ST. THOMAS COMMUNITY RECOVERY PLAN

AUGUST 2018

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FEDERAL EMERGENCY MANAGEMENT ENABLING AUTHORITY

The Community Planning and Capacity Building Recovery Support Function (RSF) is a FEMA led intergovernmental partnership focused on providing technical assistance to develop local disaster recovery and community capacity. The RSF derives its mandate from the Robert T. Stafford Act Section 402.3 which provides impacted communities relief via technical and advisory assistance in order to preform essential community services, assess disaster impacts, and perform recovery planning. The Community Planning and Capacity Building RSF further coordinates technical and advisory assistance under the direction of Presidential Policy Directive-8 and the National Disaster Recovery Framework. The projects outlined in this plan do not bind the federal or territory government to any actions or any financial or in-kind commitments.

UNITED STATES VIRGIN ISLANDS

The United States Virgin Islands is a part of the Leeward Islands located approx. 40 miles east of Puerto Rico and 1100 miles southeast of Miami, Florida. St. Thomas and St. John are separated by a mile wide strait and are both located approx. 40 miles north of St. Croix.

DOCUMENT PURPOSE

The St. Thomas Long-Term Recovery Plan (LTRP) is intended for use as a tool to guide the community through necessary steps in the long-term recovery process from Hurricanes Irma and Maria.
The LTRP is a community-driven document that contains significant input from local leaders, as well as the general public. The intention of this plan is for use as a blueprint that assists community leaders in identifying priority recovery projects and next steps. The St. Thomas community, their leaders, and project stakeholders are the primary audience for this plan. While the community is the primary audience, territorial and federal partners may reference it in their efforts to support long-term recovery efforts.

This document is designed to be flexible based on ever-changing recovery and community needs, over time community priorities and goals may be modified or evolve; therefore, projects chosen for implementation may change. The LTRP contains project-based recommendations and outlines potential paths forward in the community recovery process. Due to the flexibility of the LTRP, periodic updates and reassessments will be required.

To establish successful implementation of the LTRP, each project listed identifies potential funding resources and project champions. The role of project champions is to take ownership of their projects to ensure efficient progress is being made toward implementation.

ST. THOMAS VISION STATEMENT AND GOALS

FEMA's Community Planning and Capacity Building team worked closely with a long-term recovery group, the St. Thomas Recovery Team (STRT), in the process of creating a long term recovery plan for the island. STRT's stated vision for St. Thomas and their organization is:

"… a resilient and sustainable community where our coalition of diverse community stakeholders achieve success through our four main tenets of cooperation, communication, coordination, and collaboration. We hold true to the values to be inclusive, non-discriminatory, and promote diverse participation among all community members to ensure that the most vulnerable populations and institutions are identified, supported in recovery, and prepared for the future."

The primary goals of the group are to:

1. Coordinate St. Thomas' long-term disaster response with VOADs and government partners
2. Coordinate St. Thomas' long-term resource management from on and off island partners
3. Coordinate St. Thomas' long-term rebuild of owner-occupied homes and community spaces
4. Coordinate St. Thomas' long-term resilience planning
5. Create a culture of preparedness through educational outreach initiatives
6. Identify individual and community level unmet needs
7. Provide spiritual, physical, and emotional support to survivors in St. Thomas
8. Aid in the development and implementation of an island-wide emergency response plan
9. Facilitate gainful employment and economic recovery for members of the community by building capacity and training for essential disaster response positions

US VIRGIN ISLANDS HISTORY

The U.S. Virgin Islands was originally settled by the Ciboney, Arawak and Carib tribes. Migrating from the Amazon River Valley, these tribes excelled at both fishing and farming and built successful communities along the coasts of the islands. Crops they commonly grew include maize, tobacco, cotton and guava. Following Christopher Columbus' second voyage in 1493, the territory underwent a centuries long period of colonial control. Over the next 200 years, the islands now known collectively as the U.S. Virgin Islands were ruled by European powers that included: the Spanish, British, Dutch and French until the mid-18th century when all three islands came under Danish rule.

The Danish West India Company settled on St. Thomas in 1672, St. John in 1694, and purchased St. Croix from the French in 1733. In 1754, the Danes renamed the islands the Danish West Indian Islands and officially designated them as royal Danish colonies. By this time, the native population had largely been wiped out due to enslavement, violence and disease. Native population losses coupled with a desire by colonial rulers to increase agricultural and cash crop outputs led to a sharp increase in the utilization of the African slave trade. During this period, slave trading outposts were instituted in the territory and large plantations flourished with African slaves producing massive crop yields for export of sugarcane, coffee, tobacco and cotton. In 1848, non-violent revolts led to the abolishment of slavery, marking the end of the period in the territory. The territory remained under Danish rule until 1917 when the United States purchased all three islands for $25 million.

The 1930's were an especially prosperous decade in the Virgin Islands. The end of prohibition resulted in an increased demand for rum. Subsequently, employment soared on local plantations and the rum industry flourished as exportation to the mainland United States increased. A submarine base in the territory, utilized during World War I, also continued to be a major employer of the Virgin Islands. In 1936, all residents were officially designated citizens of the United States, further opening up economic opportunities to residents.

In more recent years, the U.S. Virgin Islands has been a hub for tourism, light industry and oil refinement. Up until 2012, when the operation closed, the territory's economy was closely linked to the HOVENSA petroleum refinery, a major economic driver and job creator. At its peak operation, the refinery was one of the top ten largest refineries in the world and was the predominant driver of economic growth for St. Croix. Today, the territory relies heavily on cruise ship docking and sees dozens of ships a year use its ports on St. Thomas and St. Croix. Cruise ships and other tourism activities have resulted in the advent of a primarily service based economy in the territory.

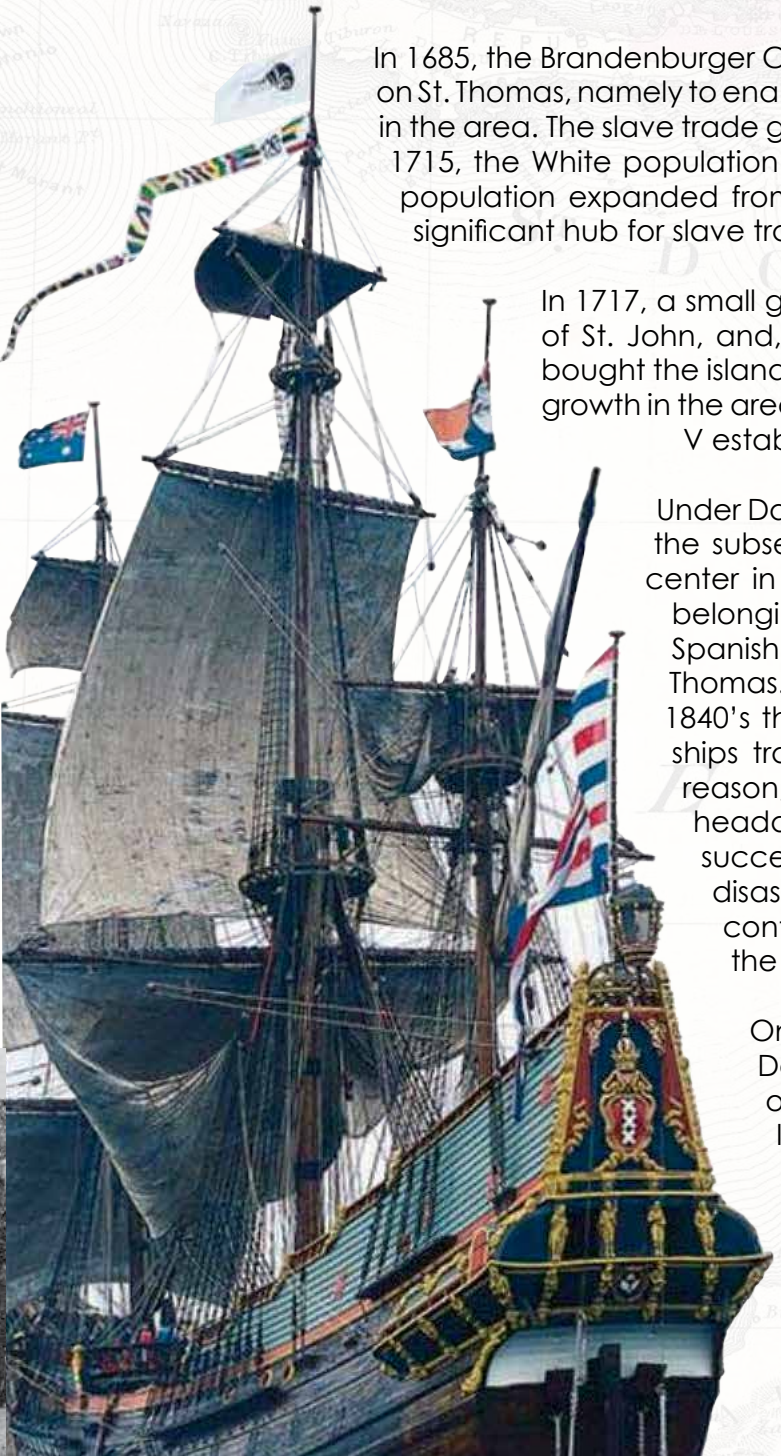
Hurricanes and tsunamis have had major implications for the people of the U.S. Virgin Islands throughout their histories. Historical records detail major storms and their impacts periodically during the entirety of the European colonial period. On average a hurricane passes near one of the Virgin Islands every three years. A direct hit by a hurricane occurs approximately every eight years. Prior to Hurricanes Irma and Maria in 2017, recent major storms have included the Category 4 Hurricane Hugo in 1989 and Category 3 Hurricane Marilyn in 1995. Hurricane Otto, a category 1 hurricane also made landfall in the territory in 2010.

Transfer Day is the day that the Danish West Indies were formally transferred to the United States, becoming the U.S. Virgin Islands. On March 31, 1917

ST. THOMAS ISLAND HISTORY & CULTURE

St. Thomas remained unsettled by Western influences until 1657, when Danish merchants arrived and formed the Danish West India Company, establishing a post on the island. This initial attempt to settle St. Thomas faltered due to a chronic shortage of supplies, poor soil conditions, lack of reliable water sources, and frequent raids by pirates. A second expedition arrived in St. Thomas in 1672 with improved financial backing by the Danish West India Co., and sponsored by the Danish King. This enterprise was ultimately more successful and established a stronger foothold on the island.

In 1681, the main settlement on the island was officially dubbed Charlotte Amalie after then Queen of Denmark. By this time, the trade industry on the island began to thrive. Denmark's neutral position in various European conflicts made St. Thomas the only port in the accessible to ships of all nations during this period. The island's harbor and availability of warehouse space made it an ideal port for commercial transactions.



In 1685, the Brandenburger Company officially established a slave trading business on St. Thomas, namely to enable the continued production of sugar cane produced in the area. The slave trade grew tremendously during this time; between 1691 and 1715, the White population of St. Thomas grew from 389 to 547, while the Black population expanded from 555 to 3,042. St. Thomas came to be known as a significant hub for slave trading in the area.

In 1717, a small group from St. Thomas claimed the neighboring island of St. John, and, on June 13, 1733, the Danish West India Company bought the island of St. Croix from France. Taking note of the significant growth in the area and its increasing economic prosperity, King Frederik V established the islands as crown colonies in 1754.

Under Danish rule, St. Thomas was made a free port in 1815 and the subsequent years served as a major shipping distributing center in the West Indies. Large and small importing houses, belonging to English, French, German, Italian, American, Spanish, Sephardim and Danish owners, were active in St. Thomas. Steamships began arriving in the harbor during the 1840's the port was then established as a coaling station for ships traveling between North and South America. For this reason, many shipping lines made Charlotte Amalie their headquarters. By the late 1800's however, the previous success of the island began to wane, and a series of natural disasters left Charlotte Amalie badly damaged. Slavery continued until a slave revolt on St. Croix in 1848 prompted the abolition of slavery in all of the Danish West Indies.

On January 17, 1917, St. Thomas and the other nearby Danish territories were purchased by the United States of America, who called its new territory "The Virgin Islands of America." The transfer officially occurred on March 31, 1917, on St. Croix.

The 1950's brought an era of improved and cheaper air travel, sparking growth in tourism. St. Thomas became a popular vacation destination and was established as a cruise ship port of call. Today, St. Thomas maintains a robust tourism industry.

GOVERNMENT STRUCTURE

Government House located on King Street in Christiansted, St. Croix, U.S. Virgin Islands

The United States Virgin Islands (USVI) is an unincorporated and organized territory of the United States. It is administered by the Office of Insular Affairs of the United States Department of the Interior and its broad governmental structure is defined by The Revised Organic Act of the Virgin Islands of 1954. At the local level, the USVI is governed by a territorial government that consists of the governorship, its cabinet, a legislative body and a judiciary. The judiciary consists of both local and federal courts and is separate from the executive and legislative branches.

The governor's office contains the governor and lieutenant governor in addition to various appointed commissioners and their corresponding offices. Governors and lieutenant governors are elected conjointly for four year terms of service and are responsible for complete oversight of the executive branch. The territorial governor's cabinet encompasses numerous appointed commissioners. Each commissioner is tasked with the management of its specific department and reports directly to the governor's office. Commissioners are influential entities in the USVI with broad ranging responsibilities pertaining to the implementation of policy and the day to day operational functions of their departments. In all, there are a total of 26 departments within the territorial cabinet.

The legislative body in the USVI is unicameral. It is comprised of 15 senators; with 7 from St. Croix, 7 from St. Thomas-St. John and 1 at large senator that is elected by the territory but must hold residency on St. John. Senatorial elections are held every two years.

The judiciary in the USVI contains both territorial and federal courts. These courts include a federal district court, a territorial superior court and a territorial supreme court. Judges on the federal district court are appointed by the U.S. president for ten year terms. Judges seated on both the territorial superior and territorial supreme courts of the USVI are appointed by the governor and confirmed by the legislature.

U.S. VIRGIN ISLAND TERRITORY DEMOGRAPHICS

The demographic profile of the United States Virgin Islands used data from the 2010 Decennial US Census, which is the latest and best available data at the sub-district level. To ensure a more accurate view of demographic characteristics of the US Virgin Islands' US Census data is supplemented with World Bank and Virgin Islands Territorial agencies.

The territory is located 40 miles east of Puerto Rico and 1100 miles from the US Mainland, the US Virgin Islands is comprised of the main islands of St. Croix, St. Thomas, and St. John. Populations of under 200 people also live on Water Island and Hassel Island in the Charlotte Amalie harbor south of St. Thomas. The territory also has several dozen small uninhabited cays and islands.

According to the 2010 Census, there are 106, 405 residents in the territory; though, sources vary as to the status of population increases and decreases in period since the 2010 census was conducted . St. Thomas and St. Croix have relatively similar demographic economics, while St. John is slightly more affluent. St. Croix and St. Thomas both have populations of roughly 50,000. St. John, the smallest island, has a population of 4,000 concentrated on the western side of the island in the area of Cruz Bay. St. Croix accounts for approximately 60% of the territorial land mass, while St. Thomas and St. John account for approximately 35% of the total land area.

Territory-wide the median household income in 2010 was $37,254, approximately 35% lower than that national average . Over 65% of individuals over 18 years of age were below the poverty line in 2009, compared to the national average of 13.3% for the same demographic group nationally. The territory is 76% Black or African American, 15.6% is White; 17.4% of the population identifies as Hispanic or Latino. Single-headed households account for 29.1% of families in the territory, above the national average of 19.6%. The local population has a disability rate of 9.8%, compared to 13% on the mainland US. For a more in-depth analysis see below.

Census Subdistrict	No. of households	Median HH Income	Race (%)			% Hispanic or Latino	% Owner Occupied Homes	% Renter Occupied Homes	Median Rent ($)	% Below Poverty	Avg. Pop. per sq. mile	% of families w/ single parents	% of pop. w/ disabilities
			Black/African American	White	Other Race								
USVI	43,214	$37,254	76	15.6	6.2	17.4	47.9	52.1	$767	22.5	792.2	29.1	9.8
St. Croix	19,765	$36,043	73.6	14.3	9.3	24.3	56	44	$657	26.2	607.3	30.2	10.8
Anna's Hope Village	1,644	$49,500	72.1	15.4	9.9	21.1	65.3	34.7	$801	14.5	408.6	26.3	8.4
Christensted	1,118	$23,814	74.4	14.4	8.8	34.2	27.6	72.4	$577	37.4	3,462.9	30.1	13
East End	1,122	$56,806	42.7	48.2	6.5	15.1	69.6	30.4	$973	12.5	190.0	14.7	8.5
Frederiksted	1,181	$24,933	80	8.9	8.4	23.9	36.4	63.6	$548	39.9	2,239.4	37.8	12.3
Northcentral	1,999	$32,333	76	12.4	9.8	24.5	68.8	31.2	$656	26.4	393.0	29.5	10.3
Northwest	1,922	$31,910	73.8	16	7.8	18.1	49.3	50.7	$546	34.1	267.3	35.9	11.2
Sion Farm	5,158	$40,541	72	15.1	9.1	24.8	55.8	44.2	$703	22.5	1,383.9	29.6	10.4
Southcentral	2,771	$33,883	74.6	9.3	13.1	28.7	54.1	45.9	$617	26.9	637.7	32.1	11.2
Southwest	2,845	$33,524	81.4	8.9	7.3	23.8	62.5	37.5	$708	24.0	1,361.5	31.3	12
St. John	1,894	$40,644	56.6	38.4	3.6	10.5	46.6	53.4	$1,012	15.0	211.8	21.8	7
Central	360	$43,333	44.8	50.6	3.3	5.3	51.1	48.9	$957	11.7	55.3	25.6	7.3
Coral Bay	301	$37,083	44.2	51.3	2.2	5	55.8	44.2	$988	17.3	332.6	21.6	8.5
Cruz Bay	1,203	$40,477	63.4	31.4	4	13.5	42.6	57.4	$1,024	14.8	976.2	20.9	6.5
East End	30	$37,500	33.3	60.7	0	0	56.7	43.3	$975	15.7	55.5	16.6	9.8
St. Thomas	21,555	$38,233	80	15.1	3.5	11.2	40.6	59.4	$813	19.5	1,649.1	28.8	9.1
Charlotte Amalie	7,692	$28,963	88.1	7.2	3.2	17.2	24.5	75.5	$725	26.0	5,494.5	34	11
East End	3,546	$38,764	81.5	15.9	1.7	7.4	47.6	52.4	$874	17.3	1,596.8	26.7	8.1
Northside	4,511	$53,784	55.9	36.2	5.8	7.7	49.2	50.8	$980	10.2	949.4	18.5	7
Southside	2,131	$41,010	77.4	15.3	6.1	10.2	39.6	60.4	$775	21.0	1,223.7	29	7.2
Tutu	2,634	$38,733	94.5	3.4	1.4	7	55.5	44.5	$824	17.6	4,525.3	36.4	10.6
Water Island	93	$47,917	4.4	92.9	1.6	4.4	62.4	37.6	$1,054	8.2	187.6	4.3	12.6
West End	948	$56,848	83.5	12.5	2.1	7.3	63	37	$894	9.3	431.7	24.1	6.2

The World Bank projects that there has been a slight increase in population while the US Federal Reserve states there was a 4% drop in the same period. https://data.worldbank.org/indicator/SP.POP.TOTL?locations=VI https://www.newyorkfed.org/medialibrary/media/press/PressBriefing-Puerto Rico-USVI-February222018.pdf https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_S1901&prodType=table

Data for the territory often lacks relevance and accuracy this is due to a variety of factors including, but not limited to Census data is only updated decennially, the hesitation of residents of answer surveys, federal surveys not conducted for territory, lack of adequate addressing system, among other issues. American Community Survey is not conducted in the territory.

COMMUNITY PROFILE

Located 40 miles east of Puerto Rico in the Caribbean Sea, St. Thomas is one of the United States Virgin Islands (USVI). It spans 32 square miles of landmass and as of the 2010 census has a population of 51,634. St. Thomas is divided into "estates" which can most aptly be characterized as small neighborhoods. The census bureau has divided St. Thomas into 7 sub-districts:

1. Charlotte Amalie (pop. 18,481)
2. East End (pop. 8,403)
3. Northside (pop. 10,049)
4. Southside (pop. 5,411)
5. Tutu (pop. 6,867)
6. Water Island (pop. 182)
7. West End (pop. 2,241)

Stretching along the southern shore of St. Thomas, Charlotte Amalie is the capital and most densely populated area in the Virgin Islands. As of the 2010 census, 18,481 people lived within Charlotte Amalie. As the primary gateway for tourists traveling throughout the U.S. and the British Virgin Islands, Charlotte Amalie maintains a bustling tourist economy complete with both an airport and one of the busiest ports for cruise ships in the Caribbean. Charlotte Amalie extends approximately 1.5 miles around St. Thomas Harbor from the Havensight mall district where cruise ships dock on the eastern edge, to the Frenchtown district on the city's western border.

Located about 7.4 miles east of Charlotte Amalie, the East End is occupied by several of the island's resorts as well as a variety of ecotourism destinations. Its largest community, Red Hook, is home to a variety of shopping and entertainment venues and is a center for nightlife on St. Thomas. It is also a gateway for travel to St. John and the British Virgin Islands through its Ferry Terminal.

By area, the Northside is the largest sub-district on St. Thomas and the second most populous. The Northside is predominantly known for its beaches and scenic lookout points. Notable locations include Magen's and Hull Bay. Both are popular beach destinations for locals and tourists.

Located East of Charlotte Amalie and directly west of the East End, the Southside is primarily occupied by residential communities and resorts. Resorts located within the Southside include Marriott Frenchman's Reef, Bluebeard's Beach Club, and Bolongo Bay Beach Resort. Popular beaches include Limetree Beach (Bluebeard's Beach), Morningstar Beach and the Beach at Bolongo Bay.

Encompassing twenty percent of the island's total population, Tutu is the second most densely populated area on St. Thomas after Charlotte Amalie. Its total area is approximately 1.5 square miles and contains the town of Anna's Retreat, the second most populated town on St. Thomas. Notable locations within Tutu include Tillet Gardens Center for the Arts, Tutu Park Mall, and Pistarckle Theatre.

Water Island was incorporated into St. Thomas in 1996 and has about 200 full-time residents. Water Island is primarily a residential and tourism district with few commercial establishments. The island is accessible by ferry.

The West End of St. Thomas is commonly identified as the agricultural center of the island. Located within the West End is Estate Bordeaux, a mostly Rastafarian community whose predominant means of income generation includes agriculture and the production of artisan crafts. Bordeaux contains a nationally registered historical site as well as a popular farmer's market.

USVI VULNERABILITY STUDY

This vulnerability analysis is based on metrics from the 2010 decennial census in an attempt to geographically categorize pre-disaster vulnerability in the US Virgin Islands (USVI). This data is based on historical disaster impact areas including employment, hospitals and healthcare systems, and factors associated with vulnerable populations pre-disaster like educational attainment; Hurricane's Irma and Maria further exacerbated these issues. The metrics used are:

- % over 18 years of age below poverty
- % of median household income
- % of noninstitutionalized population with insurance coverage
- % noninstitutionalized population over 18 with a disability
- % 25 years of age and over without a high school diploma

The USVI is comprehensively more vulnerable than the mainland United States; thus this study is an internal comparison of geographies within the territory. Each pre-disaster variable was selected to be split by US Census Sub-District; which are roughly equivalent to the neighborhood or subdivision level. Each variable has been divided into quartiles, with the three points awarded to the most vulnerable sub-districts and zero points awarded to the least vulnerable sub-district. Points were totaled to determine a composite vulnerability score for each US Census sub-district. The top quarter sub-districts composite scores were awarded a high vulnerability rating while the bottom quarter composite scores were awarded a low vulnerability ranking; the second and third quarter sub-district composite scores were awarded medium-low and medium-high vulnerability rankings respectively.

While the sub-districts with low and medium- low vulnerability are relatively more affluent than the other sub-districts, they are still vulnerable in comparison to the mainland US; as such, the projects outlined in each island's Community Recovery Plan are not necessarily focused on the vulnerability results of this study.

Island	Subdistrict	Subdistrict Vulnerability Composite	% over 18 below poverty	% of median household income	% with health insurance coverage	% over 18 with a disability	% over 25 with no high school diploma
St. Croix	East End	2	1			1	
St. Croix	Anna's Hope Village	3	1			1	1
St. Croix	Sion Farm	8	3	1	1	2	1
St. Croix	Northcentral	10	2	3	1	2	2
St. Croix	Northwest	11	3	3	1	2	2
St. Croix	Southwest	12	2	2	2	3	3
St. Croix	Southcentral	13	3	2	2	3	3
St. Croix	Christensted	14	2	3	3	3	3
St. Croix	Frederiksted	15	3	3	3	3	3
St. John	Central	3		1	2		
St. John	East End	5		2	1	1	1
St. John	Cruz Bay	5		1	3		1
St. John	Coral Bay	6		2	2	1	1
St. Thomas	Northside	1	1				
St. Thomas	West End	3	3				
St. Thomas	Water Island	4			1	3	
St. Thomas	East End	7	1	1	2	1	2
St. Thomas	Southside	8	2	1	3		2
St. Thomas	Tutu	8	2	2		2	2
St. Thomas	Charlotte Amalie	12	1	3	3	2	3

- Low - Medium Low - Medium High High

Noninstitutionalized refers to the part of the population that is not incarcerated or otherwise held against their will in medical facilities.

2017 HURRICANE DESCRIPTION

Hurricanes and Tsunamis have had major implications for the people of the U.S. Virgin Islands throughout their histories. Historical records detail major storms and their impacts periodically during the entirety of the European colonial period. On average a hurricane passes near one of the Virgin Islands every 3 years. A direct hit by a hurricane occurs approximately every 8 years. Prior to Irma and Maria in 2017, recent major storms have included the Category 4 Hurricane Hugo in 1989 and Category 3 Hurricane Marilyn in 1995. Otto, a category 1 hurricane also made landfall in the territory in 2010.

Hurricanes Irma and Maria devastated the U.S Virgin Islands in the fall of 2017. Hurricane Irma struck the U.S. Virgin Islands on September 6th. With winds sustaining over 185 mph it is the strongest storm ever recorded in the Atlantic Basin. As it made landfall over St. Thomas and St. John, wind and storm waters separated roofs from houses, planted ships on beaches and flooded structures throughout the two islands.

As residents and recovery workers scrambled to respond to the impacts of Irma, Hurricane Maria made landfall less than two weeks later on September 19th. Though less impacted by Irma, St. Croix absorbed the primary force of Maria. Intense winds and flash flooding inflicted severe damage to homes and critical infrastructure, leaving residents socially and economically insecure and vulnerable to environmental harm. Additionally, excessive rain coupled with the previous impacts from Irma caused extensive water damage to the already unprotected structures on St. Thomas and St. John.

HURRICANE IMPACTS

The impacts of Irma and Maria have been catastrophic to the U.S. Virgin Islands. Massive damage to homes, public facilities and infrastructure have left residents vulnerable to economic loss, social instability and environmental harm. With regard to housing, the territory has estimated that approximately 22,527 homes were damaged during the 2017 hurricane season. This figure accounts for 52% of all housing stock in the territory and of the 22,527 total, 5,175 homes suffered major or severe damage.

In terms of infrastructure, hurricanes Irma and Maria resulted in extensive physical damage for the energy, transportation, telecommunications and waste management sectors. Territory wide, over 90% of all aerial powerlines were damaged and approximately 13,478 total poles received some level of damage. Moreover, power was not fully restored to the territory until February of 2018. The road networks in the territory saw considerable damage. The USVI Department of Public Works has estimated a need of 32 million dollars for emergency road repairs. All airports were closed for two weeks following the storms and as a result of over 400 vessels sinking in the territory's harbors, all seaports were closed for 3 weeks. The waste management sector has been extremely overburdened as a result of Irma and Maria. Excessive storm flows resulted in damage to all 37 wastewater pumps in the territory. This led to wastewater overflows that disrupted 95% of public sewage services for territorial residents. In total, at least 138,000 gallons of waste water spilled into surface waterways and over land as a result of Irma and Maria. Damage to telecommunications systems resulted in transmission issues for cellular telephones, land lines telephones, internet and radio services. In total, 11 radio towers were damaged, and 75 miles of broadband cables were destroyed.

Irma and Maria impacted public facilities severely. The Virgin Islands Department of Education has reported that nearly every k-12 public school suffered damage due to the storms. More than half of the territory's schools reported that at least 50% of their facilities were damaged and in all, at least 30 schools total are in need of permanent renovation. Substantial damage to the health care system forced the evacuation of 784 critical care patients to the U.S. mainland. All of the major medical facilities in the territory were damaged during the storms and estimated repair costs are in the hundreds of millions of dollars. Many other public facilities were damaged during the 2017 hurricane season. Over 800 government properties received damage including critical public safety infrastructure such as fire and police services. This had a substantial effect on local public safety official's ability to respond to storm impacts and emergencies.

HURRICANE IMPACTS

Hurricanes Irma and Maria have had and continue to have an immense impact on the territory's economy. Economic losses can be divided into three major categories that include: lost wages, lost government revenues and commercial property damage. The estimated total lost wages for territorial residents as a result of the storms is approximately $398 million. Whereas lost government revenues are estimated to top $576 million dollars and commercial property damage estimates reach upwards of $561 million. In total, these estimates account for over $1.5 billion in economic losses as a direct result of the 2017 hurricane season.

The following table represents a breakdown of FEMA Verified losses by island for both Irma and Maria. Total FEMA Verified Loss is the value of real and personal property losses from storm impacts determined as a result of FEMA inspections. Real Property damage consists of damage to fixed property, most principally this includes damage to homes, structures and land. Personal property includes belongings exclusive of land or buildings. The inspections column represents the total number of home and property inspections performed. "Total per inspection" shows the average value of damages determined from a single inspection.

Irma FEMA Verified Loss		
	St. John	St. Thomas
Real Property	$19,864,258	$29,545,167
Personal Property	$3,093,169	$15,685,278
Total	$22,957,427	$45,230,445
Inspections	1847	10,439
Total per Inspection	$12,429.58	$4,332.83

Maria FEMA Verified Loss			
	St. Croix	St. John	St. Thomas
Real Property	$27,622,718	$18,864,258	$29,545,167
Personal Property	$14,551,803	$3,093,169	$15,685,278
Total	$42,174,521	$22,957,427	$45,230,445
Inspections	13,920	1847	10,439
Total per Inspection	$3,030	$12,430	$4,333

Summary

Hurricanes Irma and Maria inflicted severe damage on the island of St. Croix. The resulting impacts of the 2017 storm season will continue presenting themselves in future years. In lieu of an independent compilation of hurricane impacts on each sector or aspect of life on the island, narratives of damage are included in each project description in the remainder of the report.

[4] All data derived from FEMAa Service Center geospatial view as of 7/29/2018. FEMA Verified Loss is an inspected estimate of damages to real property (physical structure) and personal property (structure contents, vehicles, etc.)

ST. THOMAS RECOVERY PLANNING TEAM

Formation/History

The St. Thomas Recovery Team (STRT) was born as a grassroots disaster response effort of individuals and organizations in neighborhoods across St. Thomas in the aftermath of Hurricanes Irma and Maria in 2017.

"The STRT was unofficially started the day after hurricane Irma hit. We came together as a collection of grassroots organizations as the island's real first responders. From chain sawing people out of their homes to delivering ice to medical patients and food and water to nursing homes and the shut-in; the non-disabled citizens of St. Thomas were focused on protecting the most vulnerable in our population. We, through the most tragic of experiences, found each other and began to organize. Many of our members were active volunteers with the stateside American Red Cross responders. We drew their distribution maps, accompanied them on supply drops and became cultural liaisons for their effort. We garnered in-kind donations from local fueling companies to provide diesel to keep the senior home generators on, even if for just a few hours a day. We hauled water, got donations from local companies and restaurants, and started collecting data. The first two months were a whirlwind, but the camaraderie amongst the community organizers was pure and unmatched."

Understanding the need for unified long-term community-based recovery efforts, a core group of these responders and local organizations thus began the St. Thomas Recovery Team (STRT). The STRT was established on November 10, 2017, with the Board voted in on November 22, 2017. The organization established headquarters on Education Street in Charlotte Amalie where they continue to hold meetings. The STRT is presently made up of 8 Committees: Communications, Construction, Culture and Arts, Disaster Case Management, Donations, Health and Well-being, Resilience and Sustainability, Volunteer Management who meet on a regular basis to work towards their goals.

Grants awarded by Disaster Recovery Support Initiative (DRSI) and the Community Foundation of the Virgin Islands in February 2018 provided the STRT their first sources of significant funds, enabling the organization to begin their unified recovery efforts in earnest.

While working together on STRT related efforts, STRT's partner organizations also support each other in their respective individual events like Reef Fest, several health screening and wellness check events, the Great Mangrove Cleanup, and in the formulation of Disaster Preparedness Flyers and pamphlets. The organization continues to attract new members and expand their reach, becoming an ever more effective group to address the long-term recovery of St. Thomas.

Other Actors

All Hands, American Red Cross, AmeriCares, AmeriCorps, Beautiful Dreamers, Buddha Satiya Sai, Catholic Charities USVI, Disabilities Rights Center, Disaster Recovery Support Initiative, Family Resource Center, Friends of Disabled Adults and Children, Global Giving, Good360, Indian Association of the VI, Legal Services of the VI, Lutheran Social Services, Miami Foundation, My Brother's Workshop, Oklahoma Emergency Management Agency, Perfect Heart, Portlight, St. Thomas Rotary 2, St. Thomas Rotary East, St. Croix Long Term Recovery Group, St. John Angels, St. Thomas Reformed Church, State Nurses Association – Virgin Islands, Southern Baptist Convention, Texas Conservation Corps, University of Nebraska Emergency Management PhD program, University of the Virgin Islands, USVI Cooperative Extension Services, Virgin Islands - Established Programs to Stimulate Competitive Research, Virgin Island Relief Logistics, Washington Conservation Corps

OUTREACH OVERVIEW

Three community meetings were held on St. Thomas. The first meeting was held at All Saint's Church on April 18, 2018. The attendees were primarily members of the STRT Committees. At the meeting, the attendees encountered two poster boards for the following Committees: Culture and Arts, Disaster Case Management, Donations, Health and Well-being, Resilience and Sustainability and Volunteer Management. Even though there were not dedicated Committees for the subjects, there were also two boards displayed dedicated to Housing and Economics.

Generally, the first poster board presented outlined the mission of the committee, members, and recent accomplishments, while the second listed the priorities of each committee and their identified areas of interest. Attendees were asked to place a sticker dot under the priority they believed was most important to them and to add written comments or suggestions on post-it notes. A separate visioning board encouraged attendees to share their thoughts on what they most wanted to see in their communities, and a large map of the island was displayed where residents could identify their homes.

The second community meeting was held at Charlotte Amalie High School on May 2, 2018, and involved more extensive community participation along with attendance by public officials from the Governor's Hurricane Task Force. Members of the individual STRT committees again shared their work and highlighted their priorities in the ongoing recovery process. Poster boards were again displayed to capture feedback from community members and stakeholders. Participants identified the priorities they felt were most important in reestablishing a vibrant and healthy community and learned more about the activities of the STRT. High attendance at the second meeting reflected the support and interest of the community with over 150 attendees participating in the community engagement process.

Overall, 457 votes, were cast during the community activity. The most votes were for priorities identified by the Health and Well-Being (79), Resiliency and Sustainability (77), and Arts and Culture (82) committees. Other committees sparking interest included; Disaster Case Management (44), Housing (62), Economic Development (66), and Volunteers and Donations Management (47).

Several comments that were recurring feedback touched upon issues around communication between residents, volunteers, and response efforts, short and long-term housing, waste management, and long-term planning for land development and water-use. Many comments reiterated the need to "get pop-up houses for emergency housing" and "a comprehensive land and water use plan to be implemented." Others comments that sparked community interest included, "(the) lack of vocational education" and "skilled grant writers," as well as a need for "(a) focus on comprehensive energy plan to include alternatives."

The final community meeting was held on July 31, 2018. This event was an opportunity for the STRT to celebrate their work of the past few months, update the public on their progress, and showcase a select number of projects included in the Long Term Recovery Plan.

PROJECT OVERVIEW

The following 21 projects were chosen and prioritized to address the most-pressing needs identified in the St. Croix community planning process. They are organized into three categories:

- **Recovery Projects** to rebuild key community systems and repair facilities damaged by the storms, in the short-term
- **Resilience Projects** to strengthen community systems to restore island services and prepare for future disasters, in the 1-3 year time horizon
- **Community Development Projects** to advance the island as a whole, in the 3+ year timeframe

PROJECT NAME	CATEGORY
Comprehensive Homeowner Construction Assistance	Recovery
Post-Traumantic Stress Disorder Awareness Program	Recovery
Comprehensive Volunteer Response Plan	Recovery
Mental Health Treatment for Youth	Recovery
Healthy Homes Initiative	Recovery
Long-Term Senior Care Facility	Resilience
Expanded Behavioral Health Services	Resilience
Community & Home Gardening Program	Resilience
Solar Small Electronics Charging Stations	Resilience
Hospital Walkability Study	Resilience
Multi-Use Volunteer Housing Facility	Resilience
Community Solar Generation	Resilience
Comprehensive Housing Plan	Resilience
Micro home Construction Program	Resilience
Local Food Promotion Program	Resilience
Multiuse Arts Center	Community Development
Innovative Recycling Strategies	Community Development
Arts-Map of Downtown Charlotte Amalie	Community Development
Government Records Management Training	Community Development
Community Land Bank	Community Development
Increased Access to Health Care	Community Development

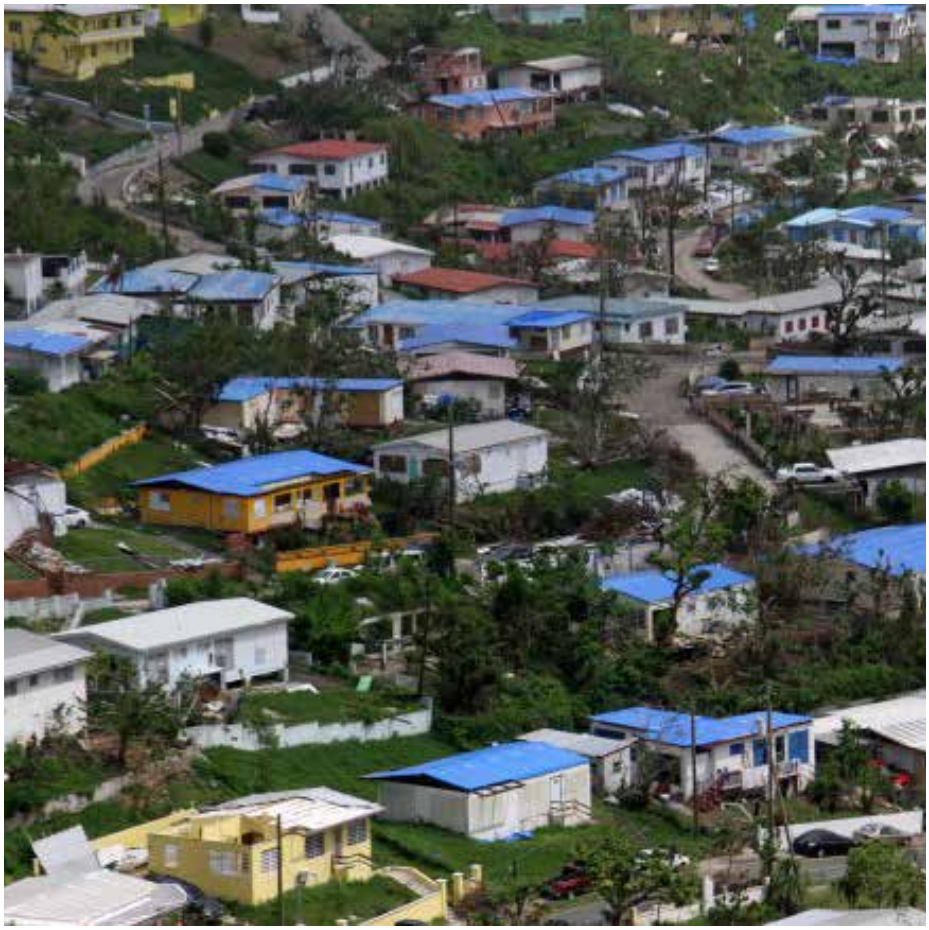
Projects align with Federal Recovery Support Functions (RSF) and, where applicable, appropriate Federal Agencies. Each RSF is lead by a corresponding Federal Agency. This is done to provide a starting point to identify additional funding avenues, technical assistance, and training for each project.

Community Planning and Capacity Building **(CPCB)** - FEMA
Economic **(Econ)** - Department of Commerce
Health and Social Services **(HSS)** - Department of Health and Human Services
Housing RSF - Department of Housing and Urban Development
Infrastructure Systems **(IS)** - United States Army Corps of Engineers
Natural and Cultural Resources **(NCR)** - Department of the Interior


ALBUQUERQUE 2,797 NW
PARIS 4248 NE
NEW YORK 1632 NW
BERLIN 5,735 NE
ATLANTA 1605 NW
LOS ANGELES 3,449 NW
BEIJING 8,421
MELBOURNE 10,192 SW
SYDNEY 9,968 SW
OKLAHOMA CITY 2,316 NW
SEATTLE 3,785
TIJUANA 3,364 NW
ST. LOUIS 2,067 NW
IGGIES
BOSTON 1690
DALLAS 2,211 NW
CHICAGO 2,102 NW
CAIRO 5,957 NE

RECOVERY PROJECTS

Rebuild Key Community Systems and Repair Facilities Damaged by the Storms



COMPREHENSIVE ASSISTANCE

There is a need for homeowners to repair and rebuild their homes. Many St. Thomas residents lack the experience to navigate assistance programs effectively or to manage and communicate effectively with contractors. Therefore, assistance to homeowners in guiding them through the numerous steps that are necessary to return a homeowner to pre-storm living conditions is necessary.

Project Champion:
STRT Construction Committee

Alignment:
Housing RSF, US Dept. of Agriculture

Cost:
$175,160 - $505,800 yearly
see Appendix 1.1

Timeline:
1-3 years

HOMEOWNER CONSTRUCTION

Comprehensive Homeowner Construction Assistance is a multi-faceted program with two main components. These components include; an outreach initiative and a construction assistance program. The outreach initiative is necessary to disseminate information on relevant housing assistance programs to those with unmet needs or housing insecurity. The construction assistance program provides assistance from construction specialists to connect homeowners to pre-approved contractors and guide them through the home repair process. The hiring of a construction manager is necessary to oversee both components of this project. The construction manager performs the steps necessary to ensure proper staffing of the project as well as broad oversight over both components.

IMPLEMENTATION STEPS

1. Hire Construction Manager
2. Recruit and train SMEs to coordinate
3. Compile a database of housing programs and potential contractor support
4. Conduct public outreach campaigns
5. Conduct technical assistance to improve public knowledge of programs
6. Develop contractor qualifications
7. Begin connecting pre-approved contractors to homeowners with repair needs
8. Continue outreach and oversight of construction projects to ensure efficient progress

The outreach initiative employs subject matter experts to provide information on both general and disaster-related housing assistance programs. Staff work to provide St. Thomas residents with the knowledge necessary to apply for and receive financial assistance for housing. These initiatives include both one on one counseling and public workshops. Relevant programs include various territorial housing programs as well as federal programs that assist individuals and the territory in general. It will be the duty of the subject matter experts to seek out relevant programs as well as seek gap financing opportunities to bridge the difference between the costs needed to rebuild a home and the assistance provided through insurance and government programs. Also as part of this program, data from program applicants can be used to prioritize need, determine preliminary project scopes and the total number of qualified applicants/projects. This information can, in turn, be used to determine the scope and staffing needs of the construction assistance component of this program.

The construction assistance program utilizes construction specialists to assist homeowners with coordinating the steps necessary to repair their homes. These construction specialists represent and assist owners with determining the scope of work required for repairs, cost estimations, negotiations with contractors and contractor management. Specialists also inspect projects periodically to ensure quality and efficient progress is made. Additionally, the program consists of a list of prequalified general contractors and helps to manage their workloads to ensure efficient progress.

POST TRAUMATIC STRESS DISORDER

PTSD is a mental health issue that people may develop after experiencing or witnessing a life-threatening or traumatic event. Survivors of all ages may exhibit symptoms of PTSD, with symptoms of depression, extreme anxiety, and feelings of hopelessness. To date, there is little formal assistance available on St. Thomas for those experiencing the effects of PTSD.

Project Champion:
STRT Health & Wellbeing Committee

Alignment:
HHS RSF

Cost:
$5,630 - $14,230
see Appendix I.2

Timeline:
1-3 years

PTSD AWARENESS PROGRAM

This project is an initiative to improve PTSD awareness and treatment options on St. Thomas. The enterprise is a community-led initiative spearheaded by a formalized group of interested medical professionals, health-focused non-profits, and faith-based organizations. This awareness initiative takes the form of workshops, community events, and public-facing media campaigns. Campaigns and workshops engage the public on the gravity of PTSD while providing accurate information regarding the condition. Workshops and training will be conducted for first responders.

Information conveyed states what PTSD is, how it occurs, its different symptoms, and its effects on the health of families and communities, and one's long-term well-being. Connections to existing treatment and other potential resources present on-island for those who have PTSD are made apparent, and referrals for interested parties. This initiative is essential for connecting those who have PTSD to the help that they need.

IMPLEMENTATION STEPS

1. Recruit volunteers from the medical, non-profit, and faith-based communities to administer the initiative
2. Train volunteers in PTSD awareness and available resources
3. Establish a relationship with existing providers, solidify the referral process
4. Develop outreach materials and communication strategy
5. Develop workshops and training for the public and first responders
6. Schedule and administer events

COMPREHENSIVE PLAN

St. Thomas received a surge of volunteers immediately post-storm. Although essential to the recovery efforts, as the initial recovery phase began to wind down, volunteers and those managing their efforts faced considerable challenges to staying on St. Thomas and continuing their work; namely, finding housing, establishing reliable transportation, tending to basic food/hygienic needs, and identifying projects suited to the skill set of volunteers.

Project Champion:
STRT Volunteer Management Committee

Alignment:
CPCB, HSS RSFs

Cost:
$25,000 - $32,000 - one time cost,
$49,131 – yearly salary
see Appendix I.3

Timeline:
> 1year

VOLUNTEER RESPONSE

A Comprehensive Volunteer Response Plan puts in place a predetermined set of guidelines and protocol for managing volunteer workforce resources before, during, and after a disaster on St. Thomas. As experience suggests, many generous volunteer teams are interested in assisting with recovery efforts, and this plan guides organizations on-island working to maximize their workforce potential. This Comprehensive Volunteer Response Plan provides coordinated direction to local recovery efforts in matters of identifying volunteer teams before and immediately after a disaster and deploys them to needed locations. The plan establishes a precise method of communication among groups and designates roles, responsibilities, and expectations, with contingencies for alternating circumstances. The plan not only coordinates these efforts, but also provides to those managing volunteer teams a framework by which to support them; basic resources identified include adequate housing for volunteers, security, food, water, hygienic products, and tools for jobs, transportation, and an appropriate roster of projects.

IMPLEMENTATION STEPS

1. Identify and hire Volunteer Coordinator
2. Identify host organizations/ groups that manage teams of volunteers
3. Identify several existing suitable locations to house volunteers
4. Build a list of viable locations to house volunteers based on the size of the group and individual's needs
5. Identify local retail/department store to procure supplies
6. Establish a Memorandum of Understanding (MOU) with volunteer housing sites
7. Establish a reliable transportation system to transport volunteers
8. Identify types of projects for volunteers

HEALTHY HOMES INITIATIVE

Public health effects due to post-hurricane damages to homes and other structures can take different forms. Mold growth has also been identified throughout St. Thomas as a direct result of the 2017 hurricanes, which can have especially detrimental effects on children and the elderly.

A significant portion of structures on St. Thomas were built more than 30 years ago during a period in which asbestos installation and the use of lead-based paints and piping were standard practice. Structural damages can release lead and asbestos into indoor environments, and unremoved debris increases the likelihood of contact with these dangerous substances. Left unchecked, this poses potential risks to household and public health. Few certified professionals in the territory handle the remediation of these environmental health hazards.

The Healthy Homes Initiative builds capacity to mitigate hazards, recruit and deploy a skilled labor force to remediate homes and coordinate remediation efforts. The program establishes a list of homes and structures that require mold, asbestos and lead remediation. Priority is given to homes with the most severe damage and those that require immediate attention due to especially vulnerable occupants, such as small children or the elderly.

Due to the stringent operational, removal and disposal regulations, coupled with the need for specially trained staff, it is strongly suggested to contract with an experienced abatement firm of a size large enough to provide island-wide testing and removal that includes laboratory services and comprehensive project management.

Remediation for mold initiatives include the implementation of long-term solutions; for example, landscaping, installation and the repair of gutters, sump pump installation in basements, and tiling around foundations can prevent mold growth following future disasters. This project will not only improve the health and well-being of the hundreds of men, women, and children who live in them; it will have the added benefit of better attendance at work and school as well as reduced doctor and hospital visits.

YOUTH MENTAL HEALTH

While the lingering effects of natural disasters touch all segments of the population, often youth are particularly impacted. The young people of the USVI still grapple with the effects of Hurricanes Irma and Maria both at home and in school. Many youths' homes are still damaged months after the storms, and schools on the island continue to operate on a half-day schedule as a result of damaged schools sharing facilities.

The instability that students experience both at home and at school can cause emotional and mental distress in many. With the majority of students being severely affected by the 2017 hurricane season and the limited reach of psychological care available on the island, addressing the mental health needs of Virgin Islands youth is critical.

The initiative seeks to address the mental health needs of students in three phases; the first, outlined here, is exploratory. Assessments on the nature and scope of programs requirements will be conducted. Personnel will be trained to identify students for primary eligibility for the program, and screening will be conducted to ensure students are presenting symptoms requiring treatment. Students will be afforded direct therapeutic interventions on a bi-weekly basis, in a small-group format, with individual sessions available as needed. Data and updates will be made public.

Additonal Alignment and Champions:

Beautiful Dreamers, STRT Health and Wellbeing Committee, USVI Department of Education, USVI Department of Health

RESILIENCE PROJECTS

Strengthen Community Systems to Restore Island Services and Prepare for Future Disasters

LONG-TERM CARE FACILITY

The sole government-operated elder care facility operated on St. Thomas, Queen Louise Home for the Aged, provided essential care to the elderly on the island, with a capacity to serve around 30 seniors. The facility was previously damaged by Hurricane Marilyn, incurring particularly significant damage to the second floor of the facility rendering it inoperable; this caused the loss of 40-50 beds.

Project Champion:
STRT Health & Wellbeing Committee

Alignment:
CPCB, IS, Econ, Housing, HSS RSFs

Cost:
$1.44 – 2.35 million
see Appendix II.1

Timeline:
3+ years

SENIOR CARE FACILITY

The Long-term Elder Care facility provides additional support to the aging community who may be ill, disabled, struggle with everyday tasks, or require ongoing treatment and support. The long term elder care facility provides a wide range of medical and support services to the elderly under qualified supervision. This facility will expand upon the services made available at the newly renovated Sea View facility, providing additional options for care.

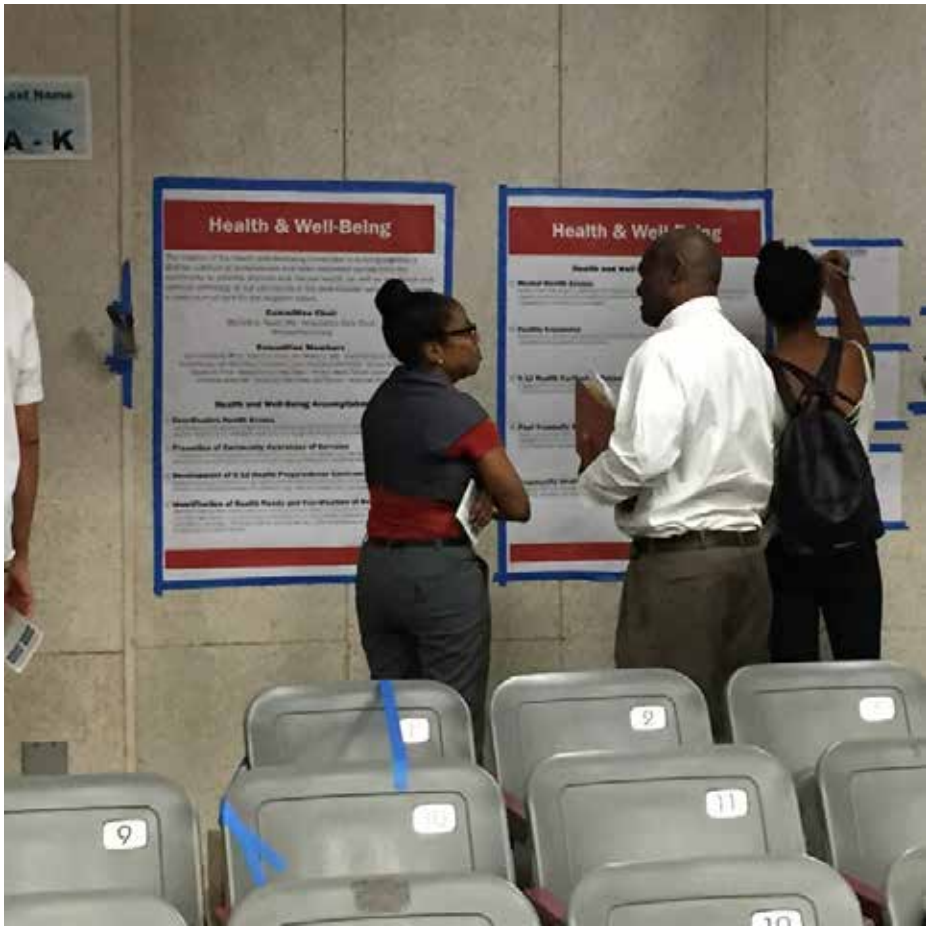
IMPLEMENTATION STEPS

1. Form a cooperative that will construct and operate he facility; hire facility director
2. Identify land for new building and acquire a parcel
3. Build a multi-use facility that can house seniors
4. Certify facility can receive Medicare funding
5. File for a certificate of occupancy and any other paperwork
6. Find qualified local staff
7. Establish criteria and financial considerations for patrons
8. House seniors
9. Plan for increasing maintenance costs as time goes on and expansion of facility as needed

Sea View is a privately run facility that served many of the elderly on St. Thomas. Hurricanes Irma and Maria caused massive and significant damage to the facility. The majority of patient rooms were rendered unusable and the security system inoperable. Many staff of Sea View incurred significant damage to their own homes, causing many to leave the island and hence resign from their positions. The significant damage to patient's rooms at Sea View forced the relocation of residents to a public cafeteria which still serves as their everyday living quarters. Presently, the public setting lacks sufficient privacy.

Many other medical treatment facilities on the island who specialize in other fields such as mental health treatment or developmental disorders have informally stepped in to fill the gap in services for the elderly. As a result of the decline of these facilities and unclear network of treatment, many older residents of St. Thomas who have the means fly off-island for care, uprooting long established roots in the community and separating families.

As of July 2018, Governor Mapp announced plans to utilize CDBG-DR funds to close the Queen Louise Home for the Aged and purchase and rehabilitate Sea View. This renovated facility includes long-term living, assisted living and independent living units for elderly residents of St. Thomas. Despite this improvement, the population of St. Thomas is rapidly aging and need for such facilities continue to grow. The senior population will be larger than the non-adult population by 2019 according to a Housing Demands Study, released by the Community Research Services in 2015. As the aging population of St. Thomas continues to grow, expanded access to elder care facilities is essential to the community.



EXPANDED OUT-PATIENT SERVICES

There has been a call for improved substance abuse and mental health care. Facilities and programs, as well as the availability of a qualified healthcare workforce, have struggled to keep up with the population's growing mental health needs.

Project Champion:
STRT Health & Wellbeing Committee

Alignment:
Housing, HSS RSFs

Cost:
No direct costs

Timeline:
1-3 years

BEHAVIORAL HEALTH

It is the community's belief that the current mental health needs of the St. Thomas community post-Irma and Maria outpace the capacity of current offerings. Presently on St. Thomas, there are psychological services offered at the federally qualified community health clinic, East End Clinic. This facility's capacity to meet the community's needs is restricted however by limited staffing. Other healthcare facilities have stepped in to fill this expanded need, indirectly treating patients with mental health needs, but these clinics are not specialized or fully equipped for this type of treatment. For example, Bethlehem House, a shelter for the homeless on St. Thomas, often encounter mentally ill residents who are not receiving the care they require or who may have gone off their medications. The shelter's staff is not explicitly trained to treat or manage mentally ill individuals, a situation that often puts staff, residents and the mentally ill at risk. The long-term impact of Irma and Maria continue to influence the mental health of residents of the Virgin Islands for years to come.

IMPLEMENTATION STEPS

1. Establish a relationship with the current federally qualified community health centers
2. Identify specific gaps in services, populations unserved, and current overburdened services
3. Establish a committee to liaise with community health center Board
4. The committee will work with the Board to facilitate National Health Services Corp involvement
5. National Health Services Corp staff installed on the Community Center's Team
6. Expanded services begin to be offered to fill identified gaps in services

The St. Thomas out-patient behavioral health program expands upon services in the existing federally qualified Community Health Center on St. Thomas, located in Red Hook. In addition to continuing to offer services such as primary and general care, the Center also provides more extensive behavioral health care in the form of extended clinic hours and an increased number of qualified professionals. A more robust behavioral health program addresses the severe strain on St. Thomians who might be experiencing exacerbated mental health or substance abuse issues as a result of Hurricanes Irma and Maria.

By offering primary, mental health, and substance abuse care services in one program and at one location, an integrated approach to health care can be established. This approach makes mental health care and substance abuse treatment more accessible to the public and provides a solution to the potential stigma around treatment; patients typically feel more comfortable taking advantage of stigmatized services if they are co-housed with more general health services.

To attract qualified psychologists, psychiatrists, social workers, and other behavioral healthcare professionals the Center can utilize the National Health Service Corp. This program draws trained health professionals to underserved areas. After one group of National Health Service Corp members completes their term, another may replace them to ensure continuity of services.

COMMUNITY & HOME GARDENS

Residents experience food insecurity due to the high costs of products and heavy reliance on food imports. Like many Caribbean islands, residents of the US Virgin Islands are mostly reliant on imports to provide their food supply. Some figures suggest that the USVI imports between 97-99% of its food, leaving its residents mostly dependent on an outside supply chain for sustenance.

Project Champion:
STRT Resilience and Sustainability Committee

Alignment:

NSR, Housing RSFs, US Dept. of Aquaculture

Cost:
$54,728 to $159,000

Timeline:
1-3 years

GARDENING PROGRAM

The St. Thomas community garden is a piece of land gardened collectively by a group of like-minded community members. It utilizes individual or shared garden plots on private or public lands to produce fruits, vegetables and other edible plants for consumption within the community. The garden seeks to increase access to fresh, nutritious food, in addition to strengthening ties and creating a culture of collaboration amongst St. Thomas residents. Crops planted to reflect the cultural culinary traditions of the community and give a physical space to celebrate and carry on these customs.

IMPLEMENTATION STEPS

1. Organize a meeting of interested community members
2. Form planning committee for oversight of implementation
3. Identify resources available, needs for implementation and detail guidelines for site management and committee roles
4. Site research, exploration and choose site or sites
5. Design, prepare and develop the site based on identified resources and needs
6. Begin food production, distribution of plots, and develop member duties.
7. Develop youth programming and starter kit operation

In addition to on-site food production, the community garden provides other beneficial services to the community to improve resident's capacity to start home gardening. Educational opportunities such as workshops for adults that improve gardening skills, as well as youth programming are an essential aspect of what the community garden seeks to accomplish. Workshops increase the community's capacity for producing their food, while youth programming exposes the next generation of St. Thomians to sustainable local food production, teaches them the importance of cultural tradition and roots them more deeply within the community. The community garden also produces garden starter kits. Starter kits contain the materials necessary to start a home garden. They include seeds for initial planting, as well as mixes and trays to begin seedlings before garden planting.

SOLAR FOR SMALL ELECTRONICS

The lack of electricity post-storms impacted the ability to communicate and obtain information. While cell service was absent immediately post-storms, some were able to access cell service within a few days or weeks; even before the rest of the power was restored. Many, on the other hand, went without being able communicate for weeks.

Project Champion:
University of the Virgin Islands

Alignment:
CPCB, Econ

Cost:
$4,000 - $17,000 per station
see Appendix II.5

Timeline:
1-3 years

SOLAR CHARGING STATION

Publicly accessible solar charging stations can be of great benefit both after a disaster and for everyday use. These solar-powered stations allow residents and visitors alike the ability to charge their cell phones, tablets, laptops, and other small electronic devices. Placing these stations in parks, playgrounds, campgrounds, public beaches, outside businesses or restaurants, university campuses, little league parks, or in any other outdoor public area will provide a convenient means of staying connected. These stations can serve as hubs for survivors to connect and receive disaster-related information post-disaster events, and vibrant community meeting spaces in daily life.

IMPLEMENTATION STEPS

1. Identify grants and partner organizations
2. Identify high traffic community locations that are easily accessible
3. Adjust local zoning laws for stations be installed
4. Solicit donations from manufacturers of solar charging stations, or independently purchase solar charging stations
5. Provide public education to community members
6. Assign a caretaker to ensure that stations are operational post-disaster
7. Conduct long-term maintenance to ensure stations are operational for emergency events

HOSPITAL WALKABILITY STUDY

The promotion of storm water management and walkability around the Schneider Regional Medical Center can improve access during weather events while also promoting pedestrian safety, accessibility, and health. The focus area of this project is the area around Perimeter Road, an approximately 3,200 linear ft. of the local public road that serves the area adjacent to Schneider Regional Medical Center.

Project Champion:
VI Department of Public Works

Alignment:
CPCB, IS

Cost:
$20,000- $30,000

Timeline:
3-4 months

HOSPITAL WALKABILITY

Located on Perimeter Road are Lockhart Elementary School, Charlotte Amalie High School, St. Thomas' U.S. Post Office, Virgin Islands Daily News offices, VI Department of Health offices, VI Housing Authority senior housing, professional medical offices, and other commercial uses. Adjacent to the site are multiple shopping centers, a bank, a mostly residential area, and two low-income public housing communities.

IMPLEMENTATION STEPS

1. Month 1- Initial project logistics planning. APA and community points of contact discuss the scope of the project, travel arrangements, potential team member roles.
2. Month 2- Data collection and site study. APA staff and Team meet via conference calls and email exchanges to discuss and coordinate the details of the project. APA team visits the island (3-5 days) and collect data for the final report.
3. Month 3-4 – APA drafts and release its final report. Community points of contact promote the final report for implementation.

The entire area suffers from chronic drainage issues contributing to erosion and sediment build up from the study area all the way to Long Bay. There are few sidewalks coupled with dense, day-long traffic patterns in and out of the study area. Pedestrians regularly access the study area out of necessity, even though it is unsafe. The study area also lacks adequate marked bus transit infrastructure.

A drainage study is needed to determine the best approach to mitigate future storm water hazards. The study will also address any effects on the downstream drainage network. The study also provides an opportunity to enhance recreation and green space in the area. A Complete Streets approach applied in designing the roadway, and pedestrian improvements are needed. These improvements provide health, social, and economic benefits to the local community, which is predominately low and middle income.

This project seeks assistance from the American Planning Association (APA) in engaging local stakeholders in a design charrette and public engagement event. The design charrette will be targeted to surrounding stakeholders to determine their needs, vision, and goals for the area and to design a complete, safe, healthy, and resilient Perimeter Road. The results of the design charrette and subsequent APA report will inform the complete application to FEMA's Hazard Mitigation Grant Program.

VOLUNTEER HOUSING FACILITY

Housing stock is notoriously limited for both residents and visitors. Immediately post-storms, the Ritz Carlton, Margaritaville, Marriott, and St. John's Westin all closed their doors. Some of these resorts offered reduced rate housing for volunteer disaster workers, but this quickly ended as they began to host tourists again. A small number of houses of faith on the island have been utilized as temporary housing for volunteers but eventually returned to non-disaster functions, further damaging volunteer capacity on the island.

Project Champion:
STRT Volunteer and Donations Committee

Alignment:
CPCB, Econ, Housing, Ag

Cost:

$2 – 3 million
see Appendix II.10

Timeline:
3+ years

MULTI-USE HOUSINGFACILITY

The creation of a St. Thomas's multiuse volunteer facility fulfills many needs of the local non-profit and faith based community: emergency sheltering for residents, centralized supply distribution point, secure and dedicated lodging for volunteers year-round, and free community organizing space.

IMPLEMENTATION STEPS

1. Form committee to spearhead process
2. Identify the number of volunteers for current and future anticipated need
3. Identify suitable parcel for a facility
4. Identify and obtain funding
5. Identify architect
6. Work with an architect on facility design
7. Identify contractor
8. Construction/Acquisition
9. Enact calendar of events/ lodging schedule
10. Maintenance of facility and scheduling

This facility may actualize through new construction or by the acquisition and hardening of existing facilities. Regardless, the facility must be stormproof and have flexible spaces that respond to evolving needs. During a storm, this facility may serve as an emergency sheltering location, as well as a shelter-in-place location for volunteers on the island. Immediately following an event, the facility can serve as a centralized point of storage and distribution of relief supplies.

Post-disaster, the primary function of the facility would be to lodge national and international volunteers and response workers in one safe and centralized location. Secure tool and equipment storage would be made available, as would space for staging, meetings, or training. The facility can also be used to host community training, meetings, or seminars for the broader public, or rented out for events to raise revenue for the facility.

Ideally, a facility would be established within walking distance of each of these large population centers: Downtown Charlotte Amalie, Smith Bay, Bordeaux/ Fortuna, Northside (Four Corners), and Bovoni.

COMMUNITY SOLAR GENERATION

The USVI are heavily reliant on fossil fuels for electric generation. This option is expensive and often unreliable. Fuel imports have a tremendous impact on the cost of electricity. Before the hurricanes, electricity in the USVI averaged $.47 per kilowatt-hour, 3.5 times the national average. Pre-storms, aging infrastructure led many to experience frequent outages and disruptions. This infrastructure was further compromised by the effects of the 2017 hurricane season.

Project Champion:
STRT Resiliency and Sustainability Committee

Alignment:
CPCB, IS, Econ, RSFs

Cost:
$6,000 - $35,000/home
See Appendix II.11

Timeline:
3+ years

COMMUNITY SOLAR

The Community Solar project allows for middle and low-income homeowners and community organizations to supplement existing power sources in times of disasters or infrastructure failure via solar energy production.

IMPLEMENTATION STEPS

1. Establish a steering committee
2. Create a network map of critical stakeholders, partners, and funding
3. Collaborate with WAPA and DPNR to ensure panels are legally installed and adequately linked to electrical systems
4. Find resources install PV Cells and battery packs on buildings
5. Determine criteria for program eligibility
6. Attract applicants for the program
7. Select applicants for installation of solar systems
8. Develop installation and maintenance strategies for individual solar systems

A micro-grid is a group of distributed energy sources, typically including generation, storage, and demand management capabilities. It functions as an independent power system with the ability to enhance grid resiliency and customer reliability. Micro-grids promote cleaner and renewable energy, reduce carbon emissions and improve remote customer access to reliable electricity. By implementing a community-led and operated self-sustaining energy production system, community members can ultimately be more self-reliant in their everyday lives and more resilient in the face of disaster events. Stored energy in times of disasters, emergencies, or primary power grid failures provide community members the security of an essential electrical source: this enables residents to power appliances that keep food and medicine cold, charge communication devices, access water, and continue to operate septic systems.

There are many ways micro-grids can be utilized on a small scale and geared towards primarily community use. For a more robust discussion of these various strategies, refer to Appendix II.11.

LOCAL FOOD PROMOTION PROGRAM

St. Thomas has a small, yet strong agricultural community. Mostly settled on the West End of the island in Estate Bordeaux, it is a close-knit population of small-scale farmers. Entrepreneurs have also incorporated creative techniques to small-scale agriculture in other parts of the island with success. Farmers on St. Thomas concentrate much of their efforts on selling produce directly to consumers.

Project Champion:
STRT Resilience and Sustainability Committee

Alignment:
Econ, HSS RSFs

Cost:
TBD

This project focuses on building capacity for local food producers. It includes technical assistance to farmers concerning longer term crop storage, irrigation, pest management, marketing/distribution of crops, record keeping, grading of fresh produce, and sustainable soil management. Particular attention should be paid to providing producers with the information they need to mitigate losses from natural hazards.

IMPLEMENTATION STEPS

Seeking technical assistance for:

1. Longer term crop storage
2. Irrigation
3. Pest Management
4. Marketing/distribution
5. Record keeping
6. Grading of fresh produce
7. Sustainable soil management

For example, technical assistance and training to farmers on steps to be taken before and after a storm to reduce crop losses should be offerd. The rediscovery of local crops is also a focus of this project. This aspect of the project supports local cultural heritage and limits losses by planting a greater variety and volume of crops that have specially adapted to the St. Thomas landscape. Enhancing agro-processing, or the process of growing, harvesting, and selling local agricultural products, on the island is a primary component of this project. Both community and household agro-processing initiatives reduce post-disaster and post-harvest crop losses, preserve food long term and add value to products.

The Local Food Promotion Program seeks funding and technical assistance from various outside entities. Funding from the USDA, local agriculture extension, and philanthropic organizations can aid project champions in achieving the goals of this project. A variety of funding and technical assistance programs exist to carry out these initiatives.

COMPREHENSIVE HOUSING PLAN

Gaps in housing infrastructure on St. Thomas exist throughout the entirety of the housing system. There is an explicit need for increases in permanent housing for individuals with special needs, the homeless, and senior citizens. Previous research has identified numerous obstacles that inhibit the development of a more efficient housing system on the island. These impediments include high development costs, a shortage of technical construction expertise, limited land, and an inefficient transportation system.

Though many of these housing issues were present before Hurricanes Irma and Maria, the 2017 hurricane season has further exacerbated them. Extensive damage to single and multi-family homes have placed significant additional stresses on an already overwhelmed infrastructure.

Since successful housing systems play a significant role in a community's ability to respond to natural disasters, if the St. Thomas community can develop a more reliable housing system, it will limit the potential dangers that insecure housing can create in the aftermath of a disaster. Given the pervasive housing issues present on St. Thomas and the importance of housing in ensuring resilience from natural impacts, it is necessary to develop a comprehensive housing plan.

MICRO HOME CONSTRUCTION

Disasters often cause damage to homes that can leave them uninhabitable for months. Having necessary building supplies in the best of times is already burdensome in the territory. All of these variables strain an already limited housing network. The United States Virgin Islands already have extreme pressure on available housing. This sector needs new, equitable solutions to house disaster survivors, response workers, and recovery staff in the aftermath of major storms. A study of available resources and the feasibility of a Micro-Home program could be the first step.

Micro-Homes reduce the cost of a home by reducing the number of building materials needed. The application becomes doubly useful when those materials are in short supply.

Homes can be modular, panelized and repeatable systems, built off the island and assembled on-site. Modular homes create an economy of construction that saves money through a reduction in construction time, on-site labor and allows for higher quality as the components are made in a controlled environment.

Secondly, it reduces the footprint of a building in a market where land is mostly restricted. The high cost of raw land, existing real estate and construction in the USVI, makes examining the application of the Micro-House concept as an appealing alternative to conventional housing.

Lastly, this program approach promotes "infill" development that blends people of differing economic resources into a neighborhood.


V
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COMMUNITY DEVELOPMENT

Advance the Community as a Whole

HEAVILY DAMAGED ARTS FACILITIES

St. Thomas has a rich and vibrant artistic community: visual and performing artists, culture-bearers, craft-artisans, filmmakers, writers, and many others. The storms damaged homes, studio spaces, the Reichhold Center, and displaced many others off-island with no determined return dates.

Project Champion:
STRT Culture and Arts Committee

Alignment:
CPCB,
Natural & Cultural RSF

Cost:
$350,000-$700,000
See Appendiz III.2

Timeline:
3+ years

MULTI-USE ARTS CENTER

The Multi-use Arts Center is a single location offering studio, storage, and exhibition/retail gallery space for visual artists and craft makers. It also houses an art supply store carrying traditional art supplies, specialized products, and general office supplies.

IMPLEMENTATION STEPS

1. Identify location for construction/retrofit of building
2. Identify funding for procurement of space
3. Procure space
4. Begin construction/retrofit
5. Hire coordinator
6. Identify artists with need for studio/storage soace
7. Identify vendors to stock the supply store
8. Coordinate a work-share program to staff the supply store with artists renting studios

Artists will have access to reliable space to practice their crafts, as well as a safe and secure place to store completed works. A ground floor exhibition and retail gallery space allows artists to show their work to the public, while also enabling them to gain personal income from sales.

The arts supply store provides steady and sustainable access to supplies for artists, while also funneling income from sales back into the operation of the Center. An easily accessible, centralized physical location is a major component of the project, the strong network of artists it enables and the close-knit community it fosters will also be considered a significant measure of its success.

The Center can act as a hub for the artistic community both physically and spiritually, strengthening linkages and making the artistic community more resilient against future challenges. In the case of future natural disasters, the Center can also serve as shelter for those whose homes are damaged, potentially saving lives as well as encouraging retention of the artistic community post-disaster.

RECYCLING STRATEGIES

St. Thomas has never been home to island-wide recycling or reuse program. There are currently partnerships in place with TerraCycle and VI-EPSCoR that facilitate small-scale collections and offshore processing of plastic bottles. A similar operation exists for the recycling of aluminum, spearheaded by Luis Mendez Recycling.

Project Champion:
STRT Resilience and Sustainability Committee

Alignment:
Econ, CPCB. HSS RSFs

Cost:
TBD

INNOVATIVE RECYCLING

Public favorability towards a comprehensive recycling program is high, but between restrictive legislation, and the prohibitive expense of transportation and processing waste, implementing such a program on St. Thomas is a considerable challenge.

The lack of wide-scale recycling program is known to have considerable effects on the islands natural resources such as its beaches, reefs, and marine life. Specific concerns have been voiced about these resources concerning the massive number of plastic bottles imported, used, and discarded locally during response efforts after the 2017 storms. The Bovoni Dump, which is the sole landfill on the island and the only place waste is disposed of, is quickly reaching capacity and the mound of waste housed there is growing taller by the day.

Due to the isolated nature of the territories geography, there are additional costs if recycled material require shipment off the island. By partnering with the territorial government and local organizations, a recycling program can utilize already existing infrastructure and consumer/producer networks for transport of collected recyclables. Options exist for using the income generated from reselling the recycled materials to fund the recycling program.

A recycling program relies on the individual or group recycler separating their recyclables into different refuse bins and then hauling their contributions to a central collection point; grocery stores, schools, pharmacies, restaurants, and other shopping options make good drop off points.

Materials can be compacted at a centralized location for shipping back to the mainland US or Puerto Rico. It would be ideal to partner with a likeminded private shipping company that is willing to donate or minimally charge for recycled materials to be loaded into empty containers returning to the mainland.

For this project to be economically feasible complimentary waste reduction strategies must be considered. In addition to current efforts to reduce plastic consumption, like the plastic bag ban, other methods of curbing waste are needed. A sustained public outreach program that encourages alternative methods of containment and promotes a "use less" mindset, the promotion of boxed water over plastic containers, focusing on improving drinking water quality and infrastructure, and working with the local food and beverage businesses to substantially reduce/limit the use of single-use plastics and separate plastics for participation in the recycling program.

IMPLEMENTATION STEPS

1. Identify stakeholders that can promote and implement the program
2. Form a steering committee to lead program
3. Identify costs for the set-up and running of the facility
4. Determine necessary permitting and legislative controls
5. Educate community members about the benefits of recycling
6. Advertise the program details: community disposal locations, potential costs to consumers
7. Begin collection of recyclable material
8. Ensure that collection bins are emptied promptly
9. Compress and transport material to the recycling facility in or out of the territory
10. Collect funds from recycled materials, partners, grants, and recycles

ARTS MAP OF DOWNTOWN CHARLOTTE AMALIE

Charlotte Amalie is the most populous area of St. Thomas. It is a major destination for visitors disembarking the nearby cruise ship dock, as well as for locals. This area is home to many local practicing artists, artisans, and craft-makers operating independently and spread across the downtown. While the Virgin Island Council on the Arts (VICA) is open to the public and can provide visitors with suggestions of where to experience local art, there is no comprehensive guide to these attractions.

The Downtown Charlotte Amalie Arts Map is a thorough guide to the variety of arts and cultural offerings located throughout the town. The map once developed will be made available to tourists visiting the area from off cruise ships, as well as to visitors to popular downtown hubs like VICA. The map includes information such as what type of artistic endeavor is practiced, hours/days of operation, retail opportunities, and where it is located. The map should be available both digitally and in print, and will serve as a helpful tool for those interested in discovering all the artistic community of Downtown Charlotte Amalie has to offer; it boosts the tourism industry, the local economy, and promotes the overall vibrancy of the community.

GOVERNMENT RECORDS MANAGEMENT TRAINING

Presently, there is no standard approach to government record keeping across agencies. Lack of coherent records management creates severe outcomes such as information barriers, redundant and costly recordkeeping, imperiled historical records, endangered rights of Virgin Islands citizens, inhibited scholarly research and documentation, encumbered timely and informed decision-making, and obfuscated government accountability and transparency.

The gubernatorial appointment of a qualified Territorial Archivist and the convening of the statutorily mandated Archives Council are critical and necessary first steps towards sufficient government records management training. Their job will be to exercise their respective statutory authorities to establish records management policy and to establish the processes to review, approve and promulgate government agency retention schedules. Records Management Liaisons designated and trained at the agency level will proliferate and promote best practices throughout the Executive Branch.

To direct and oversee this process, this project proposes to rely on direction and guidance from the National Archives and Records Administration (NARA), with additional support from subject matter experts, principally members of the Council of State Archivists (CoSA), the National Association of Government Archives and Records Administrators (NAGARA), and the National Association of Chief Information Officers (NASCIO).

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A comprehensive housing plan details broad housing needs and is a tool for outlining the actions necessary to develop a more efficient housing system. Its goal is to provide a broad structure for addressing housing demand and needs on St. Thomas. This plan would look at suitable land for construction, current, and future infrastructure needs, housing types, building codes, timelines for building new homes as well as for renovating older ones. While this process is generally a governmental function, the STRT has the potential to coordinate with major housing and economic development agencies to function as the steering arm of this planning process and assert a collective voice in the plan.

MICRO HOME CONSTRUCTION

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COMMUNITY LAND BANK

Land banks are publically, or community owned entities created to acquire, managing, maintaining, or repurposing vacant, abandoned, and foreclosed properties. They are intended to acquire title to problem properties, eliminate the liabilities, and transfer the properties to new owners who may utilize them in ways that benefit the community.

Gaps in effective land use are prevalent on St. Thomas. Despite land being commonly considered scarce, the island possesses numerous vacant properties that could be utilized more efficiently. Issues of affordable housing insufficiency and food insecurity on the island make these vacant and unused lands all the more useful.

Given the land use issues that are evident on St. Thomas, it is clear that residents would benefit from the formulation of a community land bank. The St. Thomas land bank repurposes land in ways that are consistent with the needs and values of the community. Specific repurposing projects may include the creation of green spaces, development of community gardens, restoration of historic buildings or the holding of land in stewardship. In general, the land bank provides access for residents to land for purposes of affordable housing, economic development, food security or any other socially beneficial functions.

The success of the land bank depends mainly on its ability to integrate into the community and to create strategic partnerships with outside entities. Additionally, the land bank works cohesively with outside public and private entities to leverage all resources available to deal with the island's distressed properties.

INCREASED ACCESS TO HEALTH CARE

Health centers in St. Thomas are primarily located in and around Charlotte Amalie with a few private practices on the East End and no health care services of note provided to the West End. Residents of St. Thomas who live in more remote locations on island experience longer emergency response from Emergency Medical Services, as well as long, commute if they choose to travel to the more centrally located health centers. In the aftermath of a storm, road blockages and other compromised infrastructure make access to medical services even more precarious for those residing in more remote areas of the island. These factors prove the potentially dangerous situation underserved residents of St. Thomas experience.

A remote multiuse facility that offers primary and urgent care to the residents of underserved communities increase resiliency before and after a disaster by reducing dependence on the centralized facilities. Qualified physicians will offer primary care in areas that have not previously seen that level of service. The facility will offer extended hours emergent and urgent care to stabilize patients that need to be moved to a more robust facility and to reduce suffering over long commute distances to patients with less severe issues. There will also be the added effect of the reduction of strain on emergency services that would previously have to transport patients that required less than hospital level care. Such a facility will be an essential resource in the case of future natural disasters, making the community more self-reliant and taken care of if cut off from services or emergency response efforts available on the rest of the island.

CONCLUSION

This report marks the conclusion of six months of community engagement, research, and conversations led by the St. Thomas Recovery Team and staffed by FEMA's Community Planning Capacity Building team on the island. The projects discussed in the report originated from and were prioritized by a broad range of community members and community leaders. The intention is for individuals and community groups on the island to use this document as a guide and roadmap towards implementing projects that contribute to the recovery, resilience, and community development of St. Thomas. While many of these projects are components of larger, more complex systems, this document intends to provide clear steps that can be taken on a community level as opposed to system-wide interventions.

ACKNOWLEDGMENTS

The Community Planning and Capacity Building Team would like to acknowledge the tireless work, dedication, and passion of the St. Thomas community. Their interest, involvement, and honest input was essential in conducting a truly community-led recovery process, and their hospitality and inclusiveness will always be appreciated. CPCB would also like to acknowledge the federal and local partners who worked closely with CPCB during this process, and all the local non-profit organizations who participated.

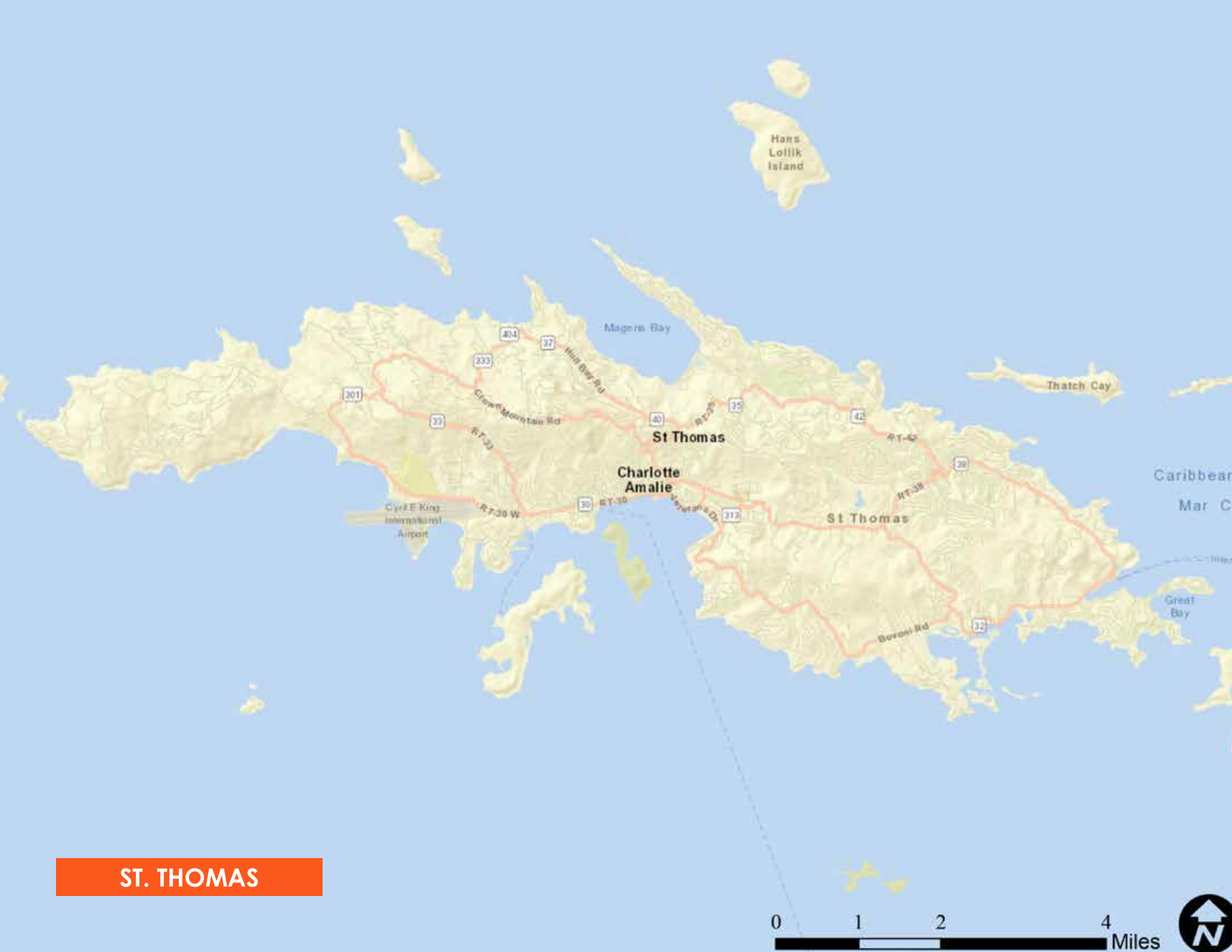
Many more partners were involved in the creation of the St. Thomas Long Term Recovery Plan and are comprehensively listed in the Introduction of this document

APPENDIX

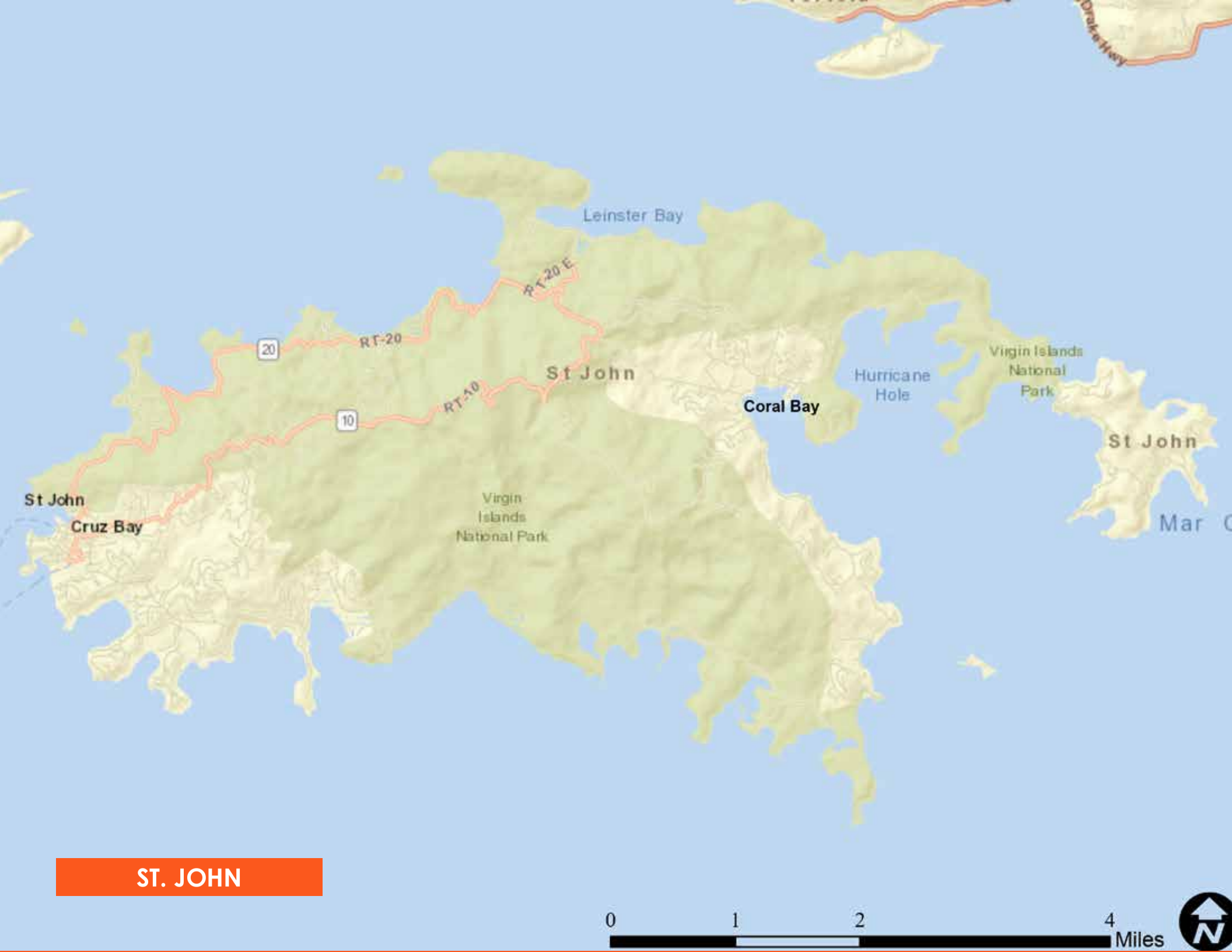
maps
acronyms
planning tools


Buck Island
Reef National
Monument
Cane Bay Rd
North Shore Rd
Northside Rd
Midland Rd
Christiansted
East End Rd
St Croix
RT-85
Lower Hill Rd
South Shore Rd
Kingshill
St Croix
Frederiksted
Queen Mary Hwy
E Airport Rd
Lowry Hill Rd
Henry E Rohlsen
Int'l Airport
Melvin H Evans Hwy
80
75
69
72
76
82
60
62
62
70
64
66
0 1 2 4
Miles

ST. CROIX


Hans Lollik Island
Magens Bay
Thatch Cay
St Thomas
Charlotte Amalie
St Thomas
Caribbean
Mar C
Great Bay
Cyril E King International Airport
Crown Mountain Rd
Hull Bay Rd
Veterans Dr
Bovoni Rd
RT-30 W
RT-32
RT-35
RT-38
RT-42
301
333
404
37
40
35
42
38
30
313
32
0
1
2
4
Miles

ST. THOMAS


Leinster Bay
RT-20 E
20
RT-20
St John
RT-10
10
Coral Bay
Hurricane Hole
Virgin Islands National Park
St John
St John
Cruz Bay
Virgin Islands National Park
Mar
0
1
2
4
Miles

ST. JOHN

ACRONYMS

ACRONYM	FULL LENGTH WORDS
AARP	American Association of Retired Persons
APA	American Planning Association
ADA	Americans with Disabilities Act
Ag	Agriculture Recovery Support Function
CERT	Community Emergency Response Team
CDBG	Community Development Block Grant
CPCB	Community Planning and Capacity Building
DRSI	Disaster Recovery Support Initiative
Econ	Economic Recovery Support Function
EDA	Economic Development Administration
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
HHS	US Department of Health and Human Services
Housing	Housing Recovery Support Function
HIPAA	The Health Insurance Portability and Accountability Act
HSS	Health & Social Services Recovery Support Function
HUD	US Department of Housing and Urban Development
IS	Infrastructure Systems Recovery Support Function
LTRP	Long Term Recovery Plan
MOU	Memorandum of Understanding
NASCIO	National Association of Chief Information Officers
NCR	Natural and Cultural Recovery Support Function
NDRF	National Disaster Recovery Framework
PFA	Psychological First Aid
PTSD	Post Traumatic Stress Disorder
PV	Photovoltaic
ROTC	Reserve Officers' Training Corps
RSF	Recovery Support Function
STRT	St Thomas Recovery Team
STT	St Thomas
UNESCO	United Nations Educational, Scientific and Cultural Organization
USDA	United States Department of Agriculture
USVI	United States Virgin Islands
VICA	Virgin Island Council on the Arts
VIEPSCoR	Virgin Islands Established Program to Stimulate Competitive Research
VIRP	Virgin Island Recycling Partnership
VITEMA	Virgin Islands Territorial Emergency Management Agency
VITRAN	Virgin Islands Transit
WAPA	Water and Power Authority

MAP AND DESIGN TOOLS

CommunityViz
http://www.placeways.com/communityviz/index.htm
CommunityViz planning software is an extension to ArcGIS Desktop that shows you the implications of different plans and choices. Planners, resource managers, local and regional governments, and many others use CommunityViz to help them make decisions about development, land use, transportation, conservation and more.

Urban Footprint
https://urbanfootprint.com
Urban Footprint is a cloud-based urban planning software that gives the user access to comprehensive environmental, social, and fiscal data to assess existing conditions, compare impacts, and build proposals.

Envision Tomorrow
http://www.envisiontomorrow.org/
Envision Tomorrow (ET) is an open-access scenario planning package that allows users to analyze how their community's current growth pattern and future decisions impacting growth will impact a range of measures from public health, fiscal resiliency and environmental sustainability.

PostGIS
http://www.postgis.net/
PostGIS is a spatial database extension for SQL that allows for basic location awareness.

QGIS
http://www.qgis.org/
QGIS is a free and open source geographic information system (GIS) for any computer operating system that allows users to create, edit, visualize, analyze, and publish geospatial information.

GRASS
https://grass.osgeo.org/
GRASS GIS is a free and open source GIS software suite used for geospatial data management and analysis, image processing, graphics and maps production, spatial modeling, and visualization.

SketchUp
http://www.sketchup.com/
SketchUp is an intuitive graphic design software for architects, engineers, and other users to draw scale plans and models of renovations, buildings, landscapes, and other physical design applications.

HAZUS
www.fema.gov/hazus
Hazus uses Geographic Information Systems (GIS) technology to estimate physical, economic, and social impacts of disasters. It graphically illustrates the limits of identified high-risk locations due to earthquake, hurricane, flood, and tsunami.

MAP AND DESIGN TOOLS

SWMM

https://www.epa.gov/water-research/storm-water-management-model-swmm

The US Environmental Protection Agency's Storm Water Management Model (SWMM) is used for single event or long-term simulations of water runoff quantity and quality in primarily urban areas–although there are also many applications that can be used for drainage systems in non-urban areas. It is used throughout the world for planning, analysis, and design related to storm water runoff, combined and sanitary sewers, and other drainage systems.

NOAA Digital Coast Tools

https://coast.noaa.gov/digitalcoast/

Digital Coast is a platform of training and tools focused on helping communities address coastal issues.

EJ Screen

https://www.epa.gov/ejscreen

In order to better meet the Agency's responsibilities related to the protection of public health and the environment, EPA has developed a new environmental justice (EJ) mapping and screening tool called EJSCREEN. It is based on nationally consistent data and an approach that combines environmental and demographic indicators in maps and reports.

Google Earth

www.google.com/earth/

Google Earth is a mapping tool hosted either on the web or on your desktop that computes distances and areas using measuring tools, allows for visualization, manipulation, and export of GIS data, and allows you to go back in time with historical imagery.

Surging Seas

http://sealevel.climatecentral.org/

Surging Seas is a mapping software that allows planners to visualize the level of sea rise due to climate change and determines risk to land areas for the future.

UrbanSim

http://www.urbansim.com/home/

UrbanSim is a simulation platform for supporting planning and analysis of urban development, incorporating the interactions between land use, transportation, the economy, and the environment.

LocalData

http://localdata.com/

LocalData is a cloud-based mapping platform that helps cities and communities make data-driven decisions by capturing and visualizing street-level information in real time.

TRANSIT TOOLS

SeeClickFix
http://en.seeclickfix.com/
SeeClickFix is a customizable smartphone application that allows users to snap pictures of issues that need to be corrected and geo-locates each issue to form reports for designated entities to correct.

OpenBike
http://openbikeinitiative.org/
The Open Bike Initiative was a project with the goal of designing and developing a model for bike sharing based on open hardware and open source software.

Walk [Your City], Wayfinding Signs
https://walkyourcity.org/
Walk [Your City] helps book community walkability, linking informational street signs for people with web-based campaign management and data collection to complement traditional approaches to way finding.

WALKscope
http://www.walkscope.org/
WALKscope allows residents and visitors to collect data related to sidewalks, intersections, and pedestrian counts. This information will help create an inventory of pedestrian infrastructure, identify gaps, and build the case for improvements

PRIORITIZATION, COMMUNICATION, AND ENGAGEMENT

CrowdGauge
http://crowdgauge.org/
CrowdGauge is an open-source framework for creating educational online games. It first asks users to rank a set of priorities, then demonstrates how a series of actions and policies might impact those priorities. The third part of the sequence gives users a limited number of coins, asking them to put that money towards the actions they support most.

UserVoice, ideation platform
https://www.uservoice.com/product/
UserVoice ties rich customer data to product feedback so you can prioritize your roadmap and quantify the business impact of features.

Field Papers, capturing data using paper maps
http://fieldpapers.org/
Field Papers allows for the making of an atlas online that you can print to take into the field and record observations and upload your field notes into an organized database.

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Engaging Plans
https://www.urbaninteractivestudio.com/engagingplans/
EngagingPlans reaches, informs, and involves citizens and stakeholders in public projects and decision making. This one-stop hub forms the backbone of your project communications, keeping documents, events, news and FAQs clear and up-to-date in one accessible location. Give community members a voice and collect feedback via discussions, surveys, or an idea wall.

NationBuilder
https://nationbuilder.com/software
NationBuilder empowers you to tackle your website content, email communications, social insights, and people management all in one place. Work seamlessly with data imported from the apps you're using now, in a system built to grow with you.

MetroQuest
https://metroquest.com/
MetroQuest is a website design application that focuses on building engaging websites, collecting user data, and producing reports for analysis

Textizen
https://www.textizen.com/
Interactive Text's web platform sends, receives, and analyzes text messages.

Park[ing] Day
https://www.asla.org/uploadedFiles/CMS/Events/Parking_Day_Manual_Consecutive.pdf
Park[ing] Day is an annual event that encourages community members, students, and designers to transform metered parking spaces into temporary parklets.

Project for Public Spaces (PPS)
https://www.pps.org/
PPS is a nonprofit planning, design, and educational organization dedicated to helping people create and sustain public places that build stronger communities.

The NCI Charrette System
www.charretteinstitute.org/
The National Charrette Institute is a collaborative system that helps people work together for building design capacity through group map analysis community planning activities

COMPREHENSIVE HOMEOWNER CONSTRUCTION ASSISTANCE	
Implementation Steps	**Status**
• Hire construction manager to oversee implementation of outreach and construction assistance	
• Recruit and train subject matter experts/ construction specialists to coordinate the program and conduct outreach	
• Database compilation of pertinent housing programs (federal and territorial) and potential contractor support	
• Public outreach campaigns and networking to build community relationships and to disseminate information on housing assistance programs and construction assistance program	
• Technical assistance and workshops to improve public knowledge of housing assistance programs and to collect data on construction assistance need on the island	
• Develop Contractor Qualifications and Request for Qualification Package (Note: Besides demonstrating knowledge and experience for specialty or general contracting, Contractors must provide proof of insurance and bondability)	
• Begin connecting pre-approved contractors to homeowners with repair needs	
• Continue outreach and oversight of construction projects to ensure efficient progress	

POST-TRAUMATIC STRESS DISORDER AWARENESS PROGRAM	
Implementation Steps	**Status**
• Recruit volunteers from the medical, non-profit, and faith-based communities to administer the initiative	
• Train volunteers in PTSD awareness and available resources	
• Establish a relationship with existing providers, solidify the referral process	
• Develop outreach materials and communication strategy	
• Develop workshops and training for the public and first responders	
• Schedule and administer events	

Comprehensive Volunteer Response Plan	
Implementation Steps	**Status**
• Identify and hire Volunteer Coordinator to manage current and future teams of volunteers for response efforts and long term recovery	
• Identify host organizations/groups that manage teams of volunteers before, during and after a disaster	
• Identify several existing suitable locations to house volunteers to build a list of viable locations to house volunteers based on the size of the group and individual's needs	
• Identify local retail/department store where food, supplies, and tools may be procured and proceed to establish MOU with retail/ department stores	
• Establish a Memorandum of Understanding (MOU) with volunteer housing sites to promote reliability between host organizations and volunteer housing sites	
• Establish a reliable transportation system to transport volunteers to project sites by finding reasonable methods such as taxis, buses or the potential purchasing of vehicles (Bus or Van)	
• Identify types of projects for volunteers varying based on skill set and assign projects accordingly	
• Compose a shared calendar that shows when, where, and what volunteer are doing on specific days	
• Volunteer Coordinator maintains necessary relationships and updates plan as necessary	

Long-Term Senior Care Facility	
Implementation Steps	**Status**
• Collaborate with territorial government and organizations to form a cooperative group that will construct and operate a new facility and hire facility director	
• Identify land that could be used for new building and acquire a parcel	
• Build a multi-use facility that can house seniors at varying levels of care requirements	
• Certify facility can receive Medicare funding	
• File for a certificate of occupancy and any other steps that must be taken for a medical facility to come online	
• Find qualified local staff that can operate the facility on a long-term basis	
• Establish criteria and financial considerations for targeting of patrons	
• House seniors that are determined to meet established criteria for senior center	
• Plan for increasing maintenance costs as time goes on and expansion of facility as needed	

Expanded Out-patient Behavioral Health Services	
Implementation Steps	**Status**
• Establish a relationship with the current federally qualified community health centers	
• Identify specific gaps in services, populations unserved, and current overburdened services	
• Establish a committee to liaise with community health center Board	
• The committee will work with the Board to facilitate National Health Services Corp involvement	
• National Health Services Corp staff installed on the Community Center's Team	
• Expanded services begin to be offered to fill identified gaps in services	

Community & Home Gardening Program	
Implementation Steps	**Status**
• Organize a meeting of interested community members	
• Form planning committee for oversight of implementation	
• Identify resources available, needs for implementation and detail guidelines for site management and committee roles	
• Site research, exploration and choose site or sites	
• Design, prepare and develop the site based on identified resources and needs	
• Begin food production, distribution of plots, and develop member duties.	
• Develop youth programming and starter kit operation	

Solar Charging Stations for Small Electronics	
Implementation Steps	**Status**
• Identify grants and partner organizations who may be interested in paying for stations	
• Identify high traffic community locations that would be easy for many community members to access in times where transportation options may be limited	
• Adjust local zoning laws for where stations can be installed	
• Solicit donations from manufacturers of solar charging stations, or independently purchase solar charging stations	
• Provide instruction to community members about where the stations are located and identify a point of contact to ensure that stations are operational post-disaster	
• Conduct long-term maintenance to ensure stations are operational for emergency events	

Hospital Walkability Study	
Implementation Steps	**Status**
Month 1	
• Initial project logistics planning. APA and community points of contact discuss the scope of the project, travel arrangements, potential team member roles	
Month 2	
• Data collection and site study. APA staff and Team meet via conference calls and email exchanges to discuss and coordinate the details of the project. APA team visits the island (3-5 days) and collect data for the final report	
Month 3-4	
• APA drafts and release its final report. Community points of contact promote the final report for implementation	

Multi-Use Volunteer Housing Facility	
Implementation Steps	**Status**
• Form committee to spearhead process	
• Identify the number of volunteers for current and future anticipated need	
• Identify suitable parcel (government-owned/ administered, privately owned, vacant) for a facility	
• Identify and obtain funding	
• Identify architect	
• Work with an architect on facility design	
• Identify contractor	
• Construction/Acquisition	
• Enact calendar of events/ lodging schedule	
• Maintenance of facility and scheduling	

Community Solar Generation	
Implementation Steps	**Status**
• Establish a steering committee for the project	
• Create a network map of critical stakeholders, partners, and funding sources	
• Collaborate with Water and Power Authority and the Department of Planning and Natural Resources to ensure panels are legally installed and adequately linked to peoples electrical systems, and to promote renewable energy at an individual scale	
• Find resources to install PV Cells and battery packs on dwellings and community buildings	
• Determine criteria for program eligibility	
• Attract applicants for the program	
• Select applicants for installation of solar systems	
• Develop installation and maintenance strategies for individual solar systems	

Multiuse Arts Center	
Implementation Steps	**Status**
• Identify location the can be feasible enough to be able to house a multi-use arts facility	
• Identify and secure funding for procurement of space	
• Procure space with the coordination of Business Improvement District	
• Once the property has been secure though procurement method, next step would be to find qualified volunteer workforce to begin construction to retrofit the space	
• Hire a coordinator to maintain and manage the facility, also maintain vital relationships and keep up with the needed documentation pertaining to the facility	
• Identify artists with need for studio/storage space and conduct public outreach in attempts to integrate them with the art facility	
• Coordinate a work-share program to staff the supply store with artists renting studios	
• Identify vendor/s that have the necessary supplies and materials to stock the supply store	

Innovative Recycling Strategies	
Implementation Steps	**Status**
• Identify individuals and groups of stakeholders that can promote and implement steps for the launch of the program	
• Form a steering committee to lead program	
• Identify costs for advertising, waste collections, transportation, shipping, and disposal	
• Determine necessary permitting and legislative controls	
• Educate community members and leaders about the importance and benefits of recycling	
• Advertise when the program will begin, where the community disposal locations will be, and what costs may be passed to partners and community members	
• Begin collection of recyclable material at community collection points	
• Ensure that community collection bins are emptied promptly to ensure there is always additional space for community members to recycle their materials	
• Compress and transport material to the recycling facility in or out of the territory	
• Collect funds from recycled materials, partners, grants, and recycles	