

#### 4.1.7 Aviation Service

The Cyril E. King Airport is located on the southwestern side of St. Thomas, approximately four miles east of the capital city, Charlotte Amalie. The airport terminal hours of operation are from 6 am to 11 pm.

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<sup>9</sup> *Virgin Islands Ferry Schedules*. VInow.com Virgin Islands Transportation Guide & Community. Web. 15. Apr. 2009.

[http://www.vinow.com/general\\_usvi/interisland\\_ferry/](http://www.vinow.com/general_usvi/interisland_ferry/).



The length of the runway is 7,000 feet. The terminal has 11 gates and is host to several major airlines. There are also commuter flights between St. Thomas, St. Croix, Puerto Rico and other Caribbean islands. At the time of this study non-stop jet service is available from Miami, Atlanta, Baltimore, Chicago, Boston, Newark and New York.

The Henry E. Rohlsen Airport is located on the southwestern side of St. Croix. The airport terminal is open from 5:30 am to 11 pm. The airport is served by several major airlines and commuter flights between St. Thomas, St. Croix, Puerto Rico and other Caribbean islands. At the time of this study non-stop jet service is available from various major cities in the continental U.S., including Miami.

The Port Authority completed a \$42 million renovation and expansion of Henry E. Rohlsen Airport. The terminal was expanded from 76,000 to 181,000 square feet. The runway was also extended from 7,600 to 10,000 feet. There are no airports on St. John or Water Island<sup>10</sup>.

#### 4.1.8 Marine Service

This section on marine services includes facilities, docks, terminals, ports and piers listed by Island. Each service mentioned includes a brief description. These services are an important part of the economy of the Virgin Islands providing opportunities for employment, trade and tourism<sup>11</sup>.

##### 4.1.8.1 St. Croix

On St. Croix, there are five marine locations ranging from cruise ship ports, such as the Ann E. Abramson Marine Facility to large piers for tanker vessels. Many of these facilities are operated by the Virgin Islands Port Authority (VIPA).

Ann E. Abramson Marine Facility - The Ann E. Abramson Marine Facility, located in Frederiksted, is the main cruise ship port in St. Croix. The 1,526-foot pier can accommodate two eagle-class vessels, weighing a maximum of 142,000 gross tons each with drafts up to 29 feet on the north side and 34 feet on the south side. It can also accommodate two mini-cruise vessels with drafts of 18 feet. Anchorage is also available in the outer harbor for larger ships.

Gallows Bay Dock - The Gallows Bay Dock, located in Christiansted, is a vital link for small cargo vessels serving St. Croix and other Caribbean islands. The dock is conveniently located about a mile from downtown Christiansted. The length of the dock is 400 feet with a maximum draft of 13 feet. It can accommodate mini-cruise vessels, small inter-island sloops, ferries, private yachts, cargo vessels and U.S. Coast Guard vessels. The dock at this facility was repaired in 2002. The Port Authority plans to shift all cargo operations from this port to the Gordon A. Finch Molasses Pier along the south shore of St. Croix.

Svend Aage Ovesen, Jr. Seaplane Terminal - The Seaplane Terminal in St. Croix is located in Christiansted. Air service is available from this facility daily from Christiansted to downtown Charlotte Amalie, St. Thomas. Flights are also available to San Juan, Puerto Rico, and packages are offered to connect passengers to the British Virgin Islands via inter-island ferries.

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<sup>10</sup> *U.S. Virgin Islands (USVI) Airports*. U.S. Virgin Islands Vacation Guide TravelVI.com. Web.16 Apr. 2009.

<[http://www.travelvi.com/USVIPreparedTraveler/virginIslandsUSVI\\_airports.shtml](http://www.travelvi.com/USVIPreparedTraveler/virginIslandsUSVI_airports.shtml)>.

<sup>11</sup> *Seaports and Marine Facilities*. Virgin Islands Port Authority Gateways to America's Caribbean. Web. 11 May 2009. <<http://www.viport.com/seaports.html#The%20Ann%20E.%20Abramson%20Marine%20Facility>>.



Wilfred "Bomba" Allick Port - The Wilfred "Bomba" Allick Port and Transshipment Center, located in Krause Lagoon, is locally known as "The Containerport." This facility is located on a 45-acre parcel on the south shore of St. Croix next to HOVENSA and Virgin Islands Port Authority Molasses Pier. It is 12 miles from the Ann E. Abramson Marine Facility, and it is located close to the Henry E. Rohlsen International Airport and an industrial park. This port is the hub for commercial and industrial marine activity on St. Croix and serves as a transshipment center to many other locations. The length of the dock is 1,000 feet and is capable of berthing vessels with drafts up to 30 feet. VIPA is currently reinforcing the dock.

Gordon A. Finch Molasses Pier - The Gordon A. Finch Molasses Pier, located in Krause Lagoon, sits on an eight-acre site on the south shore of St. Croix. This multi-purpose facility is primarily used to import molasses by tanker vessels to the Virgin Islands Rum Industries Limited distillery. It is also used for the importation of all liquid asphalt to the island, bulk cargo such as gravel, cement blocks and other construction material critical to St. Croix's construction industry. The pier can also accommodate submarine cable vessels, which are used to lay and repair intercontinental underwater telephone cables.

Virgin Islands Port Authority is currently designing plans to shift all cargo operations from the Gallows Bay Marine Facility in Christiansted, St. Croix to the Molasses Pier.

#### 4.1.8.2 St. John

There are three marine locations on the island of St. John. These include the Loredon L. Boynes Sr. Dock the Victor William Sewer Marine Facility and the Theodore Eric Moorehead Marine Facility. The facilities are run by the Virgin Islands Port Authority.



Loredon L. Boynes Sr. Dock - The Loredon L. Boynes Sr. Dock, located in Cruz Bay, is the main port of entry to St. John. The length of the dock is 267 feet. It can accommodate four vessels simultaneously. Several ferry operators provide service from this facility to Red Hook and the Charlotte Amalie Harbor in St. Thomas. Dinghy dock berthing is also available.

Victor William Sewer Marine Facility ("The Creek") - The Victor William Sewer Marine Facility is located in Cruz Bay. The length of the dock is 296 feet with a draft of 10 feet. However, the Port Authority has ceased all cargo operations at this port. This dock is now used for the berthing of passenger ferries and tenders. Passenger ferries and charter vessels that require federal inspection must also use this facility. VIPA is in the process of developing designs to reconfigure this dock into a ferry passenger facility.

Theodore Eric Moorehead Marine Facility (Enighed Pond) - The Theodore Eric Moorehead Marine Facility was completed in 2006. The pond was developed into a cargo facility to accommodate the increase of cargo traffic at the St. John Cargo Dock, which previously handled cargo and foreign vessels in a limited space in Cruz Bay. VIPA has shifted all cargo activity from the Creek to Enighed Pond.

The facility consists of 650 lineal feet of berthing space for cargo vessels, six acres for cargo handling and storage, and a channel and turn-around area for vessels up to 175 feet in length with a draft of up to 12 feet.





#### 4.1.8.3 St. Thomas

St Thomas has the largest number of marine services with six different facilities illustrated on Figure 4.3 and discussed below.

Austin "Babe" Monsanto Marine Facility - The Austin "Babe" Monsanto Marine Facility, located in Crown Bay, is one of two cruise ship ports in St. Thomas. It has two docks which can accommodate three cruise ships simultaneously. The main dock has two berths. The south side of the dock is 940 feet in length with a draft of 37 feet, and the north side of the dock is 940 feet in length with a draft of 28 feet. The adjoining dock is 435 feet in length with a draft of 27 feet. Vessels can obtain access to the Crown Bay Cruise Ship Port through the East Gregerie and the West Gregerie channels.

Crown Bay Cargo Port - The Crown Bay Cargo Port is comprised of 20 acres. The bulkhead at the facility is 2,720 feet, with a maximum draft of 30 feet. Container and general cargo are handled at this facility. This port is a vital link to the Virgin Islands economy as most of its foods, materials and other goods are imported. The Crown Bay Cargo Port also serves as a trans-shipment port for cargo being shipped to many of the other Caribbean islands.

Edward Wilmoth Blyden IV Marine Terminal - The Edward Wilmoth Blyden IV Marine Terminal is located in Charlotte Amalie. This facility is a hub for seaplane service between the U.S. Virgin Islands and ferry service between the USVI, the British Virgin Islands, and between St. Thomas and Puerto Rico.



Charles F. Blair, Jr. Seaplane Terminal - The Seaplane Terminal in St. Thomas is located adjacent to the Blyden Terminal in downtown Charlotte Amalie.

The Waterfront - The Waterfront, located in the Charlotte Amalie Harbor, encompasses 3,200 feet of bulkhead space that runs parallel to the shopping district in St. Thomas. The Waterfront can accommodate mini-cruise ships and cruise ship tenders. The draft alongside The Waterfront ranges from four feet to 14 feet.

Urman Victor Fredericks Marine Terminal (Red Hook) - Red Hook Terminal is located on the eastern end of St. Thomas and primarily serves passengers traveling between St. Thomas and St. John, and St. Thomas and the British Virgin Islands. The Red Hook Marine Facility was significantly upgraded in the fall of 2007, by expanding the dock and constructing a 9,500 foot terminal with additional open-air seating along the dock.



## 5.0 Environmental and Natural Features

The environmental and natural features section contains information on air quality, threatened and endangered species including critical habitat areas of concern, and protected lands such as historic districts or environmentally sensitive areas. Many of these features and areas are protected under the National Environmental Policy Act, and therefore must be avoided. If they cannot be avoided, any negative impacts must be mitigated.

### 5.1 Air Quality

Under the Clean Air Act, the US EPA establishes primary air quality standards to protect public health, including the health of "sensitive" populations such as people with asthma, children, and older adults. US EPA has set national air quality standards for several common air pollutants and continuously monitors regional attainment of these pollution thresholds. Neither island is currently in non-attainment or out of compliance with federal standards. These criteria pollutants include:

- CO - Carbon monoxide
- NOx - Nitrogen oxides
- VOC - Volatile organic compounds
- SO<sub>2</sub> - Sulfur dioxide
- PM<sub>2.5</sub> - Particulate matter (size < 2.5 micrometers)
- PM<sub>10</sub> - Particulate matter (size < 10 micrometers)
- NH<sub>3</sub> - Ammonia



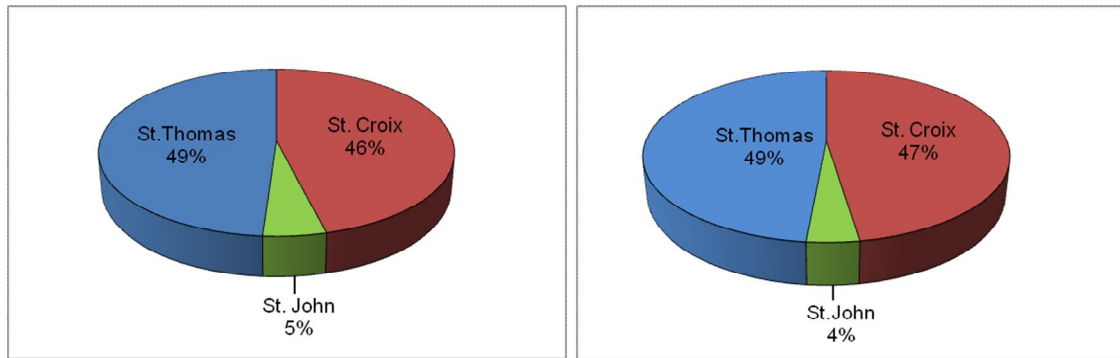
In 2011, EPA's National Emissions Inventory (NEI) documented a total of approximately 12,700 tons of the above mentioned pollutants which is an 11 percent decrease from 2008 EPA's NEI numbers of approximately 14,200 tons. As shown in Figure 5.1, St. Thomas produced 49 percent of the air pollution emissions from mobile sources (i.e., cars, buses and boats) whereas St. Croix and St. John produced 46 percent and five percent pollutants respectively.

In 2011, emissions from St. Thomas had decreased by 12 percent when compared with 2000 emissions, whereas 2011 emissions in St. Croix increased by seven percent when compared with the year 2000 emissions (St. Croix contains one of the world's largest petroleum refineries – HOVENSA - providing heating oil and gasoline to the U.S Gulf Coast and the eastern seaboard). St. John emissions remain almost unchanged from 2000.



Innovative transportation-related improvements to curb these emissions will be needed primarily through alternatives to single-occupancy driving. These solutions will be aimed at maintaining and/or improving air quality, a vital element in keeping the scenic character of the islands and positively impacting tourism and the health of its residents.

Figure 5.1 - USVI 2011 Nonpoint and Mobile Source Emissions versus 2010 Population



Source: US EPA 2011 National Emissions Inventory and U.S. Census 2010

## 5.2 Protected Lands

The World Database on Protected Areas reports seventeen nationally recognized protected areas, marine and terrestrial, in the U.S. Virgin Islands and these areas are discussed below.

**Buck Island National Wildlife Refuge** is characterized by a thorn scrub habitat with rocky coastline surrounded by spectacular reefs. Buck Island National Wildlife Refuge is administered as part of the Caribbean Islands National Wildlife complex.

Buck Island Reef (National Monument) is a small, uninhabited, 176 acre island about 1.5 miles north of



the northeast coast of St. Croix, U.S. Virgin Islands. It was established to preserve "one of the finest marine gardens in the Caribbean Sea." Two-thirds of the island is surrounded by an elkhorn coral barrier reef, providing an ecosystem for over 250 fish species and a variety of other marine life including spotted eagle rays, nurse sharks, lemon sharks, and juvenile Blacktip reef sharks and Whitetip reef sharks. In the spring endangered Leatherback turtles come onto the beach to nest while Green turtles and Hawksbill turtles nest during the summer months.

**Cas Cay/Mangrove Lagoon (Marine Reserve and Wildlife Sanctuary)** – Mangrove Lagoon is located on the south-east coast of St. Thomas. An attractive and protected area with exceptional natural resources.





Manglar islands, rocky cliffs, clear waters, sea grass beds and salt ponds provide rich habitats for reef fish and other marine life as well as many birds. It is common to see nesting egrets, pelicans and herons. Cas Cay is a 15 acre Wildlife Preserve for white-cheeked pintail ducks, red-billed and white-tailed tropic birds, Brown pelicans, oyster catchers, roseate terns, egrets, herons and sandpipers. A special and rare dry forest ecosystem of mampo, sea grape and ink berry begins at the south side volcanic cliffs and extends into a flat, sandy area with a red mangrove forest, complete with a village of hermit crabs.

[Compass Point Pond \(Marine Reserve and Wildlife Sanctuary\)](#) is a salt pond in the mangrove lagoon at Benner Bay in St. Thomas. Salt ponds are very important wildlife feeding and roosting habitats.

[Estate Thomas \(Experimental Forest\)](#) is a public forest on St. Croix administered by the U.S. Forest Service and serves as a wildlife sanctuary.

[Green Cay \(National Wildlife Refuge\)](#) is the nesting ground for the American oyster catcher, brown pelican and other shore birds. This site is also one of only two islands where the endangered St. Croix ground lizard still exists. Green Cay NWR is administered as part of the Caribbean Islands National Wildlife complex. Green Cay is also considered as a National Natural Landmark.

[Hassel Island \(National Park\)](#) is an island located within St. Thomas' Charlotte Amalie Harbor. The island consists of 135 acres in size of which 122 acres are part of the Virgin Islands National Park.

[Hind Bank \(Flora Protection Area\)](#) is a 16 square nautical mile designated marine conservation district located in St. Thomas. This area was closed permanently in 1999 to protect an important red hind (*Epinephelus guttatus*) spawning site.

[Jack and Isaac Bays \(Marine Reserve and Wildlife Sanctuary\)](#) include 301 acres (122 hectares) of white sand beaches and upland forests and make up one of the few pristine ecosystems remaining on St. Croix. Coral reefs in these bays are home to at least 400 species of fish, including parrot fish, blue tangs, four-eyed butterfly fish and sergeant majors. These beaches have the largest nesting populations of green and hawksbill turtles on St. Croix and are under the care of the Nature Conservancy.

[Magens Bay Marine Reserve and Wildlife Sanctuary](#) is located on the North Atlantic side of St. Thomas. Magens Bay features a well-protected white sand beach stretching for nearly a mile.

[Saint John Marine Reserve and Wildlife Sanctuary](#) is home to the Virgin Islands National Park which protects over 7000 acres of the 12,500 acre island.







**Salt River Bay National Historical Park and Ecological Preserve** is a 1,015-acre park that holds some of the largest remaining mangrove forests in the Virgin Islands, as well as coral reefs and a submarine canyon (described in No. 13). Salt River Bay is considered a National Natural Landmark.

**Salt River Submarine Canyon National Historic Park Protected Area** at the mouth of Salt River Bay provides habitat for deep water corals, sponges and fishes. The site is primarily located within the Salt River Bay National Historical Park and Ecological Preserve and also includes Sugar Bay, the shores of which support the remaining stands of mangrove in the Virgin Islands.

**Sandy Point National Wildlife Refuge** located within Sandy Point National Wildlife Refuge, is the only place in the United States or American Territories which is regularly used for nesting by the endangered leatherback sea turtle. In addition, unique sand pits enclose a salt pond at this site. Sandy Point National Wildlife Refuge is administered as part of the Caribbean Islands National Wildlife complex and is also considered a National Natural Landmark.



**Southgate Pond Marine Reserve and Wildlife Sanctuary** is a 13 hectare salt pond with 7.7 hectares of associated wetlands within the Southgate Coastal Reserve in St. Croix. The Southgate Coastal Reserve also encompasses a mangrove forest, beach forest and upland grassland. The salt pond provides habitat for many resident and migrant birds including several species classified as threatened or endangered. Three species of sea turtles nest on the beach berm – all classified as threatened or endangered.

**St. James Marine Reserve and Wildlife Sanctuary** provides protection for a diversity of interrelated habitats. Mangroves and seagrass beds provide refuge for juvenile fish and invertebrates and the coral reefs support the adults that migrate out to the nursery habitats.

**Virgin Islands National Park and Biosphere Reserve** encompasses underwater areas that teem with marine life, white sand beaches and acres of lush green forests on St. John. There are also Pre-Columbian Amerindian settlements, Danish colonial sugar plantation ruins, forts and a marine railway. The Virgin Islands Coral Reef National Monument was established from 12,708 acres of federally owned submerged lands off the island of St. John. This area, administered by the National Park Service, protects coral reef and mangrove habitat crucial for the biological diversity of the entire Caribbean.

## 5.3 Natural Landmarks

In addition, there are seven areas that have been designated as National Natural Landmarks. A few are considered protected areas and are described above. The National Natural Landmark program, administered by the National Park Service, recognizes and encourages the conservation of outstanding examples of the United States' natural history.

**West End Cay** - The West End Cay's are unique in the Virgin Islands region because of the nesting sea birds. Only in the Cordillera, Desecheo, and Mona and Monito Islands in Puerto Rico are there similar





nesting sites free of interference from rodents and humans. These isolated islands are one of the few nesting sites for species such as the blue-faced booby, the Bahama duck and the endangered brown pelican.

**Coki Point Cliffs** - The Coki Point Cliffs are one of the rare localities on St. Thomas where fossils are found. There are very few locations where fossiliferous Lower Cretaceous rocks are exposed and this, the only place in the Virgin Islands, is quite rich in Caprinuloidea rudistids, a marine bivalve, as well as other fossils.

**Lagoon Point** - Lagoon Point is an excellent example of a Caribbean fringing reef and is unique, because unlike Buck Island or Teague Bay, this site represents a protected reef. The site also includes a mangrove area and a salt pond.

**Vagthus Point** - Vagthus Point is the best-known locality for Upper Cretaceous fossils in the Virgin Islands. In addition, it is the only known site in the world in which Barrettia and Titanosarcolithes are found together.

## 5.4 Threatened and Endangered Species

Protected species are plant and animal species that are listed as endangered, threatened or species of concern by federal or state agencies. There are several species that are protected under the jurisdiction of National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS) and US Fish and Wildlife Service. In addition, the US Virgin Islands Department of Planning and Natural Resources, Division of Fish and Wildlife cooperates with National Marine Fisheries Service and US Fish and Wildlife Service to ensure species that are endangered, threatened, and/or indigenous to USVI, are monitored and protected.

Preliminary data were collected through online searches of available information to identify protected species and determine if protected species and critical habitat occur within the area. A list of federally endangered, threatened or species of concern that may occur within the area was developed after a review of all available information. Literature review indicates that there are designated critical habitats located in several areas in the US Virgin Islands for the leatherback sea turtle and the elkhorn and staghorn corals.

Table 5.1 shows a list of USVI coastal areas of particular concern developed by USVI department of planning and Figure 5.2 shows the critical habitat areas.

Table 5-1 - USVI Coastal Areas of Particular Concern

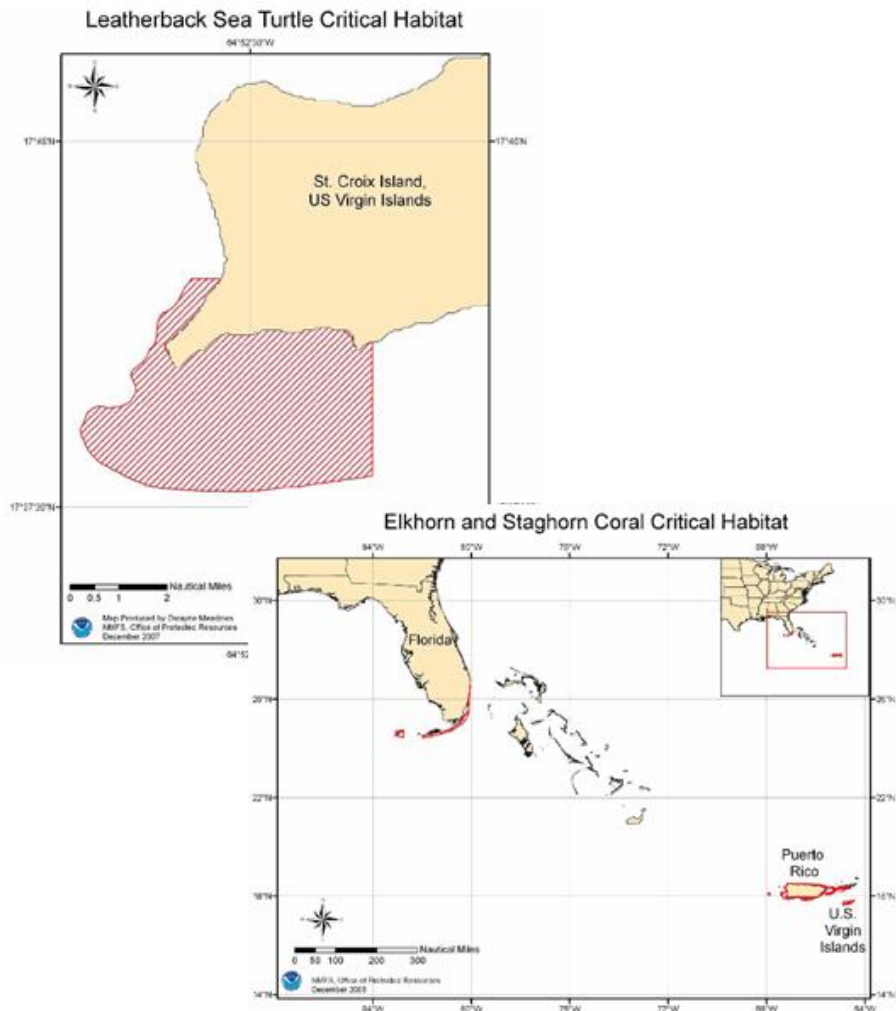
Common Name	Status	Common Name	Status
Fauna			
Staghorn coral	T	Blue Whale	E
Elkhorn coral	T	Finback Whale	E
St. Croix ground lizard	E	Sei Whale	E
Striped croaker	SSC	Loggerhead sea turtle	T
Dusky Shark	SSC	Green sea turtle	T
Night shark	SSC	Leatherback sea turtle	E



Table 5.1 (Continued) - USVI Coastal Areas of Particular Concern

Common Name	Status	Common Name	Status
Fauna			
Sand tiger shark	SSC	Sperm Whale	E
Virgin Islands tree boa	E	Mangrove rivulus	SSC
Speckled hind	SSC	Roseate Tern	T
Warsaw grouper	SSC	Brown pelican	E
Hawksbill sea turtle	E	Caribbean monk seal	E
Kemps ridley sea turtle	E	Humpback Whale	E
Flora			
Vahl's boxwood	E	St. Thomas prickly ash	E
E – Endangered	T - Threatened	SSC - Species of Concern	

Figure 5.2 - Critical Habitat Areas





## 5.5 Cultural Resources

The USVI is home to three district designations on the National Register of Historic Places. The three districts are Charlotte Amalie, Christiansted, and Frederiksted and are discussed in detail below.



### 5.5.1 Charlotte Amalie:

The Charlotte Amalie historic district of St. Thomas, added to the NRHP on July 19, 1976, is bounded by Nytvær, Berg and Government Hills to the north and west, Bjebre Gade to the east, and St. Thomas Harbor to the south. The district includes many historic sites, such as Fort Christian (the oldest structure in the Virgin Islands) and the adjacent Emancipation Gardens Park (the site of the reading of St. Thomas Emancipation Proclamation). Blackbeard's Castle, built in 1679 by the Danes, is found within the district as well.

### 5.5.2 Christiansted

Christiansted historic district was added to the NRHP on October 15, 1966 for its architectural, community planning, and military significance, among others. The district is bound on St. Croix and surrounded by Christiansted Harbor, New Street, Peter's Farm Hospital Street, and West Street. It includes over 250 contributing buildings and two historic sites, including the Christiansted National Historic Site, which is bounded by King Street, Queen Street, Queens Cross Street, and Christiansted Harbor. Among the historic buildings in Christiansted include the Danish West India & Guinea Company Warehouse and Fort Christiansvaern, both built in 1749.

The State Historic Preservation Office also maintains a Historic and Architectural Control District within the boundary of the National Historic District of Christiansted. The boundary is generally east of King's Cross Street and north of East Street.

### 5.5.3 Frederiksted

The Frederiksted historic district of St. Croix is bounded by Fisher Street, the public cemetery, Fort Frederik, and the western shoreline, and was added to the NRHP on August 9, 1976. The district includes many historic buildings, such as Fort Frederik and St. Patrick's Roman Catholic Church, which was built in 1848. A significant portion of the town was burned in 1878 during a labor revolt. Reconstruction took place immediately and utilized the Victorian architectural style, the dominant style of the day, ultimately giving the historic district much of its present-day character.





## 6.0 Future Conditions

Developing a 2040 CTMP requires a good understanding of the future. We need to answer the question: *What will the transportation needs be in the year 2040?* In order to determine the answer to this question, the project team must develop projections such as:

- How many residents will live in the USVI and where will they live?
- Where will local residents and visitors go?
- How many tourists will visit the Territory on annual basis?
- What mode of transportation will residents and tourists use to move around?

### 6.1 Population Projections

From 1980 to 2010, USVI's total population has increased from 96,569 to 106,410 persons. Utilizing these figures, the Territory's population could increase by approximately 12 percent to nearly 120,000 from 2010 to 2040 as shown on Table 6.1 and Figures 6.1 through 6.3. This estimate accounts for the economic downturn that occurred after 2008 and impact of closing HOVENSA. This estimate assumes a moderately paced recovery process and the limited availability of land for aggressive growth. Other variables were also considered including an aging population, which may be caused by more people living longer, fewer births, or an increase in net adult immigration, must be taken into account.

Table 6-1 - Population Projections by Island

Source	St. Croix	St. John	St. Thomas	Total
1980 Census Data	49,751	2,469	44,505	96,725
2000 Census Data	53,234	4,197	51,181	108,612
2010 Census Data	50,600	4,170	51,630	106,410
Average annual growth between 1980 and 2010	0 %	2.3 %	0.5 %	0.3 %
2000 Census Median Age	31.9	36.7	34.4	33.4
2010 Census Median Age	38.2	41.9	39.8	39.2
% Change in Median Age	19.7%	14.2%	15.7%	17.4%
65 years and older in 2000	4,495	302	4,320	9,117
65 years and older in 2010	7,089	491	6,808	14,388
% Change in 65 yrs & older	57.7%	62.6%	57.6%	57.8%
Projected 2040 population	53,500	6,190	59,990	119,680



The average median age in 2010 for the islands of St. Croix, St. John and St. Thomas respectively was 38.2, 41.9 and 39.8 (US Average was 37.2). Territorial median age was 39.2 in 2010 whereas in 2010 territorial median age was 33.4. Population projections indicate this median age increasing to beyond 40 years in 2040. Likewise the population over the age of 65 was increased by 57.8 percent over the last decade. This aging of the population will result in fewer births than would be predicted straight line.

Household size in 2010 for the island of St. Croix, St. John and St. Thomas islands was 2.5, 2.18 and 2.35 respectively, each representing roughly a 10 percent decrease from 2000 (US Average in 2010 was 2.58).

As retirees continue to get older, age-related travel disabilities will increasingly limit their mobility. These changes require specific transportation solutions including better accessibility to public transportation, adequate pedestrian facilities and safer roads.

Trends in household characteristics help predict travel patterns and subsequently future transportation needs. For instance, smaller households generally indicate a greater number of vehicle trips per person, mainly because larger households can typically economize by making trips that serve a larger number of residents. While the pattern might not hold true for particular households or demographic groups, it does accurately characterize travel patterns in the aggregate. Smaller households are likely to affect transportation by augmenting the effects of population increases, increasing the growth rate of trips and vehicle miles traveled (VMT).

Based on the available Census Data, the following steps were followed in developing the projected population estimates for the Territory:

1. Census sub-division level population and household data between 1980 and 2010 are used to calculate an average growth rate by Census sub-division level.
2. Those growth rates are applied to all the Census Blocks that come under the respective Census sub-division to estimate 2040 population. This allows maintaining the same rate of growth in specific area rather than applying a blanket growth rate to the entire island.
3. If the subdivision has a negative growth rate, the 2040 population and households numbers were kept the same as 2010 numbers.
4. If the Census block falls under more than one Census Subdivision, an average growth rate is applied to 2010 numbers to develop the 2040 projections.

The projections were developed by Census Block Groups in order to further identify specific areas where growth occurs. The change in population density between 2010 and the estimated 2040 population figures was then calculated and illustrated on Figures 6.1 through 6.3. Areas with anticipated high growth and higher population densities will require improvements to the transportation system to maintain mobility.

From this analysis, areas that show an increase in population density in 2040 include the area along Queen Mary's Highway and Anna's Hope Village in St. Croix, Cruz Bay area in St. John, and the Central and Eastern sections of St. Thomas.





Figure 6.1 - St. Croix – 2010 to 2040 Projected Increase in Population

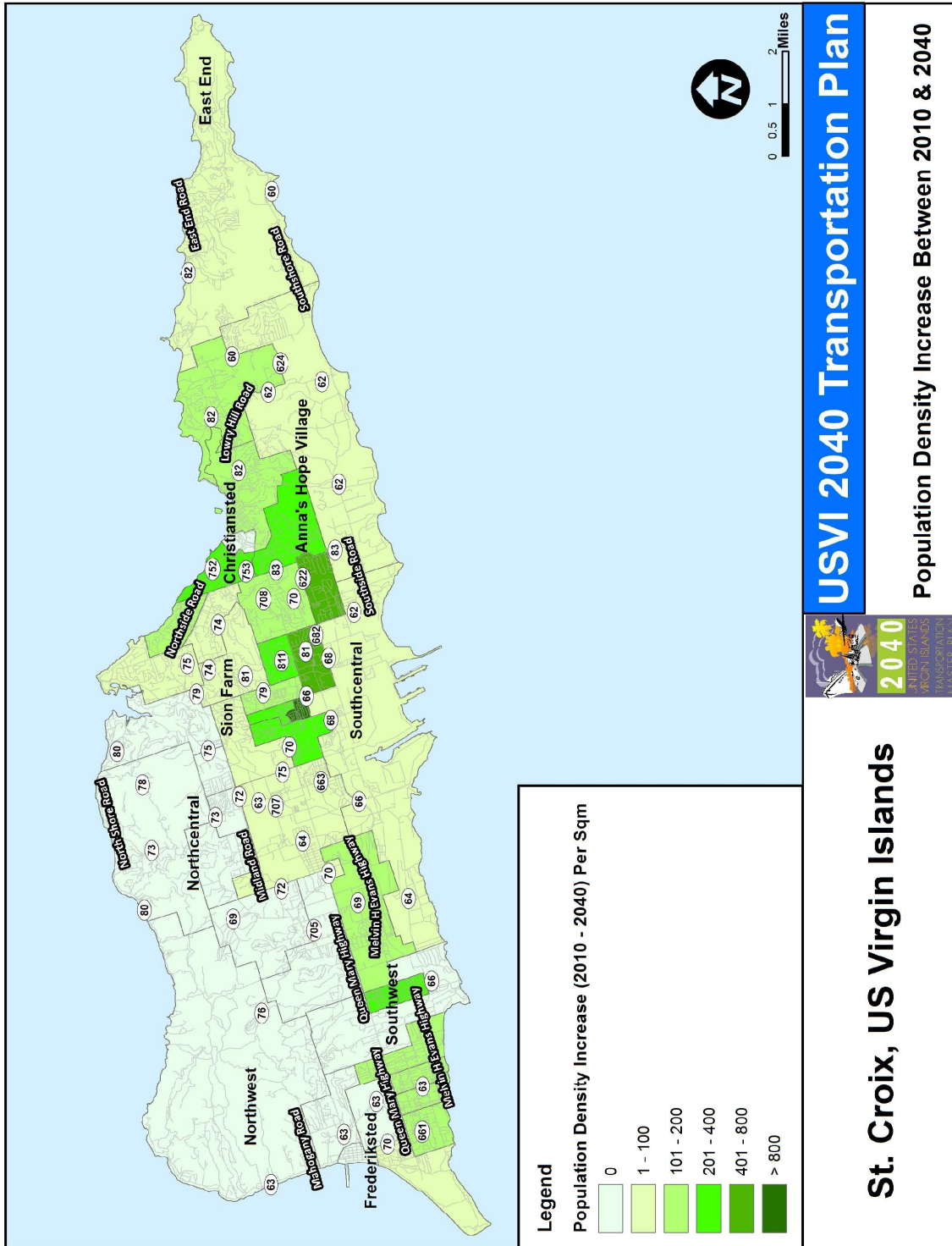




Figure 6.2 - St. John – 2010 to 2040 Projected Increase in Population

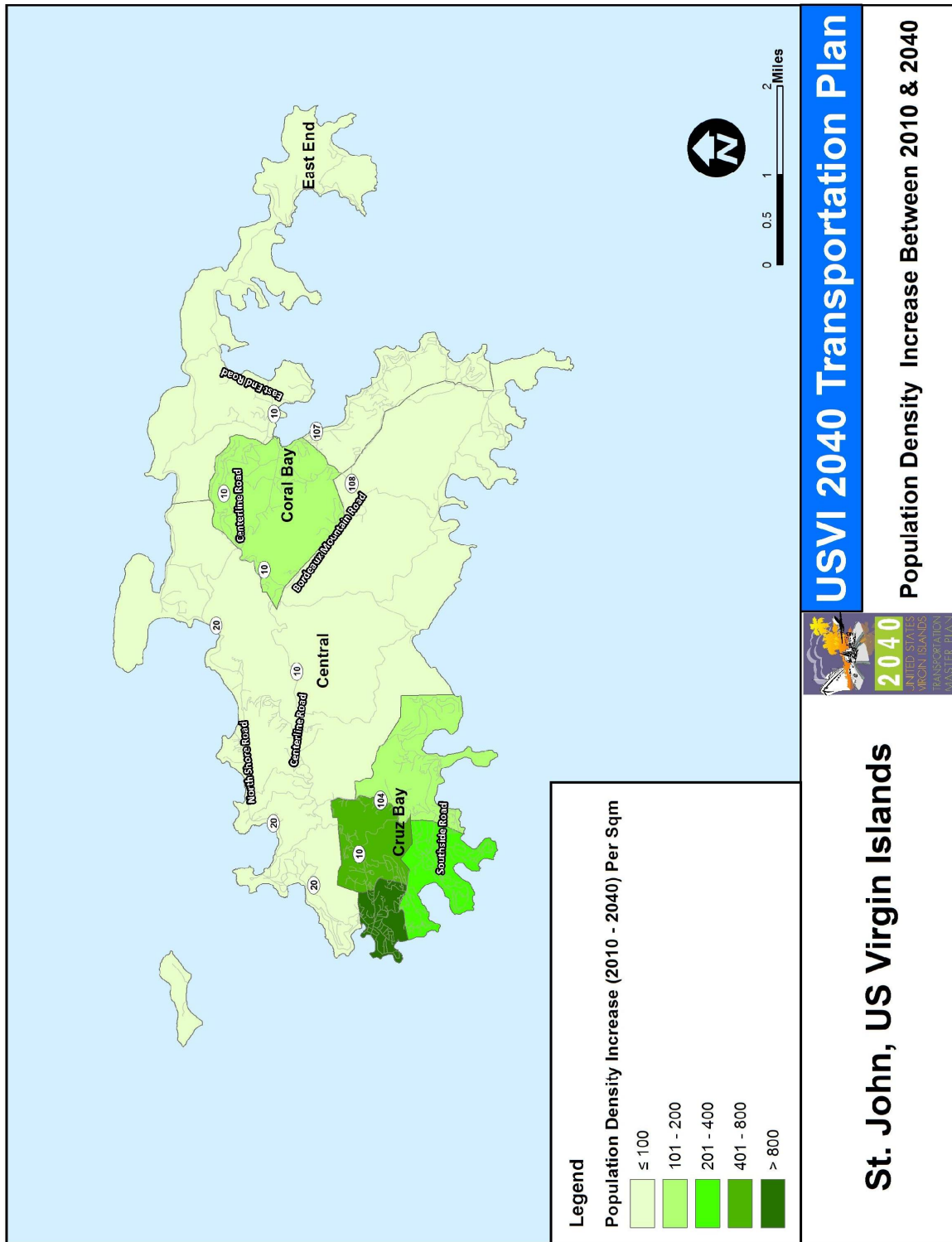
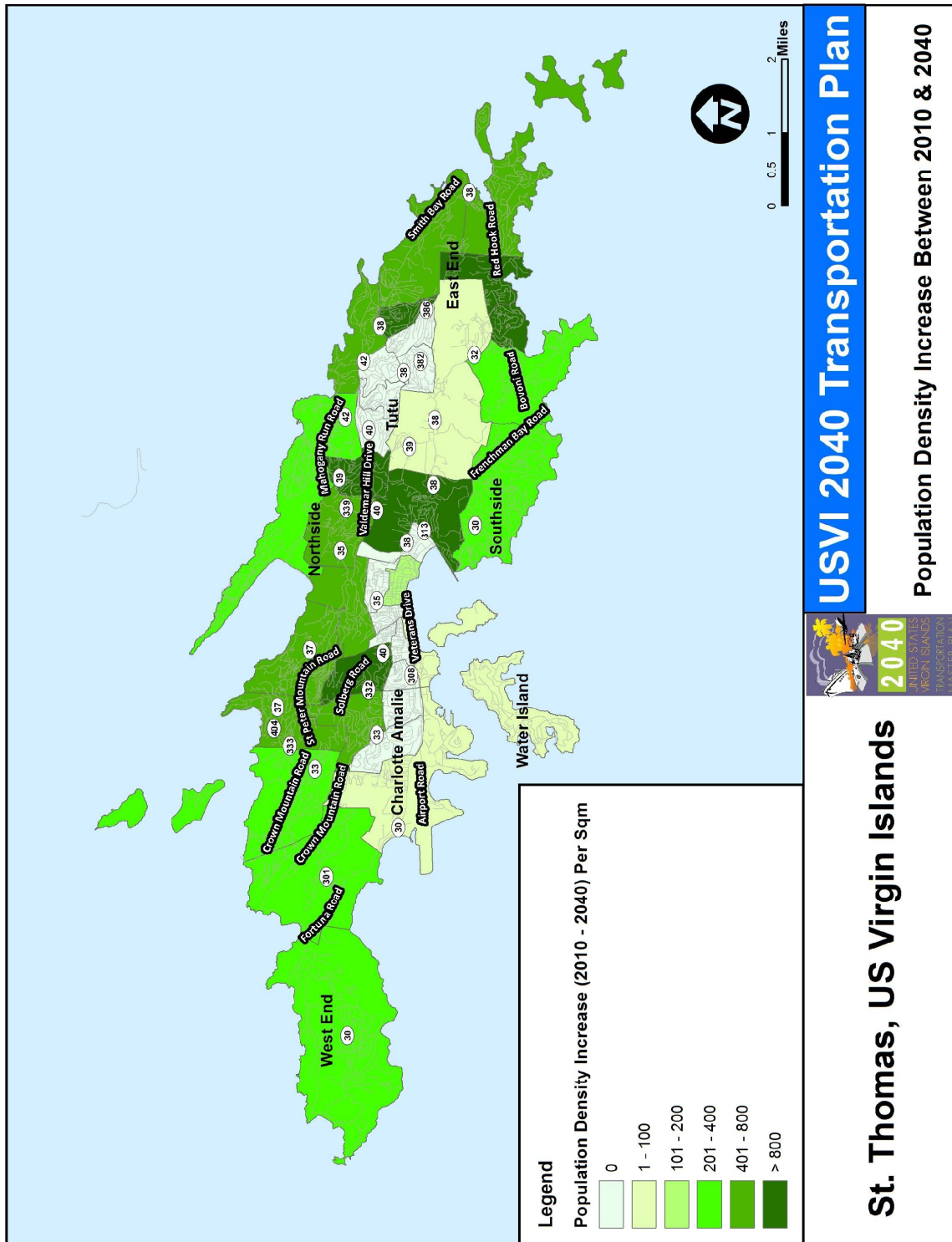




Figure 6.3 - St. Thomas – 2010 to 2040 Projected Increase in Population



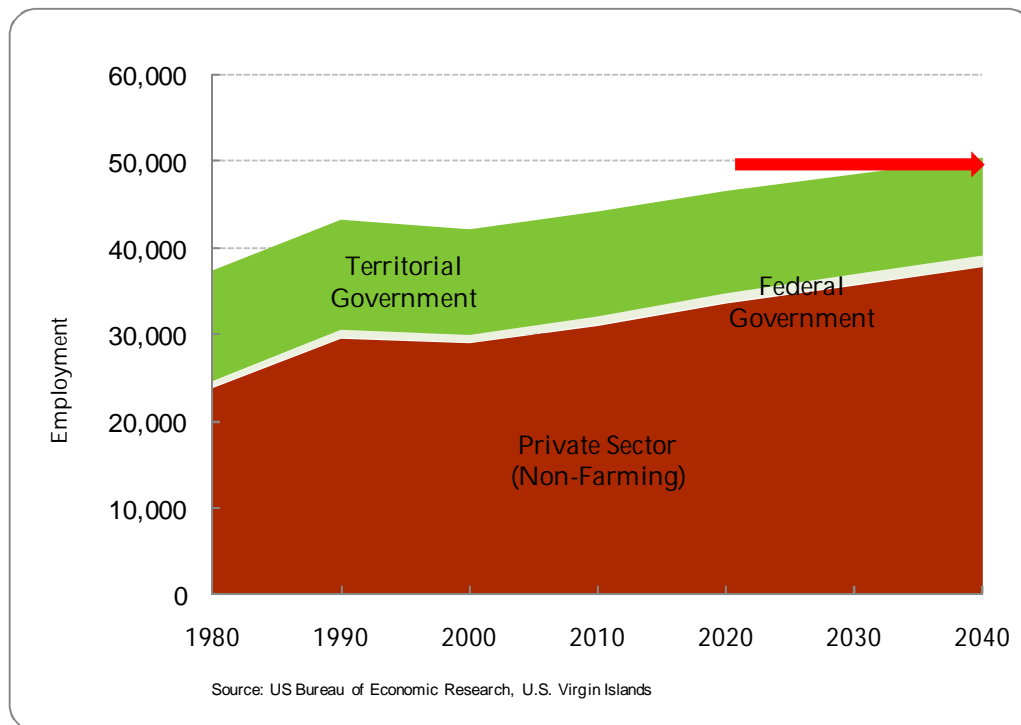


## 6.2 Employment

Employment in the USVI has seen a decline in the past five years. However, with economic development strategies being put in place, employment is expected to increase at a conservative pace over the next 30 years, totaling around 50,330 jobs by 2040. This is roughly a 14 percent increase from 2010 to 2040 which is slightly greater than the projected population increase of 12 percent for the same timeframe. The bulk of these new jobs will be created in the private sector mainly due to new growth in the leisure and hospitality industries, as well as professional services.

The projections shown on Figure 6.4 are based on data reported by the Bureau of Economic Research in their Annual Economic Indicators. The 2010 to 2040 estimates were developed from growth rates based on data prior to 2010.

Figure 6.4 - USVI Employment by Sector



## 6.3 Land Use Projections

The USVI does not have an adopted future land use plan at this time, but has been working on developing one as required by Act 2278. The development of a future transportation plan, however, is highly dependent on future land development. New residential developments, stores, resorts, and industries create a demand for roads and bus service to reach them. Thus the traffic and travel patterns of residents and tourists will change over time.

In the absence of a land use plan, meetings were held with developers to get a sense of where development is likely to happen. From these informal meetings, development seems to be focused near the hospital area in St. Thomas and towards the center and along the southeast coast of St. Croix.



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## 6.4 Economic Development Projections

The Territory has certainly not been spared from the economic hardships both in the US and in the global markets. These hardships were even more prevalent in the Territory with the closing of the HOVENSA oil refinery in 2012. A downshift in the economy resulted with a decrease of 2.6 percent in civilian employment in 2012 as reported by the Bureau of Economic Research. The unemployment rate in the Territory has steadily declined from 8.8 percent in 2011 to 10.6 percent in 2012 and 13.2 percent as of January 2013. This trend is expected to continue, in the short-term, as major employment sectors such as construction, manufacturing and service industries continue to report a loss in employment.

The Government of the Virgin Island has however been very pro-active and has taken aggressive measures to boost the economy. A Comprehensive Economic Development Strategy (CEDS) report for the Territory was developed in 2009 by the Bureau of Economic Research and in collaboration with private, commerce and non-profit sectors of the population. The goal of the CEDS was to identify strategies to identify strategies to create a vibrant economy for the Territory, develop skilled labor force, build and maintain an efficient transportation system, and create affordable health care system. Various priority projects were identified in the CEDS to support the identified goals and objectives.

As an answer to HOVENSA's closure, the Government has developed and put in place a strategy to re-employ laid-off staff. The Department of Labor was successful in obtaining a grant to assist in the economic recovery process post HOVENSA. The funding was used to provide training related services to more than 1,235 workers affected by the closure as well as local subcontractors providing ancillary services to HOVENSA.

The manufacturing sector has seen an increase in rum production with Diageo USVI, Inc. starting their Captain Morgan Rum production in December 2012, while Beam Inc, continues to produce the Cruzan branded rum.

The tourism sector has also rolled out innovative marketing campaign in order to increase this vital part of the economy of the Territory. Numerous events targeted at attracting more visitors are planned, including cultural fairs, Carnivals, Festivals, Rolex Regatta, and Taste of St. Croix.

The Government is also taking a pro-active approach at encouraging visitors to the Territory with development of major transportation infrastructure improvements including Main Street, Charlotte Amalie Revitalization, Veterans Drive Improvements, and Marine Transportation planning. The West Indies Company (WICO) is actively working on dock expansion in order to increase the cruise ship capacity and attract more passengers to the islands. The Port Authority is also planning and implementing improvements to their facilities in order to increase the visitors' experience when they first arrive in the Territory.

In line with the global economy, the Territory will continue to be challenged by declining market. Its success will be in continue to focus on markets that have brought positive growth such as the cruise industry and manufacture.





## 7.0 Transportation Funding and Financing

This chapter presents an overview of funding and financing options available to the Territory in order to develop a financially feasible transportation plan that meets the needs of the USVI and satisfies the applicable regulatory requirements. In order to satisfy the requirement for a financially constrained plan, revenues are first projected for the planning period (2013–2040) for the major transportation funding sources that are available through federal and local government. Then, based upon the projected funds availability, the restrictions governing the use of particular funding sources, and the other inputs for CTMP project selection, projects are proposed that fit the available budget.



The ability to maintain, improve and enhance transportation facilities and services on the USVI depends on adequate financial resources. This section describes the various revenue sources available for transportation projects and a forecast of anticipated revenue for the island during the plan horizon.

Financial assumptions were developed in consultation with the Government of USVI. Revenue forecasts were developed based on historical and existing funding levels and anticipated inflationary factors.

### 7.1 Funds for Transportation

USVI funds capital projects using federal and local sources. Federal sources include the Territorial Highway Program administered by the Federal Highway Administration (FHWA) and several programs administered by the Federal Transit Administration (FTA). Locally, the USVI primarily uses General Fund appropriations towards transportation projects. In addition, in lieu of having a dedicated source of local funding for transportation projects, the USVI legislature issues bonds for transportation and other infrastructure projects as needed. This section presents the various federal revenue sources that could be applied towards the projects in the 2040 Master Plan.

#### 7.1.1 Territorial Highway Program

The Territorial Highway Program (THP) is the USVI's largest federal funding source for transportation projects. The THP was created by Section 112 of the Federal-Aid Highway Act of 1970 (Public Law 91-605) by adding Section 215 to Title 23 of the United States Code (U.S.C.). Federal financial assistance was granted to the Virgin Islands, Guam, and American Samoa for the construction and improvement of a system of arterial highways and necessary inter-island connectors through the General Fund of the Treasury (assistance to the Commonwealth of the Northern Mariana Islands was added under the Surface Transportation Assistance Act of 1978). This system is referred to as the Territorial Highway System (THS). Section 1114 of MAP-21 repealed 24 U.S.C. 215 and re-established the THP under the Territorial and Puerto Rico Highway Program in 23 U.S.C. 165(c). Under MAP-21, many of the program's key provisions, including its central objectives, remain the same. MAP-21 modified how the THP is funded, as discussed below, and made slight modifications to project eligibility.



**THP Funding & Obligation Authority.** Under MAP-21, the THP is no longer funded as a set-aside of the National Highway System program but rather receives funding directly from the Highway Trust Fund. Funding is authorized at \$40 million in federal fiscal year (FFY) 2013 and FFY 2014 and is available for obligation up to three years after the last day of the FFY in which the funding is authorized. The program remains subject to the annual obligation limitation imposed on the Federal-aid highway fund under the provisions of Section 1102(f) of MAP-21. Program dollars continue to be distributed among the four territories based on the following administrative formula that has been used since FFY 1993:

- American Samoa - 10%
- Guam - 40%
- Northern Mariana Islands - 10%
- U.S. Virgin Islands - 40%

**Federal Share.** Under 23 U.S.C. 165(c)(2)(B), the federal share for this THP funding is in accordance with 23 U.S.C. 120(g), which states that the federal share for any project under Title 23 in the Virgin Islands, Guam, American Samoa and the Commonwealth of the Northern Mariana Islands is 100 percent.

**Program Eligibility.** Eligible project types identified in 23 U.S.C. 165(c)(6)(A) are:

- Projects eligible for the surface transportation program.
- Cost-effective, preventive maintenance.
- Ferry boats, terminal facilities, and approaches.
- Engineering and economic surveys and investigations for the planning and the financing of future highway programs.
- Studies of the economy, safety, and convenience of highway use.
- The regulation and equitable taxation of highway use.
- Research and development as necessary in connection with the planning, design, and maintenance of the highway system.

Funds may not be used for routine maintenance or projects located on roads functionally classified as local with the following exceptions:

- Replacement, rehabilitation, preservation, and protection for bridges and tunnels, including any such construction or reconstruction necessary to accommodate other transportation modes.
- Inspection and evaluation of bridges and tunnels and training of bridge and tunnel inspectors and inspection and evaluation of other highway assets.
- Highway and transit safety improvements and programs.
- Highway and transit research and development and technology transfer programs.
- Environmental mitigation efforts.
- Projects and strategies designed to support congestion pricing, including electric toll collection and travel demand management strategies and programs.



### 7.1.2 Section 5307 Urbanized Area Formula Funds

FTA's largest formula-based grant program, this source has the broadest eligibility. Eligible activities include capital, planning, and operating costs for transit systems in small urban areas, like Virgin Islands Transit (VITRAN), or in large urban areas that operate up to 100 buses in fixed-route service during peak hours. In addition, under MAP-21, Job Access and Reverse Commute was eliminated as a standalone formula program and folded into Section 5307 as an eligible activity. Under the prior authorization legislation (SAFETEA-LU), USVI received annual apportionments between \$19,000 and \$20,000 for Job Access and Reverse Commute activities.

In accordance with 49 U.S.C. Section 5307 (f)(3)(g), USVI is treated as an urbanized area under Section 5307. Funds may be obligated for up to three years after the last day of the FFY in which the funding is authorized. The federal share is 80 percent for capital projects and 50 percent for operating assistance. In FFY 2013, FTA apportioned \$1.1 million in Section 5307 funds to USVI. This was a slight increase over annual apportionments under the prior authorization, which ranged between \$973 million and \$977 million.

### 7.1.3 Section 5339 Bus and Bus Facilities Formula Program

Changed to a formula program under MAP-21, FTA's Bus and Bus Facilities program provides capital funding to replace, rehabilitate, and purchase buses and related equipment and to construct bus-related facilities. Prior to MAP-21, Bus and Bus Facilities was administered as a discretionary program. In FY 2013, \$115,473 was apportioned to the USVI under this program.

### 7.1.4 Section 5310 Enhanced Mobility of Seniors and Disabled Persons

This program is intended to enhance mobility for seniors and persons with disabilities by providing funds for programs to serve the special needs of transit-dependent populations beyond traditional public transportation services and Americans with Disabilities Act (ADA) complementary paratransit services. Under MAP-21, Section 5310 is combined with the Section 5317 New Freedom program, which seeks to reduce barriers to transportation services and expand the transportation mobility options available to people with disabilities beyond the requirements of the ADA of 1990. At least 55 percent of program funds must be used for capital projects.

### 7.1.5 Emergency Relief Program

Congress authorized in 23 USC 125, a special program from the Highway Trust Fund for the repair or reconstruction of federal-aid highways and roads on federal lands which have suffered serious damage as a result of natural disasters or catastrophic failures from an external cause. This program, commonly referred to as the emergency relief (ER) program, supplements the commitment of resources by states, their political subdivisions, or other federal agencies to help pay for unusually heavy expenses resulting from extraordinary conditions.

The applicability of the ER program to a natural disaster is based on the extent and intensity of the disaster. Damage to highways must be severe, occur over a wide area, and result in unusually high expenses to the highway agency. Applicability of ER to a catastrophic failure due to an external cause is based on the criteria that the failure was not the result of an inherent flaw in the facility but was sudden and caused a disastrous impact on transportation services.

For the purposes of 23 U.S.C 125, the federal-aid highways in the territories are those on the approved THS, which include the major roads on USVI. In accordance with Subsection 125(f), for purposes of the emergency relief program, the territories are considered as states. Under the provisions of Section 125(d), the annual obligation limitation for ER funding in the territories as a group is \$20 million.





For the purpose of expense planning in the CTMP, the only ER revenues programmed are funds previously authorized for projects corresponding to the November 2003 heavy rains disaster.

## 7.2 Short-Term Funding Availability (TTIP)

The TTIP is a subset of the longer-range CTMP. All of the projects included in the four-year TTIP are included as the highest priority in the CTMP. The funds that are available in the TTIP are also included in the CTMP. Details of the first four year's worth of revenue are shown in the 2014-2017 Territorial Transportation Improvement Plan included in Appendix B. USVI's federal funds are currently being prioritized and are programmed to address needs of the local community that have not been addressed over many years, such as collapsing bridges, flooding roads with poor drainage, poor lane visibility, high accident locations, potential landslides, eroding embankments, shoreline protection, traffic signal installations and other immediate needs.

## 7.3 Future Revenue Projections

It is estimated that at a minimum, there will be approximately 18 million per year in transportation-related revenue available to USVI over the life of the USVI (2014-2040). These funds will come from the annual allocation from the Territorial Highway Program (THP). Additional funds will come from a variety of sources including:

- Annual Federal Transit Administration (FTA) allocations
- Federal earmarks
- Transit operating appropriations authorized by USVI legislature

The funding sources identified above are those that have either been historically available to the Government of USVI or are those that are reasonably expected to be available to USVI in the immediate future. As discussed above, the funds shown in the four-year TTIP are included in the revenue forecast in the CTMP.

Historically, funding for transportation improvements has been provided mainly by FHWA and FTA. However, there are a variety of other funding/financing options that USVI is exploring. These additional options can provide a vehicle for other contributing parties to help pay for the impacts on the transportation system. For example, new residential, commercial, and industrial developments impact the roadways and should have a role in the related transportation improvements required as a result of the developments.

## 7.4 Innovative Financing

The Government of USVI does not have the financial resources to support major infrastructure investments. USVI's funding resources are already over-extended, and the current level of U.S. federal support is fully committed to meeting the transportation needs of the existing population.

For USVI to attract external or private financing and capital to its projects, it would first need to identify a cash flow stream that could be pledged for repayment or equity return. Often, user fees are enacted to provide this cash and can take the form of direct payments, like tolls, or indirect fees, such as taxes or special assessments. The challenge in any such mechanism is to charge those who benefit from the improvement while not penalizing those who do not. A variety of bond market mechanisms can be used to reduce the overall cost of any borrowing, provided credit support is in place.



The USDOT has several programs in place to assist public sponsors in financing and funding large programs. Details of two of these programs are provided below.

#### 7.4.1 Grant Anticipation Revenue Vehicles (GARVEE)

A GARVEE is a debt financing instrument (bond, note certificate, lease, etc.) that enables funding of transportation projects based on anticipated receipt of future federal revenues. GARVEEs permit states and territories to pay debt service with future federal highway funds and may be used for any project eligible for assistance under Title 23. There are two forms of GARVEE bonds: direct and indirect GARVEEs. Additional information on these types of GARVEEs is provided below.

**Direct GARVEE Bonds** are issued for a specific project or set of projects and are eligible for federal reimbursement for the principal, interest, issuance costs, credit enhancement fees, and other costs incidental to financing the bonds. Direct GARVEE Bonds require a project payment agreement between FHWA and the state or territory's department of transportation, which authorizes federal reimbursement to the state or territory for annual debt service over a number of years. The share of federal reimbursement is dependent on the overall local/territorial funding contribution from either the debt service payments or other funding sources to ensure that the appropriate total federal/territorial pro-rata is achieved for the project.

**Indirect GARVEE Bonds** are not attributed to a particular project or set of projects; rather, they are backed by anticipated federal-aid highway construction reimbursements for other transportation projects. Indirect GARVEEs give the USVI flexibility to apply the construction reimbursements for one or more FHWA-approved projects to the debt service of other projects that were constructed without federal approval. This is possible because once a federal-aid highway project is constructed, the federal reimbursement the territory receives for project expenditures is considered territory funding and as such is free from federal requirements. However, unlike Direct GARVEE Bonds, Indirect GARVEE Bonds cannot be used to reimburse interest, issuance costs, credit enhancement fees, or others financing-related costs.

Candidates for GARVEE financing are typically large projects or programs that have the following characteristics:

- They are large enough to merit pay-as-you-go grant funding, with the costs of delay outweighing the costs of financing.
- They do not have access to a revenue stream (such as taxes or tolls) and other forms of repayment (such as state or territory appropriations) are not feasible.
- The sponsors of the projects are willing to reserve a portion of future federal-aid highway funds to satisfy debt service requirements.
- The steps in the GARVEE process are as follows:
  - Territory seeks approval of GARVEE project as an advance construction project(s). This designation ensures that the project will follow Federal-aid procedures and preserves the eligibility of the project to be reimbursed with future Federal-aid funds.
  - Territory makes election to receive reimbursements for construction or debt service.
  - FHWA approves project as debt-financed project and executes project agreement(s).
  - Territory issues bonds and uses proceeds for construction.
  - Territory requests conversion of advance construction (AC) project(s) to federal-aid project(s) for semi-annual/annual debt service payments.





- FHWA obligates federal funds for requested debt service payment.
- Territory claims reimbursement for federal share of bond debt service and funds are paid to state account.
- Territory uses federal-aid reimbursement for debt service on bonds.

GARVEE projects must appear on the TTIP. This includes debt service payments to be made from federal-aid reimbursement. Approval of the project to be debt-financed is required from the FHWA Division Office. Approved projects then seek reimbursement for debt service rather than reimbursement of construction costs (there are exceptions where a project can receive a combination of the two—FHWA approval is required). Projects funded with the proceeds of GARVEE debt instruments are administered in the same manner and are subject to the same requirements as other Title 23 projects.

## 7.4.2 Grant Anticipation Notes

Grant Anticipation Notes (GANs) are similar in concept to GARVEEs. GANs, however, are specifically used for transit projects and are backed by pledges of future FTA formula or discretionary funds.

## 7.4.3 Transportation Infrastructure Finance and Innovation Act

Created in 1998 under Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21), the Transportation Infrastructure Finance and Innovation Act (TIFIA) is a credit assistance program administered by USDOT. TIFIA provides federal credit assistance in the form of direct loans, loan guarantees, and standby lines of credit to finance surface transportation projects of national and regional significance. It provides improved access to capital markets, flexible repayment terms, and potentially more favorable interest rates than can be found in private capital markets for similar instruments.

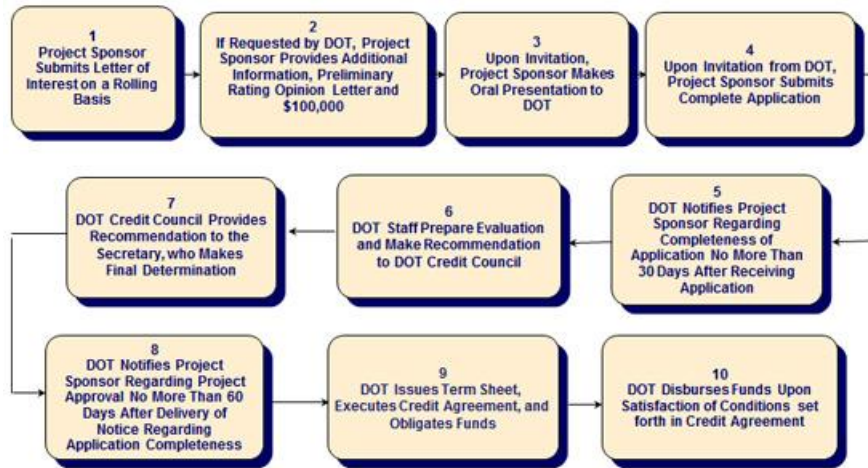
Projects must be eligible for federal assistance through existing surface transportation programs and are subject to the applicable federal requirements under U.S.C. Title 23 and Chapter 53 of Title 49 of the U.S. Code, NEPA, Buy America, and the Civil Rights and Uniform Relocation Acts. TIFIA projects must have a capital cost of at least \$50 million, a capital cost of \$15 million for an intelligent transportation system project, or capital cost equal to 1/3 of the most recently-completed fiscal year's formula apportionments for the State in which the project is located. TIFIA projects must pledge repayment in whole or in part with dedicated revenue sources such as tolls, user fees, special assessments, sales tax revenues, or other non-Federal sources. Senior debt must be rated investment grade by two rating agencies, unless the project cost is less than \$75 million. U.S. DOT administers TIFIA credit through a competitive application process.

As noted previously, TIFIA offers three forms of credit assistance: secured (direct) loans, loan guarantees, and standby lines of credit. Direct loans reimburse a project sponsor's expenditures for eligible project costs, including right-of-way acquisition, design, construction, and financing costs. Loan guarantees and lines of credit provide sources of capital should project revenues fall short of amounts needed to repay commercial project investors. TIFIA credit instruments can offer project sponsors an excellent way to boost debt service coverage and enhance senior project obligations at an affordable cost, giving projects similar borrowing rates to tax-exempt bonds and fewer restrictions on private participation than tax-exempt bonds. TIFIA allows for debt repayment terms extended over a period of up to 35 years for no more than 33 percent of a project's capital cost for standby lines of credit and up to 49 percent of capital costs for a loan.

MAP-21 enacted a seven-fold increase in the size of the TIFIA program, authorizing \$750 million in FY 2013 and \$1 billion in FY 2014. The process for approval of TIFIA assistance is depicted in Figure 7.1.



Figure 7.1 - TIFIA Process for Selection and Funding of a TIFIA Project



Source: FHWA Innovative Program Delivery, TIFIA Technical Resources  
[http://www.fhwa.dot.gov/ipd/tifia/technical\\_resources/background.htm](http://www.fhwa.dot.gov/ipd/tifia/technical_resources/background.htm)



## 8.0 Transportation Needs Assessment

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In the absence of an established and adopted future land use plan, an alternate approach was used for the identification of the future transportation needs in the CTMP. In lieu of identifying roadway and transit needs from estimated projections from the travel demand model, transportation needs were developed using a two-tier process which included both input from the public as well as projected growth in the Territory. The process and results are summarized in the following sections.

### 8.1 Preliminary Transportation Needs Identification

An extensive list of projects was developed in this first tier of analysis based on input from the public. For each island, Community Advisory Group (CAG) was created based on the established Public Outreach Plan included in Appendix C. This group included up to 10 members representing a cross section of the community and met on various occasions on each island (July 2009, October 2009, December 2009, March 2013, and May 2013) to work hand in hand with the department to identify goals and objectives, transportation issues, and potential solutions.

In the October 2009 CAG meetings, participants were asked to identify: congested areas, high crash locations, inter-island issues, access issues, missing roadway connections, transit service issues, and parking needs. This process resulted in an extensive list of projects.

In December 2009, the CAG members were asked to perform a preliminary evaluate the projects identified against the island wide goals of:

- Economic development
- Safety and Security
- Operation and Maintenance
- Environmental Sustainability and Land Use
- Manage Congestion
- Provide an integrated Transportation System

Project evaluation was based on number of points assigned to each project based on their impact on each of the planning factors identified. The points were assigned based on relative scale and score assigned to the scale as shown on Table 8.1. This evaluation process results in all modes of transportation being rated equally and the priority of the projects reflecting the priority assigned to the various planning factors.

In addition to the CAG, local agencies were also highly involved in the identification of transportation needs and projects. Members of the Executive Committee and the Technical Advisory Committee, which included staff from numerous public agencies on the islands also had opportunities to review, provide comments, and make recommendations on elements of the plan.



Table 8-1 – Preliminary Evaluation Criteria

Evaluation Criteria	Scale	Score
Project has very negative impact relative to the specified evaluation criteria	1	-2
Project has negative impact relative to the specified evaluation criteria	2	-1
Project is neutral relative to the specified evaluation criteria	3	0
Project has positive impact relative to the specified evaluation criteria	4	1
Project has very positive impact relative to the specified evaluation criteria.	5	2

This preliminary transportation needs identification process was applied to the projects identified and the results summarized in Tables 8.2, 8.3, and 8.4 for St. John, St. Thomas, and St. Croix.

Table 8-2 – Preliminary Transportation Needs Identification – St. John

St. John CAG Prioritized Projects	Type	Economic Development	Safety and Security	Operation and Maintenance	Environmental Sustainability and Land Use	Manage Congestion to Optimize Mobility and Accessibility	Provide an Integrated Transportation Network	Total Points
Improve Centerline Road (Route 10): install sidewalks, guardrails, shoulders, drainage, repair crumbling cliffs, 97 blind corners between Coral Bay and Cruz Bay, widen road from Cruz Bay to North Shore Road (Route 20)	Operations Maintenance and System Preservation	9	10	9	6	6	5	45
Complete paving of King's Hill Road (Route 20) east of Centerline Road (Route 10)	Operations Maintenance and System Preservation	9	9	6	7	6	7	44
Post and print ferry & bus schedules; provide real time information	Transit Project	9	7	7	6	6	7	42



Table 8.2 (Continued) - Preliminary Transportation Needs Identification – St. John

St. John CAG Prioritized Projects	Type	Economic Development	Safety and Security	Operation and Maintenance	Environmental Sustainability and Land Use	Manage Congestion to Optimize Mobility and Accessibility	Provide an Integrated Transportation Network	Total Points
Install Park & Ride lot at Myrah Keating Clinic on Centerline Road (Route 10) at Giff Hill Road (Route 204)	Transit Project	8	7	4	6	7	7	39
Move people ferry dock to Creek Area or Enighed Pond (Large Pond)	Congestion Management/ Relief	7	8	6	7	6	4	38
Extend times of operations of VITRAN buses and frequency of service	Transit Project	7	7	6	6	6	6	38
Build South Shore Road connecting Reef Bay Road to Cocoloba Point	New Roadway Facilities	9	7	5	5	5	7	38
All new roads should have sidewalks and stormwater facilities	Islandwide Projects	8	9	7	5	5	4	38
Install guardrails along East End Road (Route 10) from Route 107 and Route 108 to Hansen Bay	Safety and Operational Improvements	7	10	7	4	4	5	37
Install guardrails along East End Road (Route 10) from Route 107 and Route 108 to Hansen Bay	Safety and Operational Improvements	7	10	7	4	4	5	37
Install guardrails along East End Road (Route 10) from Route 107 and Route 108 to Hansen Bay	Safety and Operational Improvements	7	10	7	4	4	5	37
Coordinate ferry schedule with VITRAN bus schedule	Islandwide Projects	6	4	4	8	6	8	36
Install sidewalks along Route 107 in Coral Bay and Johnson Bay	Pedestrian and Bicycle Projects	7	8	4	5	6	6	36
New parking lot at car barge at Enighed Pond	Congestion Management/ Relief	5	3	5	8	9	5	35
Build a large parking garage at DMV	Congestion Management/ Relief	6	7	5	5	7	5	35





Table 8.2 (Continued) - Preliminary Transportation Needs Identification – St. John

St. John CAG Prioritized Projects	Type	Economic Development	Safety and Security	Operation and Maintenance	Environmental Sustainability and Land Use	Manage Congestion to Optimize Mobility and Accessibility	Provide an Integrated Transportation Network	Total Points
Pave John Head Road (Route 206) to provide north-south connection between North Shore Road (Route 20) and Centerline Road (Route 10)	Operations Maintenance and System Preservation	5	7	7	5	5	5	34
Provide bus shelters at three locations on Centerline Road (Route 10) at John Head Road (Route 206), west of Reef Bay Trail, and east of Kings Hill Road on North Shore Drive (Route 20)	Transit Project	6	7	6	4	4	7	34
Build bus shelters at both ends of King's Hill Road (Route 20) at Centerline Road (Route 10) and at Route 107	Transit Project	6	7	5	5	5	6	34
Connect Route 107 to Route 108	New Roadway Facilities	9	6	3	4	7	5	34
Install guardrails along Bordeaux Mountain Road (Route 108)	Safety and Operational Improvements	6	8	6	4	4	5	33
Pave Route 204 to provide north-south connection between North Shore Road (Route 20) and Centerline Road (Route 10)	Operations Maintenance and System Preservation	5	7	5	5	5	5	32
Provide bus service and bus shelter on Giff Hill Road, south of Southside Road and bus service along South Shore Road (Route 104) this is combining 11, 15 and 20)	Transit Project	6	5	4	4	6	5	30
Provide rest areas with public bathrooms on Centerline Road (Route 10), North Shore Road (Route 20), Bordeaux Mountain Road (Route 108), and Route 107.	Islandwide Projects	8	6	3	4	5		30
Develop affordable interisland travel	Islandwide Projects	5	4	3	5	6	5	28



Table 8.2 (Continued) - Preliminary Transportation Needs Identification – St. John

St. John CAG Prioritized Projects	Type	Economic Development	Safety and Security	Operation and Maintenance	Environmental Sustainability and Land Use	Manage Congestion to Optimize Mobility and Accessibility	Provide an Integrated Transportation Network	Total Points
Close off road next to connections (to Cruz Bay Ferry Terminal)	Congestion Management/ Relief	4	4	3	4	6	3	24
Develop Truck Rules/ Heavy Equipment: regulate size, noise, time of day, and exhaust of truck traffic in residential areas, escort vehicles enforcement, designate Truck routes.	Islandwide Projects	6	6	4	3	3	1	23
Pave Johnny Horn Trail	New Roadway Facilities	6	4	4	4	2	2	22
Seaplane service to St John	Islandwide Projects	4	1	1	0	7	7	20
Build Park & Ride lot by Centerline Road (Route 10) and King Hill Road (Route 20)	New Roadway Facilities	5	3	2	3	4	3	20
Better coordinate access by car /rental car companies for the people ferries	Congestion Management/ Relief	6	4	0	2	2	5	19
Extend Route 109 to Annaberg	New Roadway Facilities	3	5	1	0	4	1	14
Finish paving Bordeaux Mountain Road (Route 108) from Centerline Road (Route 10) to Route 107	Transit Project	2	3	0	0	0	0	5
Add shuttle service to Red Hook Ferry Dock on the hour	Transit Projects	14	14	13	14	13	13	81
Improve intersection/expand road at intersection of Smith Bay Road (Route 38) and Route 32 (Fort Milner Intersection)	Safety and Operational Improvement	12	14	11	10	14	12	73
Designate truck routes (do feasibility study)	Islandwide Projects	7	12	12	12	10	8	61
Provide alternate east-west road in West End	New Roadway Facilities	9	13	2	8	14	13	59



Table 8-3 – Preliminary Transportation Needs Identification – St. Thomas

St. Thomas CAG Prioritized Projects	Type	Economic Development	Safety and Security	Operation and Maintenance	Environmental Sustainability and Land Use	Manage Congestion to Optimize Mobility and Accessibility	Provide an Integrated Transportation Network	Total Points
Improve switchback at Crown Mountain Road (Route 33) at Route 338 and Scott Free Road	Safety and Operational Improvement	5	13	13	4	12	10	57
Improve Agnes Fancy / Fireburn Road (Catherineburg Road) - Northwest of Charlotte Amalie at end of Mannassah Hill Road	Congestion Management/ Relief	6	12	8	6	12	10	54
Re-construct sidewalks in downtown Charlotte Amalie	Pedestrian and Bicycle Projects	10	9	8	6	10	9	52
Study feasibility of providing Park and Ride lots at multiple locations	Transit Projects	10	8	2	8	8	8	44
Provide sidewalks and bus shelters on Hull Bay Road/Skyline Drive (Route 40)	Pedestrian and Bicycle Projects	5	10	4	6	9	8	42
Re-construct sidewalks in downtown Charlotte Amalie	Pedestrian and Bicycle Projects	10	9	8	6	10	9	52
Study feasibility of providing Park and Ride lots at multiple locations	Transit Projects	10	8	2	8	8	8	44
Provide sidewalks and bus shelters on Hull Bay Road/Skyline Drive (Route 40)	Pedestrian and Bicycle Projects	5	10	4	6	9	8	42
Study Territory wide Water Taxi system	Congestion Management/ Relief	11	8	2	4	7	7	39
Widen and build turning lane on Airport Road (Route 32)	Congestion Management/ Relief	5	9	3	4	8	8	37
Build Parking lot/garage at end of Red Hook Road	Congestion Management/ Relief	8	7	3	3	7	7	35
Install sidewalks: Red Hook, Bovoni, Tutu intersection to Nadir, Nadir intersection to Red Hook, Smith Bay to Tutu with curb cuts.	Pedestrian and Bicycle Projects	5	6	5	6	6	6	34



Table 8-3 (Continued) - Preliminary Transportation Needs Identification – St. Thomas

St. Thomas CAG Prioritized Projects	Type	Economic Development	Safety and Security	Operation and Maintenance	Environmental Sustainability and Land Use	Manage Congestion to Optimize Mobility and Accessibility	Provide an Integrated Transportation Network	Total Points
Provide Transit Route (Lovenlund Route) along Mahogany Run Road from Tutu Park Mall	Transit Projects	9	7	3	2	6	4	31
Provide sidewalks and bus shelters on Crown Mountain Road (Route 33) from Veterans Drive/Morovian Highway (Route 30)	Pedestrian and Bicycle Projects	3	10	4	2	5	6	30
Provide new road--North/South--connecting Smith Bay Road (Route 38) to Bovoni Road (Route 30). Alternate to Bovoni Road and Turpentine Run Road/Mariendahl Road (Route 32)	New Roadway Facilities	1	8	0	5	8	6	28
Provide a bus route to Patriot Manor	Transit Projects	4	7	-1	3	6	7	26
Provide bus pull-off near Pueblo Supermarket on Subbase Road (Route 304)	Transit Projects	0	10	3	3	5	4	25
Study circulation of Mannassah Hill Road into Savan is too narrow (One Way)	Safety and Operational Improvement	-2	7	2	1	4	4	16
Study provision of express Bus service from: Red Hook Ferry Dock to Downtown Charlotte Amalie, Red Hook to Tutu Park Mall, Nadir going west to Bovoni, Havensight to Downtown Charlotte Amalie	Transit Projects	2	2	2	2	2	2	12
Provide sidewalks near hospital and shopping center on Alton Adams Road (Route 38) and Centerline Road/Wilma Blyden Road (Route 313) from Lovers Lane to Long Bay Road	Pedestrian and Bicycle Projects	2	2	1	2	1	2	10



Table 8-3 (Continued) - Preliminary Transportation Needs Identification – St. Thomas

St. Thomas CAG Prioritized Projects	Type	Economic Development	Safety and Security	Operation and Maintenance	Environmental Sustainability and Land Use	Manage Congestion to Optimize Mobility and Accessibility	Provide an Integrated Transportation Network	Total Points
Build multi-level parking garage in Charlotte Amalie	Congestion Management/Relief	3	-1	-3	0	6	3	8
Install sidewalk on Subbase Road (Route 304) from Crown Bay Marina to Pueblo Supermarket with curb cuts	Pedestrian and Bicycle Projects	-1	4	1	1	0	2	7

Table 8-4 – Preliminary Transportation Needs Identification – St. Croix

St. Croix CAG Prioritized Projects	Type	Economic Development	Safety and Security	Operation and Maintenance	Environmental Sustainability and Land Use	Manage Congestion to Optimize Mobility and Accessibility	Provide an Integrated Transportation Network	Total Points
Improve roads in Sunny Isle area (Route 79/Route 70/Route 66) (Island Center Road to Sunny Isle Intersection)	Congestion Management/Relief	3	14	13	4	13	9	56
Improve Hess Road (Route 681) from Centerline Road (Route 70) to Route 68/Route 681 (Sunny Isle Intersection)	Congestion Management/Relief	4	14	12	4	14	7	55
Improve Northside Road (Route 75) from Queen Mary Highway (Route 70) and King Street	Congestion Management/Relief	6	12	11	6	9	9	53
Improve Queen Mary Highway/Centerline Road (Route 66/70)	Congestion Management/Relief	5	12	12	2	12	9	52





Table 8.4 (Continued) – Preliminary Transportation Needs Identification – St. Croix

St. Thomas CAG Prioritized Projects	Type	Economic Development	Safety and Security	Operation and Maintenance	Environmental Sustainability and Land Use	Manage Congestion to Optimize Mobility and Accessibility	Provide an Integrated Transportation Network	Total Points
Study signal warrant to relieve congestion by Agricultural and Highway/Public Safety (Queen Mary Highway (Route 70) between Route 705 and Route 665) and traffic detection systems	Congestion Management/ Relief	6	12	11	4	12	7	52
Improve intersection at Route 75 and Route 70 (La Reine intersection)	Safety and Operational Improvements	8	13	12	2	11	6	52
Improve intersection at Clifton Hill Connector (Queen Mary Highway and Route 75)	Safety and Operational Improvements	2	14	12	5	10	7	50
Improve scenic roads, look out points/ equestrian trail/ bike trail	Islandwide Projects	8	13	8	8	6	6	49
Improve Five Corners Intersection (Northside Road area)	Safety and Operational Improvements	4	11	10	1	12	11	49
Improve Route 663 from Centerline Road (Route 70) to Zenon Street (Route 66) (Central High to Vialco Intersection)	Congestion Management/ Relief	3	9	8	5	11	9	45
Install bike path along Southside Road (Route 62) from Route 70 to Green Cay National Wildlife Refuge	Pedestrian and Bicycle Projects	4	10	11	10	3	3	41
Improve safety of Mahogany Road (Route 76) and install erosion control east of Jolly Hill	Safety and Operational Improvements	8	14	8	7	0	4	41
Improve Melvin Evans Highway (Route 66/Route 705)	Congestion Management/ Relief	8	8	10	2	7	4	39
Install North Shore Scenic Road (Route 78) and bike path from Canaan Ridge Road (Route 69) to Hams Bay/Route 63	New Roadway Facilities	6	10	9	7	4	3	39
Connector road under design, Container Port Intersection (Route 75)	New Roadway Facilities	5	7	5	5	10	6	38





Table 8.4 (Continued) – Preliminary Transportation Needs Identification – St. Croix

St. Thomas CAG Prioritized Projects	Type	Economic Development	Safety and Security	Operation and Maintenance	Environmental Sustainability and Land Use	Manage Congestion to Optimize Mobility and Accessibility	Provide an Integrated Transportation Network	Total Points
Implement AARP Sidewalk study	Pedestrian and Bicycle Projects	6	11	6	3	7	5	38
Repare Midland Road (Route 72) from River Road (Route 69) to Northside Road (Route 75)	Operations Maintenance and System Preservation	4	10	8	2	3	4	31
Study potential bypass of historic bridge- Route 72 by Route 669 and River Road (Route 69)	New Roadway Facilities	4	4	9	0	0	3	20
Install bike path along Queen Mary Highway (close to Route 75)	Pedestrian and Bicycle Projects	3	5	3	2	0	3	16

Source: CAG meetings, October and December 2009

In addition to the projects identified by the members of the CAG, the following projects have been identified by the Department of Public Works:

- Operation and Maintenance Project:
  - Christiansted Roadway resurfacing and sidewalks
- Safety and Operational Improvements:
  - Route 709 extension
  - Route 85 Improvements
  - Route 70 and Route 703 Roundabout
  - Intersection improvements at Route 66 and Route 68
  - Route 792

## 8.2 Recommended Transportation Needs Identification

Using the projects a second screening process was performed to identify recommended projects and establish a timeframe for implementation. The projects identified by the CAG and DPW staff were further evaluated based on existing congested locations based on traffic count data as well as estimated projected growth. The projects were then grouped based on the following criteria:

**Current Projects** - Projects out to bid, completed, or under design would take place between now and year 3.

**Near-Term Projects** - Locally and federally funded projects included in the Territorial Transportation Improvement Plan would take place between now and year 5.





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**Short-Term Projects** - Projects not included in the above categories and located within high growth areas (400 people per square miles or greater) would take place between year 5 and year 10.

**Long-Term Projects** - Other identified projects not included in any of the above categories would take place beyond year 10.

The final list of project as grouped based on the above criteria is included in Appendix D. The estimated cost associated with each project has also been identified, resulting in a total estimated cost of approximately \$160 million beyond the current funds identified in the 2013-2017, with \$65 million identified in the Short-Term project category. The estimated costs were based on a per mile cost from most recent bids received by Department of Public Works. The costs were developed for planning purposes only and will need to be re-evaluated once the scope of the project is better defined and construction plans are developed.

Maps illustrating the projects are also included in Appendix D. The project list and maps will be useful tool for development of the Territorywide Transportation Improvement Plan.



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## 9.0 Performance Measures

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The development of a performance measurement monitoring program will assist an agency's ability to undertake a regular assessment of organizational and system performance. In terms of long range strategic planning, this type of program facilitates an assessment of progress based upon the evaluation of goal and objective achievement. Once a baseline evaluation is established from the compilation of specific data and other information indicators, additional work can be done to further develop and refine specific performance targets. Furthermore, regular performance evaluation assessments will identify organization and system performance gaps that will enable an agency to assemble and deploy the necessary strategies and resources for performance improvement.

The implementation of a performance measure monitoring program is further promoted by the Federal government as embodied by the National Performance Review which defines performance measurement as:

"A process of assessing progress toward achieving predetermined goals, including information on the efficiency with which resources are transformed into goods and services (outputs), the quality of those outputs (how well they are delivered to clients and the extent to which clients are satisfied) and outcomes (the results of a program activity compared to its intended purpose), and the effectiveness of government operations in terms of their specific contributions to program objectives."

Therefore policies, strategies, and performance measures were identified for each of the goals and objectives according to the seven topics described in the previous section. Table 9-1 presents the performance measures identified for each of the goals and objectives and the recommended measures to be put in place to address those needs for assessment of performance.

Table 9-1 shows the performance measures identified for each of the goals and objectives and the recommended measures to be put in place to address those needs. DPW has been pro-active in developing the platform on which most of the performance measures will be developed and evaluated by creating a database of most of the elements of the transportation network.



Table 9-1 - Performance Measures

Goal 1 – Economic Development		Provide an integrated transportation system that supports and grow the economy of the US Virgin Islands.						
Objectives		Policies	Performance Measures	Base Data Available	Info Collected Now	Level of Effort Required		
						Minimal	Moderate	Major
1.1	Move residents efficiently to and from ports, airports, docks, and major employment hubs.	Provide smooth transfer and transportation of passengers through coordinated service.	Post VITRAN route schedule and set service frequency not to exceed 30 minutes at ports, airports, docks.	Yes	No	X		
1.2	Move freight efficiently between ports, airports, and docks.	<ul style="list-style-type: none"> <li>Proactively work with agencies and other stakeholders to determine freight transport needs and develop measures to support those needs.</li> <li>Develop a freight route map and implement a traffic count program to identify freight activity.</li> <li>Maintain identified freight routes in state of good repair.</li> </ul>	<ul style="list-style-type: none"> <li>Signage provided on freight routes.</li> <li>Annual traffic count program developed and implemented.</li> <li>5% of transportation dollars spent to maintain and improve identified freight routes.</li> </ul>	No	No			X
1.3	Support economic development in specific geographic areas.	<ul style="list-style-type: none"> <li>Work with agencies and other stakeholders to identify specific areas in need of economic revitalization or development.</li> <li>Provide access to redevelopment and infill areas, central business districts, and designated activity centers.</li> </ul>	<ul style="list-style-type: none"> <li>10% of development in designated areas.</li> <li>5% of transportation dollars allocated to improvements in designated areas.</li> <li>Adopt plans for redevelopment areas and enterprise zones.</li> </ul>	Yes	Yes	X		







Table 9.1 (Continued) - Performance Measures

Goal 2 – Safety and Security		Improve the safety and security on all transportation modes in the Territory through education, enforcement and engineering solutions.						
Objectives		Policies	Performance Measures	Base Data Available	Info Collected Now	Level of Effort Required		
						Minimal	Moderate	Major
2.1	Reduce overall crash rate on USVI roadways.	<ul style="list-style-type: none"> <li>• Improve/develop crash reporting system and data analysis on all of the roadways in the Territory to store crash data and analyze trends by location, type, and frequency.</li> <li>• Integrate safety considerations in all transportation planning documents.</li> </ul>	<ul style="list-style-type: none"> <li>• 5% reduction in number and rate of crashes per 100 thousand of vehicle miles traveled and per miles of roadways.</li> <li>• Annual analysis of crash data.</li> </ul>	No	On St. Croix starting 2007.		X	
2.2	Reduce overall fatality rate and number of injuries for automobiles, mass transit, bicycles, and pedestrians.	<ul style="list-style-type: none"> <li>• Improve/develop reporting system and data analysis on all of the roadways in the Territory to store transportation related fatality and injury data and analyze trends by location, type, and frequency.</li> <li>• Provide driver education training for new drivers and senior citizens.</li> </ul>	<ul style="list-style-type: none"> <li>• 5% reduction in number and rate of fatalities and injuries:               <ul style="list-style-type: none"> <li>○ per 100 thousand of vehicle miles traveled and per miles of roadways.</li> <li>○ involving pedestrians and bicyclists.</li> <li>○ involving transit vehicles and heavy vehicles (trucks).</li> <li>○ 20% residents graduates of driver education training.</li> </ul> </li> </ul>	Yes	No		X	



Table 9.1 (Continued) - Performance Measures

Goal 2 – Safety and Security		Improve the safety and security on all transportation modes in the Territory through education, enforcement and engineering solutions.						
Objectives	Policies	Performance Measures	Base Data Available	Info Collected Now	Level of Effort Required			
					Minimal	Moderate	Major	
2.3	Reduce emergency response time.	Improve operating characteristics and design of the transportation system to accommodate emergency vehicles.	<ul style="list-style-type: none"> <li>10% reduction in response time.</li> <li>Average emergency response time under 10 minutes.</li> </ul>	No	No			X
2.4	Ensure safe transport of elementary and secondary school students regardless of the chosen mode of transportation.	Develop and implement a Safe Route to School program.	<ul style="list-style-type: none"> <li>Number of miles of designated Safe Route to Schools.</li> <li>Dollars invested in and number of projects funded for Safe Route to School.</li> </ul>	No	No			X
2.5	Ensure safe transport of passengers and goods.	Develop, adopt, and implement enforcement and education programs on safety laws, speed, seatbelts and bicycle/pedestrians for the general public and transit and truck drivers.	<ul style="list-style-type: none"> <li>Education material developed.</li> <li>Number of transit and truck drivers trained over number of trucks and transit vehicles.</li> </ul>	No	No			X
2.6	Ensure safe transport during emergency evacuation to shelters.	<ul style="list-style-type: none"> <li>Develop, adopt, and implement an emergency response plan for the Territory, with special consideration for special needs population.</li> <li>Provide uncongested roads to hospitals.</li> </ul>	<ul style="list-style-type: none"> <li>Average evacuation time under four hours</li> <li>Signage provided on evacuation route designations.</li> <li>Number of personnel trained to participate on Community Emergency Response Teams.</li> </ul>	Yes		X		





Table 9.1 (Continued) - Performance Measures

Goal 2 – Safety and Security		Improve the safety and security on all transportation modes in the Territory through education, enforcement and engineering solutions.						
Objectives	Policies	Performance Measures	Base Data Available	Info Collected Now	Level of Effort Required			
					Minimal	Moderate	Major	
2.7	Ensure security of transportation facilities and services.	<ul style="list-style-type: none"> <li>Coordinate with Homeland Security to adopt standards and policies to ensure safety of transportation facilities.</li> <li>Incorporate security standards into the planning, design, and operation of transportation facilities and services.</li> </ul>	<ul style="list-style-type: none"> <li>Develop and adopt Transportation Facilities Security Plan in coordination with Bureau of Homeland Security and transportation facilities stakeholders (freight, cruise ship/ferry operators).</li> <li>Annual review of Plan.</li> </ul>	No	No			X
2.8	Ensure security on critical network links.	Facilitate development of projects that enhance the security of critical network links.	<ul style="list-style-type: none"> <li>Develop critical network link map.</li> <li>5% of transportation dollars spent on projects on critical network links.</li> </ul>	No	No	X		



Table 9.1 (Continued) - Performance Measures

Goal 3 – Operation and Maintenance		Improve management, operations and maintenance activities for existing transportation facilities						
Objectives	Policies	Performance Measures	Base Data Available	Info Collected Now	Level of Effort Required			
					Minimal	Moderate	Major	
3.1	Bring the existing infrastructure and facilities into a state of good repair.	<ul style="list-style-type: none"> <li>Develop management system to inventory existing system.</li> <li>Develop program for inspecting and reporting conditions on existing transportation infrastructure.</li> <li>Develop standards and schedules for maintenance of transportation facilities, services and equipment.</li> </ul>	<ul style="list-style-type: none"> <li>Annual inspection and reporting system.</li> <li>Development of Maintenance standards and schedule.</li> <li>30% of roadway miles in good, fair, and poor conditions (IRI).</li> <li>Average roadway roughness index of 2.5.</li> <li>Average age of transit vehicles does not exceed 15 years.</li> <li>Average distance driven by transit vehicles between breakdowns.</li> <li>10% of transportation dollars spent on maintenance activities.</li> </ul>	No	No		X	
3.2	Integrate operations and maintenance activities into the planning and programming process.	Identify operations and maintenance activities and allocate funds as part of planning and programming.	5% of transportation dollars allocated to operations and maintenance.	No	No			X
3.3	Improve reliability and efficiency of the transportation system.	Identify and implement the best available technologies to improve reliability and efficiency of the transportation system.	Annual review of technology applicable to USVI.	No	No			X





Table 9.1 (Continued) - Performance Measures

Goal 4 – Environmental Sustainability and Land Use		Ensure the transportation system supports the community development and preserves the Territory’s natural, historic, and cultural resources.						
Objectives	Policies	Performance Measures	Base Data Available	Info Collected Now	Level of Effort Required			
					Minimal	Moderate	Major	
4.1	Enhance community livability and visual quality.	<ul style="list-style-type: none"> <li>Develop and adopt land development plan that require integration of pedestrian and bicycle facilities as part of development and redevelopment.</li> <li>Manage stormwater runoff and erosion through best management practices including use of vegetation for infiltration.</li> <li>Reduce impervious surfaces where possible.</li> <li>Build projects that support pedestrians, bicycles, and transit as modes of transportation.</li> </ul>	<ul style="list-style-type: none"> <li>5% of transportation dollars spent on stormwater management and erosion control projects.</li> <li>1% of transportation project dedicated to landscaping.</li> <li>1% of transportation dollars spent on bicycle and pedestrian facilities, including crosswalks and pedestrian signals.</li> <li>Develop typical sections that include sidewalks for new construction in residential and commercial areas, and provide crosswalks and pedestrian signals at all signalized intersections.</li> </ul>	Yes	Yes	X		
4.2	Emphasize growth in existing or planned centers for development.	<ul style="list-style-type: none"> <li>Develop and adopt land development plan that manages urban sprawl.</li> <li>Locate new development in activity centers that can be served by transit, bikeways and sidewalks.</li> </ul>	<ul style="list-style-type: none"> <li>1% of transportation dollars allocated to transit, bikeways, and sidewalks in smart growth centers.</li> <li>30% of population within walking distance to transit.</li> </ul>	No	No			X







Table 9.1 (Continued) - Performance Measures

Goal 4 – Environmental Sustainability and Land Use		Ensure the transportation system supports the community development and preserves the Territory’s natural, historic, and cultural resources.						
Objectives	Policies	Performance Measures	Base Data Available	Info Collected Now	Level of Effort Required			
					Minimal	Moderate	Major	
4.3	Preserve natural, historic, and cultural resources.	<ul style="list-style-type: none"> <li>Develop and adopt land development plan and regulations that avoid or minimize potential adverse effects of transportation on the natural, historic, and cultural resources of the USVI.</li> <li>Work with National Parks Service, SHPO and DNPR to maintain an updated digital database of natural, historic, and cultural resources.</li> </ul>	<ul style="list-style-type: none"> <li>Adopted land development plan.</li> <li>Digital database of natural, historic, and cultural resources.</li> <li>50 miles of Scenic Byways and Historic Trails developed annually.</li> </ul>	Yes	Yes	X		
4.4	Conserve energy.	Reduce reliance on fossil fuel on the transportation system.	<ul style="list-style-type: none"> <li>5% of alternative fuel vehicles registered by category.</li> <li>15% of transit vehicles using alternative fuel.</li> </ul>	Yes	Yes	X		
4.5	Manage congestion and air pollution.	Maintain limits on the number of car rentals and taxi vehicles in the Territory.	<ul style="list-style-type: none"> <li>Annual count of rental vehicles and taxis not to exceed 10% of total vehicles.</li> <li>Number of public transit boardings not to be less than 6,000 per year.</li> </ul>	Yes	Yes	X		





Table 9.1 (Continued) - Performance Measures

Goal 5 – Manage Congestion to Optimize Mobility and Accessibility		Maximize mobility, accessibility and decrease congestion by strategically managing transportation facilities and services.						
Objectives	Policies	Performance Measures	Base Data Available	Info Collected Now	Level of Effort Required			
					Minimal	Moderate	Major	
5.1	Identify, monitor and improve traffic conditions in congested areas.	<ul style="list-style-type: none"> <li>Develop a Congestion Management System that employs a mode-neutral analytical framework.</li> <li>Develop a traffic count program to monitor changes in vehicular traffic on an annual basis.</li> <li>Use the travel demand forecast tool to monitor improvements in the efficiency of the transportation system.</li> </ul>	<ul style="list-style-type: none"> <li>CMS plan that incorporates Transportation Systems Management (TSM) and Transportation Demand Management (TDM) solutions that is consulted for all new projects.</li> <li>Annually updated traffic count program including schedule, location of count stations, identification of location for continuous counts.</li> <li>Annual vehicle miles and hours of travel.</li> <li>Average travel speeds.</li> <li>20% of workforce can get to work within 30 minutes.</li> </ul>	No	No			X
5.2	Limit dependence on single-occupant vehicles.	<ul style="list-style-type: none"> <li>Provide effective and economical transportation choices.</li> <li>Expand public transit service to additional geographic areas.</li> <li>Improve transit service reliability and travel times.</li> </ul>	<ul style="list-style-type: none"> <li>Transit service on-time performance to exceed 10% Average Transit travel time.</li> <li>30% residents within walking distance of transit stop.</li> <li>Develop car/van pool program to major employment centers.</li> </ul>	Yes	Yes	X		
5.3	Provide efficient access to existing and planned activity and employment centers.	Address deficiencies in access to existing activity and employment centers.	<ul style="list-style-type: none"> <li>1% of transportation dollars spent in existing activity and employment centers.</li> </ul>	Yes	Yes	X		





Table 9.1 (Continued) - Performance Measures

Goal 6 – Provide an integrated Transportation Network		Ensure access across all modes of transportation throughout the Territory and the world.						
	Objectives	Policies	Performance Measures	Base Data Available	Info Collected Now	Level of Effort Required		
						Minimal	Moderate	Major
6.1	Plan and develop each mode of transportation in coordination with other modes.	<ul style="list-style-type: none"> <li>Incorporate analysis of all applicable modes as part of the transportation planning and design process.</li> <li>Incorporate analysis of all applicable transportation into the development permit process.</li> </ul>	<ul style="list-style-type: none"> <li>Updated planning, zoning and subdivision ordinances.</li> <li>Updated development approval process.</li> </ul>	Yes	Yes		X	
6.2	Provide mode choice and access for persons with disabilities, low-income residents, non-English speaking citizens, students, and elderly populations.	<ul style="list-style-type: none"> <li>Increase/provide transit service to areas with persons with disabilities, low-income residents, non-English speaking citizens, students, and elderly populations.</li> <li>Provide transit shelters and pull-out bays near schools.</li> </ul>	<ul style="list-style-type: none"> <li>30% of transit service coverage (miles of service) in areas with high number of people with disabilities, low-income areas, and elderly population.</li> <li>30% of schools served by transit and have shelters.</li> </ul>	Yes	Yes	X		
6.3	Provide an integrated network of pedestrian and bicycle facilities.	<ul style="list-style-type: none"> <li>Identify and digitize existing pedestrian and bicycle facilities.</li> <li>Develop pedestrian and bicycle plan for the Territory.</li> </ul>	<ul style="list-style-type: none"> <li>Pedestrian and bicycle paths in electronic format.</li> <li>Bicycle and pedestrian plan.</li> <li>Miles of pedestrian and bicycle facilities.</li> </ul>	No	No		X	
6.4	Improve connections for freight and passenger movements within the USVI and to additional Caribbean and global destinations.	Address deficiencies in existing connections between transportation modes at port, airports, and ferry docks.	10% of transportation dollars spent improving connections at port, airports, and ferry docks.	Yes	Yes	X		





Table 9.1 (Continued) - Performance Measures

Goal 7 – Public Outreach and Coordination in Transportation Planning and Programming.		Improve coordination and cooperation among transportation professionals, users, and providers.						
Objectives	Policies	Performance Measures	Base Data Available	Info Collected Now	Level of Effort Required			
					Minimal	Moderate	Major	
7.1	Ensure that federal agencies, other departments, the community, and other stakeholders are involved in the planning, design and construction of transportation facilities.	Coordinate transportation activities among USVI and federal departments and community stakeholders.	Annual number of coordination meetings with federal and Territory agencies. Development of a USVI Public Involvement Guidebook for transportation projects.	Yes	Yes	X		
7.2	Provide underserved groups, populations and areas with equal access to information and input.	Identify underserved populations and use appropriate outreach techniques to serve their needs.	GIS mapping of underserved populations. Develop Community Impact Assessment guidance for special needs population.	Yes	No	X		
7.3	Ensure that the outreach process is an integral and effective part of the planning and design process.	<ul style="list-style-type: none"> <li>Develop public outreach plan for all transportation planning and design project.</li> <li>Ensure that all communications and outreach efforts are properly coordinated, consistent, and understandable.</li> <li>Ensure that all required public input is documented, interpreted and distributed in a timely and effective fashion.</li> <li>Provide adequate time for public review and comment at key milestones of the transportation planning process.</li> </ul>	<ul style="list-style-type: none"> <li>75 of projects have public outreach plans.</li> <li>75 of comment forms received reflect good project understanding.</li> <li>75 of public outreach events are documented within one week.</li> <li>Adopt NEPA or more generous timeframes for public review times.</li> </ul>	Yes	Yes	X		





Table 9.1 (Continued) - Performance Measures

Goal 8 – Financial Accountability		Create a funding structure that supports a viable transportation system now and into the future.						
Objectives	Policies	Performance Measures	Base Data Available	Info Collected Now	Level of Effort Required			
					Minimal	Moderate	Major	
8.1	Ensure responsible project programming and spending.	<ul style="list-style-type: none"> <li>Document a process for selecting and funding projects to be included in the Transportation Improvement Plan (TIP).</li> <li>Include existing and anticipated funds and life cycle costs in the planning decision making process.</li> </ul>	TIP procedures adopted and implemented.	Yes	No	X		
8.3	Reduce transportation costs.	Promote energy efficient modes and develop intermodal transportation facilities.	<ul style="list-style-type: none"> <li>Average transportation cost per ton of freight does not exceed industry average.</li> <li>Average cost to commute per household does not exceed 20% of household income.</li> </ul>	No	No	X		
8.4	Seek out and promote public-private partnerships for innovative delivery of services and projects.	Explore alternative funding sources.	20% transportation facilities constructed using innovative funding methods such as design-build methods, competitive contracting mechanisms for transit services, and pursuit of joint-development opportunities with the tourism sector.	No	No		X	



# Appendix A

## Executive Order 330-1991



2040

UNITED STATES  
VIRGIN ISLANDS  
TRANSPORTATION  
MASTER PLAN



3333/991  
Executive order ; -

TRANSPORTATION

GOAL: Achieve a reliable transportation system that promotes safe, energy efficient, convenient, affordable and efficient movement of people and goods.

OBJECTIVE A

Maintain, improve, and expand air, sea, and land transportation infrastructure facilities to effectively accommodate persons, businesses, and goods.

STRATEGIES

1. Clearly establish maintenance schedules and priorities for the roads of the Territory.
2. Coordinate all additions to the land, air, and water transportation system.
3. Upgrade the transshipment capacity of the Territory and market this service in the region.

OBJECTIVE B

Reduce the need for, and the use of, the private automobile.

STRATEGIES

1. Adequately fund or provide incentives for the provision of mass-transit services as an alternative to the use of private vehicles, especially in urbanized areas and during rush hours.
2. Establish fringe park and shuttle ride services on all three islands to alleviate congestion in the major areas.
3. Develop incentives to expand the use of existing private mass transportation carriers, taxis, shuttles, safaris, church and business motor pools and vans.
4. Apply land use measures which will result in land development patterns being transit efficient.
5. Extend the public transit service area to include as many island residents as practical.

6. Maintain limits on the number of rental and taxi vehicles.
7. Increase road taxes, registration fees, etc., especially for each vehicle over the first per family.
8. Reduce air pollution, congestion, and traffic in the central business areas through the use of increased public transit service and improved traffic management.
9. Increase transportation to those persons who because of age (young and old), physical, economic or other reasons cannot utilize available transportation services.

OBJECTIVE C

Develop an accessible, well routed transportation system which is responsive to the needs of the community and in harmony with the natural environment.

STRATEGIES

1. Develop a land use plan that provides for the rational location of activities in terms of the availability of transportation and the kinds of transportation demand which exists between and within land uses.
2. Establish a local transportation authority responsible for transportation planning, regulation, implementation and policing, with board members from the private and public sectors.
3. Reduce air pollution, congestion, and traffic in the central business areas through the use of increased public transit services and improved traffic management.
4. Use the safest and most economical means of transporting students.
5. Enforce laws regarding safe operation of motor vehicles and pedestrian circulation to reduce traffic congestion and dangerous practices of motor vehicle operators and pedestrians.



# Appendix B

## 2014-2017 Terry-wide Transportation Improvement Plan



2040

UNITED STATES  
VIRGIN ISLANDS  
TRANSPORTATION  
MASTER PLAN



**Department of Public Works**  
**United States Virgin Islands Federal-Aid Highway Program**  
**Territory-wide Transportation Improvement Program FY-2014**

(Revised April 22, 2014)

FY	Project Name	Project Number	Island	Description	Estimated Cost	Accumulated Total	Balance "MT10" Funds Available	Authorization Status	Comments
							\$ 15,300,000.00		
FY-14	Statewide Planning and Research	SPR-0015(1)*	TER	Planning and Research Activities	\$ 200,000.00	\$ 200,000.00	\$ 15,100,000.00	Committed	Includes Software upgrades necessary for Mapping/Data Collection per Transportation MultiModal Study etc.
FY-14	Vitran Bus Facility	TBD	STX	Construction of Bus Depot	\$ 4,000,000.00	\$ 4,200,000.00	\$ 11,100,000.00	Committed	Transfer to FTA
FY-14	Clifton Hill Phase I	NH-75(3)	STX	Construction of Route 75 from Intersection w/ RT 66 to Inters. w/ RT 70	\$ 5,000,000.00	\$ 9,200,000.00	\$ 6,100,000.00	Committed	100% Plans submitted to FHWA for review/appoval Nov. 2013
FY-14	Fire Station Relocation	VI-314(3)	STT	Construction of Fire Service Facility	\$ 2,201,281.20	\$ 11,401,281.20	\$ 3,898,718.80	Committed	Needed for Contract Award
FY-14	Brookman Road Phase II	VI-32(9)	STT	Route 32 Reconstruction of 4400 LF	\$ 1,268,584.00	\$ 12,669,865.20	\$ 2,630,134.80	Committed	Needed for Contract Award
FY-14	Fort Christian Settlement	NH-E(3)	STT	Administrative Payment for Court Settlement of Disputed Item	\$ 585,000.00	\$ 13,254,865.20	\$ 2,045,134.80	Pending in FMIS	Project is Closed (to be re-opened to make payment
FY-14	Route 37,Hull Bay Road Emergency Repair	ER-VI-37(2)	STT	Retaining Wall/pavement restoration	\$ 68,392.50	\$ 13,323,257.70	\$ 1,976,742.30	Committed	Needed for Contract Award
FY-14	Route 10, Centerline Road Emergency Repairs	ER-VI-10(4)	STJ	Slope Stabilization/retaining wall/guardrail/drainage improvements	\$ 275,110.00	\$ 13,598,367.70	\$ 1,701,632.30	Committed	Needed for Contract Award
FY-14	Route 20, Rte 104 Emergency Repairs	ER-VI-9999(127)	STJ	Slope Stabilization/Curb Wall/drainage Improvements	\$ 48,667.00	\$ 13,647,034.70	\$ 1,652,965.30	Committed	Needed for Contract Award
FY-14	Melvin Evans	NH-66(11)	STX	Preliminary Engineering Cost for DPW Staff	\$ 20,000.00	\$ 13,667,034.70	\$ 1,632,965.30	Pending in FMIS	For Cost Allocation Charges to Project



**Department of Public Works**  
**United States Virgin Islands Federal-Aid Highway Program**  
**Territory-wide Transportation Improvement Program FY-2014**

(Revised April 22, 2014)

FY-14	Veterans Drive	DPC-A34(1)	STT	Prelimin./Constr. Engineering	\$ 153,000.00	\$ 13,820,034.70	\$1,479,965	Committed	To Be Transferred to Fed. Lands	
	Multimodal Study	VI-9999(132)	TER	Master Plan Update	\$ 581,854.00	\$ 14,401,888.70	\$ 898,111.30	Committed	For GIS Enhancement, Intersection Planning	
FY-14	Crucan Bikepath	NH-9999(115)	STX	ROW Acquisition	\$ 735,111.30	\$ 14,555,146.00	\$ 163,000.00	Committed		
FY-14	Melvin Evans PH I	VI-66(11)	STX	Preliminary Engineering Cost for Federal Lands	\$ 163,000.00	\$ 14,718,146.00	\$ 0.00	<b>Auhorized</b>	Tranferred to Federal Lands for Preliminary Engineering Costs	
<b>Unfunded</b>										
FY-14	Crown Bay Improvements-Phase II		STT	STX	Widening/Improvements from Route 306/33 Int. to Route 30/33 Int. at Nisky Center	\$ 1,500,000.00	\$ 1,500,000.00	-\$1,500,000	Pending	plans complete - on shelf
FY-14	Bordeaux Bay Road	VI-318(1)	STT	2.3 Mi Reconstruction	\$ 8,000,000.00	\$ 9,500,000.00	-\$9,500,000	Pending	Design Work Ongoing	
FY-14	Melvin Evans Highway 1	VI-66(11)*	STX	Construction of Garvee Phase I	\$ 12,000,000.00	\$ 21,500,000.00	-\$21,500,000	Pending	To Be Funded by Garvee Financing	
FY-14	Islandwide Pavement Rehab Contract II	VI-9999(134)	STT	3R/Landscape Improvements Route 30 Moravian Highway	\$ 3,000,000.00	\$ 24,500,000.00	-\$24,500,000	Pending	Route 30 Moravian Highway (on Shelf)	
FY-14	Bridge Replacement	TBD	STX	Route 64 Bridge Slide In EDC II Initiative	\$ 20,000.00	\$ 24,520,000.00	-\$24,520,000	Pending	Design Services In - House (no new funds needed for Preliminary Engineering)	
FY-14	Ferryboat Acquisition	TBD	STT	For Construction of Vessels	\$ 3,600,000.00	\$ 28,120,000.00	-\$28,120,000	Pending		
FY-14	Scenic Road Ph. II	TBD	STX	3R/4R Construction .63Mi	\$ 3,000,000.00	\$ 31,120,000.00	-\$31,120,000	Pending	Plans 95% complete on shelf	
FY-14	Veterans Drive Phase I	DPC-B34(1)	STT	Route 30 Widening to 4 Lanes from RT 314 Lovers Lane Intersection to Hospital Gade/RT 35	\$ 18,300,000.00	\$ 49,420,000.00	-\$49,420,000	Pending	To Be Funded by Garvee Financing	
FY-14	Cruzan Bikepath PH I	9999(115)	STX	7 Mi Segment from Est. Humbug to Great Pond	\$ 3,500,000.00	\$ 52,920,000.00	-\$52,920,000	Pending	ROW/Environmental Work Ongoing	
<b>Legend:</b>		STX - St. Croix		STT - St. Thomas	STJ - St. John	TER - Territory Wide	TBD - To be Determined	* - Proposed Project No.		

**Department of Public Works**  
**United States Virgin Islands Federal-Aid Highway Program**  
**Territory-wide Transportation Improvement Program FY-2015**  
(Revised May 7, 2014)

FY	Project Name	Project Number	Island	Description	Estimated Cost	Accumulated Total	Balance of Funds Available	Authorization Status	Comments
							\$ 16,000,000.00		
FY-15	Statewide Planning and Research	SPR-0016(1)*	TER	Planning and Research Activities	\$ 50,000.00	\$ 50,000.00	\$ 15,950,000.00	Committed	Territorial SPR Funding
FY-15	Turpentine Run Bridge Approaches	VI-A30(1)	STT	Design/Build Ph I	\$ 5,875,000.00	\$ 5,925,000.00	\$ 10,075,000.00	Committed	1st Transfer to Federal Lands
FY-15	Cruzan Bikepath Ph I	NH-9999(115)	STX	7 Mi Segment from Est. Humbug to Great Pond	\$ 2,575,000.00	\$ 8,500,000.00	\$ 7,500,000.00	Committed	
FY-15	Garvee Debt Service	TBD	TER	Administrative Payment	\$ 7,500,000.00	\$ 16,000,000.00	\$ 0.00	Committed	Interest/Debt Service
FY-15						\$ 16,000,000.00	\$ 0.00	Committed	
FY-15						\$ 16,000,000.00	\$ 0.00	Committed	

Unfunded									
FY-15	Veterans Drive Improvements Phase IIA	DPC-A34(1)	STT	Route 30/35 inter. Hospital Gade to Vendors Plaza around the Point	\$ 21,400,000.00	\$ 37,400,000.00	-\$21,400,000	Committed	Construction around the Capital Bldg
FY-15	Bordeaux Bay Road	VI-318(1)	STT	2.3 Mi Reconstruction of Route 318	\$ 15,000,000.00	\$ 52,400,000.00	-\$ 36,400,000.00	Committed	
FY-15	Veterans Drive Improvements Phase IIB	DPC-A34(1)	STT	Route 30 Vendors Plaza to Windward Passage	\$ 25,000,000.00	\$ 77,400,000.00	-\$61,400,000	Committed	
FY-15	Spring Gut Road	VI-85(1)	STX	Construction	\$ 15,000,000.00	\$ 92,400,000.00	-\$ 76,400,000.00	Committed	
FY-15	Raphune Hill Contract II	VI-38(3)	STT	Relocation of Route 381/Route 38 Intersection	\$ 15,000,000.00	\$ 107,400,000.00	-\$ 91,400,000.00	Committed	





# Appendix C

## Public Outreach Plan



2040

UNITED STATES  
VIRGIN ISLANDS  
TRANSPORTATION  
MASTER PLAN







# Public Outreach Plan

January 2009



# USVI

## TRANSPORTATION MASTER PLAN

St. Croix • St. Thomas • Water Island • St. John



# 2040

# 2040 United States Virgin Islands Transportation Master Plan

## PUBLIC OUTREACH PLAN

Prepared for:

USVI Department of Public Works



Prepared by:

Parsons Brinckerhoff, Inc.

January 2009



## 1.0 INTRODUCTION

The development of a Long Range Transportation Plan (LRTP) is an endeavor which requires the collective knowledge and input of a broad range of stakeholders. As this is the first LRTP for the US Virgin Islands, there are no protocols in place for undertaking an effort of this magnitude. Federal regulations issued following the passage of the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: a Legacy for Users (SAFETEA-LU) in 2005 require that timely information about transportation issues and decision-making processes be provided to citizens, affected public agencies, and stakeholders throughout the statewide transportation planning process, and that the outreach be formally documented. While as a US Territory, the USVI is not required to comply with FHWA requirements, her leaders recognize that increased stakeholder and citizen interest in transportation makes a credible communication and public involvement process critical for consensus building.

Consistent with best practices, the USVI is committed to providing a public involvement process that provides opportunities for public review and comment at key decision points, with adequate public notice and access to underlying technical and policy information. The public outreach program will work at several levels, and includes outreach to public and agency officials, organizations representing a wide variety of interests and constituencies throughout the Territory, and members of the general public. The process will also reach out to those traditionally underserved by existing transportation systems, such as low-income and minority households, so that their needs can be considered. Information on the plan's development will be made readily available, and opportunities for review and comment will be provided and publicized.

This Public Outreach Plan has been designed to assure the Project Team achieves the overall goal and objectives for communication associated with the development of the LRTP as described below.

**Goal:** To improve coordination, communication, and cooperation among transportation users, providers, and those affected by transportation activities, regardless of race, religion, national origin, or income.

**Objectives:**

- Provide equal access to underserved groups, populations and areas to public information and decision-making about transportation planning, financing, construction, operations and maintenance activities.
- Support informed decision-making through improved communications and responsive planning and programming methods and techniques.
- Support collaborative working relationships among federal, territorial and local interests with the objective of removing barriers, aligning interests, and developing innovative, equitable solutions
- Identify all potential stakeholders, ensuring that they are properly notified of outreach efforts in a timely fashion.
- Ensure that all stakeholder communications and outreach efforts are properly coordinated, consistent, understandable and simply presented.
- Ensure that all required public input is properly documented, interpreted and distributed as necessary in a timely and effective fashion.
- Provide continued guidance to the planning and engineering team relative to public outreach and communications efforts.

## 2.0 OUTREACH METHODOLOGIES

There are a number of techniques that are generally accepted as “standard practices” for public engagement in the USVI. It is expected that certain presentations, press announcements and meetings will be jointly facilitated by the Office of the Governor, the Department of Public Works and the planning team as is appropriate. Methodologies that are expected to be used include, but are not limited to the following:

- Meetings with Local and Federal Agencies – information exchange with agency planners and statisticians is crucial to the development of the overall effort. These federal agencies and departments also have the potential to be important consensus builders when properly engaged. Where practical and appropriate, we will combine agencies in joint meetings for efficiency.
- Meetings with the Office of the Governor and Policy Makers –it will be important to have meetings with the Governor, members of the Legislature and other policy makers. Elected or appointed representatives will need to be informed on the overall planning efforts. Letters or briefings will be utilized with these individuals or bodies as are appropriate. It is anticipated on-going formal and public briefings/hearings/round tables will be required from the planning team.
- Meetings with interest groups- These include making presentations and leading discussions at regularly scheduled meetings with specific stakeholder groups, such as social, ethnic, cultural, environmental, neighborhood based, and others that may need to be engaged for specified and focused purposes. Such meetings will be on an as needed basis and will primarily be used to glean any needed information by the planning team. Focused invitations may be sent to these community groups to attend public meetings and provide input as required and appropriate.
- Creating public awareness of the plan through the media – this is accomplished through press releases, press conferences, print, radio and television interviews, local talk shows and a limited amount of paid advertising such as newspaper inserts or supplements. The media plan will include full briefs to each media group with appropriate graphics that will be utilized throughout the public outreach period for consistency.

The degree to which any of the above methods is utilized will be determined to a certain extent by the dynamics of external influences and the level of responsiveness from the public. Our approach will be proactive in nature, but responsive to community concerns and changing attitudes.

## 3.0 COMMUNITY OUTREACH STRATEGIES AND PRODUCTS

Outreach Products will be tied to the information to be disseminated at each milestone. Such products may include:

- Development of point and/or briefing papers, presentations, etc. based on information from technical teams
- Establishment of internal policies and processes for effective communications and messaging
- Creation of graphical and style guidelines for internal and external communications to endure consistency of message and message styles
- Drafting of stakeholder letters, invitations and outreach documents
- Press Conferences & media updates/alerts
- Newspaper & publication articles, editorials & periodicals, newspaper inserts, paid & earned advertisements
- Media interviews/Speaker circuits
- Organized meetings with various user groups for specific input, reporting and building support for the GTP effort



- Organized public meetings for specific presentations, updates and building general support.
- Comment Response Forms for feedback
- Static Display Boards, general and/or specific information handouts as required, power point presentations, questionnaires and flyers
- Project website for 24/7 access to information

The above products/mediums will be tailored to fit the types of feedback desired or to be shared, the importance of the message relative to the need for building community support and other considerations that are tied to particular dynamics that exist at the time of dissemination (elections, announcements, etc.).

### 3.1 The Plan

#### **The Plan**

##### I. Executive Committee

An executive committee of high level staff will set policy and oversee the study. Representatives of the following agencies will be invited to participate in the meetings, which will be held consistent with the schedule which follows.

##### Executive Committee Member Agencies

- DPW
- Port Authority
- FHWA
- FTA
- DPNR
- Office of the Governor

##### II. Advisory Committee

An advisory committee of technical staff will provide input on the technical aspects of the study with membership from the following agencies. Meetings will be held consistent with the schedule which follows.

##### Advisory Committee Member Agencies:

- DPW
- Port Authority
- DPNR
- Bureau of Tourism
- UVI/ECC
- VIPD
- Department of Education
- Government Operations
- Energy
- Island Administrator

- Homeland Security
- National Park Service
- WICO (cruise ships)
- US Postal Service
- Shipping Associations
- WAPA
- Innovative Telephone
- Emergency Responders/Hospital

### III. Public Meetings/Hearings

In addition to the committee process described above, DPW will provide opportunities for citizens and the general public to participate in the long-range planning process through a series of public meetings. Three public meetings, one each on St. Thomas, St. John and St. Croix, will be held:

- At the beginning of the study, in order to publicize the study, get input on the scope of the study, ask members of the general public to review the draft goals and objectives, and identify any specific problem areas.
- When the DRAFT plan is available, in order to receive comments on the DRAFT plan that can be incorporated into the Final Document, public hearings will be scheduled.

### IV. Schedule

This tentative meeting schedule has been prepared based on the project work schedule. The Executive and Advisory Committees Meetings will generally be scheduled around key project milestones or major deliverables rather than on a more standard schedule such as meeting quarterly.

## MEETING SCHEDULE

**MARIE, PLEASE NOTE THIS HAS BEEN REVISED TO SHOW “SUBSTANTIAL COMPLETION” OF THE TASKS BY DECEMBER 2009, ALTHOUGH THE PUBLIC HEARINGS ARE SCHEDULED FOR FEBRUARY 2010**

Month/Year	Subject/Focus Areas	Meetings
December 2008	Kick-Off, Issue Identification; Goals and Objectives	Executive Committee Technical Committee
February 2009	Existing Conditions, Traffic and Land Use Trends and Issues, Refine Goals and Objectives	Executive Committee Technical Committee Public
June 2009	Future Land Use and Demographic conditions, Survey Results, Draft Measures of Effectiveness	Executive Committee Technical Committee
September 2009	Final Measures of Effectiveness, Goals and Objectives, Transportation Forecasts and Critical Problems	Executive Committee Technical Committee
December 2009	Short Range Improvements, Long Range Alternatives, Draft Financial Plan	Executive Committee Technical Committee
February 2010	Draft Plan Workshop	Executive Committee Technical Committee Public Hearing

### V. Speakers' Bureau

A Speakers' Bureau consisting of Executive and Technical Committee representatives will be made available for presentations on the LRTP at citizens, environmental and business organizations' meetings. These organizations are loosely categorized as follows:

- Political Associations/Organizations
- Community Groups
- Rotary
- ADA Advisory Committee
- Unions
- Retail Association
- Hotel Association
- Chamber of Commerce
- Taxi Association
- Environmental Organizations
- Boards of Realtors

- League of Women Voters
- Shipping Associations

The type of stakeholder group interaction will vary relative to the group itself, the type of information to be shared, levels of confidence and consensus that can be gained, and the effectiveness of the communications medium to be utilized. Evaluations of the various information campaigns, and input received as a result, will determine the need for strategic or tactical adjustments throughout the process.

Methodologies and products will be customized to fit the audience and ambience of the presentation venue. For instance, specific stakeholder groups such as trucking companies or real estate development groups may have specific concerns or interests that are very different from landowners or government agencies. It is likely that private sector stakeholder group meeting venues may be conducted in a comfortable boardroom during the workday, while a neighborhood group meeting may take place in a community center. Subject messaging, room temperature, acoustics and venue size will all have an effect on attention span and the degree of engagement by the audience.

There are several advantages to attending meetings of other organizations. DPW will engage people who would probably not attend a formal public meeting about a transportation plan or project. The transportation agency also benefits from having an already assembled audience that may be more comfortable because they are in a familiar setting, making communication easier and more effective.

#### VI. CommentSense

All comments received throughout the development of the LRTP, regardless of source (public meeting, public hearing, or through presentations given by the Speaker's Bureau) will be entered into CommentSense®, Parson Brinckerhoff's proprietary, web-based software tool designed to facilitate the capture, storage and management of stakeholder data by demographics, by submissions, and by individual issues (categories). CommentSense® is a partially-customized database application which facilitates collecting, tracking and analyzing data input. The data records that comprise the database are modifiable through a user-friendly administrative interface, which includes functionality to: manage the display fields of user interface; add, edit and archive records; track record status; document response actions for individual records; search and query data subsets using specific search criteria; and export and print data record subsets.

#### VII. Outreach Materials

All public outreach materials will be bi-lingual, English and Spanish. Bi-lingual representatives will also be present at all public meetings. Care will also be taken to adapt the language to the literacy level of the intended recipients.

All presentation materials will be developed consistent with the graphic protocols established for the project. This will allow easy identification of project materials, whether it's a handout, newsletter, fact sheet, or display ad.

A plan website will provide public access to the technical and policy information under development for the plan, project schedule and meetings, and will include a mechanism for receiving and responding to suggestions and comments. The website will also provide users with an opportunity to join an e-mail or postal mailing list to receive periodic notices on statewide planning matters. This website based database will be the master outreach database. Macromedia Flash™ technology will be employed to permit the integration of graphics, text, audio, video and database-driven content into the websites to create intuitive user interfaces, interactive tools, and online multimedia presentations. For this project, the results could be,

- Interactive Maps
- Real-time Data Map Display
- Animated Trends Display
- Youth-oriented features

## VIII. Stakeholder List:

A comprehensive list of stakeholders will be developed. Stakeholders include but are not limited to Local and federal government agencies, Policy makers including the Governor and, Legislators, and Business community members and user groups.

## IX. Travel Characteristic Surveys

While the stated purpose of these surveys is to produce travel databases to be used for estimation and development of the travel demand model, this highly visible data collection effort will also serve as a means of public outreach to a large part of the island travelers. . Three main surveys will be conducted:

- Home Interview Surveys

Data from 1,200 households on the islands of St. Croix, St. Thomas, and St. John will be conducted. The survey population will be households with telephones in the study area, which covers about 92% of all occupied housing units

- Visitors surveys

A total of 500 completed questionnaires will be collected with 250 completes from short-term visitors (assumed to be cruise ship visitors) and 250 completes from long-term visitors (assumed to arrive via the airports). Data collection will be conducted at cruise ship docks and airports. Since the vast majority of visitors arrive in St. Thomas, the majority of visitor interviews will be conducted on that island.

- Public Transport Surveys

Surveys will be conducted on-board the buses, ferry, taxis, and safari taxis using a self-administered questionnaire. In all surveys, the vehicle (or vessel) will be sampling unit. The schedule of vehicles in operation will be obtained and a systematic sample of hours of operation taken. Sampling will be done by day of week and time of day. Altogether 3,000 to 4,000 questionnaires will be obtained.

## X. Roles and Responsibilities

### Executive and Advisory Committees

DPW staff will organize the Executive and Advisory Committees, which consists of selecting, notifying, and confirming the member's involvement and presence at the meetings. Working with the PB team, DPW shall schedule the meetings at the appropriate time, locate the facilities and send out notices. The PB Team will attend the committee meetings; prepare/present relevant and appropriate project materials; document the meeting, and notify the members of the meeting summary availability on Project Solve.

### Speakers' Bureau

Presentations will be scheduled by DPW staff in coordination with available speakers' schedules. A calendar will be made available on Project Solve to facilitate communication among project team members of speaking engagements. The PB team will prepare a power point presentation for use by the Speaker's Bureau. This presentation will be updated as data is collected and tasks completed.

### Public Meetings

Working with the PB team, DPW shall schedule the meetings at the appropriate time, locate the facilities and send out notices. DPW shall provide the PB Team with a list of appropriate and relevant media outlets, including ethnic media outlets. The PB Team will prepare and distribute press releases and display ads, attend the public meetings;



prepare/present relevant and appropriate project materials; document the meetings, and notify the attendees of the meeting summary availability on Project Solve and the project website.

#### Surveys

The surveys will be conducted by NuStats, a Texas based firm with extensive survey experience nationwide, and administered by local staff from the islands.

#### Stakeholder List

DPW will facilitate the creation of a comprehensive database that will be linked into the website for ease of updating as the project continues. PB staff will assume responsibility for updating and maintaining the database and provide mailing labels for use by DPW.

## 4.0 CONCLUSION

The preceding items represent a general overview of the various tasks associated with the outreach efforts for the 2040 USVI Transportation Plan. Because of the inherent dynamics of the project and political sensitivities, it is imperative that all outreach efforts be consistent, focused, properly coordinated and well-organized. This includes ensuring that the messages are simple and graphic in presentation and that the message presenters are appropriate to the various stakeholders. All outreach efforts will be coordinated to the finalized project milestones.

The Public Involvement and Community Outreach Plan will be constantly strategize to provide and encourage effective communications, appropriate messaging and effective feedback at milestones within the planning timeline to support the planning process. Our approach will be proactive in nature, yet flexible to accommodate external influences or events that may shape community perspectives. All outreach efforts will be conducted in partnership with and at the direction of the Office of the Governor, the Department of Public Works and our planning team.

It is anticipated that the USVI community will be active participants in the planning process through our outreach execution. The Parsons Brinkerhoff team is confident our focused efforts will be a shining example of how proper planning, partnerships and public participation can translate into positive, achievable and lasting results for all.

# Appendix D

## Transportation Needs Project List, Costs, and Maps



2040

UNITED STATES  
VIRGIN ISLANDS  
TRANSPORTATION  
MASTER PLAN



## 2040 U.S. Virgin Islands Comprehensive Master Transportation Plan - Needs Plan

Priority	Timeframe	Parameter	Project				Estimated Construction Cost	Estimated Study Cost	Notes/Assumptions
			Type	Improvement Type	Description	Map Reference (1)			
Current Projects	0 to 3 years	Project Out to Bid, Completed, or Under Design	Pedestrian and Bicycle Projects	Add sidewalk	Sidewalks on Subbase Road (Route 304) from Crown Bay Marina to Pueblo Supermarket with curb cuts - Completed	STT # 6	N/A	N/A	
			Congestion Management/Relief		Elevated parking garage in Charlotte Amalie – Project out to bid	STT # 7	N/A	N/A	
			Islandwide Projects		Marine Transportation Service - Planning Underway	STT # 8	N/A	N/A	
			Pedestrian and Bicycle Projects	Add sidewalk	Sidewalks near hospital and shopping center on Alton Adams Road (Route 38) and William G Lewis Lane from Lovers Lane to Long Bay Road – Already implemented	STT # 9	N/A	N/A	
			Congestion Management/Relief	Road Improvements	Widen Raphune Hill Road/Weymouth Rhymer (Route 38) to 4-lanes and add sidewalk and bike path to Donoe Road (Route 39) – Under design	STT # 10	N/A	N/A	
			Congestion Management/Relief	Roadway Widening	Agnes Fancy / Fireburn Road expansion (Catherineburg Road)- Northwest of Charlotte Amalie at end of Mannassah Hill Road – Under design	STT # 11	N/A	N/A	
			Pedestrian and Bicycle Projects		Sidewalk Reconstruction Downtown Charlotte Amalie – Under design	STT # 12	N/A	N/A	
			Safety and Operational Improvements	Roadway Widening	Mannassah Hill Road into Savan operational improvements - Completed	STT # 13	N/A	N/A	
			New Roadway Facilities	New Roadway	Historical bridge, potential bypass- Route 72 and River Road (Route 69) – Ready for bid	STX # 10	N/A	N/A	
			Safety and Operational Improvements	Intersection Improvements	Intersection improvements at Clifton Hill Connector (Queen Mary Highway (Route 70) and Route 75) – Planning and Construction Underway	STX # 17	N/A	N/A	
			Safety and Operational Improvements	Intersection Improvements	La Reine Intersection improvements at Route 75 and Route 70 – Planning and Construction Underway	STX # 18	N/A	N/A	
			Operations Maintenance and System Preservation	Roadway Resurfacing & Congestion Study	Christiansted town Road Resurfacing – Underway & Christiansted Congestion Study	STX # 19	N/A	N/A	
			Operations Maintenance and System Preservation		Spring Gut Road (Route 85) Improvements – Currently Planned	STX # 20	N/A	N/A	



2040 U.S. Virgin Islands Comprehensive Master Transportation Plan - Needs Plan

Priority	Timeframe	Parameter	Project				Estimated Construction Cost	Estimated Study Cost	Notes/Assumptions		
			Type	Improvement Type	Description	Map Reference (1)					
Near Term	0 to 5 years	Locally Funded Projects			John Head Road (Route 206)	STJ # 1	\$				
			Mid Depth Repair		Kongens Gade (Education Street)	STT # 1	\$173,990				
			Full Depth Repair		St. Joseph & Rosendahl (Route 39 and 394)	STT # 2	\$1,549,670				
			Mid Depth Overlay		Emile (Milo) Francis Memorial Dr. (Route 38)	STT # 3	\$1,028,630				
			Full Depth Overlay		Hull Bay Road (Route 37)	STT # 4	\$527,810				
			Mid Depth Overlay		Roy Lester Schneider Hospital Access Road	STT # 5	\$275,440				
			Full Depth Repair Overlay		Catherineburg Road (Garden St. Route 379)	STT # 6	\$383,990				
			Intersection Expansion		Cathrineberg Road Intersection Improvements	STT # 7	\$250,000				
			Full Depth Repair		Adel Gade Road Reconstruction	STT # 8	\$129,180				
			Mid Depth Repair		West End Road (Route 301)	STT # 9	\$438,520				
			Full Depth Repair		Water Island Route 95 and Fort Hill Rehabilitation	STT # 10	\$505,000				
			Mid Depth Repair		Altona Lagoon Roadway	STX # 1	\$254,370				
			Full Depth Repair		Estate Tulipan Welcome Roadways	STX # 2	\$294,210				
			Full Depth Repair		"Mary's Fancy" Road (Route 709)	STX # 3	\$629,790				
			Full Depth Repair		Hannah's Rest   White Lady Roadway	STX # 4	\$575,180				
			2" Overlay		Mahogany Road (Rt. 76) & Creque Dam Rd (Rt. 58)	STX # 5	\$1,230,160				
			Mid Depth Repair		Hams Bluff Road (Route 63)	STX # 6	\$1,384,530				
			2" Overlay		South Gate Road (Route 60)	STX # 7	\$672,060				
			Full Depth Repair		Estate Mon Bijou Roadway & Pedestrian Bridge	STX # 8	\$191,060				
		Overlay		North Shore Road (Cane Bay) (Route 80)	STX # 9	\$672,060					
		Full Depth Repair		Midland Road West (Estate Lower Love) (Route 72)	STX # 10	\$279,080					
		Mid Depth Repair		Estate Mount Pleasant East Roadway	STX # 11	\$181,340					
		2" Overlay		Estate Concordia West Roadways	STX # 12	\$134,720					
		2" Overlay		Claudia A. Bennie Benjamin Mem. Dr. (Route 79)	STX # 13	\$594,000					
				Federally Funded Projects			Road to Coral World/Coki Pt Beach	STT # 1	\$1,500,000		
							Turpentine Run Bridge approaches	STT # 2	\$		
							Turpentine Run 3R project	STT # 3	\$		
							St. Peter mountain road - Drainage Crossing	STT # 4	\$		
							Scott Free Road - Road Reconstruction and Widening	STT # 5	\$		
							Rothschild Francis Market Square Enhancement Project	STT # 6	\$		
							Black Point to Fortuna Road - Pavement Rehabilitation	STT # 7	\$2,500,000		
							Redhook ARRA Project - Sidewalk and Drainage Improvements	STT # 8	\$1,800,000		
							Polyberg Road - 3R Project	STT # 9	\$		
					Long Bay ARRA Project	STT # 10	\$6,000,000				
					Hurricane Omar Emergency Repairs - MSE Wall	STT # 11	\$770,000				
					Crown Mountain Slide Project - MSE Wall	STT # 12	\$				
					Crown Bay Sidewalk and Drainage Improvements - Phase I & II	STT # 13	\$1,100,000				
					Caret Bay Road - Drainage Crossing	STT # 14	\$				
				Connector Road Between Route 33 on South and North - 3R Project	STT # 15	\$					
				Contant Road to Route 33 - 3R Project	STT # 16	\$					
				Midland Road West	STX # 1	\$					
				ARRA Roadside Safety Improvements	STX # 2	\$					
				ARRA Queen Mary Improvements	STX # 3	\$					
				Christiansted Bypass Phases I & IA	STX # 4	\$					
				Christiansted Bypass Contract 3	STX # 5	\$					
				Scenic Road Repairs	STX # 6	\$					
				Scenic Road Washouts	STX # 7	\$					
				Mon Bijou	STX # 8	\$					

## 2040 U.S. Virgin Islands Comprehensive Master Transportation Plan - Needs Plan

Priority	Timeframe	Parameter	Project				Estimated Construction Cost	Estimated Study Cost	Notes/Assumptions
			Type	Improvement Type	Description	Map Reference (1)			
Short Term	5 to 10 years	Projects in high growth areas (3)	Safety and Operational Improvements	Road Improvements	Improvement of Switchback in Elizabeth at Crown Mountain Road (Route 33) and Scott Free Road	STT # 2	\$484,840	N/A	
			Pedestrian and Bicycle Projects	Sidewalk and Bus shelters	Sidewalks and bus shelters on Crown Mountain Road (Route 33) from Veterans Drive (Route 30) to Hull Bay Road (Route 37)/Skyline Drive (Route 40)	STT # 3	\$5,113,170	N/A	Build 5 ft sidewalks and 12 bus shelters
			Transit Projects	New Route	New Transit Route (Lovenlund Route) along Mahogany Run Road (Route 42) from Tutu Park Mall	STT # 15	N/A	N/A	
			Pedestrian and Bicycle Projects	Add sidewalk	Sidewalk needed: Red Hook, Bovoni with curb cuts, Tutu intersection to Nadir, Nadir intersection to Red Hook with curb cuts, Smith Bay to Tutu with curb cuts	STT # 18	\$2,301,610	N/A	Build 5 ft sidewalks
			Congestion Management/Relief	New Parking	Build Parking at end of Red Hook Road – Coordination with Port Authority	STT # 19	\$80,000	N/A	Provide Parking
			Transit Projects	Transit Project	Express Shuttle Bus Service from: Red Hook Ferry Dock to Downtown Charlotte Amalie, Red Hook to Tutu Park Mall, Nadir going west to Bovoni, Havensight to Downtown Charlotte Amalie	STT # 20	N/A	N/A	
			Congestion Management/Relief	Roadway Widening	Improve Queen Mary Highway/Centerline Road (Route 70)	STX # 1	\$21,543,770	N/A	Provide additional lane in each direction and provide pavement markings
			Congestion Management/Relief	Road Improvements	Roadway improvements on Hess Road (Route 681) from Centerline Road (Route 70) to Route 68	STX # 2	\$1,082,260	N/A	Provide additional lane in each direction and provide pavement markings
			Congestion Management/Relief	Roadway Widening	Improve Melvin Evans Highway (Route 66)	STX # 5	\$15,675,880	N/A	Provide additional lane in each direction and provide pavement markings
			New Roadway Facilities	New Road	Route 68 proposed re-alignment to Hess Road	STX # 23	\$883,740	N/A	Build new road connecting Route 68 to Hess Road and provide pavement markings and traffic signal (1)
			Congestion Management/Relief	New Parking	New parking at car ferry at Enighed Pond (Short Term Temporary Parking Exist)	STJ # 1	\$80,000	N/A	Parking lot study
			Islandwide Projects	Policy/Regulation Change	Ferry Schedule needs to be coordinated with VITRAN bus schedule	STJ # 2	N/A	N/A	
			Congestion Management/Relief	Policy/Regulation Change	Better coordinate access by car /rental car companies for the people ferries	STJ # 4	\$20,000	N/A	
			Congestion Management/Relief	Ferry Dock	Move passenger ferry dock to Creek Area or Enighed Pond (Large Pond) – Coordination with Virgin Island Port Authority	STJ # 5	\$80,000	N/A	
			Congestion Management/Relief	Feasibility Study	Evaluate feasibility of parking garage at Enighed Pond	STJ # 6	N/A	\$80,000	Feasibility study
			Transit Projects	Transit Project	Provide bus service and bus shelter on Gift Hill Road, south of South Shore Road and bus service along South Shore Road (Route 104)	STJ # 9	\$20,000	N/A	Build bus shelter
			Operations Maintenance and System Preservation	Corridor Improvements	Improvements needed on Centerline Road (Route 10): sidewalks, shoulders, repair crumbling cliffs, 97 blind corners between Coral Bay and Cruz Bay, widen road from Cruz Bay to North Shore Road (Route 20). Note: Guardrail and Drainage Improvements on Route 10 are included in TTIP FY 2014.	STJ # 10	\$17,313,340	N/A	Widen road (0.2 mile on each direction) from Cruz Bay to North Shore Road, Resurface and improve shoulders for 50 percent of corridor, Improve drainage for 10 percent of corridor, Provide/replace guardrail for 25 percent of corridor, Replace/renew pavement markings on 75 percent of corridor, Provide sidewalk on 30 percent of corridor (5 feet wide).
Sub-Total						\$64,678,610	\$80,000		



2040 U.S. Virgin Islands Comprehensive Master Transportation Plan - Needs Plan

Priority	Timeframe	Parameter	Project				Estimated Construction Cost	Estimated Study Cost	Notes/Assumptions
			Type	Improvement Type	Description	Map Reference (1)			
Long Term	Greater than 10 years	Other identified projects	New Roadway Facilities	New Road	Bordeaux Bay road from Sandy Bay to Fortuna Road (Route 30) (South Shore) and to West End Road (North Shore)	STT # 1	\$9,540,400	N/A	Provide new two-lane road, markings
			Transit Projects	Transit Project	Patriot Manor- Expanded Service	STT # 4	N/A		
			Transit Projects	Transit Project	Bus pull-off near Pueblo Supermarket on Subbase Road (Route 304)	STT # 5	\$31,520	N/A	200 ft roadway widening
			Safety and Operational Improvements	Study	Truck Route Designation Study	STT # 14	N/A	\$50,000	
			Safety and Operational Improvements	Road Improvements	Improvement/road expansion at Smith Bay Road (Route 38) and Route 32 (Red Hook Ferry Terminal Area)	STT # 16	\$466,690	N/A	Extend eastbound left-turn and right-turn bays 0.1 miles (3 lanes), Add northbound left-turn lane 0.1 miles (1 lane), Extend westbound left-turn and right-turn bays 0.03 miles (3 lanes)
			New Roadway Facilities	New Road	New Road North/South connecting Weymouth Rymer (Route 38) to Bovoni Road (Route 30). Alternate to Bovoni Road and Turpentine Run Road/Mariendahl Road (Route 32)	STT # 17	\$3,120,510	N/A	Build new two-lane road and provide pavement markings
			Congestion Management/Relief	Road Improvements	Roadway improvements on Route 663 from Queen Mary Highway/Centerline Road (Route 70) to Melvin Evans Highway (Route 66)	STX # 3	\$1,352,830	N/A	Provide additional lane in each direction and provide pavement markings
			Congestion Management/Relief	Road Improvements	Roadway improvements in Sunny Isle area (Island Center Road (Route 79)/Queen Mary Highway/Centerline Road (Route 70)/Melvin Evans Highway (Route 66)	STX # 4	\$1,538,840	N/A	Provide additional lane in each direction and provide pavement markings
			Pedestrian and Bicycle Projects	Bike Path	Pedestrian/Bike path needed along Queen Mary Highway (close to Route 75)- La Reine to Sunny Isle	STX # 6	\$440,110	N/A	Add Bike Path (8 ft wide) - Northside Road to Sunny Isle
			Pedestrian and Bicycle Projects	Bike Path	Proposed bike path along Southside Road (Route 62) from Route 70 to Cramer Park (Now being acquired)	STX # 7	\$4,527,950	N/A	Add Bike Path (8 ft wide)
			Safety and Operational Improvements	Road Improvements	Improve Northside Road (Route 75) from Queens Mary Highway (Route 70) to King Street	STX # 8	\$10,924,080	N/A	Provide additional lane in each direction and provide pavement markings
			New Roadway Facilities	New Roadway and Bike Path	North Shore Scenic Road (Route 78) and bike path from River Road (Route 69) to Hams Bay/Route 63	STX # 9	\$28,167,400	N/A	Provide one new travel lane in each direction and provide pavement markings, bike path (8 ft wide)
			Congestion Management/Relief	Intersection Signalization	Signal warrants needed to relieve congestion by Grove Place (Queen Mary Highway (Route 70) and Golden Grove Route 705 and Route 669) (2 warrants)	STX # 11	\$392,960	\$20,000	Provide turn lanes (0.1 mile) on Queen Mary Hwy, Provide Lane markings at intersection, Install 2 Traffic Signals, Perform Signal Warrant Analysis
			Operations Maintenance and System Preservation	Resurfacing	Substandard pavement conditions on Midland Road (Route 72) from River Road (Route 69) to west of Casper Holstein Drive (Route 65)	STX # 12	\$1,623,040	N/A	Resurface two-lane road
			New Roadway Facilities	New Road and Intersection Improvement	Route 709 Extension from Route 66 to Route 68	STX # 13	\$689,030	N/A	Provide one new travel lane from Route 66 to Route 68 and provide pavement markings
			Safety and Operational Improvements	Intersection Improvements	Five Corners Intersection (Northside Road area) – Intersection Analysis	STX # 14	N/A	\$50,000	Intersection Analysis
Pedestrian and Bicycle Projects	Sidewalk Study	Implement ADA Sidewalk Study Islandwide	STX # 15	N/A	\$150,000	Sidewalk Study			
Safety and Operational Improvements	Safety/Drainage Improvements	Ethel McIntosh Memorial Drive/Mahogany Road (Route 76) safety improvements east of Jolly Hill	STX # 16	\$1,362,470	N/A	Resurface, improve shoulders, drainage improvements and marking for the entire Corridor, provide guardrail for 25% of the corridor and place 6 traffic speed and alignment changes signs through out the corridor			

## 2040 U.S. Virgin Islands Comprehensive Master Transportation Plan - Needs Plan

Priority	Timeframe	Parameter	Project				Estimated Construction Cost	Estimated Study Cost	Notes/Assumptions
			Type	Improvement Type	Description	Map Reference (1)			
Long Term	Greater than 10 years	Other identified projects	Safety and Operational Improvements	Roundabout	Orange Grove and Contentment Road intersection Route 70 & Route 708 Roundabout	STX # 21	\$960,220	N/A	Provide 200 ft widening of 2-lane roads in all 4 directions, pavement marking and roundabout
			Safety and Operational Improvements	Intersection Improvements	Intersection improvements at Route 66 and Route 68	STX # 22	\$409,820	N/A	Provide 200 ft widening of 2-lane roads in all four directions and pavement marking
			Congestion Management/Relief	Access Circulation Study	Close off road next to connections (to Car Ferry Terminal) – Access Circulation Study	STJ # 3	N/A	\$20,000	Access Circulation Study
			Transit Projects	Transit Improvement	Extend times of operations of VITRAN buses and frequency of service	STJ # 7	N/A	N/A	
			Transit Projects	Transit Improvement	Post and print ferry and bus schedules	STJ # 8	N/A	N/A	
			Operations Maintenance and System Preservation	Resurfacing	Pave Route 204 to provide north-south connection between North Shore Road (Route 20) and Centerline Road (Route 10) – Coordination with National Park Service	STJ # 11	\$2,065,820	N/A	Provide paving and marking on existing trail for two-lane road
			Operations Maintenance and System Preservation	Resurfacing	Pave John Head Road (Route 206) to provide north-south connection between North Shore Road (Route 20) and Centerline Road (Route 10) – Coordination with National Park Service	STJ # 12	\$1,416,560	N/A	
			Transit Projects	Transit Improvement	Bus shelters identified at three locations on Centerline Road (Route 10) at John Head Road (Route 206), west of Reef Bay Trail, and east of Kings Hill Road on North Shore Drive (Route 20)	STJ # 13	\$120,000	N/A	6 bus shelters on both sides
			Transit Projects	Transit Improvement	Park & Ride lot at Myrah Keating Clinic on Centerline Road (Route 10) at Gift Hill Road (Route 204)	STJ # 14	\$200,000	N/A	
			Operations Maintenance and System Preservation	Resurfacing	Complete paving of King's Hill Road (Route 20) east of Centerline Road (Route 10)	STJ # 15	\$1,785,460	N/A	
			Transit Projects	Transit Improvement	Build bus shelters at both ends of King's Hill Road (Route 20) at Centerline Road (Route 10) and at Route 107	STJ # 16	\$80,000	N/A	1 bus shelter for every one mile distance on each side (i.e., 4 bus shelters)
			New Roadway Facilities	Transit Improvement	Build Park & Ride by Centerline Road (Route 10) and King's Hill Road (Route 20)	STJ # 17	\$200,000	N/A	
			New Roadway Facilities	New Road	Build South Shore Road connecting Reef Bay Road to Cocoloba Point at Route 107	STJ # 18	\$9,735,170	N/A	Provide one new travel lane in each direction and provide pavement markings
			Safety and Operational Improvements	Guardrail	Guardrails needed along Bordeaux Mountain Road (Route 108)	STJ # 19	\$1,861,260	N/A	Provide guardrail
			Islandwide Projects	Rest Areas	Need rest areas with public bathrooms on Centerline Road (Route 10), North Shore Road (Route 20), Bordeaux Mountain Road (Route 108) and Route 107	STJ # 20	\$250,000	N/A	
			Transit Projects	Transit Improvement	Need bus service along Bordeaux Mountain Road (Route 108) from Centerline Road (Route 10) to Route 107	STJ # 21	N/A	N/A	
			Pedestrian and Bicycle Projects	Add sidewalk	Sidewalk priority along Route 107 in Coral Bay and Johnson Bay	STJ # 22	\$784,730	N/A	Add 5 ft wide sidewalk
			Safety and Operational Improvements	Guardrail	Guardrails needed along East End Road (Route 10) from Route 107 and Route 108 to Pond Bay	STJ # 23	\$2,597,250	N/A	Provide guardrail
			Islandwide Projects	Policy/Regulation Change	All new roads should have sidewalks and stormwater facilities (Cost shown in respective projects)	STJ # 24	N/A	N/A	Included in individual projects

## 2040 U.S. Virgin Islands Comprehensive Master Transportation Plan - Needs Plan

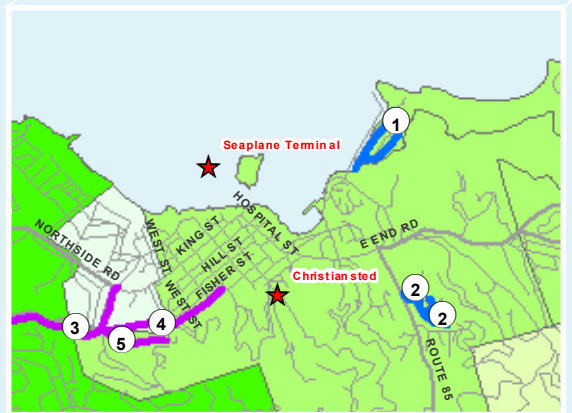
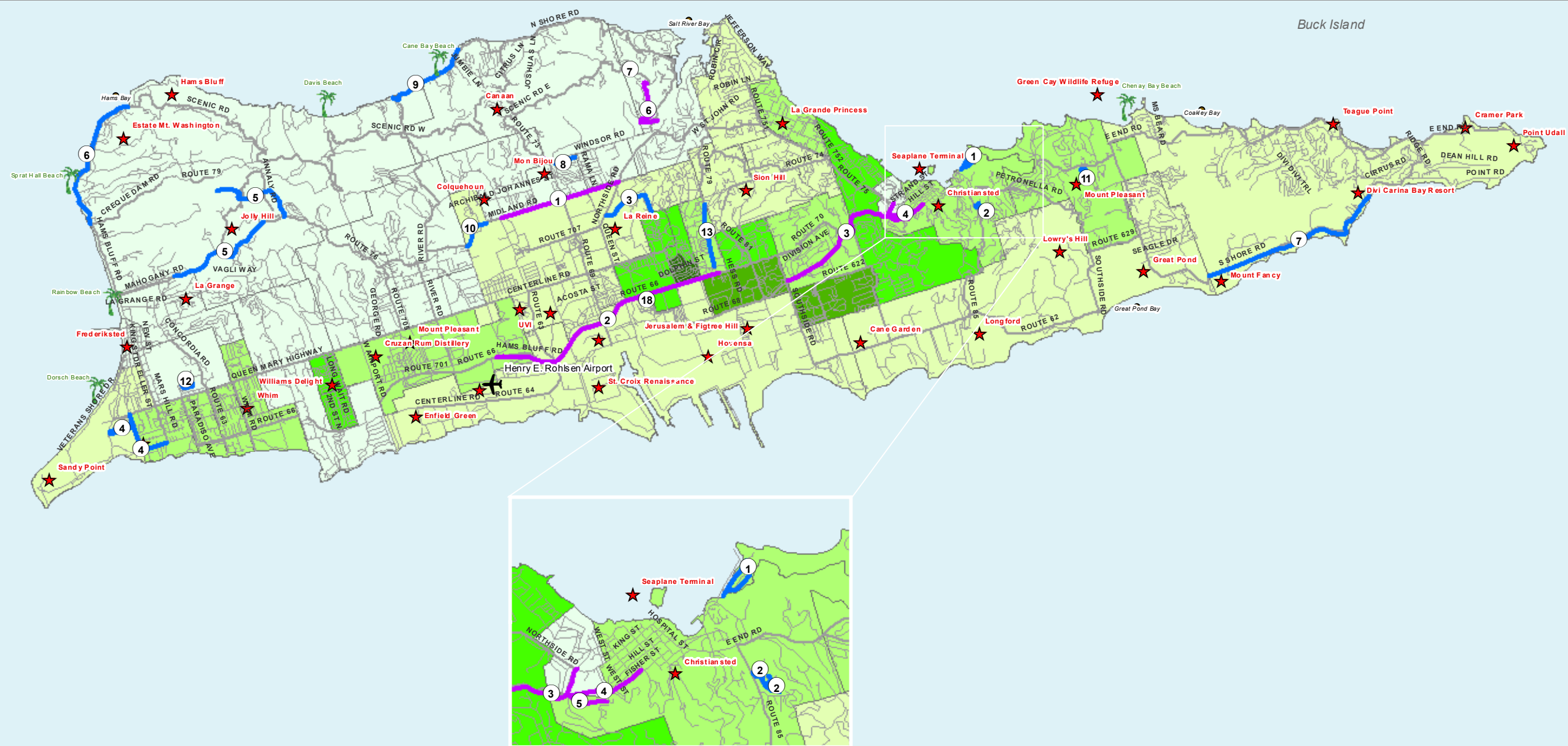
Priority	Timeframe	Parameter	Project				Estimated Construction Cost	Estimated Study Cost	Notes/Assumptions
			Type	Improvement Type	Description	Map Reference (1)			
Long Term	Greater than 10 years	Other identified projects	Islandwide Projects	Policy/Regulation Change	Truck Rules/Heavy Equipment: regulate size, noise, time of day, and exhaust of truck traffic in residential areas, escort vehicles enforcement, designate truck routes	STJ # 25	N/A	\$80,000	
			New Roadway Facilities	New Road	Improve Route 107 South of Bordeaux Mountain Road (Route 108)	STJ # 26	\$1,450,940	N/A	Provide one new travel lane in each direction and provide pavement markings
			New Roadway Facilities	New Road	Extend Route 109 to Annaberg	STJ # 27	\$2,186,340	N/A	Provide one new travel lane in each direction and provide pavement markings
			New Roadway Facilities	Resurfacing	Pave Johnny Horn Trail; Coordination with National Park Service	STJ # 28	\$4,511,820	N/A	Provide one new travel lane in each direction and provide pavement markings
			Sub-Total Long-Term Projects						\$94,793,220
Total Estimated Program Cost (Short-Term and Long-Term Projects)						\$159,471,830	\$450,000		

(1) - Island and project number. STT = St. Thomas, STX = St. Croix, and STJ = St. John.

(2) - 2014 dollars.

(3) - Areas estimated to increase to 400 people per square mile between 2010 and 2040 based on Census data.

# USVI 2040 Transportation Plan



**Funding Type**

- # Federal Funded Projects
- # Locally Funded Projects

**Population Density Increase (2010 - 2040) Per Sqm**

- 0
- 1 - 100
- 101 - 200
- 201 - 400
- 401 - 800
- > 800



**Federally and Locally Funded Projects**

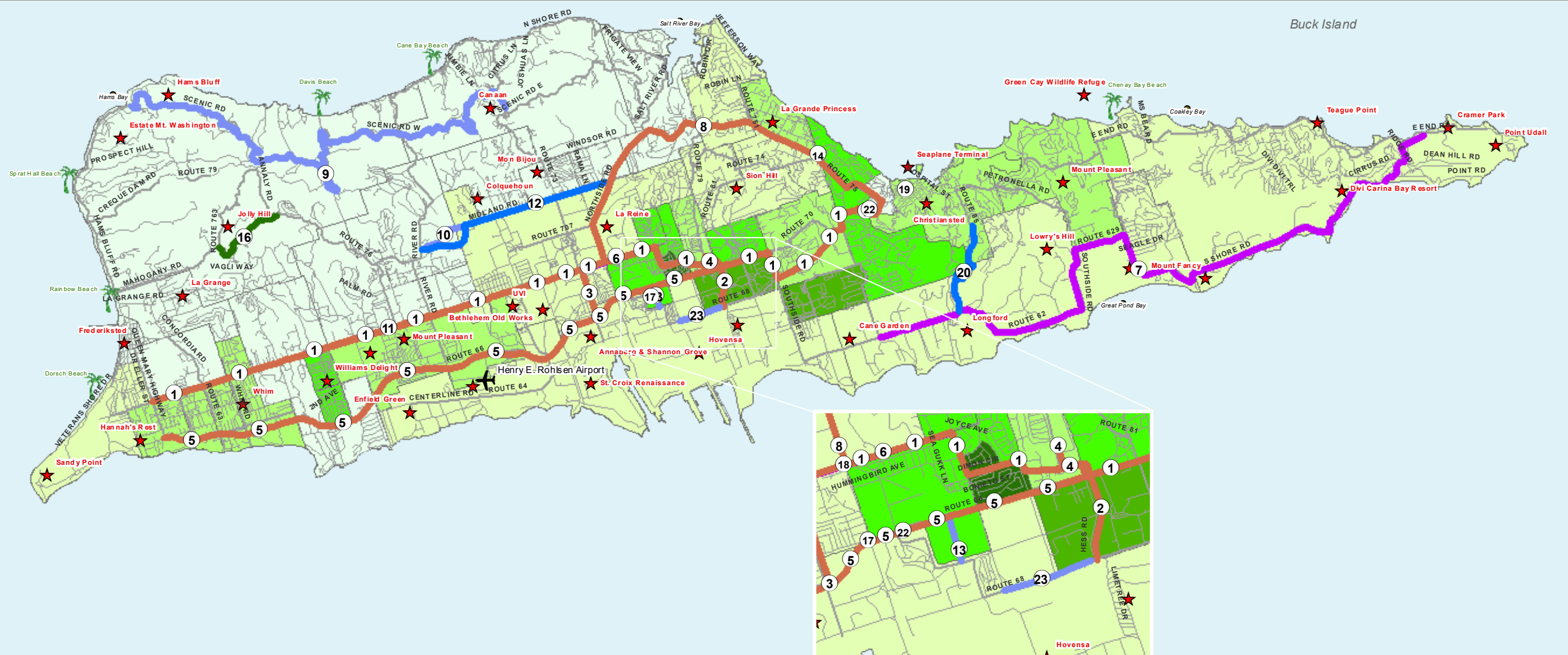
Project Number	Federally Funded Projects
1	Midland Road West
2	ARRA Roadside Safety Improvements
3	ARRA Queen Mary Improvements
4	Christiansted Bypass Phase I & IA
5	Christiansted Bypass Contract 3
6	Scenic Road Repairs
7	Scenic Road Washouts
8	Mon Bijou

Project Number	Locally Funded Projects
1	Altona Lagoon Roadway
2	Estate Tulipan Welcome Roadways
3	“Mary’s Fancy” Road (Route 709)
4	Hannah’s Rest   White Lady Roadway
5	Mahogany Road (Rt. 76) & Creque Dam Rd (Rt. 58)
6	Hams Bluff Road (Route 63)
7	South Gate Road (Route 60)
8	Estate Mon Bijou Roadway & Pedestrian Bridge
9	North Shore Road (Cane Bay) (Route 80)
10	Midland Road West (Estate Lower Love) (Route 72)
11	Estate Mount Pleasant East Roadway
12	Estate Concordia West Roadways
13	Claudia A. Bennie Benjamin Mem. Dr. (Route 79)

**St. Croix,  
US Virgin Islands**



# USVI 2040 Transportation Plan



- Project Type**
- Congestion Management/Relief
  - Islandwide Projects
  - New Roadway Facilities
  - Operations Maintenance and System Preservation
  - Pedestrian and Bicycle Projects
  - Safety and Operational Improvements
  - Transit Projects
- Population Density Increase (2010 - 2040) Per Sqm**
- 0
  - 1 - 100
  - 101 - 200
  - 201 - 400
  - 401 - 800
  - > 800

Project Number	Project Type	Project Description
1	Congestion Management/Relief	Improve Queen Mary Highway/Centerline Road (Route 70)
2	Congestion Management/Relief	Roadway improvements on Hess Road (Route 681) from Centerline Road (Route 70) to Route 68
3	Congestion Management/Relief	Roadway improvements on Route 663 from Queen Mary Highway/Centerline Road (Route 70) to Melvin Evans Highway (Route 66)
4	Congestion Management/Relief	Roadway improvements in Sunny Isle area (Island Center Road (Route 79)/Queen Mary Highway/Centerline Road (Route 70)/Melvin Evans Highway (Route 66)
5	Congestion Management/Relief	Improve Melvin Evans Highway (Route 66)
6	Pedestrian and Bicycle Projects	Pedestrian/Bike path needed along Queen Mary Highway (close to Route 75)- La Reine to Sunny Isle
7	Pedestrian and Bicycle Projects	Proposed bike path along Southside Road (Route 62) from Route 70 to Cramer Park (Now being acquired)
8	Congestion Management/Relief	Improve Northside Road (Route 75) from Queens Mary Highway (Route 70) to King Street
9	New Roadway Facilities	North Shore Scenic Road (Route 78) and bike path from River Road (Route 69) to Hams Bay/Route 63
10	New Roadway Facilities	Historical bridge, potential bypass- Route 72 and River Road (Route 69) – Ready for bid
11	Congestion Management/Relief	Signal warrants needed to relieve congestion by Grove Place (Queen Mary Highway (Route 70) and Golden Grove Route 705 and Route 669) (2 warrants)
12	Operations Maintenance and System Preservation	Substandard pavement conditions on Midland Road (Route 72) from River Road (Route 69) to west of Casper Holstein Drive (Route 65)
13	New Roadway Facilities	Route 709 Extension from Route 66 to Route 68
14	Safety and Operational Improvements	Five Corners Intersection (Northside Road area) – Intersection Analysis
15	Pedestrian and Bicycle Projects	Implement ADA Sidewalk Study Islandwide
16	Safety and Operational Improvements	Ethel McIntosh Memorial Drive/Mahogany Road (Route 76) safety improvements east of Jolly Hill – Included in TTIP
17	Safety and Operational Improvements	Intersection improvements at Clifton Hill Connector (Queen Mary Highway (Route 70) and Route 75) – Planning and Construction Underway
18	Safety and Operational Improvements	La Reine Intersection improvements at Route 75 and Route 70 – Planning and Construction Underway
19	Operations Maintenance and System Preservation	Christiansted town Road Resurfacing – Underway & Christiansted Congestion Study
20	Operations Maintenance and System Preservation	Spring Gut Road (Route 85) Improvements – Currently Planned
21	Safety and Operational Improvements	Orange Grove and Contentment Road intersection Route 70 & Route 708 Roundabout
22	Safety and Operational Improvements	Intersection improvements at Route 66 and Route 68
23	New Roadway Facilities	Route 68 proposed re-alignment to Hess Road

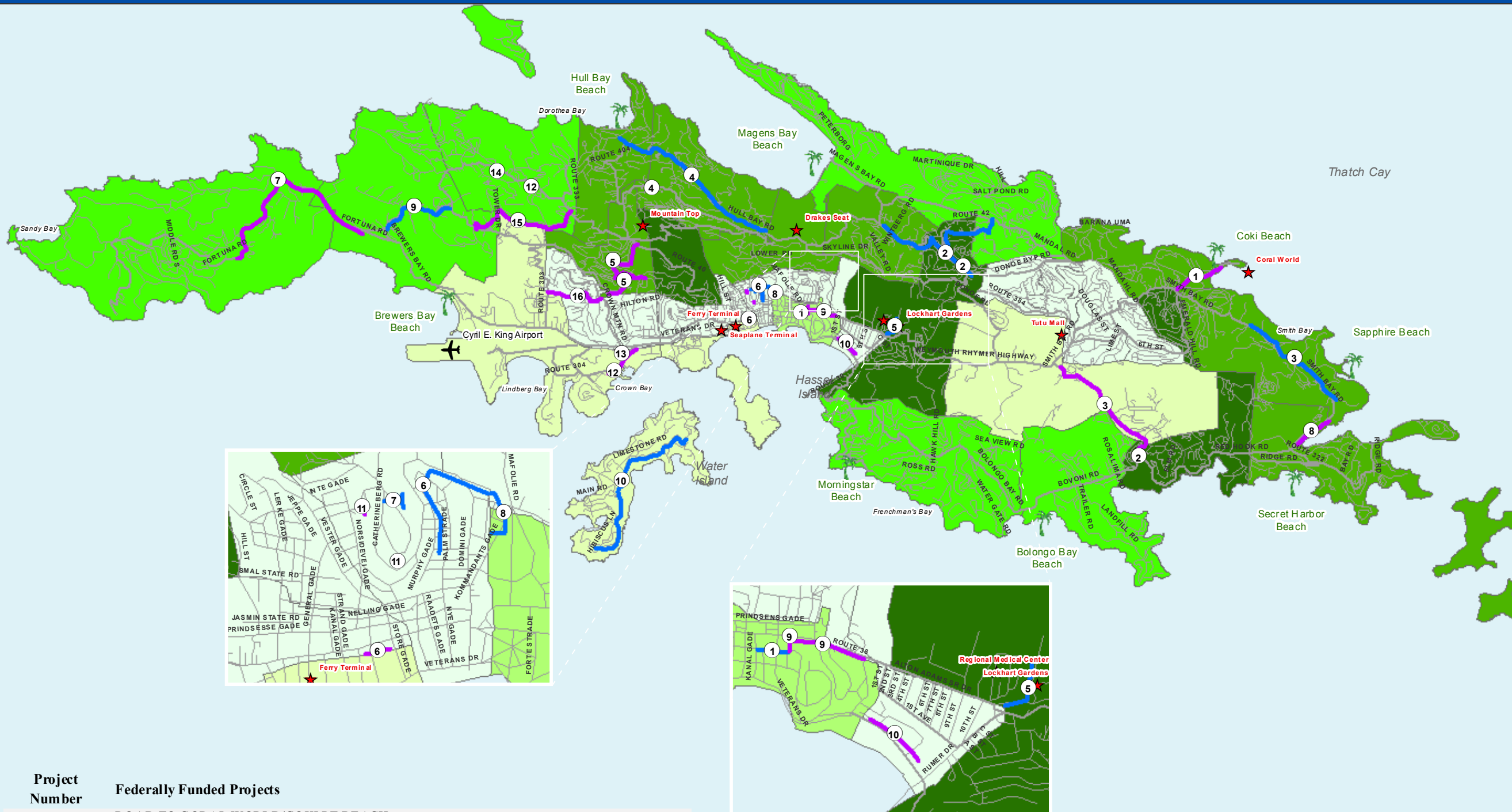


**Community Advisory Group Projects**

**St. Croix,  
US Virgin Islands**



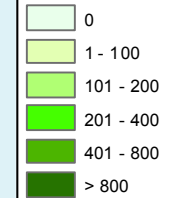
# USVI 2040 Transportation Plan



### Funding Type

- # Federal Funded Projects
- # Locally Funded Projects

### Population Density Increase (2010 - 2040) Per Sqm



### Project Number

#### Federally Funded Projects

1	ROAD TO CORAL WORLD/COKI PT BEACH
2	TURPENTINE RUN BRIDGE APPROACHES
3	TURPENTINE RUN 3R PROJECT
4	ST. PETER MOUNTAIN ROAD - DRAINAGE CROSSING
5	SCOTT FREE ROAD - ROAD RECONSTRUCTION AND WIDENING
6	ROTHSCHILD FRANCIS MARKET SQUARE ENHANCEMENT PROJECT
7	BLACK POINT TO FORTUNA ROAD - PAVEMENT REHABILITATION
8	RETHOOK ARRA PROJECT - SIDEWALK AND DRAINAGE IMPROVEMENTS
9	POLYBERG ROAD - 3R PROJECT
10	LONG BAY ARRA PROJECT
11	HURRICANE OMAR EMERGENCY REPAIRS- MSE WALL
12	CROWN MOUNTAIN SLIDE PROJECT - MSE WALL
13	CROWN BAY SIDEWALK AND DRAINAGE IMPROVEMENTS - PHASE I & II
14	CARET BAY ROAD - DRAINAGE CROSSING
15	CONNECTOR ROAD BETWEEN ROUTE 33 ON SOUTH AND NORTH - 3R PROJECT
16	CONTANT ROAD TO ROUTE 33 - 3R PROJECT

### Project Number

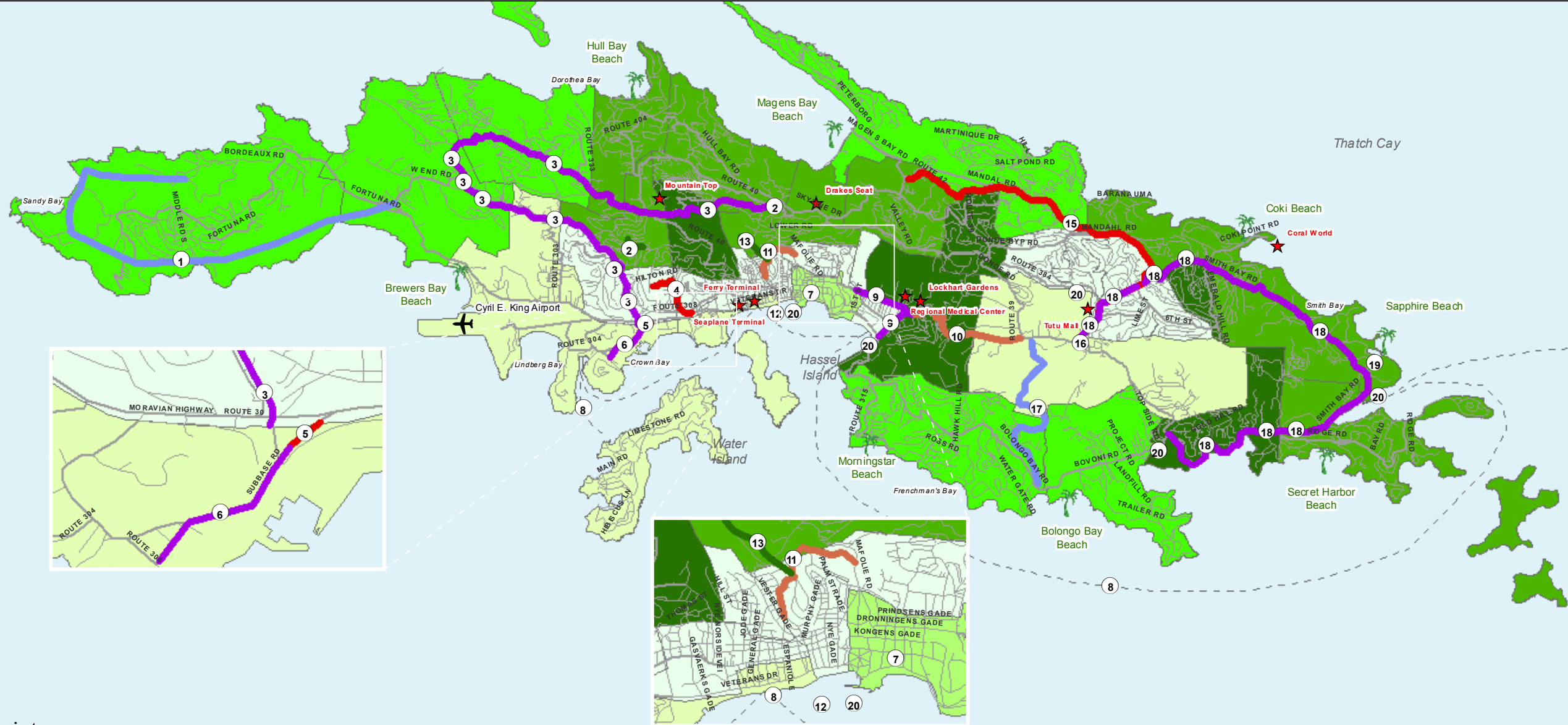
#### Locally Funded Projects

1	Kongens Gade (Education Street)
2	St. Joseph & Rosendahl (Route 39 and 394)
3	Emile (Milo) Francis Memorial Dr. (Route 38)
4	Hull Bay Road (Route 37)
5	Roy Lester Schneider Hospital Access Road
6	Cathrinberg Road (Garden St. Route 379)
7	Cathrinberg Road Intersection Improvement
8	Adel Gade Road Reconstruction
9	West End Road (Route 301)
10	Water Island Route 95 and Fort Hill Rehabilitation

### Federally and Locally Funded Projects

**St. Thomas,  
US Virgin Islands**

# USVI 2040 Transportation Plan



**Project Type**

- Congestion Management/Relief
- Islandwide Projects
- New Roadway Facilities
- Operations Maintenance and System Preservation
- Pedestrian and Bicycle Projects
- Safety and Operational Improvements
- Transit Projects
- Territorywide Projects

**Population Density Increase (2010 - 2040) Per Sqm**

- 0
- 1 - 100
- 101 - 200
- 201 - 400
- 401 - 800
- > 800

Project Number	Project Type	Project Description
1	New Roadway Facilities	Bordeaux Bay road from Sandy Bay to Fortuna Road (Route 30) (South Shore) and to West End Road (North Shore)
2	Safety and Operational Improvements	Improvement of Switchback In Elizabeth at Crown Mountain Road (Route 33) and Scott Free Road (Included in TTIP)
3	Pedestrian and Bicycle Projects	Sidewalks and bus shelters on Crown Mountain Road (Route 33) from Veterans Drive (Route 30) to Hull Bay Road (Route 37)/Skyline Drive (Route 40)
4	Transit Projects	Patriot Manor- Expanded Service
5	Transit Projects	Bus pull-off near Pueblo Supermarket on Subbase Road (Route 304)
6	Pedestrian and Bicycle Projects	Sidewalks on Subbase Road (Route 304) from Crown Bay Marina to Pueblo Supermarket with curb cuts - Completed
7	Congestion Management/Relief	Elevated parking garage in Charlotte Amalie – Project out to bid
8	Islandwide Projects	Marine Transportation Service – Planning Underway
9	Pedestrian and Bicycle Projects	Sidewalks near hospital and shopping center on Alton Adams Road (Route 38) and William G Lewis Lane from Lovers Lane to Long Bay Road – Already implemented
10	Congestion Management/Relief	Widen Raphune Hill Road/Weymouth Rhymer (Route 38) to 4 lanes and add sidewalk and bike path to Donoe Road (Route 39) – Under design
11	Congestion Management/Relief	Agnes Fancy / Fireburn Road expansion (Catherineburg Road)- Northwest of Charlotte Amalie at end of Mannassah Hill Road – Under design
12	Pedestrian and Bicycle Projects	Sidewalk Reconstruction Downtown Charlotte Amalie – Under design
13	Safety and Operational Improvements	Mannassah Hill Road into Savan operational improvements - Completed
14	Safety and Operational Improvements	Truck Route designation study
15	Transit Projects	New Transit Route (Lovenlund Route) along Mahogany Run Road (Route 42) from Tutu Park Mall
16	Safety and Operational Improvements	Improvement/road expansion at Smith Bay Road (Route 38) and Route 32 (Red Hook Ferry Terminal Area)
17	New Roadway Facilities	New Road North/South connecting Weymouth Rymer (Route 38) to Bovoni Road (Route 30). Alternate to Bovoni Road and Turpentine Run Road/Mariendahl Road (Route 32)
18	Pedestrian and Bicycle Projects	Sidewalk needed: Red Hook, Bovoni with curb cuts, Tutu intersection to Nadir, Nadir intersection to Red Hook with curb cuts, Smith Bay to Tutu with curb cuts
19	Congestion Management/Relief	Build Parking at end of Red Hook Road – Coordination with Port Authority
20	Transit Projects	Express Shuttle Bus Service from: Red Hook Ferry Dock to Downtown Charlotte Amalie, Red Hook to Tutu Park Mall, Nadir going west to Bovoni, Havensight to Downtown Charlotte Amalie



**Community Advisory Group Projects**

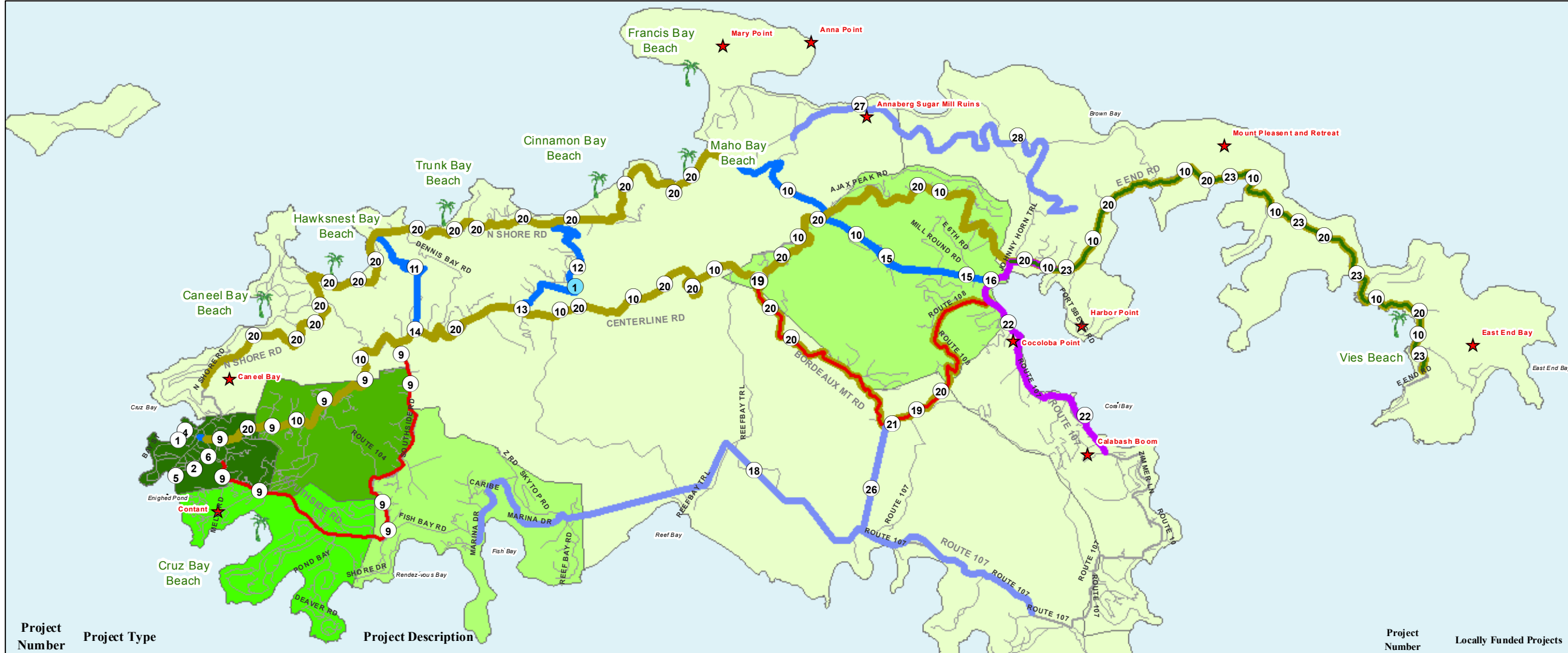
**St. Thomas, US Virgin Islands**



# USVI 2040 Transportation Plan



**2040**  
 UNITED STATES  
 VIRGIN ISLANDS  
 TRANSPORTATION  
 MASTER PLAN



- Project Type**
- Congestion Management/Relief
  - Islandwide Projects
  - New Roadway Facilities
  - Operations Maintenance and System Preservation
  - Pedestrian and Bicycle Projects
  - Safety and Operational Improvements
  - Transit Projects

- Funding Type**
- Locally Funded Projects

- Population Density Increase (2010-2040) Per Sqm**
- ≤ 100
  - 101 - 200
  - 201 - 400
  - 401 - 800
  - > 800



**Community Advisory Group and Locally Funded Projects**

**St. John,  
 US Virgin Islands**

Project Number	Project Type	Project Description	Project Number	Locally Funded Projects
1	Congestion Management/Relief	New parking at car ferry at Enighed Pond (Short Term Temporary Parking Exist)	1	John Head Road (Route 206)
2	Islandwide Projects	Ferry Schedule needs to be coordinated with VITRAN bus schedule		
3	Congestion Management/Relief	Close off road next to connections (to Car Ferry Terminal) – Access Circulation Study		
4	Congestion Management/Relief	Better coordinate access by car /rental car companies for the people ferries		
5	Congestion Management/Relief	Move passenger ferry dock to Creek Area or Enighed Pond (Large Pond) – Coordination with Virgin Island Port Authority		
6	Congestion Management/Relief	Evaluate feasibility of parking garage at Enighed Pond		
7	Transit Projects	Extend times of operations of VITRAN buses and frequency of service		
8	Transit Projects	Post and print ferry and bus schedules		
9	Transit Projects	Provide bus service and bus shelter on Gift Hill Road, south of South Shore Road and bus service along South Shore Road (Route 104)		
10	Operations Maintenance and System Preservation	Improvements needed on Centerline Road (Route 10): sidewalks, shoulders, repair crumbling cliffs, 97 blind corners between Coral Bay and Cruz Bay, widen road from Cruz Bay to North Shore Road (Route 20). { Note: Guardrail and Drainage Improvements on Route 10 are included in TTIP FY 2014}		
11	Operations Maintenance and System Preservation	Pave Route 204 to provide north-south connection between North Shore Road (Route 20) and Centerline Road (Route 10) – Coordination with National Park Service		
12	Operations Maintenance and System Preservation	Pave John Head Road (Route 206) to provide north-south connection between North Shore Road (Route 20) and Centerline Road (Route 10) – Coordination with National Park Service		
13	Transit Projects	Bus shelters identified at three locations on Centerline Road (Route 10) at John Head Road (Route 206), west of Reef Bay Trail, and east of Kings Hill Road on North Shore Drive (Route 20)		
14	Transit Projects	Park & Ride lot at Myrah Keating Clinic on Centerline Road (Route 10) at Gift Hill Road (Route 204)		
15	Operations Maintenance and System Preservation	Complete paving of King's Hill Road (Route 20) east of Centerline Road (Route 10) – Long Term		
16	Transit Projects	Build bus shelters at both ends of King's Hill Road (Route 20) at Centerline Road (Route 10) and at Route 107		
17	New Roadway Facilities	Build Park & Ride by Centerline Road (Route 10) and King's Hill Road (Route 20)		
18	New Roadway Facilities	Build South Shore Road connecting Reef Bay Road to Cocoloba Point at Route 107 – Long Term		
19	Safety and Operational Improvements	Guardrails needed along Bordeaux Mountain Road (Route 108) – Long Term		
20	Islandwide Projects	Need rest areas with public bathrooms on Centerline Road (Route 10), North Shore Road (Route 20), Bordeaux Mountain Road (Route 108) and Route 107 – Long Term		
21	Transit Projects	Need bus service along Bordeaux Mountain Road (Route 108) from Centerline Road (Route 10) to Route 107		
22	Pedestrian and Bicycle Projects	Sidewalk priority along Route 107 in Coral Bay and Johnson Bay		
23	Safety and Operational Improvements	Guardrails needed along East End Road (Route 10) from Route 107 and Route 108 to Pond Bay – Long Term		
24	Islandwide Projects	All new roads should have sidewalks and stormwater facilities		
25	Islandwide Projects	Truck Rules/Heavy Equipment: regulate size, noise, time of day, and exhaust of truck traffic in residential areas, escort vehicles enforcement, designate truck routes		
26	New Roadway Facilities	Improve Route 107 South of Bordeaux Mountain Road (Route 108)		
27	New Roadway Facilities	Extend Route 109 to Annaberg		
28	New Roadway Facilities	Pave Johnny Horn Trail – Long Term; Coordination with National Park Service		





2040

UNITED STATES  
VIRGIN ISLANDS  
TRANSPORTATION  
MASTER PLAN

ST. CROIX  
ST. THOMAS  
ST. JOHN  
WATER ISLAND

