

5

ECONOMIC OPPORTUNITIES





VOLUME 5

ECONOMIC OPPORTUNITIES

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DOING BUSINESS IN THE VIRGIN ISLANDS

Business Climate and the Government

In attracting investment, business climate is always cited as a very important issue.

There are many variations on the definition of business climate but a simple one (drawn from several online definitions and Camoin 310's experience with thousands of businesses in many places) is:

Business climate is the economic and professional environment surrounding an industry or group of business enterprises that is strongly influenced by the government and political attitude toward businesses, taxes, regulations and procedures impacting the establishment and operations of businesses, the financial stability of the government, support for labor organizations, impacts on operating costs from government and quasi-government entities, and other aspects.

While some aspects of business climate have numbers – tax rates, permit fees, electric rates – many other measures are more a matter of “feel.”

Does a business feel welcome, wanted, and fairly treated in the location?

The first ninety days of this project involved a extensive public engagement. The outreach included dozens of in-depth interviews with key figures, multiple virtual town hall meetings and surveys that generated more than 2,000 responses from constituencies on all three islands as well as former Virgin Island residents now living on the mainland and elsewhere in the world (the USVI Diaspora).

This effort yielded many important nuggets of feedback and recommendations, many of which are incorporated in this report.

One question in the survey of Virgin Islands businesses stands out above all the rest. It occurred when the nearly 500 respondents (nearly one-quarter of all licensed businesses operating in the Territory) were asked if they would recommend the Territory as a place to establish a business. Forty-eight percent of respondents chose to answer the question and by a wide margin (3 out of 4) answered that they would be unlikely to recommend the USVI as a place to do business.

They were asked to use a five-star rating system to judge their likelihood of recommending the Territory as a place to do business (with 5 stars interpreted as an unqualified “yes”). Only 25% chose 4- or 5-stars (26% if numbers are rounded up), indicating that they would recommend it.

Thirty-eight percent (38%) of respondents gave it a one or two-star rating; on the whole they would not

recommend the USVI as a place to do business. Thirty-seven percent (37%) gave it a 3-star ranking which indicates, at the very least, some significant reservations and at the most positive spin, a less than enthusiastic endorsement.

75% of businesses surveyed would have issues recommending the USVI as a place to do business and 87% do not believe the business climate is sufficient.

Businesses were also asked to rank (1-5) the business climate. Only 13% gave the Territory a 4 or 5-star ranking. Eighty-seven percent (87%) gave the business climate 3 stars or less.

In summary, 75% of businesses surveyed would have issues recommending the USVI as a place to do business, and 87% do not believe the business climate is sufficient. If in 5, 10 or 20 years that sentiment remains anywhere near the level of today, prospects for prosperity will have long since been extinguished.

For new business development there is no more important a constituency to hear from than the businesses that are already there. Executives contemplating an investment in the Territory will be discouraged by what they hear from existing businesses. In most cases, this will happen before economic developers or USVI champions have a

chance to meet with them. This will occur whether the local businesses speak in code as some did with their survey responses (“well, the place isn’t for everyone”) or much more bluntly (“I regret my investment and strongly suggest that you not make the same mistake”).

Every three years since 1996, the economic development marketing firm Development Counsellors International has conducted a survey of corporate executives and site selection consultants throughout the United States and beyond. Among the survey questions is one relating to “sources of information about business climate” – i.e., when a company considers a place for expansion or relocation, what in their research most influences their decision?

Dialogue with industry peers has been found to be a top source of information about business climate.

Almost without exception “*dialogue with industry peers*” has been the number one answer.

Similarly, since the early 2000s, several business journals, such as Forbes, CNBC, U.S. News & World Reports, Inc. Magazine, the Kauffman Foundation, among others, conduct annual rankings for states on various measures important for conducting business. Included in these rankings are indicators for business climate.

The Vision 2040 business survey data, which was corroborated and amplified in interviews, painted a picture of a business climate in trouble. Topping the list of why this is the case is the licensing process which is viewed by most as needlessly complex and confusing. One interviewee called it “peculiar.” Another described it as a difficult trial and error process of navigating a bureaucratic maze. Yet another person said the process was about knowing the “right people.” Several talked about the need to hire an attorney or other professional to guide them through the process—which they indicated is an unnecessary expense and an indicator of a poor business climate.

The World Bank reported in 2019 that the U.S. Virgin Islands ranked at the top of the list of places in the Caribbean and Central America for length of days needed to start a business. In the USVI, eight (8) different departments have a role in approving business licenses: Department of Licensing and Consumer Affairs, Lieutenant Governor’s Office, Bureau of Internal Revenue, Police Department, Department of Parks and Natural Resources, Fire Service, Department of Health, and Office of Boards and Commissions.

This complex dynamic shows up in other areas. Many respondents to the Diaspora survey mentioned the difficulty of getting a job without knowing the “right” person. The general perception is that government does not care, as seen through a lack of public investment in correcting the problems, and this is creating a negative sense of community pride and lack of confidence.

The survey, interview, and group responses as part of Vision 2040 suggest a business community that is both unhappy and fragile. With continued sentiment like this, the Virgin Islands will discourage new investment and existing business investment will be at risk. For these reasons, changing this situation must rise to the top of the Territorial government’s agenda. Recommendations on how to address this situation can be found in Volume 6 of this plan.

Days needed to start a business, selected countries, 2019

Haiti	97
Suriname	66
US Virgin Islands	42-56
Belize	48.2
Costa Rica	23
Antigua and Barbuda	19
St. Kitts and Nevis	18.5
Guyana	18
Dominican Republic	16.5
Barbados	16
Dominica	12
Grenada	12
Bahamas, The	11.5
St. Lucia	11
Trinidad and Tobago	10.5
St. Vincent and the Grenadines	10
Puerto Rico	5.5
Jamaica	3

Source: The World Bank

THE GOVERNMENT'S ROLE IN THE TERRITORY'S ECONOMIC DEVELOPMENT SYSTEM

Under the purview of the Territorial Government – the Governor, the Departments, Commissions and other agencies, and Legislature – there are four main organizations that have the most impact on economic development in the Territory – USVIEDA, UVI, RTPark, and WAPA. Nearly a dozen others have a direct or indirect interface with businesses and influence how business owners and executives perceive the business climate.

USVIEDA

The Territory's primary Economic Development Organization (EDO) is the United States Virgin Islands Economic Development Authority, a semi-autonomous government organization responsible for the promotion and enhancement of economic development in the U.S. Virgin Islands. It acts as an umbrella authority that integrates and unifies the functions of its component agencies under one executive board in order to maximize efficiency and enhance economic development in the Territory. The component units of USVIEDA are:

- Economic Development Commission;
- Virgin Islands Economic Park Development Corporation (formerly the Industrial Park Development Corporation);
- Economic Development Bank (formerly the Government Development Bank and the Small Business development Agency); and
- Enterprise Zone Commission.

The Business Survey conducted as part of Vision 2040 included a question on use and rating the programs and services of USVIEDA. A very small number answered this question (between 7 and 27 depending on the program) – too small a number to be able to develop a clear picture of how businesses feel about USVIEDA. This raises several questions:

- Is the USVIEDA offering the best portfolio of programs and services?
- Is the USVIEDA effectively marketing its programs and services?
- Is the USVIEDA developing relationships with the Territory's business community?
- Should the USVIEDA concentrate more on a business retention and expansion effort?

The USVIEDA has a portfolio of incentives intended to attract and support businesses. Incentives are evaluated later in this report.

The University of the Virgin Islands (UVI)

Colleges and universities are always – or should be – an important part of a place's economic development delivery system. Founded in 1962, UVI is a public, co-ed, land-grant HBCU (Historically Black College and University) with approximately 2,500 students enrolled on two campuses (St. Thomas and St. Croix) in 47 undergraduate and graduate degree programs. Most of these are in fields that will be in high demand in the future.

UVI is tasked with carrying out a great deal of important research and other work that supports economic development. As Vision 2040 was being

prepared, UVI was working on the five-year update of the Territory's Comprehensive Economic Development Strategy (CEDS) that will be submitted to the U.S. Economic Development Administration (USEDA) for approval, as well as a Tourism Master Plan to guide the Territory's future tourism efforts.

Approval of the CEDS by the U.S. EDA will have important benefits besides providing the direction for the USVI's economic development efforts over the next five years. Once approved, the Territory can apply to USED A to be recognized as an Economic Development District (EDD). (For more information on EDDs, see <https://www.eda.gov/edd/>.) Depending on funding availability, this may provide additional program funds for the Territory as well as put proposed projects higher on the priority list for other federal funding.

Another possibility that UVI should explore is obtaining recognition by USED A as a University Center. The EDA's website (see <https://www.eda.gov/programs/university-centers/>) provides the following description:

Institutions of higher education have extensive resources, including specialized research, outreach, technology transfer, and commercialization capabilities, as well as recognized faculty expertise and sophisticated laboratories. The EDA-supported University Center (UC) program is specifically designed to marshal the resources located within colleges and universities to support regional economic development strategies in regions of chronic and acute distress.

The RTPark

Established by Territorial law and operating in partnership with UVI, the Research and Technology Park (the RTPark) describes itself as “a rapidly growing economic development program specializing in technology and knowledge-based business attraction in the United States Virgin Islands (USVI).” It is a partnership between the private sector, the government of the U.S. Virgin Islands and the University of the Virgin Islands (UVI).

The RTPark’s mission is “to establish the USVI as the premier business destination of choice for firms in knowledge and technology-intensive sectors.”

The RTPark has been very successful, currently working with nearly 70 client companies at its St. Croix and St. Thomas locations. It has a current proposal to develop the Virgin Islands Tech Village in Estate on a 26-acre site across from the UVI St. Croix campus, including 12,000 square feet of office space, to support agricultural development in the USVI.

WAPA

The Virgin Islands Water and Power Authority, established by the Legislature in 1964, is an autonomous agency of the Virgin Islands Government which produces and distributes electricity and drinking water to residential and commercial customers in the Territory. As both electricity and water are necessities for all businesses, WAPA has a direct impact on business operations.



Tech Village Proposal by RTPark on St. Croix

While water was not cited by stakeholders as a major negative for the Territory’s economic development program, electric service most certainly was, scoring only 1.7 out of 5 (where 5 was Very Good and 1 was Poor) in interviews. Even where a numerical score was not provided, interviewees consistently noted the cost and unreliability of electric service as a major, territorial-wide problem.

Similar comments were provided in the survey and online meetings of the USVI Diaspora. Some mainland U.S. interviewees stated that they would return to live in the USVI but high electricity costs and/or unstable electric reliability would make conducting their business in the Territory extremely challenging.

The topic of electric infrastructure is analyzed in more detail elsewhere in this Vision 2040 report, but

it is important to note here, it is one of the greatest drawbacks to demonstrating a good business climate in the Territory.

Interviewees consistently noted the cost and unreliability of electric service as a major, territorial-wide problem.



U.S. Virgin Islands Government House, St. Thomas

THE IMPACTS OF THE TERRITORIAL GOVERNMENT ON ITS ECONOMIC DEVELOPMENT POTENTIAL

Throughout the interviewing process, multiple people summed up their evaluation of the Territorial Government's impact on the USVI's economic development potential as a perfect example of Walt Kelly's famous Pogo cartoon: We have met the enemy, and he is us.

A synthesis of many interviews provides the following summation:

Many interviewees believe the major problem is the government itself. It is, in their opinions, too big and costly with a byzantine licensing and permitting process. While this is a very complex situation, simply stated, the dynamics of the problem have been integrated into the life and culture of the Territory over several decades.

Vision 2040 participants are well aware of a critical lack of good paying, private sector jobs in the USVI. Some people consider government service to be a noble calling while others see it for themselves as a job of last resort. The lack of private sector jobs has made the USVI government the largest employment sector (24% of total jobs in 2017 – followed by Accommodation and Food Services at 17%) with one of the highest average annual wages (\$53,625 in 2017). As of December 2020, it also represented more advertised job openings than any other sector.

The lack of private sector jobs has made the USVI government the largest employment sector.

With government viewed by many as the employer of first resort, stakeholders report that many young people aspire to getting a government job. Those seeking alternative careers see limited prospects in the Territory, leave for education, secure a job while away, and do not return. The brain-drain becomes the Diaspora.

Many of those who remain in the Territory may not focus their education towards meeting the skills of a private sector job – but even if they do, there are not enough jobs for each group of high school and UVI graduates.

The high levels of government employment devotes a large share of the Territorial budget to employee

wages and benefits. The Proposed FY 2021 Budget totals \$742,779,823. Of this, \$388,158,185 are for Personnel Services and Fringe Benefits, which represents 52.3% of the total budget. Assuming an approximate Territorial population of 96,000 (the Proposed 2021 Budget shows a 2018 population of 96,211), this equates to a per capita budget load of \$4,043 for personnel costs. Based on a possible maximum Territorial Government employment of 5,598, this equates to a per employee budget cost of \$64,715 for personnel services. This does not include the more than \$20 million budgeted for the Legislature including the salary of senators and their staff. (Total budget and personnel costs taken from the Fiscal Year 2021 Proposed Budget in Brief.)

There are three major resulting issues.

First, the Territory has insufficient capital to invest in needed areas. If this situation continues, it will be a large impediment to the implementation of Vision 2040.

Second, as the cost of government continues to increase and the number of taxpayers continues to decline, either taxes will have to be raised, or new fees need to be put in place.

Third, the Government Employees Retirement System (GERS) currently has an unfunded pension liability of \$5.3 billion and a funding ratio of 11.3%. The standard funding ratio for a healthy pension fund is 80%. The fund will be insolvent within a matter of a few short years. Even if pension amounts are only reduced, this will still cause a decline in disposable income to many residents and a

concomitant reduction in purchases from the Territory's businesses.

According to one interviewee "The U.S. [mainland] government is mostly behind the scenes while the private sector underwrites many civic improvements. In the USVI, government is the key thing in life from the time people get up in the morning - and it sucks up all the oxygen." This person added, "Folks in government need to recognize they are the problem."

Every Administration and Legislature works on improvements in the functioning of the government while at the same time meeting the needs and some of the desires of their constituents. Much more aggressive and bold action must be taken to improve how government functions in the Territory.

What should the aspirational goal be 20 years from now? Simply put, it would be to *reverse the numbers*. Instead of 75 percent of the Territory's businesses saying they would have reservations recommending the U.S. Virgin Islands as a place to invest, get on a trajectory so that by 2040 three-quarters or more say they would not have reservations about the business climate. Instead of government being the major employer, the private sector must be grown significantly so that the government's share of employment is reduced.

"Everything in the Territory is political. Too much ego and agenda. It's all about relationships and who you know. We need to work in unison."

-Stakeholder Interview

"The U.S. [mainland] government is mostly behind the scenes while the private sector underwrites many civic improvements. In the USVI, government is the key thing in life from the time people get up in the morning - and it sucks up all the oxygen."

- Business Owner

Business Survey Results

Of the 488 respondents, 39% have a business on St. Thomas, 36% on St. Croix, 13% on St. John, and 7% on the U.S. Mainland. Eighty-three percent (83%) of respondents' businesses are headquartered in the Territory, and 76% are a stand-alone business. Ninety-eight percent (98%) of businesses are neither a franchisee nor franchisor.

For years in operation, 32% of the businesses have been in existence over 20 years. Twenty-eight (28%) have been in business 1-5 years, 14% 6-10 years, 13% 11-15 years, 9% 16-20 years, and 4% less than 1 year. 88% of business are first generation owned. Forty-one (41%) of businesses are home-based, 40% are in a leased building, and 15% are in a building that the business owns.

Eighty-one percent (81%) of respondents are the founder of their company, and 98% are privately owned (versus publicly traded). Seventy-two (72%) of businesses do not plan to go public in the next five years, and 10% do plan to go public (36 businesses total).

As for funding sources, these come from private equity (22%), employees or managers (19%), and 33% from other sources including family or the individual respondent or no additional investment. Twenty-one percent (21%) answered "Don't know."

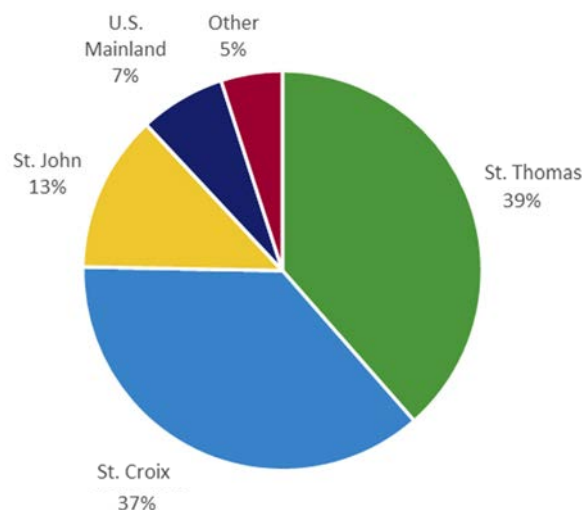
The most represented industries from respondents include Professional Services (33%); Financial, Insurance or Real Estate (12%); and Retail (11%). Twenty percent (20%) chose "Other;" top responses included Hospitality & Accommodations,

Construction, Food & Beverage, Tourism, and Transportation Services.

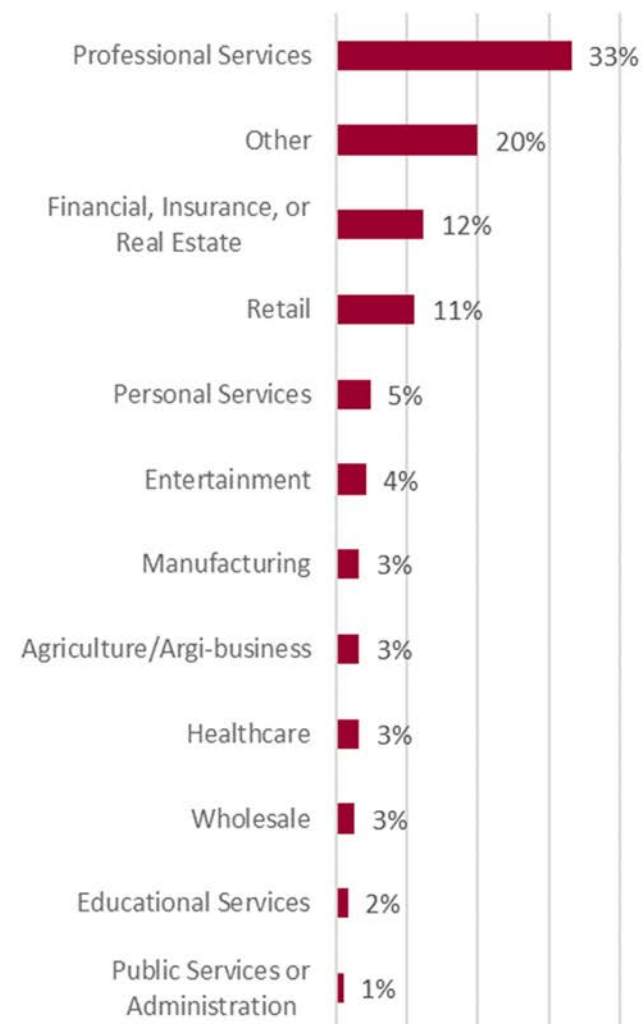
Most survey respondents were the founder of their company (81%).

While 32% of businesses have been in business more than 20 years, 28% have been in existence only 1-5 years.

SURVEY RESPONDENTS BY BUSINESS LOCATION



WHAT INDUSTRY DOES YOUR BUSINESS REPRESENT?



CHALLENGES

Respondents were asked to rank 19 challenges from 1 (not a challenge) to 5 (a severe challenge). Top challenges include energy costs, overall cost of doing business, unexpected changes in economic conditions or industry demand, and taxes. Managing a brand, entering new export markets, and having enough parking were of least concern to respondents.

Financial challenges for businesses include increasing cost of utilities, cost of real estate, and the increasing total cost of labor. Many respondents cited challenges working with the government such as slow response, licensing issues, working with the BIR, and the gross receipts tax.

Financial issues over the past five years.

(1=Not Difficult, 5=Extremely Difficult)

2.8	Managing cash-flow
2.1	Understanding your true total cost of product/service per unit
2.1	Making pricing decisions
2.8	Financing new equipment and/or facilities
2.5	Attracting external sources of growth capital
2.8	Boosting profit margins on existing products/services
2.9	Dealing with the increasing total cost of labor
3.7	Dealing with the increasing cost of utilities
3.2	Cost of real estate

Twenty-three percent (23%) of respondents do not have an issue finding qualified employees. Nineteen percent (19%) have a hard time finding technical or credentialed workers, 17% have a hard time finding entry level employees, 15% have a hard time finding mid-skill production workers, and 14% have a hard time finding supervisors or lower-level managers.

CHALLENGES WE ASKED BUSINESSES TO RATE

(1=Not a Challenge, 5=A Severe Challenge)

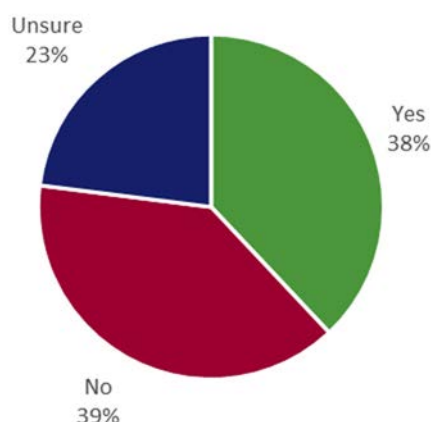
2.6	Acquiring new customers
2.7	Developing new high-margin products or services
3.8	Energy costs
2.2	Entering new export markets
2.5	Entering new US domestic or Caribbean markets
2.3	Having enough parking spaces at your facility
2.3	Keeping up with changes in customer preferences or needs
3.1	Lack of business support programs and services
2.9	Maintaining high margins on your existing products or services
2.0	Managing your brand
3.0	Navigating legislative and/or regulatory barriers
2.7	Obtaining growth financing and capital
3.7	Overall cost of doing business
3.0	Recruiting the best workforce possible
2.3	Responding to new disruptive technologies in your industry
2.5	Retaining high-value customers
2.4	Retaining your best workers
3.5	Taxes
3.6	Unexpected changes in economic conditions or industry demand

Many businesses wrote in additional information that helped us understand growth challenges. Many cite Covid-19 restrictions, governmental regulations (specifically licensing and IRB), and high taxes, (specifically the gross receipts tax) as hindrances to growth. The cost of living, the need for educated/skilled workers, and obtaining capital were also cited.

EXPECTATIONS FOR GROWTH

Thirty-nine percent (39%) of businesses surveyed do not expect to hire more employees in the next year, but 38% do. Twenty-three percent (23%) are unsure at this time.

DO YOU EXPECT TO HIRE MORE EMPLOYEES IN THE NEXT YEAR?



What are the distinguishing characteristics of those businesses that are expected to grow?

- **Many are in the Professional Services industry.** Thirty percent (30%) of business that are expected to grow are in the Professional Services sector, 13% are in the Retail sector, 9% are in the Financial, Insurance or Real Estate sector, and 7% are in the Entertainment sector.
- **Most are located on St. Croix or St. Thomas.** Of the growing businesses, 40% are located on St. Croix, 43% on St. Thomas, 16% on St. John, and 1% on Water Island.

- **The largest employers are expected to grow most.** Seventy-five percent (75%) of businesses with more than 25 employees are expected to grow compared to 38% of those with 10-24 employees, 40% of those with 2-9 employees, and 29% with one or no employees.

Where do these growing companies think USVI should focus its efforts? Top responses were:

- Simplify and accelerate zoning, business permitting, regulatory compliance
- Improve the work ethic of workforce
- Increase the level of technical skills, accreditation, advanced degrees of local workforce
- Provide and/or support workforce development initiatives and training programs.

In addition, there are certain types of worker training programs growing companies feel will support future growth and profitability. These include programs that assist with customer service training, IT, accounting, and an overall better general education.

IMPORTING, EXPORTING, AND NON-EXPORTING BUSINESSES

Eighty-one percent (81%) of businesses surveyed do not export products out of the Territory, and 18% do. For those that export, 45% export to the U.S. Mainland and 40% to other Caribbean islands. Types of services and products exported include clothing, engineering services, other consulting services,

jewelry and other personal items, security services, and other gifts and souvenirs.

Fifty-one percent (51%) import products, supplies, or services from outside the USVI, predominantly the U.S. mainland (at 84%). Types of products that are imported include apparel, automobiles and related parts, construction materials and related lumber and tools, clothing, computers, jewelry, linens, office supplies, paper products, raw materials, souvenirs, and other equipment and supplies.

Exporters have the most positive responses to questions around business climate, 24% of whom score it favorably compared to 16% of importers and 10% of non-exporters.

Eighteen percent (18%) of all respondents export goods or services, of which 40% export to other Caribbean islands and 45% to U.S. mainland markets. Those that export to the U.S mainland are primarily from the Professional Services and Retail sectors. Those that export to other points in the Caribbean are in the Manufacturing, Wholesale, and Retail sectors. Top challenges are largely similar among importers, exporters, and non-exporting businesses. These include energy costs, overall cost of doing business, and unexpected changes in economic conditions or industry demand.

18% of businesses export products and services out of the Territory.

51% import products, predominantly from the U.S. mainland.

LONG-LASTING BUSINESSES

What are the differences between businesses that have been in operation a longer time versus businesses with a shorter lifespan?

- **Professional Services dominates, with an increasing tourism focus.** Businesses that have been in operation over six years are concentrated in the Professional Services, Financial, Insurance, or Real Estate, and Retail industries. Businesses that are less than six years old are dominated by the Professional Services, Retail, and Entertainment industries, illustrating a shift to more tourist and recreation economic dependency. This is also illustrated through write-in responses from younger businesses in the construction and hospitality industries.
- **Challenges are the same.** Highest ranked challenges did not change based on how long the company has been in business, nor where the business was located. These include energy costs, overall cost of doing business, unexpected changes in economic conditions or industry demand, and taxes.
- **Younger businesses think more favorably of the business climate.** Twenty percent (20%) of those less than 5 years in operation rated the climate favorably compared to just 8% of those over 20 years old.
- **Younger companies anticipate to grow more than older companies.** Fifty-two percent (52%) of companies less than 5 years old expect to hire more workers in the

next year, compared to 31% for companies in operation for over 20 years and 29% of companies 11-20 years old. Thirty-seven percent (37%) of companies 6-10 years old expect to hire more workers in the next year.

- **The older the business, the harder it is to find higher skilled labor.** When asked what positions are hard to fill, companies in operation 10 years or less most often chose "None" followed by entry level positions and mid-skill production workers. Companies in operation longer than 10 years find it more challenging to find technical or credentialed workers and to a lesser extent supervisors or lower-level managers.

BUSINESSES OUTSIDE THE TERRITORY

Of survey respondents, businesses headquartered outside the Territory have fewer workers than those that reside within the Territory. Eleven percent (11%) of businesses are not located in the Territory. Eighty-two percent (82%) of these businesses have one or no workers, and none of these businesses have over 9 workers. Forty-four percent (44%) of them have been in business for over 20 years, and 26% have been in operation for 11-20 years, 11% have been in operation 6-10 years, and 19% 1-5 years.

Top challenges are largely the same as the sum of the businesses (overall cost of business, energy costs, unexpected changes in economic conditions or industry demand, and taxes) although recruiting the best possible workforce was the secondly ranked challenge among these businesses.

WORKFORCE ISSUES

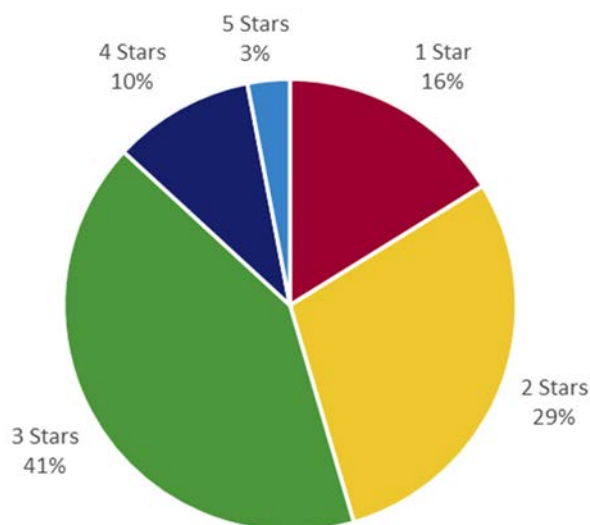
Who are the businesses that cite workforce issues and what do they have in common?

- **Workforce is distributed among the islands.** Forty-two percent (42%) of respondents indicate that recruiting the best workforce possible is a significant challenge. Of these, 38% are from St. Croix, 32% from St. Thomas, 13% from St. John, and 11% from the U.S. mainland.
- **The fewer the employees, the harder it is to find qualified workers.** Of the respondents where recruiting workforce is challenging, 68% of businesses have less than five employees, 14% have 5-9 employees, 10% have 10-24, and 8% have 25 and over.
- **Their industry competition is largely similar to the sum of respondents.** Industries most represented by having workforce issues include Professional Services, Retail, Financial, Insurance, or Real Estate, Construction, Entertainment, and Hospitality.

THE BUSINESS CLIMATE SEGMENTED

When asked to score the respondent's perception of the business climate in the Territory on a scale of 1 (lowest) to 5 stars (highest), 16% gave a score of 1, 29% gave a score of 2, 41% gave a score of 3, 10% gave a score of 4, and just 3% gave a score of 5.

HOW WOULD YOU RATE YOUR PERCEPTION OF THE BUSINESS CLIMATE IN THE U.S. VIRGIN ISLANDS?



These overall ratings, and other challenges presented to businesses are used to develop patterns and themes by certain distinguishing characteristics – by industry, by island, by those who have a more positive outlook, by those who have lost employees, and more.

By Industry | Those in the Financial, Insurance, or Real Estate sectors have the least favorable

perception of the business climate. Fifty-two percent (52%) of these respondents gave a low ranking (1 or 2 on a scale of 5) compared to 43% among all businesses. Comparatively, those businesses in the Personal Services Industry gave a ranking 30% of the time, Professional Services indicated a negative perception 28% of the time, and Retail only 14% of the time. Those in the Retail sector seem to have the most favorable perception of the business climate. Thirty-four percent (34%) of these businesses have a favorable perception compared to 13% of all businesses.

By Island | While the sample size was smaller (n=33), the business climate was ranked lower in St. John, with 52% of these respondents giving a negative ranking (1 or 2 on a scale of 5) compared to 42% for St. Croix businesses and 45% of St. Thomas businesses.

By Size | The larger the company, the less positive the business felt about the business climate. Forty percent (40%) of those with 1 or no employees gave a negative rating, compared to 47% of business with 2-9 employees and 52% of those with over 10 employees. Thirteen percent (13%) of those with 1 or no employees felt positively about the business climate, compared to 17% with 2-9 employees and 12% of those with over 10 employees.

Those who have lost employees | Twenty-four percent (24%) of businesses on St. Croix have lost employees in the last five years, compared to 29% of businesses on St. Thomas, and 34% of businesses on St. John. Nineteen percent (19%) of businesses that have lost employees in the last five years are in the

Professional Services sector, 12% in the Financial, Insurance, and Real Estate sectors, and 9% in the Retail sector.

The most difficult challenges for these businesses are the overall cost of doing business, unexpected changes in economic conditions or industry demand, and energy costs. On a scale of 1-5 with 5 being a severe challenge these were scored at 4.10, 4.10, and 3.96, respectively.

Those who have a positive outlook | Thirty-three (33) businesses, or 13%, gave the USVI a rating of 4 or 5 for business climate (out of 239 businesses.) These represent a spectrum of business sizes and lengths of time in operation. While there are complicated governmental regulations, many of these respondents feel there is untapped potential in the USVI with room for growth. To improve support to companies seeking growth, these were the top responses among these businesses:

- Increase the level of technical skills, accreditation, advanced degrees of local workforce.
- Simplify and accelerate zoning, business permitting, regulatory compliance.
- Provide easier access to economic development programs.
- Grow entrepreneurial support and innovation ecosystem programming.
- Provide and/or support workforce development initiatives and training programs.
- Improve the work ethic of the workforce.

GOVERNMENT PROGRAM SATISFACTION

Only 6% of respondents indicated working with a government agency in the past three years whereas 215 indicated they had not.

This is not a large enough sample to evaluate the quality or success of programs. It also does not address whether the satisfaction score was related to the quality of the experience applying for and receiving assistance, or the fit between the form of assistance and the business needs. More analysis and evaluation of programs may be warranted.

While this is a small sample, those that were contacted by the government to discuss challenges viewed the business climate more favorably, with 31% providing a positive rank compared to 12% who were not contacted.

USVIEDA

Most respondents have not participated in a service or program provided by U.S. Virgin Islands Economic Development Authority. For those that did, 49% were not satisfied with the program (1 or 2 stars)

they participated in (35) and 30% were satisfied (4 or 5 stars) (21). We asked respondents to rank their satisfaction with specific USVIEDA programs they may have participated in with a score of 1 (low) to 5 (high). The findings are shown in the chart below ("Satisfaction Rankings").

Other Agencies and Departments

Seventy-one percent (71%) of respondents have worked with the Department of Licensing and Consumer Affairs (DLCA). Of these, 61% percent felt they had adequate information and tools to navigate the process. Suggestions for improvement include better coordination between agencies, faster response time (particularly with licenses), more qualified staff, and greater transparency with the process.

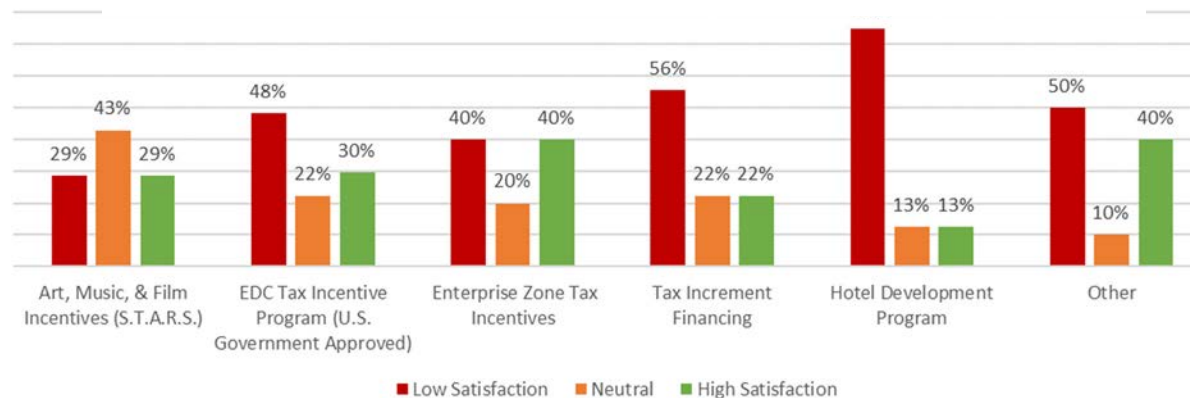
Thirty-six percent (36%) of respondents have worked with the Department of Labor. Of these, 55% percent felt they had adequate information and tools to navigate the process. Suggestions for improvement include more qualified help, faster

response time, and an overall less cumbersome process.

Fifty-seven percent (57%) of respondents have worked with the U.S. Virgin Islands Bureau of Internal Revenue (VIBIR). Of these, 46% percent felt they had adequate information and tools to navigate the process. Suggestions for improvement include more automation, better trained workers with better customer service, have an updated website with online submission, and a greater degree of responsiveness.

Respondents who were contacted by the government to discuss challenges viewed the business climate more favorably.

SATISFACTION RANKINGS BY USVIEDA PROGRAM



Business Relocations

An analysis of inter-island business relocations between 2009 and 2019 reveals that St. Croix was a net importer of establishments and jobs, gaining 29 establishments and an associated 207 jobs that relocated from St. Thomas and St. John.

St. John was also a net importer, gaining 15 establishments and 64 jobs as a result of inter-island relocations.

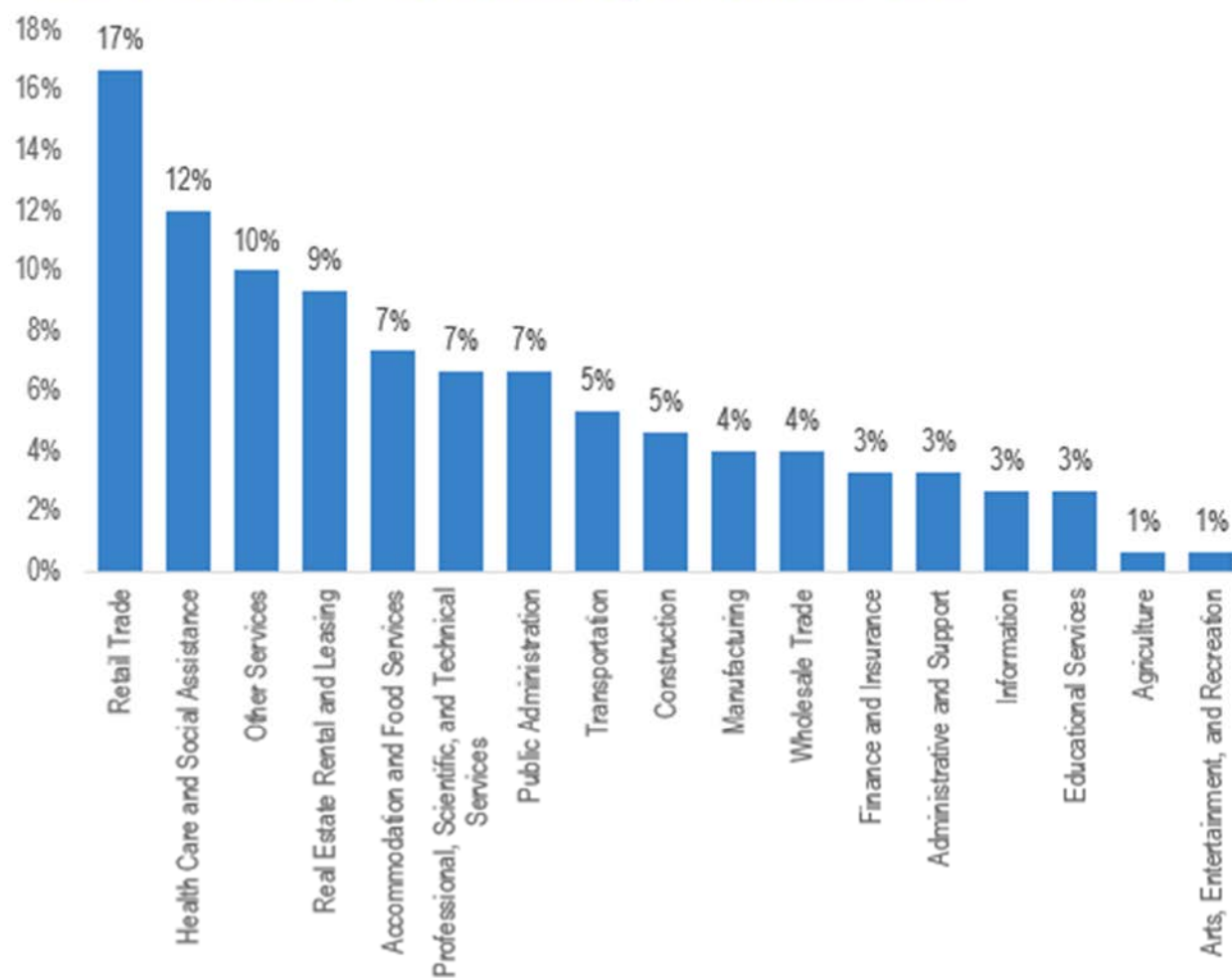
St. Thomas was a net exporter of establishments and jobs, losing 44 establishments and 271 jobs to the other islands.

The largest number of business relocations were in the Retail Trade sector at 17%. This was followed by Health Care and Social Assistance (12%) and Other Services (10%).

"There is a strong perception of competition between St. Thomas and St. Croix. They need to be partners."

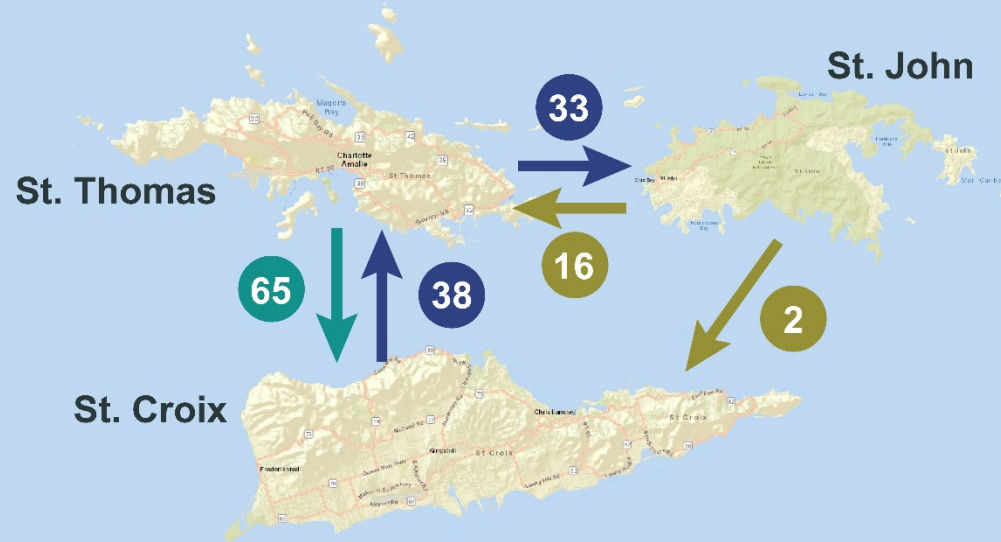
-Stakeholder Interview

Percent of Business Relocations by Sector, 2009-2019

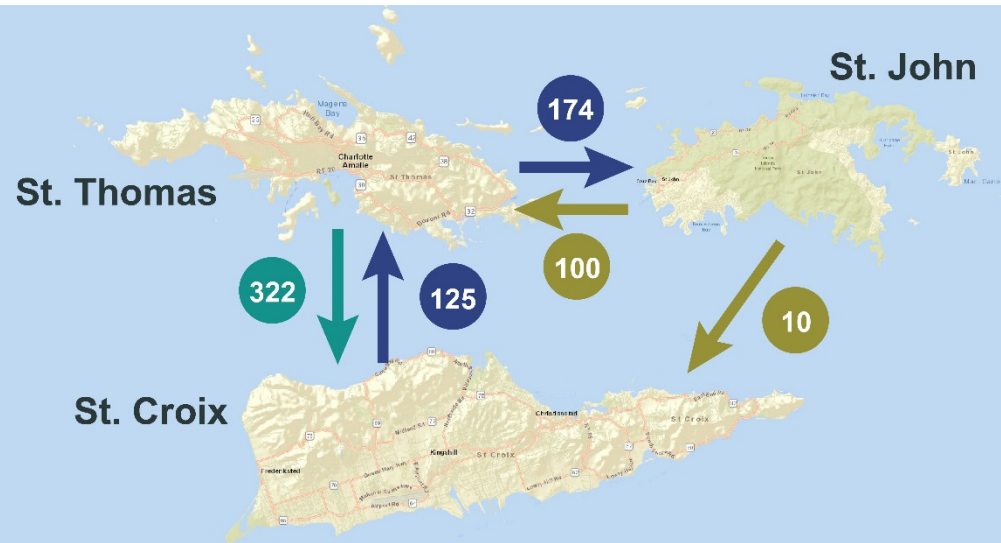


Source: InfoGroup

RELOCATIONS BY ESTABLISHMENTS (2009-2019)



RELOCATIONS BY EMPLOYMENT (JOBS) (2009-2019)



St. Croix has been a net importer of jobs and establishments from other islands in the Territory.

St. Thomas lost the greatest number of jobs to other islands in the Territory from 2009 through 2019.

Global Trade and Investment

GLOBAL INVESTMENT TRENDS

Globally, leading up to 2020 a majority of companies planned to invest in projects in their home country or a foreign country. While Covid-19 resulted in the postponement of some projects, primarily larger manufacturing and corporate headquarters projects, companies are taking an optimistic view of the future and are expecting to make only limited changes to planned investment, despite continued uncertainty.¹

Unsurprisingly, the pandemic's impact on investment decisions has varied between industries. Travel related investment projects have been stalled or cancelled while the life sciences/pharmaceuticals, automotive, and information technology industries reported the least amount of disruption. Strategic drivers for future investments however are consistent across industries. Resilience and business continuity are at the forefront of company decision making, while access to markets and proximity to customers continue to be important considerations.

The focus on business continuity, resilience, and access to markets is affecting which countries are most likely to be considered for investment. The U.S. continues to be the top country for potential investment, given the large market opportunity associated with the U.S. economy and a mature

operating environment, which continue to be attractive to companies.

Concurrent with the Covid-19 disruption, companies are going through major transformation processes associated with digital technologies. Across all industries and functions, companies are planning to increase their use of digital technologies and automation over the next three years. The intensification of digital transformation is expected to be particularly significant in research and development, select manufacturing sectors, and shared service centers/back offices. Digital technologies and automation are expected to change the skills requirement for talent, and skills development will be required for workforces across all functions. It is also expected that digital technologies and automation will increase employment and headcount, and as a result labor costs will remain important location criteria. Digital technologies and automation will enhance the role of human capabilities and skills as a competitive advantage.

CARIBBEAN FOCUS

The decade ending in 2019 saw the highest ever foreign direct investment (FDI) inflows into Latin America and the Caribbean, which peaked in 2012. Since 2012, foreign investment inflows have declined steadily, a trend that is expected to be further exacerbated by the Covid-19 pandemic. Early

estimates indicate that global FDI may have fallen by 40% in 2020 and that it will decline further by between 5% and 10% in 2021. The outlook for the Caribbean in terms of FDI, which experienced sharp declines in GDP and exports in 2020, is likely to be even more negative. FDI is important to the region as a complement to domestic investment and a source of new capital. Within the Caribbean, conditions must be set not only to attract foreign capital, but also for it to become a source of increased productivity, innovation and technology, and for it to be channeled towards sustained, inclusive and sustainable economic growth.²

The Caribbean as a whole is a valuable economic partner to the U.S. In 2018, the U.S. realized a \$12.3 billion trade surplus on \$35.3 billion of trade with the Caribbean.³ Recognizing the mutual benefit of a strong relationship with Caribbean nations and territories, the U.S. has committed to work with its Caribbean partners to promote sustainable economic policies and job-creating, private sector-led growth through the utilization of trade preference programs and forums such as the U.S.-CARICOM Trade and Investment Council. Additional goals include supporting the growth and establishment of small- and medium- sized companies, promoting broadband development and implementation, and fostering sustainable tourism in the Caribbean.

¹ Dencik, Jacob, et. al. *Global Location Trends 2020 Special Edition: Location Strategy in a Post-COVID-19 World*. IBM.

² *Foreign Direct Investment in Latin America and the Caribbean*. United Nations Economic Commission for Latin America and the Caribbean, 2020.

³ *U.S. Strategy for Engagement in the Caribbean*. U.S. Department of State, Bureau of Western Hemisphere Affairs.

ASSESSMENT OF COMPETITIVE POSITION

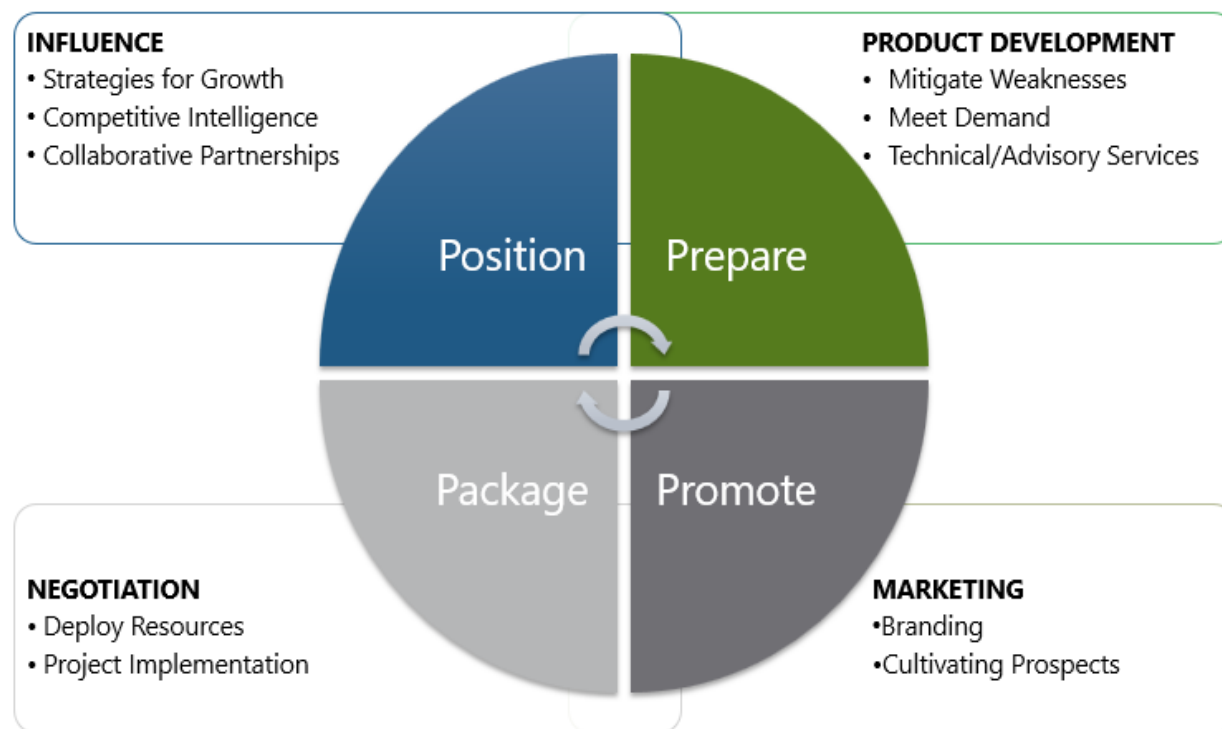
Management of Economic Resources (“Economic Dev. 101”)

ECONOMIC DEVELOPMENT ECOSYSTEM: A DECADE OF TRANSFORMATION

Nationally, economic development has undergone a transformational shift from the traditional model to an integral model, demanding EDOs to be *center-of-it-all* leaders in their communities and able to strategize and integrate resources and assume roles for effective collaboration. Those that are not managing this transition are coming under increased stakeholder, public, and funder criticism and scrutiny.

Nearly twenty years ago, EDOs were primarily focused on incentives, marketing, and sites. Economic developers today work to retain and create jobs; stabilize, diversify, and grow the economy and tax base; and create wealth and equity all while bringing multiple stakeholders together to address critical issues.

There are several roles that an EDO can fill to best serve a community outlined in the graphic below. In the position role, the EDO works as a leader to **influence** the economic agenda, conduct competitive intelligence and strategies for growth,



and ensure that multiple stakeholders come together to deal with difficult challenges and achieve common goals. The second role is the preparation of the overall **product development**. This role works to mitigate market weaknesses and facilitate market demand through upgrading infrastructure, establishing business support programs, providing technical assistance, etc. The third role is to **promote** the community through marketing, brand development, and cultivating prospects in targeted industries and global markets. Finally, the community must be able to **package** (or

close) the deal. In this role, the EDO works to implement a project and/or provide financing or incentives. In some cases, a community has several EDOs that work under an economic development strategy to fulfill each role. For communities with multiple entities, it is crucial that each coordinate and collaborate with one another as to not duplicate efforts.

The USVIEDA is charged with handling several economic development functions roles for the territory. It focuses largely on providing technical assistance and financial supports for enterprising

individuals and small businesses, tax incentive administration, project development and execution. Accordingly, the USVIEDA's roles and responsibilities fall primarily in the preparing product and packaging product quadrants shown above. The USVIEDA also has strong marketing capacity to promote programs and services, as well as providing key news and information to USVI businesses.

Economic Development Functions

The following section provides an overview of currently best practice roles and responsibilities assumed by economic development organizations around the world. This is presented to provide context for recommendations for improvements to USVIEDA and other economic development groups that will help advance Vision 2040.

As economies grow and change, economic developers serve to help communities and businesses stay ahead of sector changes such as automation, competition, unanticipated events, and shifting business culture. Understanding the dynamics of business change and taking early, proactive, business-friendly steps, help companies and communities to grow.

Recent research conducted by the International Economic Development Council (IEDC) identified the following functions that were common to high performing EDOs:

1. **Business Retention & Expansion ("BR&E")** – BR&E is one of the two most traditional and common efforts EDOs undertake to strengthen economies (the

Typical EDO Functions



Source: Camoin 310

other being business attraction, detailed below.) A BR&E program requires periodic meetings with local businesses to understand their needs, along with any barriers or issues that may impede growth, such as infrastructure, workforce, permitting, financing, etc. Many EDOs use a formal Customer Relationship Management ("CRM") tool to record data, convert it to useful business and industry information, analyze it over time, and feed intelligence into the organization's marketing and attraction programs. The BR&E programs also typically focus on key competitive target industries (see 3. Targeted Industries & Clusters below).

2. **Business Attraction** – Business attraction entails marketing and promotion of the community and sites to outside business and development interests and requires a strategy that identifies targeted industries

and geographies in which a region knows it can compete as a location for new investment. Economic development attractions efforts are typically targeted to businesses that are within, or a part of, an existing supply chain or industry and that have been identified as competitive relative to other regions. Investments in attraction efforts typically involve conversations and connections with outside business leaders via phone, in-person meetings, industry tradeshow attendance and/or developing relationships with site selectors specializing in their target industries. These efforts must be sustained over time to build name and brand recognition.

3. **Targeted Industries & Clusters** – In today's environment, EDOs must determine their competitive advantages and why certain industries and sectors are stronger and perform better within their region relative to

others. (See below section on “How Businesses Select Locations” for insight on the site selection process.) Successful EDOs focus investments and capacity on strengthening those advantages and developing programs and initiatives that support businesses within a targeted cluster. The majority of EDOs focus on strengthening existing industries and have analyzed economic and employment data to identify their targets. These targets become the foundation of all economic development functions deployed. In other words, their entrepreneurship, innovation, workforce, attraction, BR&E, and advocacy efforts are done with their target industries in mind. Over time, industry intelligence is gained to support programming and resource allocation. The most advanced EDOs are now beginning to utilize this information to develop artificial intelligence (AI) models that help them understand which of their businesses are most at risk and why, and which outside companies may be ready to expand and would find their location attractive.

4. **Entrepreneurship & Innovation** – With small businesses responsible for the majority of new job creation within a region, many EDOs offer financing, training, and other technical assistance and services to start-ups and existing entrepreneurs. Supporting start-up and entrepreneurship through programs offering access to capital

are also common activities. Many EDOs establish and manage local loan programs designed to participate in higher risk lending with local banks and/or Federal programs. However, the more advanced EDOs are now supporting entrepreneurial innovation through research and development partnerships, product commercialization (i.e. patent expertise), peer networking, and locally supported venture funding. *Shark Tank*-like approaches to vetting new products and business ideas have become popular and has become a method for introducing entrepreneurs with those in the community interested in deploying capital for personal, financial, and community benefit. Some of these roles are shared between the USVIEDA, RT Park, UVI, and the SBDC.

5. **Workforce** – For the past decade or more, workforce issues have been the single-greatest barrier to growth for large and small companies. Economic development organizations have been working with state and local workforce officials, community colleges, Workforce Investment Boards (“WIBs”) and others to identify existing and future skill gaps and to develop training programs and career pathways to build a pipeline of labor to meet local business needs. Again, these programs typically focus on the established target industries, require the sharing of labor data and other information gathered through a formal

BR&E program and have a clear delineation of roles and responsibilities for identifying and addressing business and industry labor needs.

6. **Downtown, Infrastructure & Sites** – Owning and developing property, business parks, or shovel-ready industrial sites; streamlining the permitting process; leading a downtown redevelopment effort; completing an economic development strategy; or becoming involved in addressing a workforce housing shortage are among the types of efforts and roles that comprise the agenda of many economic development organizations. Available commercial and industrial sites that allow for local businesses to expand, ensuring infrastructure capacity is available to meet future needs, and creating a place in which employers can attract labor have become leadership roles for EDOs.
7. **Advocacy** – EDO’s work to actively promote economic development within their community. This includes advocating for local businesses, entrepreneurs, institutions, community-based organizations, and residents. Effective EDOs serve as the voice for these entities, working on behalf of their concerns and challenges and helping them to have an opportunity to achieve their short and long-term economic development goals. Where a strong chamber of commerce exists, EDOs will oftentimes coordinate and collaborate on

critical issues and work cooperatively to enhance advocacy capabilities. Those organizations that are funded primarily with municipal contributions often find providing advocacy difficult, while those funded largely by private sector contributions are less concerned about the political implications of their efforts.

Economic Development Organization (EDO) Qualities & Characteristics

In addition to the above functions, there are several successful traits that an EDO should display to maximize their impact. According to IEDC research, and confirmed by Camoin 310's work experience, high-performing EDOs share these ten successful traits:

1. **Leadership & Capacity** – This entails establishing a sound board governance structure, attracting strong business leadership that can work in partnership with public leaders, and an experienced EDO staff with the financial resources needed to execute a strategy.
2. **Strategic Planning** – Developing a strategy based on consensus, sound information, proven practices, and competitive advantage.
3. **Responsiveness & Adaptability** – EDOs must offer the economic development functions that allow them to pivot and react quickly to change. An experienced EDO with economic resiliency resources and a CRM with current business information allow for

quick communication and information dissemination are just two examples of how an organization can be prepared to react quickly.

EDOs must offer the economic development functions that allow them to pivot and react quickly to change.

4. **Customer-Driven** – Ongoing communication and ability to react to businesses, stakeholders, or funders' needs supports a customer driven focus, meets expectations, and eliminates the need to expend time and resources to quell dissatisfaction.
5. **Funding Efficiency** – Identifying and leveraging financial resources and utilizing that funding for results-oriented initiatives ensures support and provides future resources for new programs and initiatives.
6. **Measure Results & Adjust** – Reporting results regularly to funders, business leaders, elected officials, and other stakeholders ensures ongoing support. More critical, however, is the use of metrics to assess performance, and adjust initiatives to ensure resources are being allocated effectively.

7. **Creative Risk Taking** – Revitalizing economies for many communities requires the development of transformational projects. Inherent in these types of projects is increased risk. Being creative and applying the appropriate analysis to determine an appropriate level of risk is especially critical.
8. **Trust & Respect** – Responsiveness and follow through contribute to building trust and respect needed for an EDO to play a vital leadership role.
9. **Strong Alliances & Networks** – Sharing resources, partnering on initiatives, and maintaining a broad network of business and elected leaders at the national, state/territory and regional level are critical to resolving business issues and executing strategic initiatives.
10. **Effective Communication** – Informing partners, funders, and stakeholders and business leaders through a variety of communication tools about organizational efforts, calls to action, and needs and accomplishments builds confidence, trust, that advances community momentum and brand.

How Businesses Choose Locations

The following section is provided to help residents and decision makers throughout the USVI better understand how corporate site selection decisions are made. This provides needed context for considering improvements to the business climate.

While there is a great deal of variation in the site selection process, there are also common themes that shape most decisions on where to locate. These themes play across both site searches by executives of the businesses as well as by site selection consultants. They also apply to the recruitment of new companies, start-ups, and the retention and expansion of the businesses you already have.

The process essentially has two phases:

1. A Process of Elimination
2. A Process of Comparison

Process of Elimination

There are thousands of places looking to attract businesses and the jobs and tax revenues they provide. Businesses can't spend the time looking at thousands of possibilities, so at the beginning of their site search, they eliminate the majority of places. It can be as simple as accessing a new market in Asia and deciding the Caribbean is too far away – or it can be based on a comparative workforce analysis, cost analysis, transportation analysis, or many other things.

Site location consultants have their own proprietary databases while companies doing their own search rely on publicly available data, usually from

government sources, or procure data from companies who specialize in providing it. After a first look at the critical data, both groups will then turn to the websites of EDOs (Economic Development Organizations) in the regions they are initially willing to consider. This puts a premium on EDOs having really good websites with a lot of information and making it easy to find both the website and information within it.

And if they can't find what they are looking for in a very short time, EDOs are eliminated from consideration. They will not have talked to your EDO and never will, at least for the current project.

The end of this Phase is the identification of a small number of "survivors" – perhaps a half dozen – that warrant a more detailed look.

Process of Comparison

The finalist communities are stacked up side-by-side and compared on a variety of factors. The importance of each will differ by industry sector and often by individual companies within the same sector. The factors evaluated usually fit into the following categories:

- Access to Markets
- Labor Force
- Available Sites and Buildings
- Business Climate
- Transportation Infrastructure
- Utility and Telecom Infrastructure
- Education and Training
- Taxes
- Available Parts, Suppliers, Services

- Quality of Life and Place
- Public Facilities and Services
- Available Capital
- Available Incentives
- EDO Assistance Programs

It is essential to recognize that your place is your product. That product must be as competitive as you can make it. It makes no sense to spend a lot of money marketing an inferior product, although name recognition marketing can be useful.

Before the common use of computers, EDOs maintained detailed "Fact Books" that covered the topics listed above in great detail. This is what EDOs provided prospects to inform them about their product. Today, companies and site selection consultants expect to find this information on the EDO's website.

A lot of work goes into this process and the timeframe for doing it has been compressed significantly. Many years ago, it was not uncommon for a site selection project to take 18 to 24 months; now, according to one site selection consultant interviewed as part of this project:

- The typical site selection study (e.g., light to medium mfg., back office, warehouse) takes 3-4 months to complete.
- For heavy/process industries the decision pathway is often 5-6 months as utility/site infrastructure and environmental review can be time consuming.

- The 5-6 months would also apply for distribution facilities if part of the analysis embraced a warehouse network optimization analysis.
- For the typical light industry/back office allow another 6-8 weeks to wrap up incentives and real estate. Then we would be looking at 2-4 months for building retrofit or 6-8 months for new construction.
- Heavier industry would probably be 8-10 weeks for incentives/real estate and 5-7 months for retrofit or 10-12 months for new construction.

WHERE DO INCENTIVES FIT IN?

They are generally not the most important factor, but they can play a major role. During the initial collection and analysis of information about places, incentives are relatively unimportant because things like labor availability and cost, transportation, utility and telecommunications infrastructure and business climate take precedent. However, at the very end of the process, available incentives can become more important, often as the tiebreaker among otherwise equal competitors as a way to reduce operating costs in one location versus another.

This emphasizes the importance of having the most competitive product because the availability of incentives rarely is enough to overcome significant competitive disadvantages.

Certainly, incentives can be a way to mitigate the deficiencies that add cost and subtract from the bottom line, but most places are suspicious about companies that make location decisions based largely on incentives. The bottom line here is that incentives, when used properly, can be a strategic investment by the EDO that reasonably benefits the recipient but more importantly meets the goals of the EDO. Those goals should be developed through

Incentives, when used properly, can be a strategic investment by the EDO that reasonably benefits the recipient but more importantly meets the goals of the EDO.



good strategic planning and quantified so that performance can be measured.

INCENTIVES IN THE U.S. VIRGIN ISLANDS

Publicly funded financial support is intended to induce private investment in businesses that would otherwise not be started, locate, or successfully grow in a community.

Well-designed, tailored incentives support business location and growth decisions, addressing challenges and helping to level the playing field.

Tax exemptions remain an important tool to reduce the costs of doing business, but do not address all challenges. As economies evolve, business needs have encouraged the creation of additional direct public support such as loans and grants, and indirect support in the form of workforce training, infrastructure, and community development initiatives to create an environment where businesses, workers, and residents can thrive. This approach creates a tailored assistance package.

The guiding principles summarized at right provide a background for the evaluation of public financial incentives currently available in the USVI.

This section includes:

- **A basic inventory of current assistance**
- **Industry targets and use patterns**
- **Incentive performance**
- **Key takeaways**

USVI GUIDING PRINCIPLES FOR USE OF INCENTIVES

Responsibility: Achieve a balance of community goals and fiscal obligations and the needs of a new or growing business;

Effectiveness: Award assistance based on demonstrated individual financial need, and tailor each package to fit the business's actual challenges, whether mitigating a high corporate tax burden during growth years, making a real estate investment feasible, or accessing capital; and

Performance: Establishing success measures for the awarding organization as well as the receiving business. For example, establishing metrics for jobs and capital investment, following up and keeping a record throughout the term of the incentives, and using business expansion and retention techniques to evaluate ongoing fit with business needs. Performance also includes how the awarding organization seeks and reviews information, makes transparent and consistent decisions, and communicates its goals.

Inventory of Incentives

USVIEDA provides assistance for qualifying businesses throughout the Territory which includes:

- Tax incentives/exemptions for income, gross receipts, excise, customs, and real property;
- Capital formation assistance such as loans through the Economic Development Bank, often in partnership with the U.S. Small Business Administration;
- Programs for business start-ups and acceleration, farmer/fisher support, technical assistance, and commercial leasing;
- Targeted programs for hotel, music and film industries directly from the Economic Development Authority; and
- Administration of district-specific incentives and export assistance for local manufacturers through the Enterprise Zone Commission.

The Research and Technology Park (RTPark) uses a membership model whereby businesses apply for incentives and support programs such as:

- ExporTech export assistance and strategy development;
- Workforce development and avenues to access the talent pool, including partnering with the University of the Virgin Islands;
- "Virtual" coworking space and innovation programs.

U.S. Federal incentive programs such as designated Opportunity Zones and New Market Tax Credits are available as a third layer of potential assistance.

An Inventory of Existing Incentives is included later in this section. It identifies each incentive, the type of assistance offered, the organization administering the program, and targeted business and eligibility constraints. It is intended to provide an overview of available assistance, not to be a guide for businesses seeking incentives.

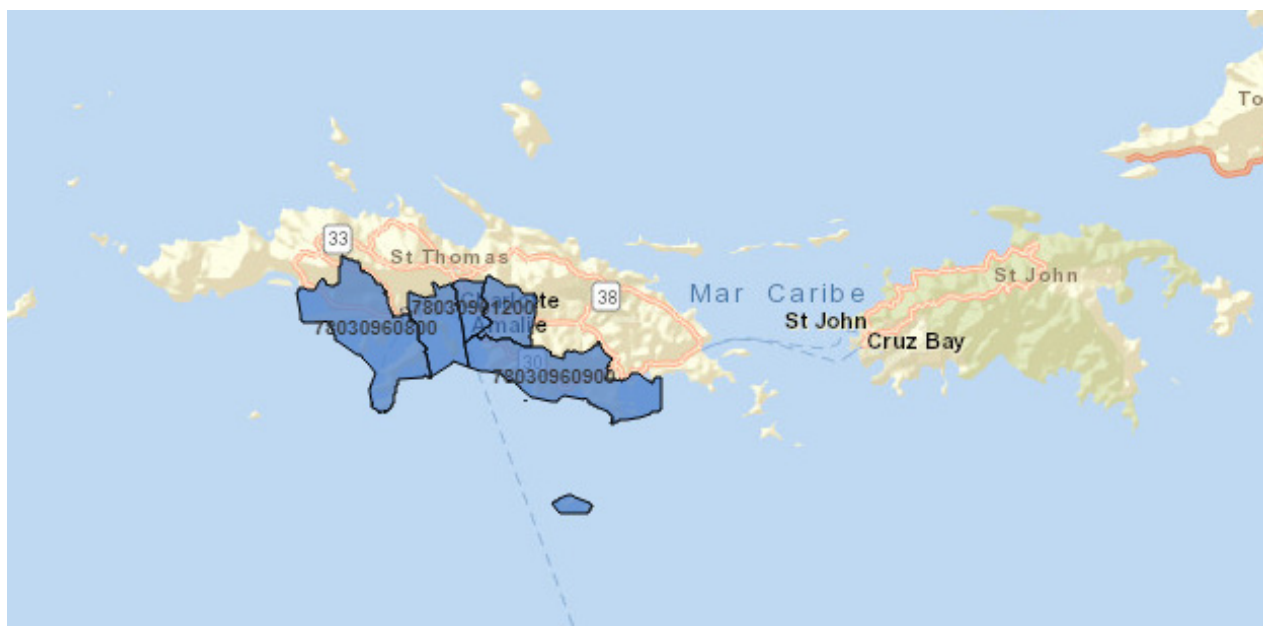
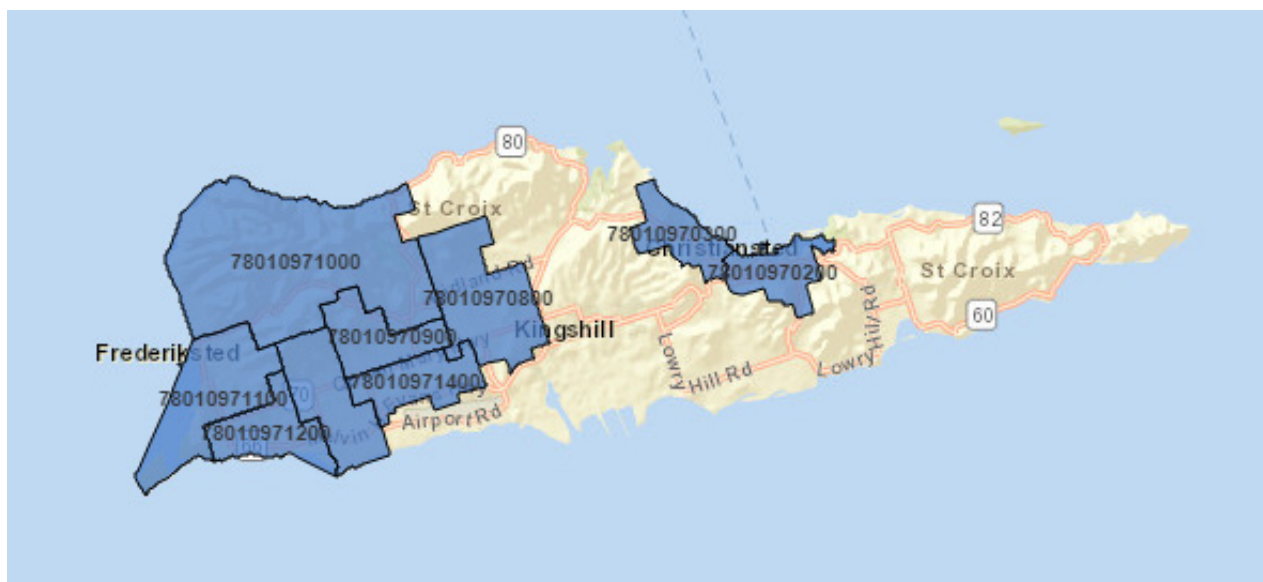
Primary providers of financial incentives are:

U.S. Virgin Islands Economic Development Authority (USVIEDA), acting directly and overseeing:

- Economic Development Commission (EDC) with an Applications Division and a Compliance Division
- Economic Development Bank (EDB), which also incorporates the Small Business Development Agency (SBDA) and the Small Business Incubator Program
- Enterprise Zone Commission (EZO)
- Virgin Islands Economic Development Park Corporation (EDPC)

Research and Technology Park (RTPark), which independently administers some of the same tax abatements as USVIEDA for its participating businesses, as well as additional business services for partners such as the University.

FEDERAL OPPORTUNITY ZONES IN THE U.S. VIRGIN ISLANDS



U.S. Small Business Administration (SBA) is not listed as a direct provider of financial incentives. It partners with USVIEDA and assists applicants for several programs. There are SBA supported Small Business Development Centers (VISBDC) in St. Thomas and a new location in Christiansted, St. Croix.

United States Treasury Community Development Financial Institutions Fund, which administers the New Markets Tax Credit program and other programs to help businesses access capital. It should be noted that this program also administers the network of Community Development Financial Institutions (CDFIs), which are private institutions with a mission to provide access to financial products and services for residents and businesses in low-income communities. CDFIs are authorized in every U.S. state, Guam, and Puerto Rico, but not the USVI.

There are more than one hundred CDFIs authorized to work nationally. However, no CDFI assistance has been awarded in the USVI since 1999, when Virgin Island Capital Resources, a Venture Capital Fund, was awarded \$770,000.

Having no VI-based financial institution authorized as a CDFI is a significant gap in the USVI's portfolio of financial assistance to business.

Opportunity Zones (OZs) are designated census tracts where capital investment is rewarded with capital gains tax reductions. There are 9 on St. Croix and 5 on St. Thomas. The U.S. Internal Revenue Service (IRS) issued regulations about eligible

investments, timeframes, and amount of taxes that can be reduced.

The last three columns of the table "Inventory of Existing Incentives" measure each incentive against the goals of USVIEDA and are frequently adopted as high-level goals by economic development organizations large and small: attract investment, create revenues for the community, and create jobs.

For each incentive, the table notes whether it achieves the goal directly, or indirectly through contributing to community economic growth and individual earnings. For example, the Micro-Credit Loan Program administered by the EDB *directly* supports the goal of attracting investment, *indirectly* creates revenues for the community when the business and its employees pay taxes and does not have a stated minimum number of jobs.

Overall, tax incentives promote the goals indirectly except where there is a requirement for creation of jobs. While loan programs directly support the investment goal, the others are often achieved indirectly. This difference is critical for understanding the effectiveness of incentives and matching them to business needs. Tax exemptions /abatements are not good at encouraging business start-ups, while loans can trigger investment but don't mitigate the costs of doing business over time.

A potential applicant must first navigate separate sources of information to find incentives, then identify programs for which the business may be eligible, and finally work through an application process unique to the administering organization or program.

INVENTORY OF EXISTING INCENTIVES

Program Name	Type of Incentive	Program Administrator*	Target Businesses	Eligibility Constraints	Attract Investment Directly or Indirectly through Growth	Create Revenues for Community Directly or Indirectly through Growth	Create Jobs with Meaningful Salaries (Jobs Requirement)
Sustainable Tourism through Arts-based Revenue Stream Production (S.T.A.R.S.)	Tax abatement - reductions in income and gross receipts; refundable tax credits; hotel tax waiver during production	USVI EDA	Film, video, media, motion picture, and television industries and related	Minimum spend on business activity	Indirect	Direct	USVI Resident Requirements; Tax Credits increase with more hires
Property Tax Incentive	Tax abatement - real property tax reduced up to 100% reduction	USVI EDC, RTPark	Business that owns real property; eligible activities established are very broad	USVI business or personal length of residency, corporate structure and business licensing	Indirect	Indirect	Jobs minimum for USVI residents
Gross Receipts Tax Incentive	Tax abatement - gross receipts taxes reduced up to 100% reduction	USVI EDC, RTPark	Existing business with income; eligible activities established are very broad	USVI business or personal length of residency, corporate structure and business licensing	Indirect	Indirect	Jobs minimum for USVI residents
Excise Tax Incentive	Tax abatement - excise taxes reduced up to 100% reduction	USVI EDC, RTPark	Existing business with income; eligible activities established are very broad	USVI business or personal length of residency, corporate structure and business licensing	Indirect	Indirect	Jobs minimum for USVI residents
Customs Duties Incentive	Tax abatement - customs reduction from estimated 6% to 1%	USVI EDC, RTPark	Existing business with income; eligible activities established are very broad	USVI business or personal length of residency, corporate structure and business licensing	Indirect	Indirect	Jobs minimum for USVI residents
Corporate Income Tax Incentive or Personal Income Tax Incentive	Tax abatement - business income tax reduced up to 90%	USVI EDC, RTPark	Existing business with income; eligible activities established are very broad	USVI business or personal length of residency, corporate structure and business licensing	Indirect	Indirect	Jobs minimum for USVI residents
Withholding Tax Incentive	Eliminates or reduces taxes and interest - benefit value varies	USVI EDC, RTPark	Especially benefits intellectual property such as software	USVI business or personal length of residency, corporate structure and business licensing	Indirect	Indirect	None stated
Hotel Development Program	Other - trust fund for community development	USVI EDC	Hotels/ neighborhood around hotel	Targets must be met for employment	Indirect	Direct	USVI Resident Requirements
Tax Increment Financing	Other - funding for infrastructure and community development	USVI EDA	District-based: no special targets but district must be established	Requires legislative process to adopt and USVI to issue bonds	Indirect	Direct and Indirect	None stated
USM State Trade Expansion Program (STEP)	Other - foreign trade assistance	USVI EDC	Exporters	Designated a small business by US SBA	Indirect	Indirect	None stated
Enterprise Zone Benefits	Capital formation - tax credit can be monetized	USVI EZC	District based: businesses in designated enterprise zone and rehabilitating a property	Meet one or more strategic objectives of the EZC	Indirect	Indirect	Jobs minimum for USVI residents
EDA Loan Fund	Capital formation - loan	USVI EDB	Dislocated worker establishing or expanding a business	Must provide denial letter from local commercial bank	Direct	Indirect	None stated

INVENTORY OF EXISTING INCENTIVES (CONTINUED)

Program Name	Type of Incentive	Program Administrator*	Target Businesses	Eligibility Constraints	Attract Investment Directly or Indirectly through Growth	Create Revenues for Community Directly or Indirectly through Growth	Create Jobs with Meaningful Salaries (Jobs Requirement)
Farmers and Fisherman Loan Program	Capital formation - loan	USVI EDB	Commercial farmers and fishermen	Can apply after 3 years of activity	Direct	Indirect	None stated
Micro-Credit Loan Program	Capital formation - loan	USVI EDB	Startup or early stage	Must provide denial letter from local commercial bank	Direct	Indirect	None stated
Development Loan Program	Capital formation - loan	USVI EDB	No special targets	Must provide denial letter from local commercial bank	Direct	Indirect	None stated
Frederiksted Loan Program	Capital formation - loan	USVI EDB	District based: businesses in Frederiksted only	Business in Frederiksted; must provide denial letter from local commercial bank	Direct	Indirect	None stated
Intermediary Relending Program	Capital formation - loan	USVI EDB	District based: community development projects, new or expanding businesses, businesses saving or creating jobs	Business in District of St. Thomas/St. John; must provide denial letter from local commercial bank	Direct	Direct and Indirect	None stated
Post Disaster Relief Revolving Loan Fund	Capital formation - loan	USVI EDB	District based: businesses affected by tropical storms Otto and/or Tomas in 2010	Must be displaced St. Croix worker or small business; must provide denial letter from local commercial bank	Direct	Indirect	None stated
State Small Business Credit Initiative	Capital formation - credit support for loan from a financial institution	USVI EDB, Loan terms from participating banks	Startup or growing business	USVI business or personal length of residency, corporate structure and business licensing	Direct	Indirect	None stated
RTPark Enhancements	Supporting services to promote exports, reach workforce and talent, support innovation and low-cost workspaces	RTPark, Partners	Various	Membership in RTPark	Indirect through providing support for growth	Indirect through providing support for growth	Indirect through providing support for growth
Opportunity Zones	Tax Deferral and Reduction	None - IRS regulations and review	None specific but project must recognize capital gains to achieve maximum benefit	District based: existing business more difficult to assist; projects with higher capital gains benefit most	Direct	Indirect	None stated
New Market Tax Credits	Capital formation. Federal tax credit can be monetized.	US Treasury CDFI Fund	None specific	Must have a Community Development Entity (CDE) to compete for funds and distribute	Direct	Indirect	None stated

*All incentives administered by the RTPark require the applicant be a member or program participant of the RTPark. Incentives such as income tax reduction are offered by USVI EDC to businesses not located in the RTPark.

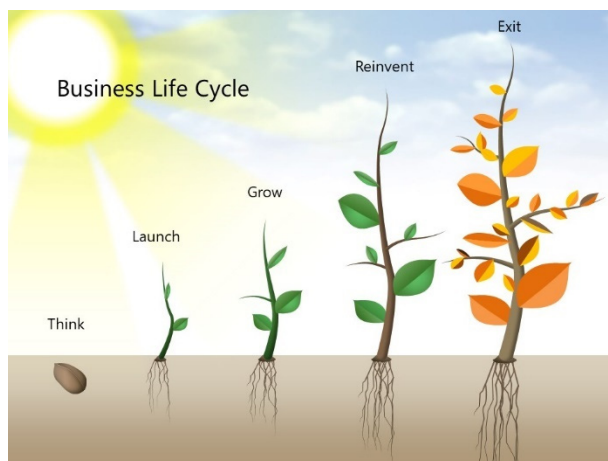
INDUSTRY TARGETS AND USE PATTERNS

Conceptual Framework

Building on the idea that incentives work directly and indirectly depending on their design, the next step to evaluating their effectiveness is to understand what problems they are intended to solve. Matching incentives to the business lifecycle shows when an incentive is most valuable to a business, and reveals gaps where assistance may be needed but is not available.

A conceptual framework enables understanding of what effectiveness means, so that direct feedback and performance measures can be more useful.

The image below is a rendering of the business life cycle, using terms from the Virgin Islands Small Business Development Center. While the “Think” stage is not typically targeted with financial incentives, awareness of financial and technical support can make a difference in whether an idea makes it to the next stage. This means that marketing efforts around incentives should also



reach within the community to inspire potential entrepreneurs by showing that support can be available during and after launch.

The programs catalogued in the table *Inventory of Existing Incentives* fall under three general categories: Access to Capital/Capital Formation, Tax Incentive/Exemption, and Other, which includes industry-based supports such as the Hotel and S.T.A.R.S. programs, and Enterprise and Opportunity Zones.

The figure at right lists the five business life cycle stages and the types of challenges faced during each, that can be mitigated by public incentives or business support programs. Where a direct incentive is offered in the USVI, whether through USVIEDA, RTPark, or U.S. Federal programs, that challenge is highlighted in **bold**.

Access to Capital/Capital Formation – publicly funded loan programs are available, but in small amounts. Availability of private capital is a major gap, with limited involvement of commercial banks, no CDFI, and low direct private investment such as angel investors or venture capital. Note that this is the first need for the **Launch** stage. Private capital often seeks co-funding, where a public entity or bank is also providing support. Businesses must get past launch to grow and add jobs.

Industry-Based Support – Film, Hotel, and Export incentives are important at launch because they help with planning and can reduce early costs to help the business become viable and enter the growth stage. They remain important through the **Grow** stage.

Think

- Awareness and Acceptance of Available Support

Launch

- **Access to Capital/ Capital Formation** (loans, grants, investors)
- **Location-Based Incentives** (Enterprise or Opportunity Zones)
- Industry-Based Support (**Film, Hotel, Exports**)
- **Real Property Tax Exemption**
- Mentoring through organized connection program

Grow

- Talent Acquisition and Development
- Cost Mitigation and Control Including **Tax Exemption**
- Industry-Based Support (**Film, Hotel, Exports**)
- Continued **Access to Capital**, Especially Refinancing
- Continued Mentoring

Reinvent

- Talent Retention and Replenishment
- Continued Cost Control and **Targeted Tax Exemption**

Exit

- Sale of Business

Tax Exemptions – A business must have revenue in order to have a tax liability. A real property tax exemption is valuable at **Launch** and **Grow** stages to stabilize costs when revenues are volatile. If this is phased out over time, the community benefits fiscally, while the business still succeeds.

Gross receipts, excise, customs, and income tax abatements are activity-based incentives. A business must have enough activity to have a tax liability, so launch-stage businesses obtain less benefit than those in **Grow** and **Reinvent**. The tax liability must also be large enough to warrant the effort to complete application, approval, and compliance requirements.

Quantitative Measures of Use

USVIEDA has a transparent application process and publishes information about the businesses receiving assistance. The most recent *Annual Report* is 2017. Key metrics around the use of incentives include:

- **EDC Applications are Declining.** Thirteen (13) were received in 2017. This is well below the 24 received in 2009 and 58 in 2004, from the 2009 *Annual Report*.
- **EDB Loan Transactions are Declining.** \$875,000 were closed through 9/30/17 compared with \$1,625,762 in 2016⁴ and \$1,571,500 in 2009⁵. The EDB wrote that efforts included more restructuring and modification to reduce delinquencies from 77% in 2016 to 47% in 2017⁶.
- **EDC Tax Exemptions are Fairly Evenly Accessed by Industry Sector.** The table below summarizes the use pattern for 2020. This is active recipients, not new applications.

As noted in the table of programs, business registration or personal residency requirements must be met to access tax incentives through USVIEDA. Businesses with the resources to navigate the registration requirements have an advantage. For individual entrepreneurs, the chief hurdle is length of residency measured in years (5 years if your family is from the Territory and 10 years

2020 Beneficiaries of USVI EDC Tax Incentives

Category	Targeted Industry Sectors	% of Awards
I	Rum Production, Milk/Dairy Production, Watch & Jewelry Manufacturing & Assembly	0%
II	Product Assembly, Manufacturing, Repair and Maintenance and/or Export Operations, Marine Industry, etc.	37%
III	Facilities, Tourism and Communications Developments, etc.	34%
IV	Designated Service Businesses	29%

Source: USVIEDA, accessed 12/2/20

otherwise), and the amount of time each year spent in residence.

Additional resources and expertise are needed to manage the community development requirements. Local workforce and local sourcing minimums, formal training programs, and charitable donations are fixed costs to a business. Fixed costs are challenging during launch or after a disruption such as a recession or hurricane. Tailored requirements and EDC program waivers for demonstrated hard times may mitigate the costs and remove the concern that incentives could be withdrawn when most needed.

An interview with the RTPark revealed that there are currently 69 program participants, all of whom originate from outside of the USVI.

Qualitative Measures of Use

Interviews conducted as part of the research clearly showed that navigating the incentives system is

extremely difficult for individuals and small businesses.

USVIEDA publishes a list of professional advisors to help navigate residency, taxes, local sourcing, and compliance requirements. This adds to the cost of applying. Larger businesses can better absorb this cost or retain in-house expertise. Sectors such as investment advisors are more likely to have inherent expertise with tax and regulatory environments.

Another qualitative aspect is the source of the business or investment. Capital from outside the USVI is strongly desired and encouraged, as this brings economic activity in addition to what is already occurring in local communities.

The practice of economic development has been increasingly recognizing that “outside” businesses pay attention to investment by the community itself, both public and private. Incoming businesses need suppliers, experienced workers, amenities such as dining and shopping, and other activities that can only be generated locally.

A qualitative measure of use is how well incentives are meeting the needs of the locally grown businesses that incoming firms depend upon. Declining applications can be counted, but not the reasons, or the sectors that are not applying. The small-business track within the EDC program can be valuable for launching and growing a local business, as can the SBDC, but asking for insight from existing businesses and residents who are not accessing

⁴ Source: 2017 USVIEDA Annual Report

⁵ Source: 2009 USVIEDA Annual Report

⁶ Source: 2017 USVIEDA Annual Report

these resources is essential to understanding their performance.

KEY TAKEAWAYS

Range of Assistance

Tax exemptions, district-based assistance, and limited capital access or capital formation programs are available. The gaps in the range of assistance offered are in capital formation, where a lack of local commercial banks and organized avenues for private investors is especially burdensome for small business and startups. Capital formation is the highest priority for strengthening offerings.

Navigating the System

The USVIEDA and local business owners acknowledge (as part of the research phase for Vision 2040) that there are challenges with navigating a system with multiple programs, eligibility requirements, and application materials to be submitted. Larger businesses and sophisticated sectors are less affected. Efforts are being initiated to provide more assistance to entrepreneurs and very small business, in addition to available professional facilitators. Additional resources to boost these efforts and reduce the resources – time as well as money – to participate would be beneficial. RTPark processes are less transparent, but a core goal of the organization is to be a one-stop resources for incentives and other supports.

Tax incentives that are offered by both USVIEDC and RTPark use different processes; legislation requires USVIEDA to hold a public hearing, which lengthens the timeline.

Performance Measures

The USVIEDA's Compliance Division solicits annual information from recipients and monitors performance of contracted activities. Annual reports are created and published for covering all USVIEDA activities. Periodically, the USVIEDA authorizes detailed impact analyses to provide insight into the economic benefits that projects deliver to the community. Using this information for continuous improvement should become a goal.

Matching Incentives to Business Needs

The stated goals of the USVIEDA are to promote growth, development, and diversification of the economy, develop human and economic resources, preserve jobs for residents, and promote capital formation. These are overly broad for targeting assistance where it is needed most. An implementation strategy, building on the conceptual framework here, should tie each program to a specific outcome and identify how existing and potential activity promotes those outcomes.

Matching is easiest when business needs are well understood, and efforts to improve entrepreneurship support and business retention and expansion efforts can provide insight.

Interest in using USVIEDA incentive programs has declined over the past decade, despite generous levels of financial and tax benefits. This suggests that potential users are not finding them to be a good fit. A robust evaluation of service and utility is needed. In the meantime, improved outreach to increase use, coupled with ongoing customer evaluation tools, should be implemented.

Infrastructure Assets

POWER/ELECTRICITY

Every resident and business needs electricity. Energy availability and costs nearly always ranks in the top 10 site selection factors in Area Development Magazine's annual survey of corporate executives and site selection consultants. In particular, electric costs and reliability are critical variables.

This is an Achilles heel for the Territory's economic future. Online research will quickly reveal the USVI's uncompetitive posture. The Water and Power Authority's (WAPA) rates and service failures are a constant topic of complaint by residents and business executives. While tourists – who may be business executives who could establish a company in the USVI – may not see actual electric bills, they do see power failures.

Dissatisfaction by business executives carries the risk of scaring away prospective companies. According to Development Counsellors International, which has been publishing Winning Strategies in Economic Development Marketing every three years since 1996, "Dialogue with Industry peers" is a primary source of information influencing business executive's perceptions of an area's business climate.

In 2017, an estimated 80 – 90%⁷ of the Territory's power generation and transmission system were

Electric Rates by State and for WAPA as of October 2020 (Top 20 Highest States Shown)

State	Residential Rate (¢ per kWh)			Commercial Rates Rate (¢ per kWh)		
	Oct 2020	Oct 2019	% Change	Oct 2020	Oct 2019	% Change
Hawaii	29.0	30.8	-5.9	27.6	28.4	-2.8
Alaska	23.2	23.4	-1.1	19.8	20.0	-0.9
Connecticut	22.7	21.7	4.7	17.1	16.3	5.0
Rhode Island	22.4	21.8	2.8	15.7	15.4	1.4
Massachusetts	21.6	21.3	1.8	15.9	16.5	-3.7
California	20.8	14.9	39.5	18.4	17.8	3.6
Vermont	20.1	20.2	-0.4	16.5	16.3	1.2
New Hampshire	19.3	20.4	-5.4	15.5	16.0	-2.9
New York	19.3	18.6	3.8	15.4	14.6	5.1
Maine	16.9	18.3	-8.1	11.9	12.8	-6.7
Michigan	16.8	16.3	3.6	11.8	11.6	2.2
New Jersey	15.9	15.5	2.7	12.3	11.6	5.8
Wisconsin	14.8	14.8	0.1	10.7	10.5	2.3
Illinois	14.0	13.9	0.9	9.3	9.4	-1.2
Indiana	14.0	12.9	8.6	11.3	11.1	2.2
Delaware	13.9	13.9	0.3	9.3	10.1	-8.0
Pennsylvania	13.9	14.2	-2.0	8.5	8.6	-1.7
Maryland	13.9	14.1	-1.4	9.7	9.9	-1.6
Minnesota	13.6	13.2	3.6	10.4	10.1	3.5
New Mexico	13.4	12.9	3.4	10.5	9.8	6.7
U.S. Average	13.6	12.8	6.2	10.7	10.7	-0.1
USVI WAPA*						
1st 250 kWh	38.36			All kWh	45.08	
Over 250 kWh	41.2					

* USVI WAPA rates as of July 1, 2020

seriously damaged by Hurricanes Irma and Maria and most of WAPA's efforts since then have been

devoted to repair, with an emphasis on modernizing the system as part of the repairs.

⁷ <https://www.everycrsreport.com/reports/IN11242>

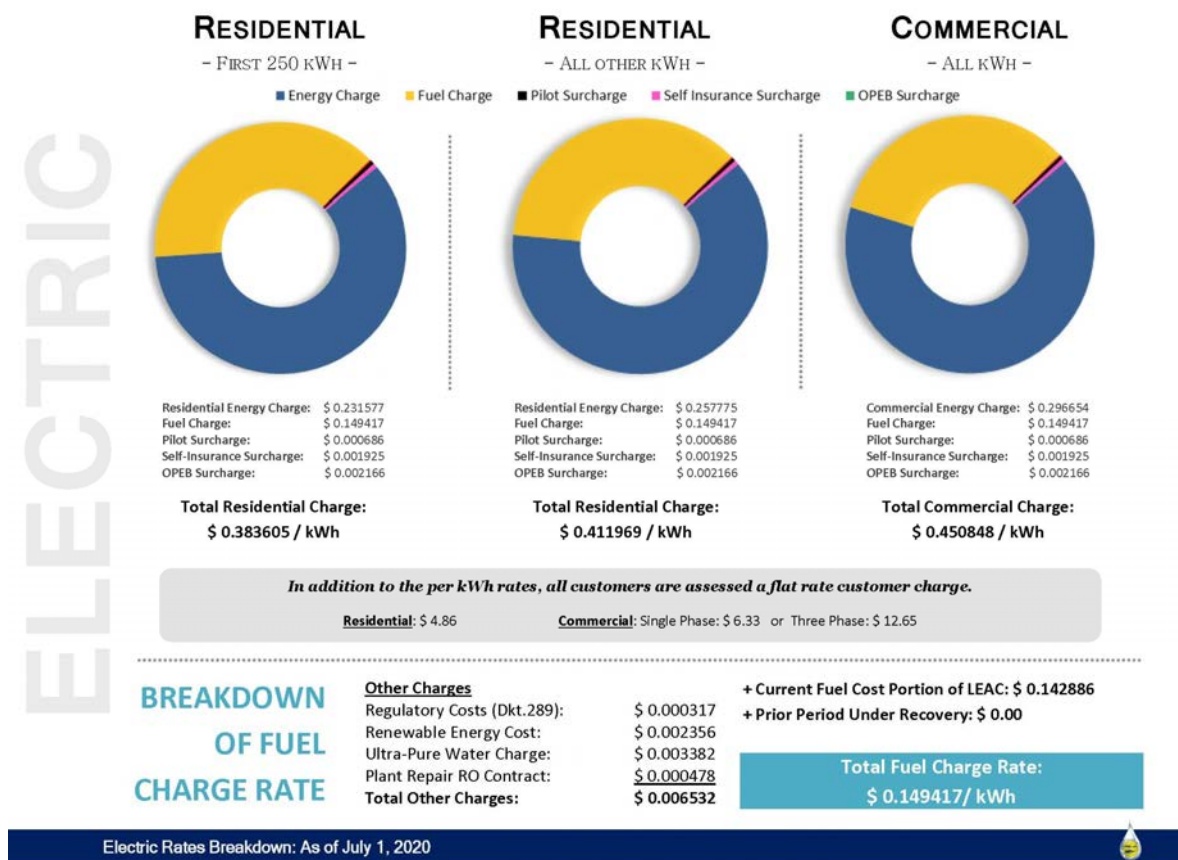
Electric Costs

The table above provides comparative information on electric rates by highest-cost state⁸.

The data makes clear the significant competitive disadvantage WAPA's rates puts on the USVI as a business location.

- WAPA's residential rates are three times the U.S. average, which is a significant part of the Territory's cost of living – a topic of constant complaint by residents and the USVI diaspora.
- WAPA's commercial rates are four times the U.S. average, which will discourage most energy intensive businesses from considering the Territory as well as most companies concerned about cost of doing business.
- Unlike any of the U.S. states, WAPA's commercial rate is higher than its residential rates. Most electric utilities in the states have incentive rates to encourage business development, which benefits the utility by causing the sale of more electricity, and therefore provides more revenue. WAPA's rates penalize businesses, discouraging the sale of electricity and reducing revenue to WAPA.

June 2020 electric prices for businesses per kWh in US\$ in other Caribbean locations were: Dominican Republic – \$0.14; Barbados – \$0.19; Jamaica –



\$0.24; Cayman Islands – \$0.27; and Aruba – \$0.27.⁹ The USVI's business rates are substantially higher than these islands, some of which are competitors for business attraction and development.

In March 2015, the National Renewable Energy Laboratory reported the 2015 electricity rates in the

USVI, then at \$0.47 per kilowatt-hour (kWh), were higher than the Caribbean regional average of \$0.33/kWh. In other words, the USVI rate was 142% of the average Caribbean rate. Recent reductions in WAPA's rates and estimated increases in the average Caribbean rate since 2015 would mean the

⁸ www.chooseenergy.com/electricity-rates-by-state/

⁹ https://www.globalpetrolprices.com/electricity_prices/

USVI's rate is likely to be about 120% of the average Caribbean rate.

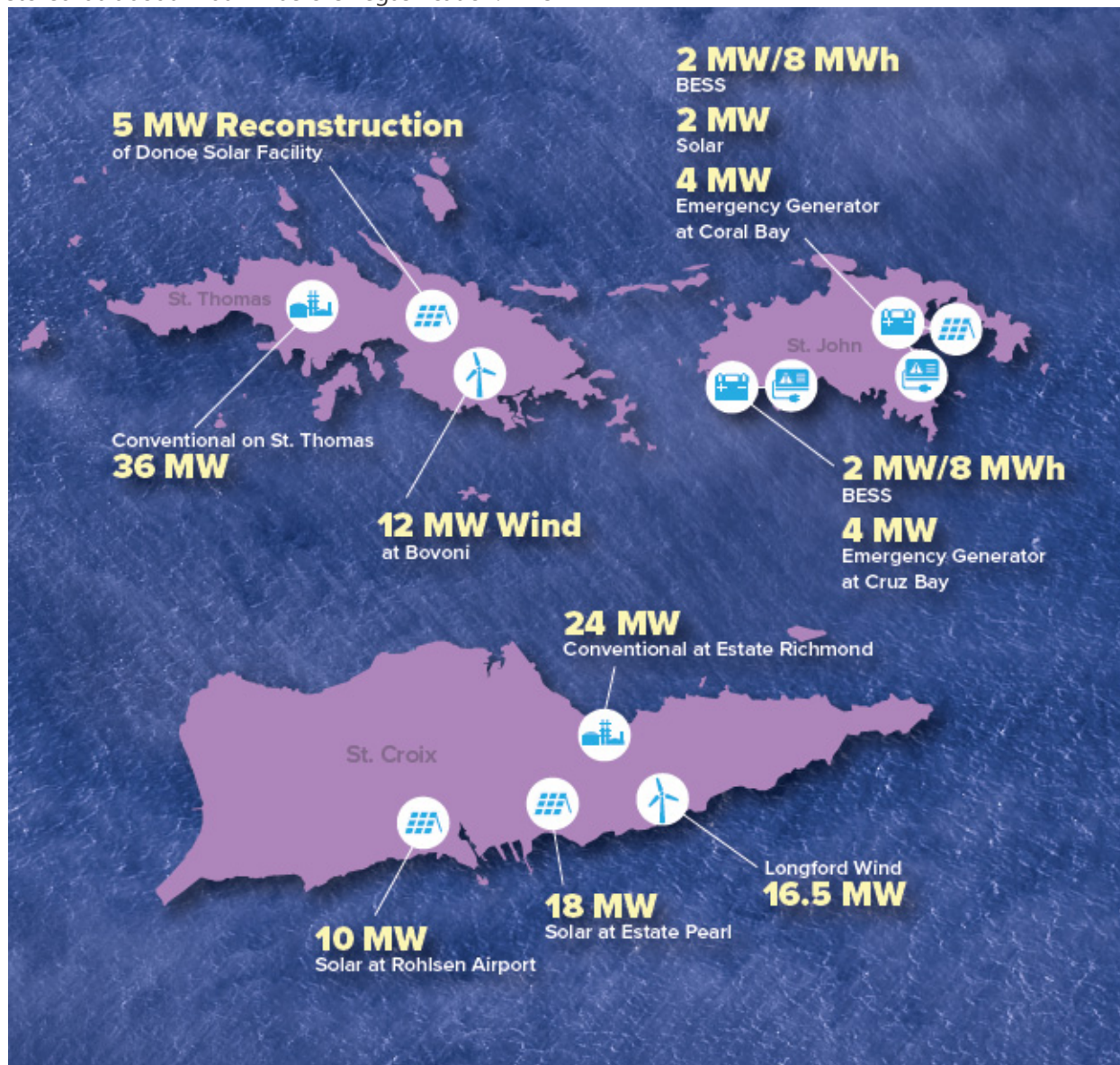
WAPA has had some success in reducing its rates by switching some generation from costly fuel oil to less expensive propane as well as developing two solar fields. WAPA's Strategic Information Plan (June 2020) shows a continuation of these efforts with an addition of 50+ megawatts of solar voltaic and wind generation, coupled with modern battery energy storage systems (BESS). WAPA's long-term goal is to provide 50% of energy needs from renewable sources. Unfortunately, there is no specified timeframe for this to happen, caused in large part by the use of federal funding through the Federal Emergency Management Agency (FEMA) to pay for those improvements. Rather than an overall and unified project and budget, each component must be separately and sequentially submitted for federal approval.

The draft VIWAPA IRP [Integrated Resource Plan] prepared by Black & Veatch and dated November 15, 2019 sets the goals of at least 25% of installed capacity (as a percent of peak demand) from renewable energy (RE) resources by 2020, 30% in 2025, and 50% by 2044. This document evaluates a number of improvements to the conventional power supply system but more importantly, multiple alternative energy possibilities. WAPA's planned alternative energy improvements are shown in the graphic to the right.

WAPA has also considered replacing fuel oil and perhaps propane generation with liquefied natural gas (LNG), which can be a less expensive fuel but

requires expensive construction of a large, high pressure, cryogenic tank because the LNG must be stored at about -260° F before regasification. This

cost usually requires a long-term contract with the LNG provider in order to recover the capital costs.



Planned WAPA Alternative Energy Projects

Electric Reliability

As defined by the Institute of Electrical and Electronics Engineers (IEEE), the two primary methods of gauging the reliability of electric service and allowing comparison with other locations are System Average Interruption Frequency Index (SAIFI) and are System Average Interruption Duration Index (SAIDI). The first (SAIFI) indicates how often the average customer experiences a sustained interruption over a predefined period of time, typically a year. The second indicates the total duration of interruptions for the average customer across the electric system during a predefined period of time such as a month or a year. It is commonly measured in minutes or hours of interruption.

The U.S. Energy Information Administration (USEIA) reported “Electric power for U.S. [mainland] customers was interrupted for an average of 7.8 hours (470 minutes) in 2017 [the most recent data available], nearly double the average total duration of interruptions experienced in 2016.” More major events such as hurricanes and winter storms occurred in 2017, and the total duration of interruptions caused by major events was longer. Excluding major events, the average duration of interruptions customers experienced was almost identical in 2016 and 2017, at about 2 hours in both years. In 2017, the average customer experienced 1.4 interruptions counting major events and 1.0 interruption excluding major events. The USEIA website does not provide comparable information for the USVI.

WAPA’s 2016 – 2021 Strategic plan sets the following goals, but does not say what timeframes these are for:

1. System Average Interruption Duration Index (SAIDI) is less than 180 minutes
2. System Average Interruption Frequency Index (SAIFI) is less than 2.5
3. Customer Average Interruption Duration Index (CAIDI) is less than 72 minutes

Current SAIDA, SAIFI and CAIDI numbers were not available from WAPA; these indices must be part of the Energy Plan that will be prepared in the future.

System outages (interruptions) not only hurt the customers but also WAPA because they reduce electric consumption (load hours) and therefore revenues. Therefore, reducing the frequency and duration of interruptions is advantageous for everyone. The draft VIWAPA IRP sets a target to improve loss of load hours from one day per year at the start of the study period (2020) to one day in ten years by the end of the period (2044).

WAPA Financial Status

On June 6, 2020, Fitch Ratings announced the following bond ratings for WAPA on Rating Watch Negative:

- **\$91.5 million electric system revenue bonds, 'CCC';**
- **\$86.4 million electric system subordinate revenue bonds, 'CCC';**
- **Issuer Default Rating (IDR), 'CCC'.**

On December 3, 2020, Fitch Ratings said it was keeping the V.I. Water and Power Authority on a negative CCC ratings watch, pointing to recent legislation creating a new commission with power over the Water and Power Authority, saying it could “increase the authority’s vulnerability to default” (St. Thomas Source, December 5, 2020).

The negative ratings watch means Fitch Ratings is considering downgrading WAPA’s bond rating even further. The ratings are an assessment of how likely WAPA and other borrowers are to default. A lower rating impacts whether WAPA can borrow and how much it will cost to borrow. It is also an outside assessment of the financial health of the institutions it rates and the factors that impact that health.

Fitch’s ratings guide says “CCC” indicates “default is a real possibility.” It is seven grades below the highest rating of “AAA.” Next down the ladder is “CC,” which Fitch says indicates “default of some kind appears probable.”

Current Trend Projections – 20 Years Out

If WAPA meets its published goal of 50% of installed capacity (as a percent of peak demand) from renewable energy (RE) resources by 2044, there should be a concomitant reduction in per kWh electric price. However, we have found no documented projections of what the reduction will be or the timing.

Obviously there will be capital costs in installing solar and wind farms and battery storage, and WAPA

must recover these costs. Until those costs are recovered, the impact of alternative energy generation on electric rates paid by residents and businesses will be minimized.

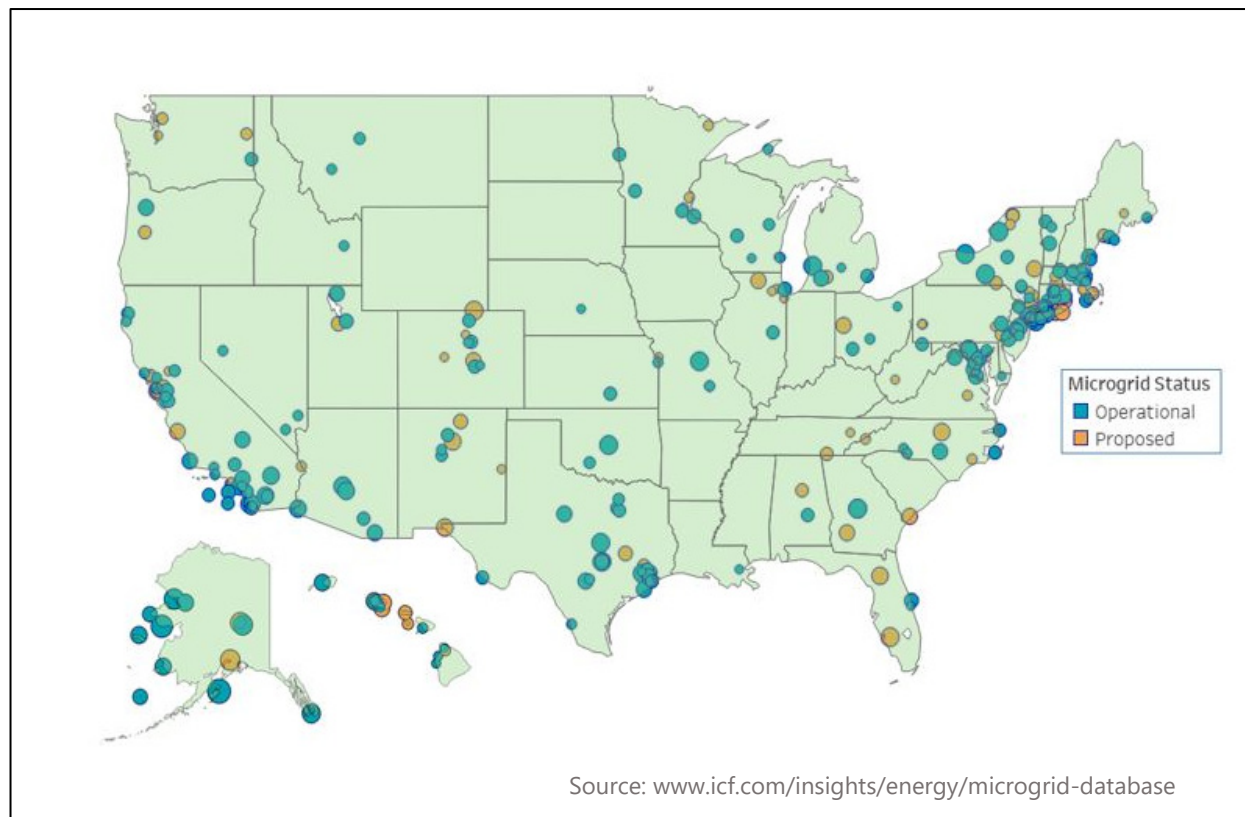
However, between 2021 and 2040, WAPA should be able to make some rate reductions (adjusted for inflation) and by 2040 WAPA should be able to reduce rates significantly.

Many sources predict that over the next decades, large transmission networks will be at least partially replaced with a network of microgrids associated with individual or clustered buildings. These microgrids will provide electricity to their own properties and where possible, feed into the larger utility company system to help serve other properties. Currently microgrids are primarily a back-up source of power of a small-scale replacement of power from a utility – for instance, roof-mounted solar panels or backyard, small scale wind turbine. However, this is as a growing trend with microgrids already operating or proposed in many locations (see adjacent figure). Improvements with microgrid technologies can provide benefits to the USVI.

Proposed 20-year managed goal – the need for and parameters of change

Vision 2040 sets an aspirational goal of having 75% of energy generation from renewable sources by 2040. This exceeds the goal of 50% set by WAPA, but WAPA's goal has no specified timeframe due to dependence on FEMA funding for most improvements, although WAPA's IRP sets the 50% goal for 2044.

OPERATING AND PROPOSED MICROGRIDS IN THE U.S. (OCTOBER 2018)



Therefore, it is believed that the Vision 2040 and WAPA goals are aligned and that the future for USVI energy production lies in alternative energy sources.

The National Renewable Energy Laboratory's "Energy Transition Initiative: Island Snapshot U.S. Virgin Islands" March 2015 report showed the following:

- The USVI's abundant solar resource (global horizontal irradiation of nearly 6 kWh/square meter-day) makes solar power economically

attractive, especially as costs continue to decrease.

- Wind speeds measured at a 60-meter hub height exceed 7 meters per second (m/s) on test sites on St. Croix and St. Thomas and indicate a large potential for wind electricity. The localized cost of energy from utility-scale wind projects ranges from \$0.08/kWh to \$0.14/kWh.
- St. Croix has moderate potential to generate 3 MW to 5 MW of energy from biomass because the majority of the island is covered with forest.

Landfill gas has an expected capacity of about the same. In addition to woody biomass utilization, a 7-MW anaerobic digester using king grass as a feedstock has signed a Power Purchase Agreement (PPA) with WAPA.

- Estimates for waste-to-energy (WTE) technology range from 8 MW to 33 MW. In 2009, WAPA signed a PPA for a 33-MW plant. That project was subsequently altered to 20 MW and removed pet coke from the feedstock. In 2012, the USVI Senate voted against the project.
- Additionally, the USVI has high ocean thermal potential as a result of a 40-kilometer, relatively deep ocean trench that separates the northern two main islands from the southern main island.

The future will bring additional forms of alternative energy, some now being explored and developed and some not known as yet. Around the world, places are experimenting with tidal and wave generation, fuel cells or other hydrogen technologies, geothermal and other technologies, as well as massive lithium ion or other forms of storage batteries. Small scale nuclear facilities are predicted, but this is probably not a good alternative for the USVI.

In the necessary effort to reduce reliance on fossil fuels, alternative energy holds the key for the future. The USVI has the critical need to capitalize on every possible form that makes sense, and the opportunity to position itself as a World Class Alternative Energy Research, Development and Application Center for the world and especially for island or other small geographic and population centers.

Currently the USVI has many good plans related to its electric power future, but little or no funding to bring the plans to fruition.

- Ratepayers cannot be expected to pay higher rates to support improvements that are supposed to reduce rates. That will only make the Territory less competitive than it already is.
- The Territorial Government is often lacking funds/capital with a less than ideal bond rating. Unless significant cuts are made in some areas of the budget, the Government will struggle to make a significant investment in improving WAPA's performance and costs.
- The current reliance on funding from FEMA has a decent chance of making progress – but on an extended schedule that is slower than anyone wants.

The 20-year gap between today's reality and the future's potential is money. To put a point on it, the draft VIWAPA IRP shows an Optimized Base Case Cumulative Present Worth Cost (CPWC) for improvements of \$841.2 million for St. Thomas and \$588.2 million for St. Croix.

Renewable and Alternate Energy

The future of Renewable Energy is ahead of us.

The reality is that while the topics of Renewable and Alternative Energy have been discussed for decades, we have just scratched the surface of identifying, developing and deploying these technologies.

First, here are some definitions:

Renewable Energy is generally considered to be carbon neutral, non-fossil fuel, useful “natural” energy that comes from replenishable sources on a human timescale such as sunlight, wind, waves, tides, rivers and geothermal sources. Sometimes biomass/biofuels are also included but there is debate about the carbon neutral status of biofuels.

Alternative Energy is often used synonymously with Renewable Energy, but can also include nuclear and hydrogen (for instance, fuel cells) processes.

Renewable energy is generally considered to be carbon neutral, non-fossil fuel, useful “natural” energy that comes from replenishable sources on a human timescale such as sunlight, wind, waves, tides, rivers and geothermal sources.

Investments in Renewable Energy

Foreign Direct Investment (FDI)

Investors have begun to increasingly take notice. A January 7, 2021 article in *fDi Intelligence* analyzed foreign investments between January and November 2020 and found:

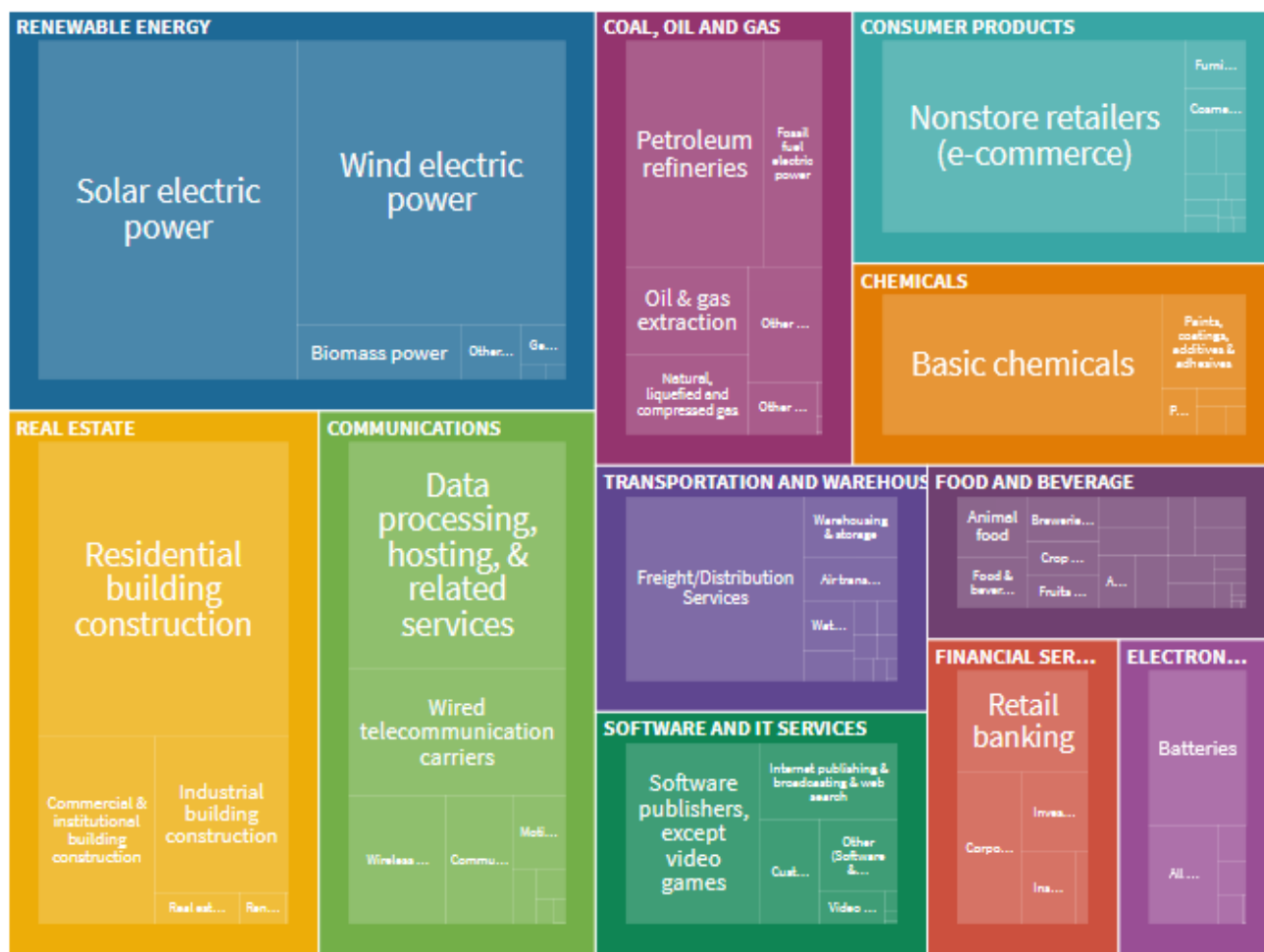
Covid-19 has deeply redrawn the global investment matrix, accelerating a momentous paradigm shift towards renewable energy and digital technologies, while wiping out capital expenditure in major sectors such as tourism and automotive, according to early 2020 data from investment monitor *fDi Markets*.

Foreign investors announced renewable energy projects worth a total \$91.5bn between January and November 2020, according to *fDi Markets* figures. That makes renewable energy the most coveted sector in 2020 (preliminarily as December 2020 data has not yet come through) — a crown that the oil and gas sector has relinquished only twice since 2003.

However, in 2020, the two sectors were not even close, as renewable energy gained twice as much foreign investment as the \$45.4bn that flowed into coal, oil and gas.

This article provided the following graphic that compares the size of the investments in the 11 top sectors as shown to the right.

GLOBAL FOREIGN DIRECT INVESTMENT IN 2020



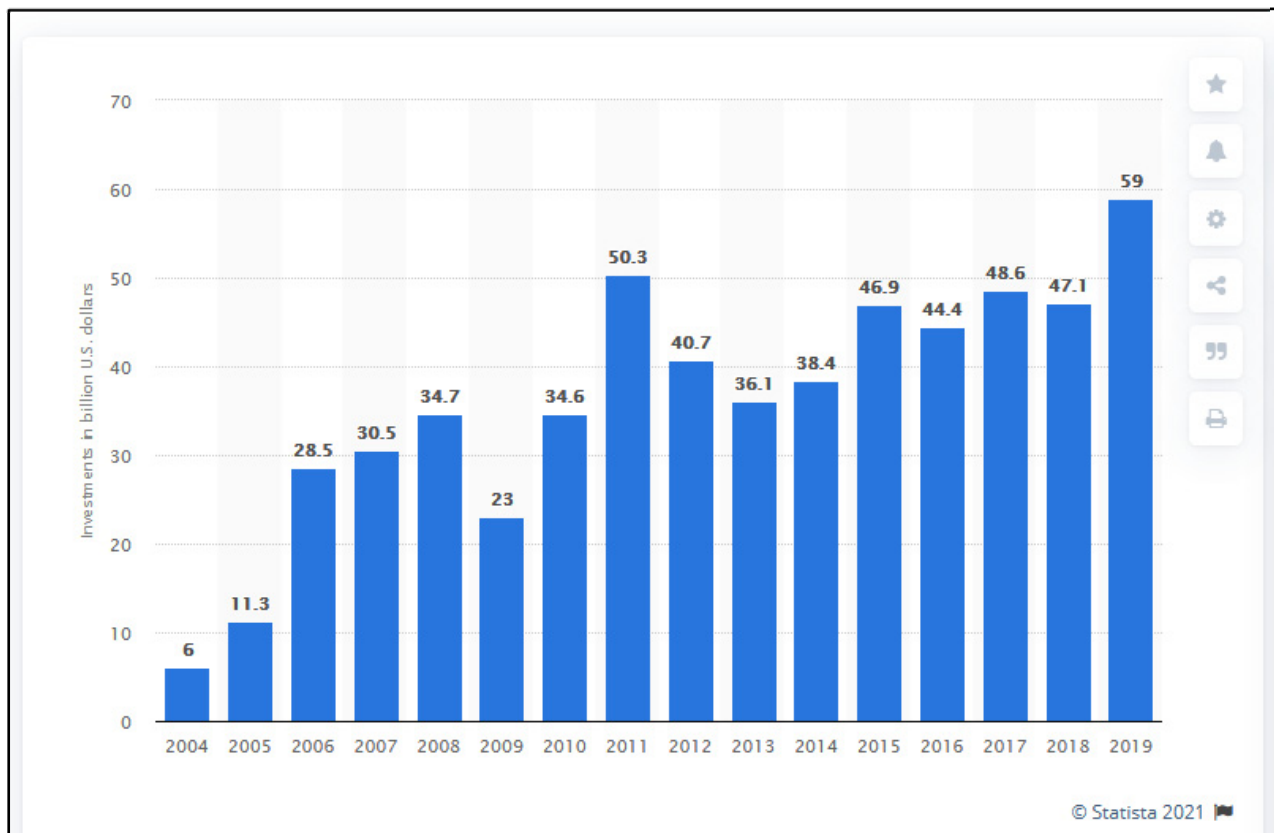
Source: [fDi Markets](#) • * January to November

U.S. MAINLAND INVESTMENT

Domestic (that is, United States mainland) investment is also strong and growing. The adjacent figure comes from Statista tracks the growth in renewable energy investments from 2004 to 2019.

According to an August 24, 2020 article on the website from Green Tech Media titled, "Renewable Energy Remains One of America's Most Attractive Investment Options," "despite near-term concern about the headwinds posed by supply-chain disruptions and other pandemic-related delays, the long-term outlook for renewable energy growth in the U.S. remains bullish." In ACORE's new analysis, Expectations for Renewable Energy Finance in 2020-2023, both investors and developers reported confidence in the continued growth of the renewable energy sector over the next three years. The most engaged financial institutions — those investing more than \$500 million annually in renewable energy — responded with the highest level of conviction for the sector's attractiveness and long-term health.

VALUE OF INVESTMENTS IN RENEWABLE ENERGY IN THE U.S. (2004 TO 2019, IN BILLION US\$)



The January 21, 2021 *Bloomberg Green* newsletter provided the adjacent figure, showing the 15-year (2005 – 2019) trend in global investments in just solar and wind installations in terms of gigawatts (1 billion watts). This article went on to say “... big markets invested less in renewable energy last year, while small markets invested way more” and cited the United Kingdom, the Netherlands and Vietnam as examples.

Renewable Energy in the Biden Administration

Increased stimulus of the renewable energy sector under the new Biden Administration is expected and given his familiarity with the Territory, this should be good news.

On December 22, 2020 *Stroock* news reported:

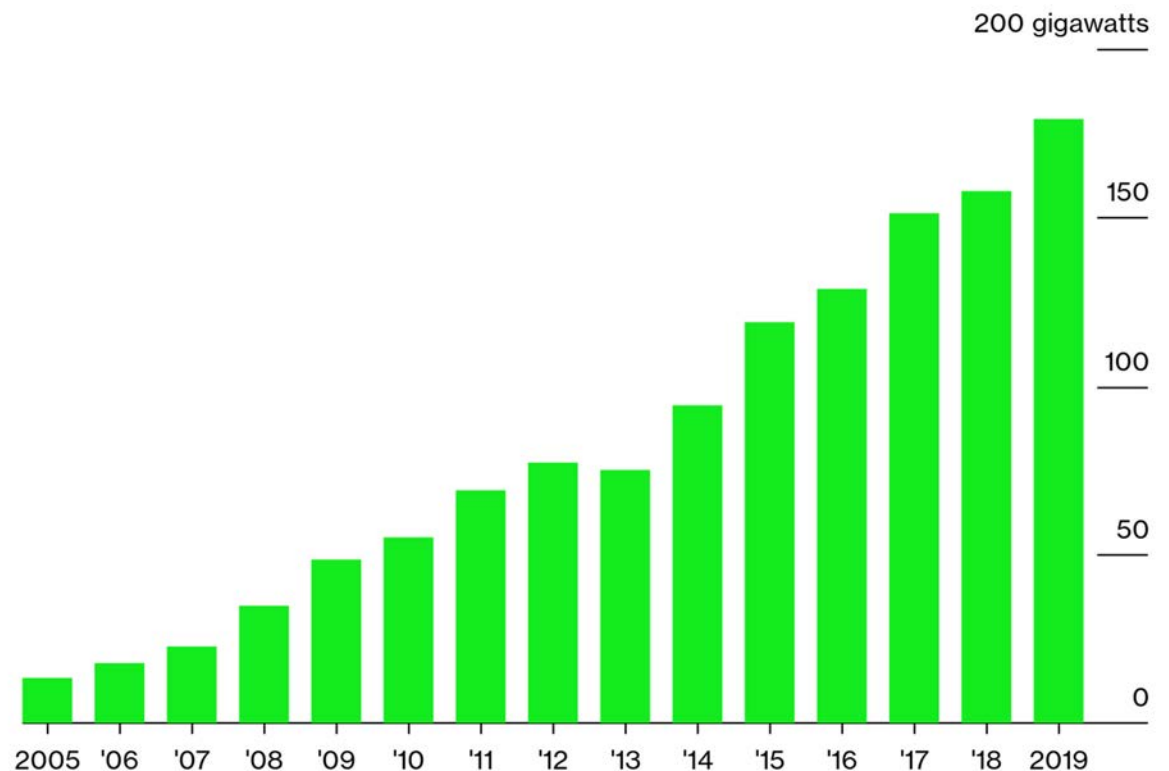
President-elect Joe Biden has proposed an ambitious agenda to transform energy policy in the United States, largely in favor of renewable energy and clean-energy technology. During the campaign, Biden announced a series of proposals, including his Plan for a Clean Energy Revolution and Environmental Justice, and a Plan to Build a Modern, Sustainable Infrastructure and an Equitable Clean Energy Future (together, the “Climate Plan”) and intends to spend \$2 trillion over four years to address climate change, increase the use of clean energy, and strengthen infrastructure, among other objectives.

Areas Where President Biden Can Act Without Congressional Approval

- **Offshore Wind.** One of President Biden’s goals is to double offshore wind by

A Fifteen-Year Growth Spurt

Annual installations of wind and solar, global



Source: BloombergNEF

Bloomberg Green

2030. The Biden administration is expected to consider the development of renewables on federal lands and waters to aid this effort and is expected to expedite approvals on offshore wind projects, many of which were stalled under the Trump administration.

- **Moving Away from Oil and Gas.** President Biden has pledged to require aggressive methane pollution limits for new and existing oil and gas operations. He also plans to ban new oil and gas permitting on public lands and waters. This ban is likely to

face legal and political challenges. However, some industry leaders are hoping to work with the new administration on the initiatives and may not make decisions about legal challenges until they better understand what the new administration is proposing.

- **Tariffs on Solar Panels.** In 2018, President Trump imposed four-year tariffs on imported solar panels, which adversely affected use within the solar industry. A solar industry trade group has asked Biden to remove the tariffs a year early.

Areas where Congressional Action is Necessary

- **Tax Credits for Renewable Energy.** It is expected that the Biden administration will propose a renewal, extension or expansion of existing and expired tax incentives for clean energy technology deployment in a stimulus bill. The Production Tax Credit ("PTC") for wind and certain other renewable energy technologies is due to expire for projects with respect to which construction commences after the end of 2020. Similarly, the Investment Tax Credit ("ITC"), which is applicable to solar and certain other renewable energy projects, is scheduled to phase down from its original 30% to a permanent 10% of the cost of construction through 2022. Although the Climate Plan does not contain specifics

about these tax incentives, the PTC and ITC will likely be extended, considering how these credits have been crucial for the development of the renewable energy industry and the continued potential for growth. One additional open question is whether any extension of the ITC or PTC will have the additional benefit of such credit(s) being refundable (i.e., equivalent to cash), which could meaningfully transform financing structures for renewable energy investments. In addition, Congress has agreed on a broad package of legislation, the centerpiece of which is a bill to respond to the Covid-19 crisis. Included in this package is a tax bill with provisions to extend various renewable energy tax credits, including ITC and PTC, as well as appropriations funding for a variety of renewable energy programs.

- **Storage Technology.** President Biden has said he aims to build new battery storage and transmission infrastructure using American workers and American-made materials. Although the Biden campaign did not go into detail about how energy storage would specifically be addressed in the Climate Plan, incentivizing energy storage technology presumably would be an important component. Energy storage systems are being deployed in a variety of applications, helping renewable and conventional generation sources become

more efficient and cost competitive. However, the cost of such systems is often prohibitive, which limits their utilization. While there are currently limitations on using existing tax incentives for storage unless integrated with a renewable energy facility, the industry has been pushing for an expansion of the application of the ITC to stand-alone energy storage systems. It is expected that incentives to promote the utilization of storage systems and the development of storage technology will be an essential component of Biden's energy policy.

How does the USVI capitalize on this?

As noted in the section on Electric Power Infrastructure, the National Renewable Energy Laboratory's "Energy Transition Initiative: Island Snapshot U.S. Virgin Islands" March 2015 report showed the following:

- The USVI's abundant solar resource (global horizontal irradiation of nearly 6 kWh/square meter-day) makes solar power economically attractive, especially as costs continue to decrease.
- Wind speeds measured at a 60-meter hub height exceed 7 meters per second (m/s) on test sites on St. Croix and St. Thomas and indicate a large potential for wind electricity. The localized cost of energy from utility-scale wind projects ranges from \$0.08/kWh to \$0.14/kWh.

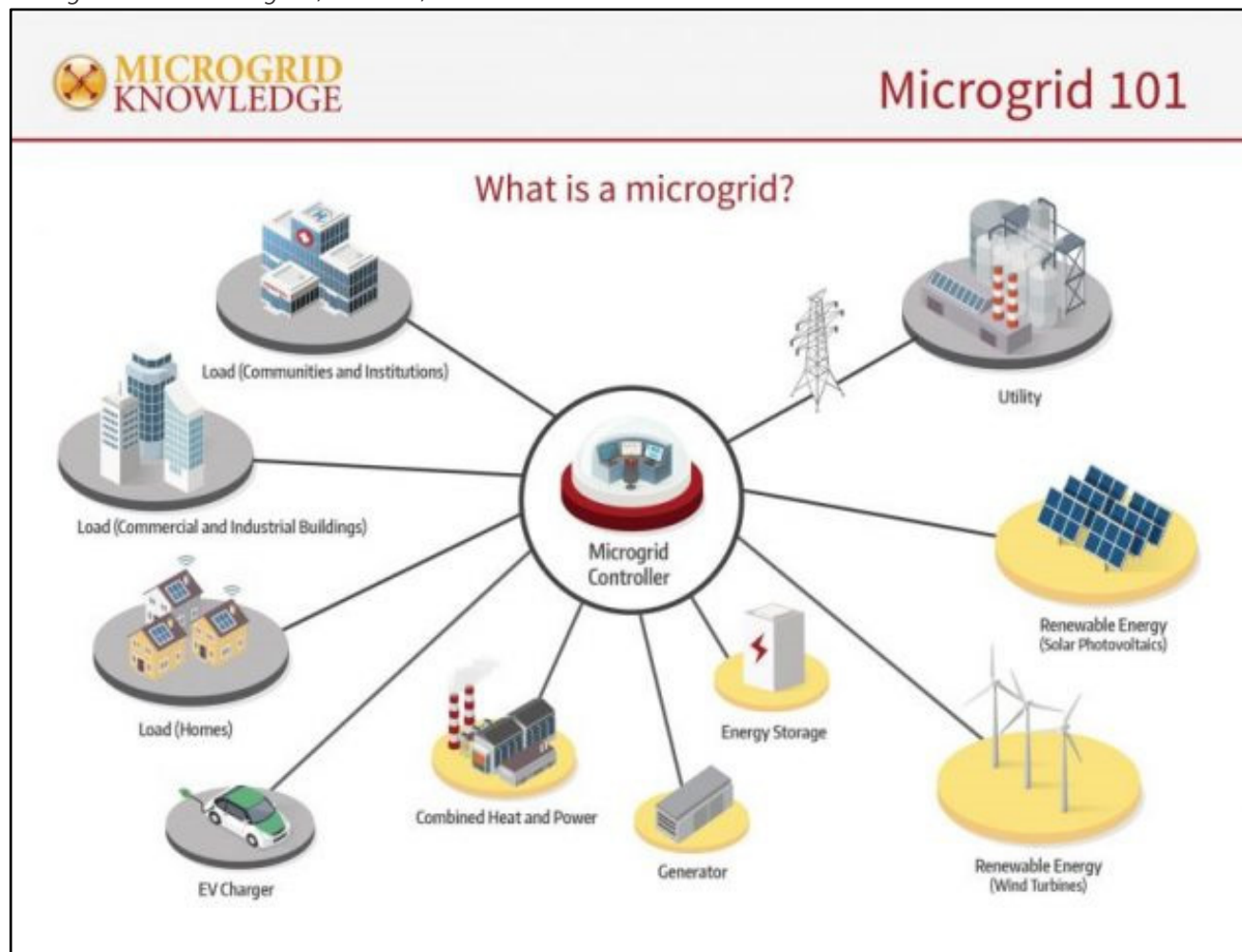
- St. Croix has moderate potential to generate 3 MW to 5 MW of energy from biomass because the majority of the island is covered with forest. Landfill gas has an expected capacity of about the same. In addition to woody biomass utilization, a 7-MW anaerobic digester using king grass as a feedstock has signed a Power Purchase Agreement (PPA) with WAPA.
- Estimates for waste-to-energy (WTE) technology range from 8 MW to 33 MW. In 2009, WAPA signed a PPA for a 33-MW plant. That project was subsequently altered to 20 MW and removed petroleum coke from the feedstock. In 2012, the USVI Senate voted against the project.
- Additionally, the USVI has high ocean thermal potential as a result of a 40-kilometer, relatively deep ocean trench that separates the northern two main islands from the southern main island.

The topic of microgrids is particularly interesting and is discussed in more detail in the above section on Electric Power Infrastructure. The website Microgrid Knowledge provides the following “Microgrid 101” information and the figure to the right:

In places like the U.S., where there is a highly sophisticated grid, it makes sense for the microgrid to stay connected (as long as the grid is behaving as it should). When everything is working right, the grid and the microgrid serve each other. If a microgrid power plant fails, it can turn to the main grid for

supply. Or if the main grid runs low on power supply – as it sometimes does on hot summer afternoons when we all are running our air conditioning – it can turn to the microgrid for some help. The microgrid gets paid for providing services to the grid (known as capacity, demand response and ancillary services), so the grid can serve as a source of revenue for the microgrid. Not all microgrids, however, are connected

to a main grid. Sometimes a grid connection is impossible, such as on an island . . . which has no grid infrastructure. These are known as remote microgrids. Sometimes a faraway place installs a wind or solar microgrid so that it can avoid using expensive and polluting diesel power generators.



For each element shown in the previous figure there is a need for equipment, maintenance and other elements that can be part of the USVI's economic future.

The Business Opportunities

There is a big business development opportunity for the USVI that cuts across several phases:

1. Each of these methods, whether long-standing or newly emerging, will constantly be doing **research and development** (R&D) to create better technologies and products at lower cost. Creating an environment that encourages synergistic planning and research across multiple sectors will happen somewhere; why not the USVI? This may be a package of incentives designed to support businesses in this sector or may go beyond that to provide an "incubator/accelerator" such as the UVI's RTPark or a larger environment somewhere else in the Territory.

2. Once a new product possibility is identified, the next step is usually **prototyping** - development of one or more examples to see what the concept really looks like, how it performs and can be improved, and how much it is likely to cost when brought to scale. USVIEDA or the Territorial Government can benefit financially from this.

As an example, Connecticut Innovations (CI - originally the Connecticut Product Development Corporation - see <https://ctinnovations.com>) is the state's strategic venture capital arm that recovers its investments through royalties or other negotiated payback mechanisms. CI also has angel investor

programs providing tax credits to individuals who invest in qualified businesses or companies looking to incentivize angels to invest in those companies.

3. Full-fledged **production**. It is not always the case that a new product, having been developed in one location, must be moved somewhere else for production. Mid-size to larger operations that include research and development through production will benefit the USVI the most through high-wage employment and tax revenues. A current impediment to the development of this, or most every other target sector, is the lack of suitable places - particularly buildings - to put these businesses. This is addressed on pages 175-177.



INTERNET AND BROADBAND COMMUNICATIONS

The Territory is well-served with television and radio stations, telephone providers and newspapers. This part of the Vision 2040 report focuses on internet and broadband services that continually increase in importance as the means of communication.

What is the Difference Between Internet, Broadband and WIFI?

The terms internet, broadband and WiFi are frequently used synonymously, but as the following definitions from Home Network Solutions Berkshire show they are different pieces of the same puzzle:

What is the Internet?

The internet is an enormous network of computers, servers and other devices. The term World Wide Web (www.) describes it perfectly, it is a vast web of interconnected devices all over the world.

Although the internet is enormous and contains millions of machines, it is controlled with strict networking rules, which tell the machines how to behave and allow it to run efficiently.

Most web pages you visit are stored on large servers (huge computers with lots of storage) which are owned by companies such as Google or Amazon; this service is known as hosting. Although this is common practice, there are still a large number of individuals and companies who host their own websites on their own equipment.

Due to its vast size and complexity, the internet is notoriously difficult to regulate and control.

What is Broadband?

Broadband is the name of the technology which is used to connect you to the internet. It is called Broadband because the bandwidth used is wide, which allows multiple signals at once. This basically means it is quicker than a non-Broadband connection.

Broadband can use different methods of connection including Fiber Optic and Copper Cabling.

What is WiFi?

WiFi (or Wi-Fi) is a type of Wireless Connection. It allows devices, such as your phone, to connect to your router which then connects to the internet.

WiFi is almost like having an invisible cable connected from your device to your router.

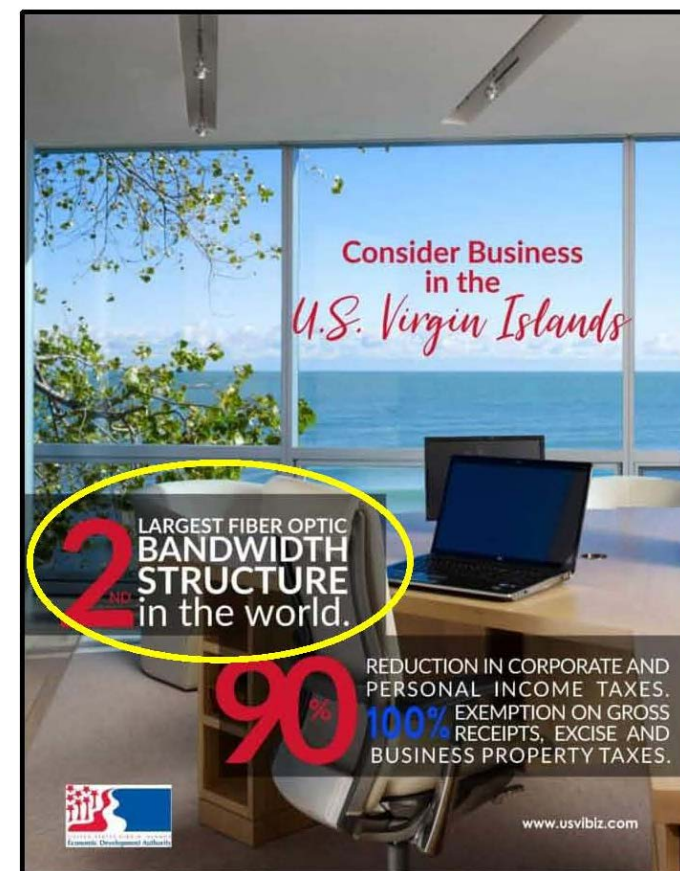
Your router is the box which your internet provider gave you (or you purchased). It is actually a combination of a Modem, Router and Access Point but is commonly referred to as just a router.

WiFi is often the name given for an internet connection and it is common to hear people blame the WiFi for their internet connection not working, when in actual fact it isn't the WiFi at all, it is the internet connection from the router.

The U. S. Virgin Islands is perceived by much of the English-speaking Caribbean region as a bridge between the fully developed telecommunications technology arena of North America and the eastern Caribbean islands/countries.

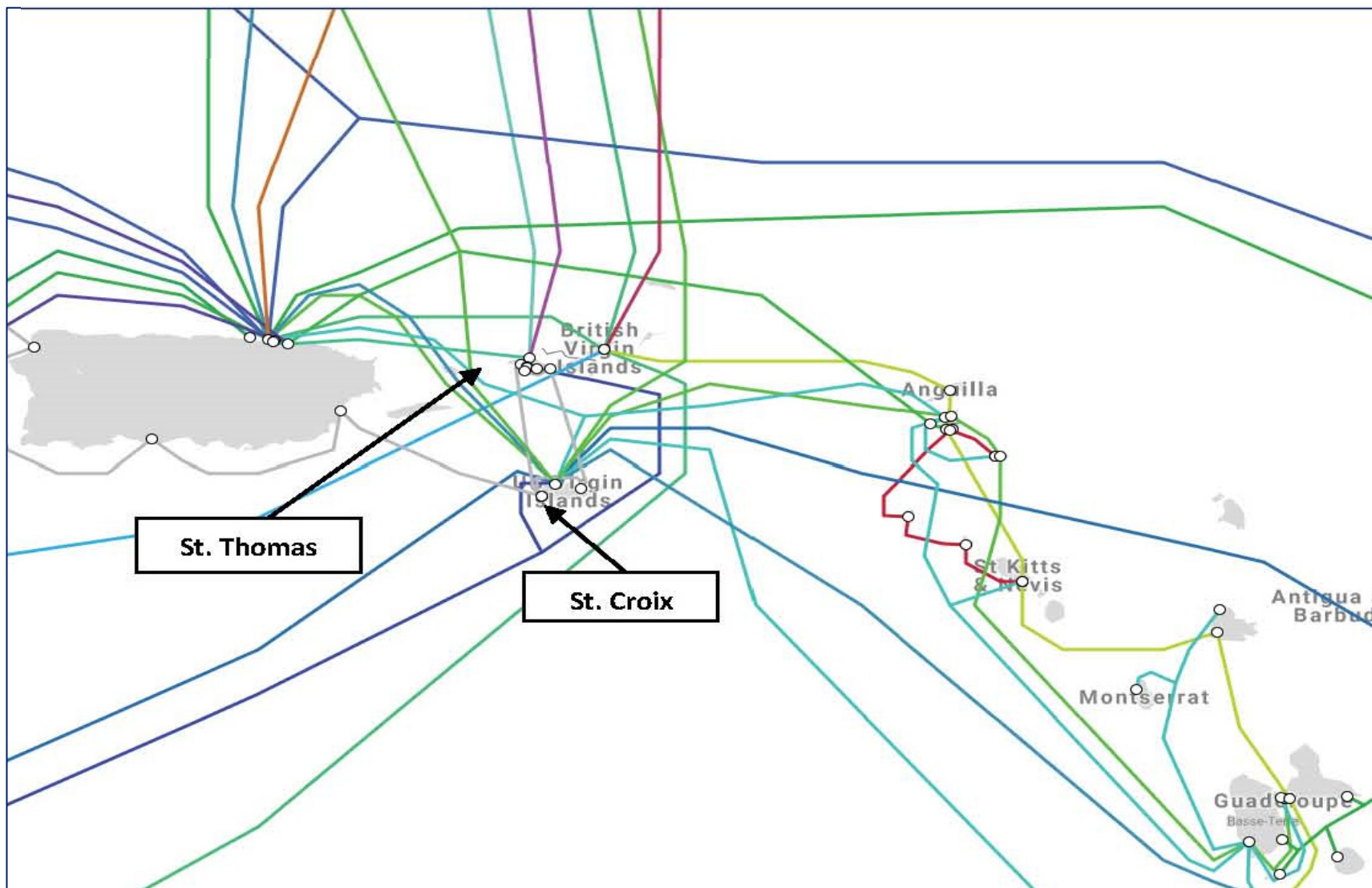
Magen's Bay, St. Thomas, is the hub for the largest confluence of submarine cables in the region. Fiber service extends from this hub to North America, Puerto Rico, South America, and Europe. More cables come on line each year.

USVIEDA touts this infrastructure asset as shown below:



The figure to the next page shows the network of undersea communication cables coming into both St. Thomas and St. Croix.

U.S. VIRGIN ISLANDS SUBMARINE FIBER OPTIC CABLE NETWORK



Source: www.submarinecablemap.com

ST. THOMAS – ST. CROIX SUBMARINE TELECOMMUNICATIONS CABLE SYSTEM



Source: www.fiberatlantic.com

A major portion of cable network to the USVI is the Mid-Atlantic Crossing (MAC) cable system built by Global Crossing which was ready for service in June 2000. MAC is a 4,600 mile (7,500 km) submarine cable consisting of two optical fiber pairs, with an initial design capacity of 1.3 terabytes per second (TBps) – an extremely fast data transmission speed.

The MAC cable lands at:

- Brookhaven Cable Landing Station, NY;
- Hollywood, FL; and
- St. Croix, U.S. Virgin Islands.

The MAC cable system, a global linkage, is now part of CenturyLink's network assets, as well as Pan-American Crossing (PAC), South American Crossing (SAC), and Atlantic Crossing 1 (AC-1), AC-2/Yellow, Hawaii Island Fiber Network (HIFN), and others.

USVI Operations

viNGN



The St. Thomas-St. Croix fiber optic submarine telecommunications cable system became ready for service in mid-2013. The system has a length of 114 miles (183 km) and is owned and/or operated by Virgin Islands Next Generation Networks (viNGN).

viNGN is a 100%, fiber optic, broadband network that was established in 2010 as a subsidiary of the Virgin Islands Public Finance Authority with a charter to provide wholesale, broadband, middle-mile service to local internet service providers (ISPs) and to promote local economic growth, innovation and global competitiveness.

The viNGN website states: "The viNGN municipal infrastructure provides world class open access, high speed, all-fiber optic broadband connectivity. With speeds up to 10 Gbps, viNGN has made the Virgin Islands the only fully interconnected jurisdiction of all 50 states and 6 territories and leads the Technological Revolution. viNGN is committed to the continued broadband infrastructure, economic, and community development of the U.S. Virgin Islands."

The following cable landing stations (CLS) are located in the USVI:

- Banana Bay, STT, VI, United States
- Brewer's Bay, STT, VI, United States
- Charlotte Amalie, STT, VI, United States
- Christiansted, STX, VI, United States
- Flamingo Bay, STT, VI, United States
- Frederiksted, STX, VI, United States
- Great Bay, STT, VI, United States

viNGN provides service through five wireless carriers: Liberty Latin (formerly AT&T), PR Wireless/Boost Mobile (formerly Sprint), Viya, Verizon, and T-Mobile. Three carriers—Liberty Latin, PR Wireless/Boost Mobile, and Viya—have physical assets in the Territory.

viNGN also provides wholesale internet access, a Wholesale Metro Ethernet, and collocation services for business use.

ATN Cable

In 2018 ATN Undersea Cable Corporation (ATN Cable) requested a license from the FCC to land and operate a non-common carrier submarine cable between St. Thomas and St. Croix. The submarine cable system is known as the VILink System and will

land in the towns of Nazareth on the east side of St. Thomas and Christiansted, St Croix.¹⁰

It will feature a non-repeatered, linear segment composed of 24 fiber strands. In addition, it will have an initial deployment capacity of 10 gigabytes per second (Gbps) wavelengths on a single fiber pair, with a maximum design capacity of up to 100Gbps if upgraded in the future.

ATN in its application goes on to say that the VILink System will provide increased “capacity, redundancy, resiliency, and reliability for communications between St Thomas and St Croix.” The company believes that bandwidth demands in the region will “exponentially increase” as its citizens use more Internet-based data technologies and VILink will support these demands.

At present connectivity between the two islands is achieved largely by microwave technologies but according to ATN this system is unreliable “due to dish misalignment in high winds”. The new system will also improve reliability and redundancy by re-routing traffic through the U.S. mainland connection of the other island.

ATN Cable, a wholly owned subsidiary of ATN International, a communications and renewable energy investor, will be the sole owner and operator of the cable system. In its FCC application, the cable is described as a “non-common carrier fiber-optic submarine telecommunications cable” meaning that

ATN Cable will use it to deliver communications services to customers of The Virgin Islands Telephone Corporation (Viya), another ATN International subsidiary, but it may also sell remaining capacity on a wholesale basis to other carriers.

This application was granted by the FCC on July 19, 2019. Due to multiple business considerations, ATN is currently not working on this project.

The Potential and the Last Mile Problem

The USVI has the potential for having very good wireless communications for all residents and businesses, but right now that potential is not being fulfilled. The Territory has extraordinary capacity – available bandwidth – but is lacking in connecting that capacity to residential and business users. This is the proverbial “Last Mile” problem.

- Interviewees who rated a variety of topics only gave broadband services a 2.7 score on a scale where 5 was Very Good and 1 was poor.
- Other interviewees who did not score the topics still commented on the unreliability of internet service and high cost for unreliable service.

¹⁰ <https://www.capacitymedia.com/articles/3822955/atn-files-application-with-fcc-for-new-subsea-cable>

Simply stated, the USVI has a very robust submarine cable system connecting the USVI to the United States mainland, other Caribbean islands, South America and other places around the world. Similarly, there are strong connections between islands within the Territory, but the system is not capitalizing on this infrastructure because of the “Last Mile” problem – effectively connecting residential and business users to the available fiber optic infrastructure. This is a contributing factor to the USVI’s Internet Usage data as shown in the adjacent table – a usage rate 19% less than Puerto Rico’s.

Help on the Horizon

On November 16, 2020, the Federal Communications Commission’s Wireline Competition Bureau announced that up to \$84.5 million had been tentatively approved to help bring the U.S. Virgin Islands super-fast, one-gigabit-per-second broadband throughout the territory. Broadband VI, a local internet provider founded in 2002, was the winning applicant, but the process is not fully complete and is currently in the FCC “Quiet Period” – that is, Broadband VI is not able to provide many details about the project as this VI2040 report is being written. However, if implemented, this is intended to fix the Last Mile problem and significantly improve the Territory’s competitiveness for businesses that need reliable, high speed, broadband voice and data transmission capabilities, as well as improve the quality of life for its residents.

Internet Usage and Population Statistics for the Caribbean

Caribbean	Population (2019 Est)	% Pop. Carib.	Internet Usage March 2019	% Population (Penetration)	Users % Region	Facebook December 2017
Anguilla	15,174	0.0%	12,377	82%	0.1%	9,000
Antigua & Barbuda	104,909	0.2%	79,731	76%	0.4%	62,000
Aruba	106,053	0.2%	103,052	97%	0.5%	91,000
Bahamas	403,095	0.9%	342,631	85%	1.5%	220,000
Barbados	287,010	0.6%	234,659	82%	1.0%	160,000
Bonaire, St. Eustatius, Saba	25,971	0.1%	20,956	81%	0.1%	15,000
British Virgin Islands	32,206	0.1%	14,620	45%	0.1%	12,000
Cayman Islands	63,129	0.1%	54,630	87%	0.2%	48,000
Cuba	11,492,046	25.8%	5,642,595	49%	25.0%	4,180,000
Curacao	162,547	0.4%	151,274	93%	0.7%	120,000
Dominica	74,679	0.2%	51,992	70%	0.2%	39,000
Dominican Republic	10,996,774	24.7%	7,146,803	65%	31.7%	5,100,000
Grenada	108,825	0.2%	69,245	64%	0.3%	62,000
Guadeloupe	448,798	1.0%	240,000	54%	1.1%	220,000
Haiti	11,242,856	25.3%	2,000,000	18%	8.9%	1,800,000
Jamaica	2,906,339	6.5%	1,581,100	54%	7.0%	1,100,000
Martinique	385,320	0.9%	303,302	79%	1.3%	170,000
Montserrat	5,220	0.0%	3,000	58%	0.0%	2,600
Puerto Rico	3,654,978	8.2%	3,047,311	83%	13.5%	2,100,000
St. Barthélemy (FR)	7,160	0.0%	7,240	101%	0.0%	6,400
St. Kitts & Nevis	56,345	0.1%	45,476	81%	0.2%	35,000
Saint Lucia	180,454	0.4%	142,970	79%	0.6%	92,000
St. Martin (FR)	32,284	0.1%	16,100	50%	0.1%	15,000
St. Vincent & Grenadines	110,488	0.2%	76,984	70%	0.3%	61,000
Sint Maarten (NL)	40,939	0.1%	33,000	81%	0.1%	31,000
Trinidad & Tobago	1,375,443	3.1%	1,063,630	77%	4.7%	700,000
Turks & Caicos	36,461	0.1%	28,000	77%	0.1%	25,000
US Virgin Islands	104,909	0.2%	67,540	64%	0.3%	22,000
TOTAL CARIBBEAN	44,460,412	100%	22,580,218	51%	100.0%	16,498,000

NOTES: (1) The Caribbean Statistics were updated for Dec 31, 2019. (2) CLICK on each country name for detailed individual country and regional statistics. (3) The demographic (population) numbers are based mainly on data contained in Census Bureau. (4) Bermuda is included together with the North American countries according to the United Nations Statistical Division listings. (5) The most recent usage information comes mainly from the data published by Nielsen Online, ITU, Facebook, and other reliable sources. (6) Facebook subscriber data is for Dec 30, 2018. (7) Data may be cited, giving due credit and establishing an active link back to Internetworldstats.com. (7) For definitions and help, see the site surfing guide. Copyright © 2019, Miniwatts Marketing Group. All rights reserved.

AVAILABLE SITES FOR BUSINESS DEVELOPMENT

In order to have businesses, they must have places from which to operate. Very small businesses can operate from home-based spaces, but those with employees usually need a building devoted to their operations.

From an economic development perspective, "space" fits into several categories: retail, commercial (including offices and services), industrial and agriculture. Within those categories, both existing space (i.e., buildings) and sites for construction of buildings are both necessary.

Most businesses prefer existing buildings because they are more rapidly available and usually less costly to occupy than to take the time and cost of new construction.

Major Problem #1 – Lack of Real Estate Available for Business Development and Use

The commercial real estate market and availability is outlined in Volume 3: Nature of the Challenge. This research found that while there appears to be an adequate supply of available sites for retail and small office/service operations, there are fewer opportunities for larger commercial uses, industrial, and agricultural uses. Additional information on the existing industrial parks and developable land can be found in Volume 3, pages 84-87.

Bottom Line – the USVI is desperately in need of more available sites and buildings.

Major Problem #2 – Lack of Information about Available Real Estate for Business Development

As already stated, the availability of buildings and sites for business development and operations is a critical factor in business attraction, creation, retention and expansion. An equally important corollary is information about what is available.

Not only does the USVI have a very small inventory of buildings and sites for larger, non-retail/service uses, but it is very difficult to find that information. Business executives and site location consultants expect to readily find this information from the website of the EDO (Economic Development Organization) serving the area they are researching.

Site location consultants interviewed as part of this project reported that it is not easy to find information about existing and developable sites. Usually this would lead to the elimination of the location (EDO) being researched from consideration as consultants are unwilling to spend a great deal of time doing research.

The USVIEDA's website shows the two industrial parks the authority is responsible for or areas in Enterprise or Opportunity Zones, which are areas where benefits may be available, but does not represent available properties. There is a separate website developed by the USVIEDA, www.investusvirginislands.com which provides commercial properties and information for use by site selection and corporate real estate executives. It is a stand-alone site that needs to be linked to the USVIEDA website. The Department of Property and

Roadways of the U.S. Virgin Islands



St. Croix (south-side). Source: Vlnow.com

- Road access to points throughout the islands is readily available with a total of 80 roadways in the US Virgin Islands, of which
 - 43 are on STX
 - 31 are on STT
 - 6 are on STJ
- There are approximately 1,240 miles of paved highways and roadways, of which 750 miles are considered public and 490 miles are private.
- Many of these roads do not have painted striping and are in various conditions of repair.

Procurement has a website that provides listing of 189 available government-owned properties. It is not presented in a format used by the economic development profession.

A private stand-alone site provides very good information about incentives and development opportunities, www.investusfund.com

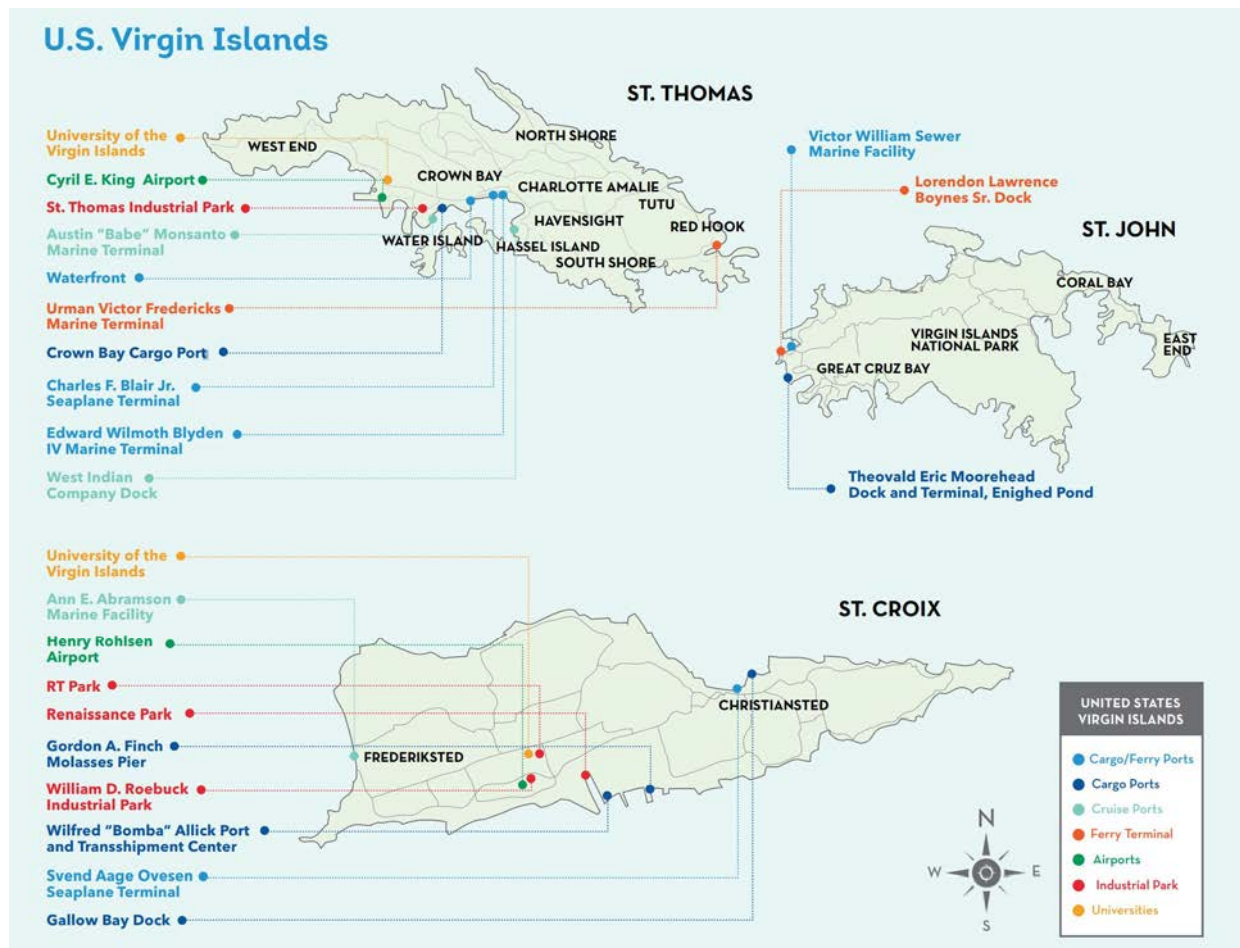
The USVIEDA site needs provide centralized, easy access to complete and current real estate information regarding all publicly controlled and privately owned available sites.

Bottom Line – the USVI is hurting its business development efforts because of uncoordinated, and in some cases inadequate information, about land and buildings that are available.

Opportunities for Development

Without the development of additional sites, availability of suitable buildings, and better marketing about what is available, the 20-year trend for economic development is downward. Limited available real estate and information about that real estate equals limited activity.

By 2040, working through the USVIEDA or any successor agency, the USVI should have an inventory of at least 20 available non-retail commercial buildings in the 10,000 to 40,000 square foot range. This does not mean the USVIEDA must be the developer of all the space – a healthy market demand will cause the private sector to develop more space.



Source: The U.S. Virgin Islands is Open for Business: Hotel and Resort Opportunities (Brochure, page 19)

These should be flex-space in design, suitable for multiple occupants and therefore subdividable. The USVI should also have an inventory of at least 300 acres of developable land with full utilities, good road access, and zoning that allows multiple uses.

The Territory's Form-based Zoning Code Overlay District will be useful in this regard.

Marketing of smaller properties, particularly retail and services, should be the responsibility of the USVI's real estate community.

At the present time, the gap between the current trend and the twenty-year goal is almost total – but there are improvement possibilities.

- Development of Renaissance Park on St. Croix can meet multiple development possibilities simultaneously and over an extended period.
- Development of some or all of the 261± acre Estate Betty's Hope property south of Henry Rohlsen Airport owned by the Government of the USVI offers similar opportunities.
- Maintenance of an effective properties database and easy access to this database are absolute necessities as long as business executives and site selection consultants have this as a preferred research method.

ESTATE BETTY'S HOPE PROPERTY



SEA PORTS

Primary Cargo Ports

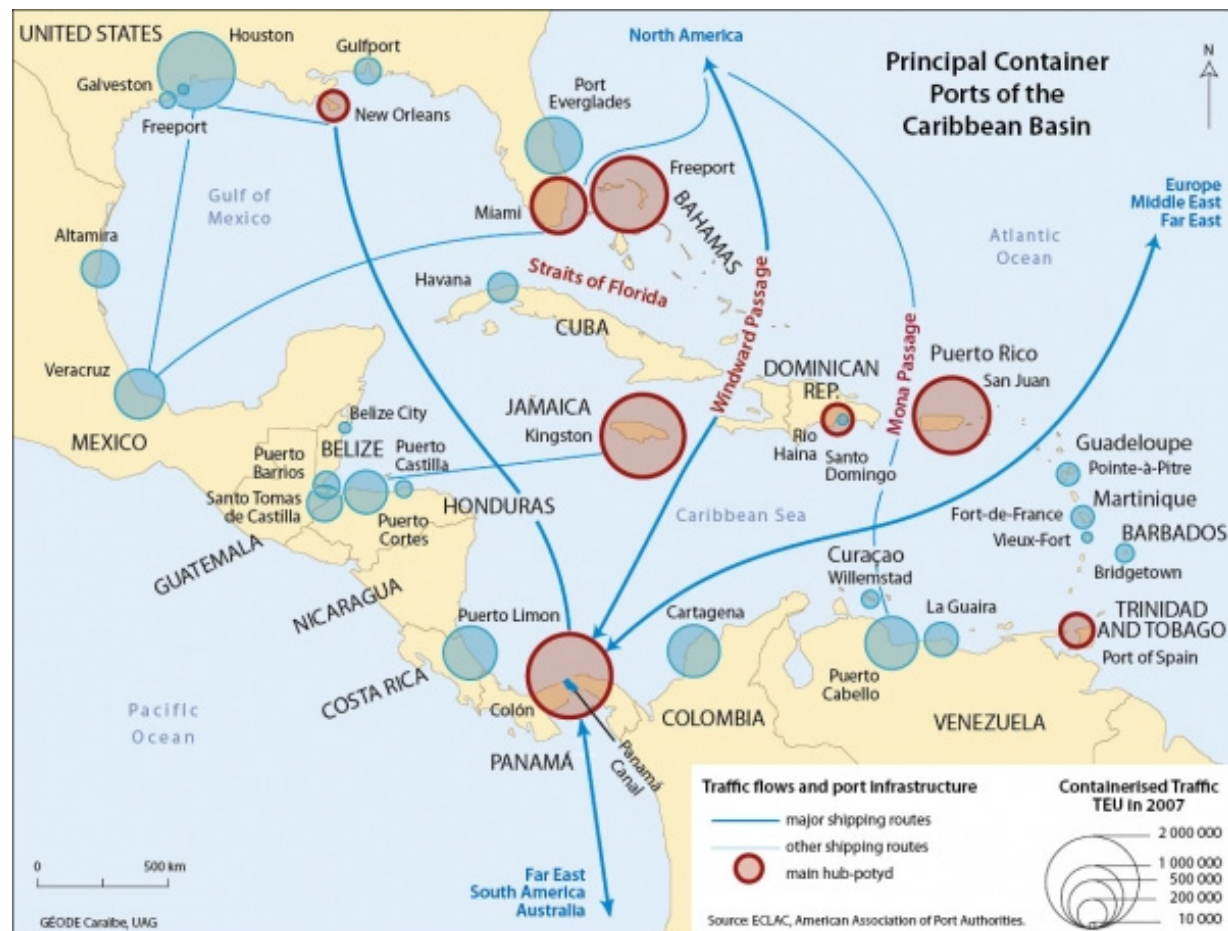
St. Thomas—Crown Bay Cargo Port



- 20 acres
- Bulkhead facility is 2,720 feet with 30-foot draft
- Containerized and general cargo: primarily food and goods
- Some transshipment to other islands: Eastern and Southern Caribbean
- Undergoing modernization of cargo handling
- Added marine and shipping traffic

St. Croix—Gordon A. Finch Molasses Pier

- 8 acres
- VI Port Authority shifting cargo from Gallows Bay to this pier
- Space for bulk cargo storage: liquid asphalt, cement blocks, and construction materials, as well as submarine cables
- Draft of 29 feet
- Roll on-Roll off capacity
- Berth docking for cable, molasses, aggregate vessels
- Molasses piped to nearby storage tanks



Cruise Ports

St. Thomas—Austin Babe Monsanto Marine, Crown Bay

- Former U.S. Naval Support

St. Thomas - West India Company Dock

St. Croix—A. Abramson Marine Facility, Fredericksted

- 29 and 36-foot draft

Ferry Ports/Light Cargo/Yachts

St. Thomas—Edward Wilmoth Blyden IV Marine Terminal, Charlotte Amalie

- Hub for seaplane and ferry service between USVI and BVI

St. Thomas—Waterfront, Charlotte Amalie

- 3200 ft. bulkhead space
- Luxury, small cruise, yachts

St. Thomas—Urman Victor Fredericks Marine Terminal, Red Hook

- Passengers to St. John and BVI
- Cars RO/RO and small cargo

St. Croix—Gallows Bay, Christiansted

- Mini-cruise and yachts
- Small cargo serving SX and Caribbean islands
- 400-foot dock w/ RO-RO and forklifts
- 13-foot draft

St. John—Loredon Lorene Boynes Dock, Cruz Bay

- Main port of entry to St. John
- Ferry to Red Hook and Charlotte Amalie

Ports of the Caribbean

Caribbean Nation/Island (Highlighting = islands with larger Port investments/potential)	Number by Size of Ports (TEUs/yr, Tons of Cargo Handled, Land Zone, Foreland-Offshore Zone of Influence)					Comments
	Very Small	Small	Medium	Large	Very Large	
Anguilla		1				
Antigua and Barbuda		1				
Aruba		1	2*			Port of Oranjestad, Port of San Nicolas
Bahamas	2	3	1*			Grand Bahama
Barbados		1				
British Virgin Islands		2*				Port Purcell, Port of Virgin Gorda
Cayman Islands	1	1				
Cuba	17	13	1	2*		Ports of Santiago and Havana
Dominica		2				
Dominican Republic	4	6	3*			Port of San Domingo, Caudedo, Port of Rio Itaina
Grenada		1				
Guadeloupe		1	1*			Port of Pointe-a-Pitre
Haiti	4	7				
Jamaica	8	6	1*			Kingston
Martinique		3				
Montserrat	2					
Netherlands Antilles (Curacao)	1	5*				Largest Ship Repair facility in the Caribbean is based in Curacao
Puerto Rico	9	9	3*			Roosevelt Roads Naval Station, Puerto Nuevo, Port of San Juan
Saint Kitts and Nevis		2				
Saint Lucia	1	3				
Saint Vincent and the Grenadines	1	4				
Trinidad & Tobago	2	8*				
Turks & Caicos		3				
U.S. Virgin Islands		5*	1**			* STT: Charlotte Amalie Harbor; STX: Port of Fredricksted, Port of Christiansted; STJ: Cruz Bay, Coral Bay. ** STX: Port Alucroix

Source: Worldportsource.com



**St. John—Victor Wm. Sewer Marine Facility
("The Creek")**

- Draft 10 feet
- Former small cargo use, now passenger ferry and charters

**St. John—Theovald Moorehead Dock and
Terminal, Cruz Bay**

- Cargo at Enighed Pond
- 6 acres
- Draft 12 feet



Theovald Morehead Dock and Terminal

Airports & Seaplanes

Airports

- Henry Rohlsen Airport, St. Croix
- Cyril E. King Airport, St. Thomas

Seaplane Terminals

- Charles F. Blair Seaplane Terminal, St. Thomas, Charlotte Amalie (adjacent to Blyden)
- Svend Aage Ovesen Jr. Seaplane Terminal, St. Croix, Christensted

Water & Wastewater

Wastewater

- WAPA service to approximately 40% of residents
- 60% is on-site; Most 50-60 years old
- 8 wastewater treatment plants, 30 pump stations, 402 miles of buried lines

Water

- WAPA long-term agreement with Seven Seas Water Corporation to provide drinking water through seawater reverse osmosis facilities on ST and SX
- Potable water to 13,000 customers

Quality of Place & Life

BUILT ENVIRONMENT & AMENITIES

St. Thomas is the most largely populated island, with the capital, Charlotte Amalie. St. Croix is the largest island, with two population centers, Christiansted and Frederiksted. The business districts of these three cities primarily serve tourists and visitors. St. John is 60% covered by a national park, and therefore has less population and less commerce.

According to interviews conducted with entrepreneur support organizations, downtown businesses in the three main cities close when tourists are not in town, and do not adequately serve the local population. These restaurants, bars, and shops miss out on local business and create a culture where USVI citizens do not go to main business districts for entertainment.

Zoning

An issue noted by stakeholders is that zoning in the USVI is restrictive, especially in light of recent, more flexible zoning trends in the United States mainland. Regulations specify land use regarding coverage and size of lots, including strict specifications of yards on front and sides. These strict specifications may be inhibitory for potential small- or large-scale real estate development.

Additionally, there may be a need for mixed-use zoning, or flex space for manufacturing. For entrepreneurs who are seeking to understand



Emancipation Park on St. Croix provides an example of a high-quality public space

where to open their businesses or build a new facility, the lack of transparency about the zoning code and lack of easy access to online maps is a barrier.

Buildings and Architecture

The U.S. Virgin Islands has a rich architectural history; however, many buildings have fallen into disrepair and suffer from neglect and disinvestment. These historic buildings and neighborhoods have tremendous potential to be better utilized to support economic development. Historic preservation is a key component of creating authentic places, which is critical in today (and tomorrow's) competitive tourism climate. Visitors



Example of the disrepair facing many buildings in the Territory.

are increasingly drawn to places that are “real” and not designed for the tourist.

Addressing the look and quality of the built environment beyond just properties of historical value is an important priority not only in supporting tourism, but also improving the quality of place which has a direct relationship with the desirability of places to live and work. Throughout the Territory there also remains visible signs of disaster legacy from past storms and a dedicated effort and more funding is needed to improve the quality and aesthetic of structures in the U.S. Virgin Islands.

Streets and Public Spaces

The public realm (public spaces such as streets, parks, plazas, etc.) is deficient in many places throughout the Territory and particularly the areas outside of popular tourism places.

The condition of public spaces is often lacking in upkeep and proper maintenance with sidewalks and roads falling into disrepair making for sometimes dangerous conditions for pedestrians and cyclists. Much of the road and sidewalk infrastructure has reached the end of its life cycle and is need of replacement.

Many communities throughout the territory also lack defined town centers and gathering places. Having strong centers is important in creating a strong sense of place and maintaining vibrant street life and activity.



An overgrown lot adjacent to a building in need of rehabilitation. Underutilized spaces such as these offer tremendous opportunity to enhance quality of place through pocket parks or community gardens.

Existing public spaces, such as parks, playgrounds, and plazas range in quality and appearance. Overall, there is a need for new and revitalized public parks and plazas to help foster a stronger sense and quality of place.

Cost of Living

The cost of living in the U.S. Virgin Islands is relatively high and poses a significant burden for local residents and poses a significant barrier to attracting new companies that would be challenged by providing livable wages and

attracting a talented workforce to relocate to the U.S. Virgin Islands.

Comparison data indicates that by some sources, U.S. Virgin Islands pay more than the U.S. population as a whole as follows¹¹:

- Nearly 30% more for restaurants,
- 92% more for groceries,
- 2.2. times more for transportation,
- 47.5% more for housing,
- 31.6% more for entertainment and sports
- 85.5% more for clothing

¹¹ My Life Elsewhere Cost of Living Comparison

Generally, cost of living ranges from 15% to 50% more in the U.S. Virgin Islands compared with the U.S. mainland. As discussed elsewhere in this report, electric utility costs are an especially large cost burden for residents and a significantly higher cost than utility prices elsewhere.

Higher prices are typical for Island communities due to the need to import goods and products. With little on-island manufacturing activity, most purchased goods are imported, including food products. Imported quantities are also relatively smaller than a state or island community with a greater population, resulting in higher prices.

Housing

There is great need for quality affordable housing in the U.S. Virgin Islands. A 2019 Comprehensive Housing Market Analysis for the U.S. Virgin Islands prepared by the U.S. Department of Housing and Urban Development (HUD) found that relatively low incomes, high construction costs, limited developable land, and strong demand by nonresidents have contributed to an ongoing affordability problem for residents of the territory.

According to the study, in 2017, “the median home price was approximately seven times higher than the median household income in the USVI, compared with five times higher for the nation. The ratio is likely to have increased significantly in the Territory during the past two years because home prices have risen since the hurricanes despite severely weakened economic conditions.

The HUD report also identified significant barriers to homeownership associated with financing with the high cost of homeowner’s insurance being the most significant of these. At the time of the study, the cost of homeowner’s insurance was approximately four times more expensive than for the U.S. mainland overall – before the hurricanes. Post-hurricane the report estimated that these insurance costs have increased by as much as 20%.

According to HUD, the rental market is very tight and renters in the U.S. Virgin Islands typically are more burdened than renters in the U.S. as a whole – spending a relatively larger share of their income on

rent. HUD reported that the median gross monthly rent in the Territory was approximately \$850, which represented 39 percent of the median monthly income for renter households. Anything above 30% is considered a cost-burden by HUD. Over three years from 2019 through 2022, it was forecasted that approximately 940 new rental units are needed in the U.S. Virgin Islands, or 313 per year.



The Whispering Hills subdivision was developed by VI Housing Finance Authority in 2015 to help facilitate affordable homeownership.

EDUCATION AND WORKFORCE

EDUCATION SYSTEM

Educational attainment in the Territory lags the United States mainland overall. In the USVI, over a quarter of adults do not carry a high school diploma or equivalent, more than double the rate of the U.S. as whole. The disparity between degree holders is similar; 17% of adults living in the Territory hold a bachelor's degree or higher, compared to 33% of all U.S. adults.

K-12 Education

The Virgin Islands Department of Education (VIDE) operates two public school districts covering the territory and serving about 10,700 K-12 students. Enrollment has declined by 5,000 students since 2010, one indication of the Territory's shrinking school-age population.

Per the VIDE 2019 Report Card, subject area proficiency rates among public school students are very low, with only 25% of students in grades 3-8 and 11% achieving proficiency in English Language Arts, and 10% proficient in Mathematics.

The territory is also home to a number of private and parochial schools. Higher income families tend to enroll their children in private schools rather than the public school system due to perceptions and concerns about education quality.

University of the Virgin Islands

The University of the Virgin Islands (UVI) is a long-established, fully accredited small public university with campuses on St. Croix and St. Thomas and an

Academic Center on St. John. The university offers associates, bachelor's and master's degrees in 30 programs through five colleges and schools namely, College of Liberal Arts and Social Sciences, College of Science and Mathematics, School of Business, School of Education, and School of Nursing.

UVI also has a number of research units engaged in various areas of research and development (R&D) in agriculture and aquaponics, marine and environmental science, green technology and water resources.

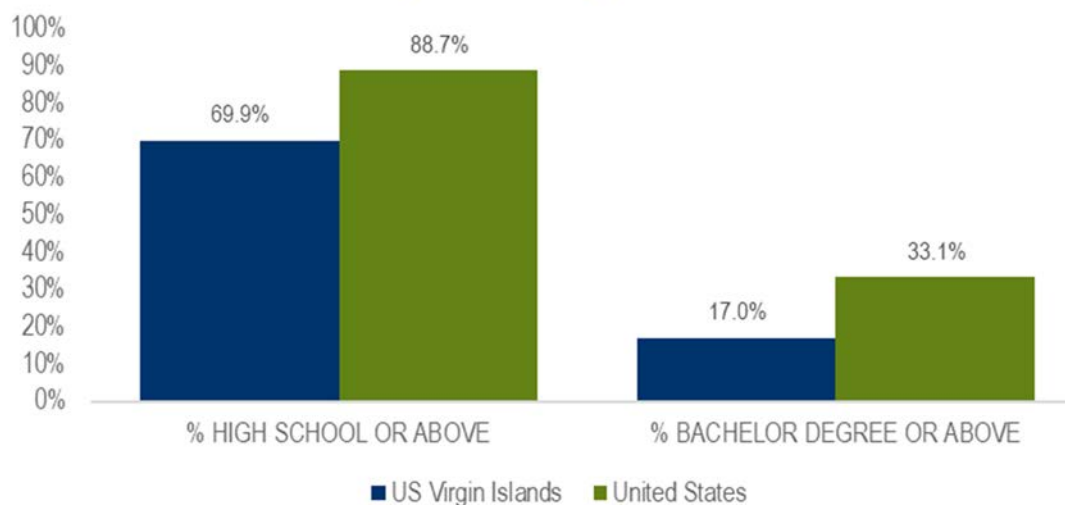
The university has a 98% acceptance rate, with 95% of students attending from within the Territory. Graduation rates are low, with just 32% of full-time, first-time bachelor-seeking students completing

their program within six years. The year-to-year retention rate is about 66%.

Beginning with the 2019-2020 academic year, any student who has graduated from a secondary school in the USVI (private, public, or parochial) may be eligible for free tuition to attend UVI. This represents a significant step toward expanding educational access to residents.

Raising the education levels of residents remains both a challenge and priority for the Territory. This is a critical factor for readying residents for the workforce and significantly impacts future growth and the competitiveness of the economy.

Educational Attainment (% of Adults), 2013



Source: US Virgin Islands: 2013 Virgin Islands Community Survey, Eastern Caribbean Center, University of the Virgin Islands; United States: Esri

WORKFORCE DEVELOPMENT

Department of Labor Commissioner (DOL), Gary Molloy, presented an overview of the workforce development system at a Revenue Estimating Conference held in December 2020. He noted that in October 2020, the total USVI labor force consisted of 44,917 individuals, of which 4,220 were unemployed, or 9.4%. The true number of unemployed in the territory of working age people would be a considerably higher percentage if it were to include those who have given up looking for work and are not included in official statistics.

DOL maintains a website, www.vidolview.org, to assist those looking for jobs. It is used for candidate search, applicants, referrals, and job postings. Recent data of in demand positions indicated that the largest category of available jobs posted were in public administration, representing 27%.

A comparison of in-demand positions with available positions clearly shows that there are not enough job openings to match demand. If all available positions that were posted were filled, it would satisfy only 14% of demand. DOL concludes that individuals will have to pursue jobs in other industries as a result. However, the current Workforce Investment Board WOIA 2020-2023 State Plan revolves around these same industry sectors.

Job Openings by Industry for all Sectors in Virgin Islands in October 2020 (Top 10 List)

Industry	Job Openings
Public Administration	265
Construction	84
Accommodation and Food Services	64
Retail Trade	58
Health Care and Social Assistance	57
Finance and Insurance	41
Education Services	39
Professional, Scientific, and Technical Services	33
Manufacturing	24
Administrative and Support and Waste Management and Remediation Services	18

Source: Online advertised jobs data

Job Availability for In Demand Industries

In Demand Industries	Job Seekers Aligned to Occupation Groups (as of Oct 20, 2020)	Jobs Available in Aligned Occupation Groups (as of Oct 20, 2020)	Percent of Total Jobs to Total Available Job Seekers
Administrative and Support Services	2,050	175	8%
Construction Trades	1,220	60	4%
Allied Health	377	41	11%
Information Technology	66	20	33%

Source: U.S. Virgin Islands Department of Labor.

DOL and its workforce providers offer employment training services and programs funded with CDBG, Dislocated Worker Grant, Customized Training, On-the-Job Training (OJT), and Apprenticeship resources. The charts below were developed for DOL to describe the workforce delivery system.

The framework for the system is in keeping with a national "Cradle to Careers" model that has been in place in many communities around the United States. It is focused on producing career readiness skills from an early age and is represented as follows:

The USVI faces both a supply and a demand problem for jobs. The number of available jobs does not meet the number of unemployed or underemployed residents. At the same time, many

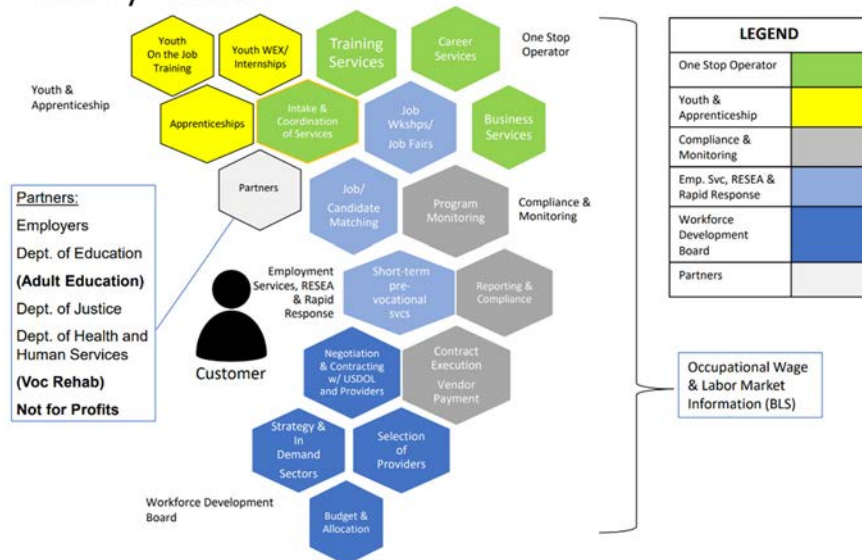
employers have found it difficult to hire the skilled workers they need.

High demand positions refer to select occupations for which business demand is most acute. In the United States mainland, these positions can range from those requiring the most advanced degree and experiences (biochemists), to lower skilled labor positions where workers either are not available or do not seek out such jobs (plumbers, farm workers, etc.) In the Virgin Islands, Diageo has need for valve and pipe experts that were in supply when the refinery was operating at full speed, but now the company is finding these workers hard to find. That is an example of a high demand position.

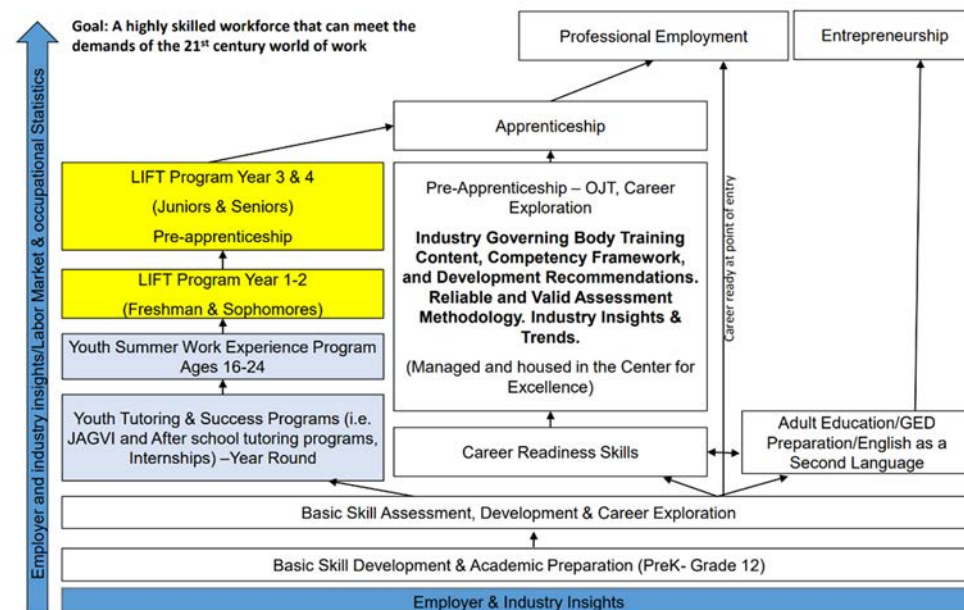
In-demand positions refer to remaining occupations for which the demand for skilled workers outpaces the supply. Many communities throughout the United States mainland are stuck in this position where good paying jobs cannot be filled because there simply are not enough skilled workers. An

The USVI faces both a supply and a demand problem for jobs. The number of jobs does not meet the number of unemployed or underemployed residents.

Workforce Development Services and Ecosystem



Workforce Development "Cradle to Careers" Continuum



acute example of this is in highly skilled cyber security professions.

Vision 2040 provides eight targeted industries. Nearly all of these industries will require levels of skills development that could result in a mismatch of supply and demand. Without proper training, workers will not be in position to fill these jobs. The educational and workforce development system must align itself now to meet these future demands, and in fact, help attract the businesses that need such talent.

The vast majority of jobs in the future will require some level of skills development beyond a high school degree but not necessarily a bachelor's degree. This has accounted for the popularity of industry-based credential and certification programs over the past decade. The U.S. Virgin Islands must consider certification programs based on the VISION 2040 targeted industries to increase skills of residents and chances for future employment. For many, this will be the fastest shortcut out of poverty.

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PUBLIC SAFETY

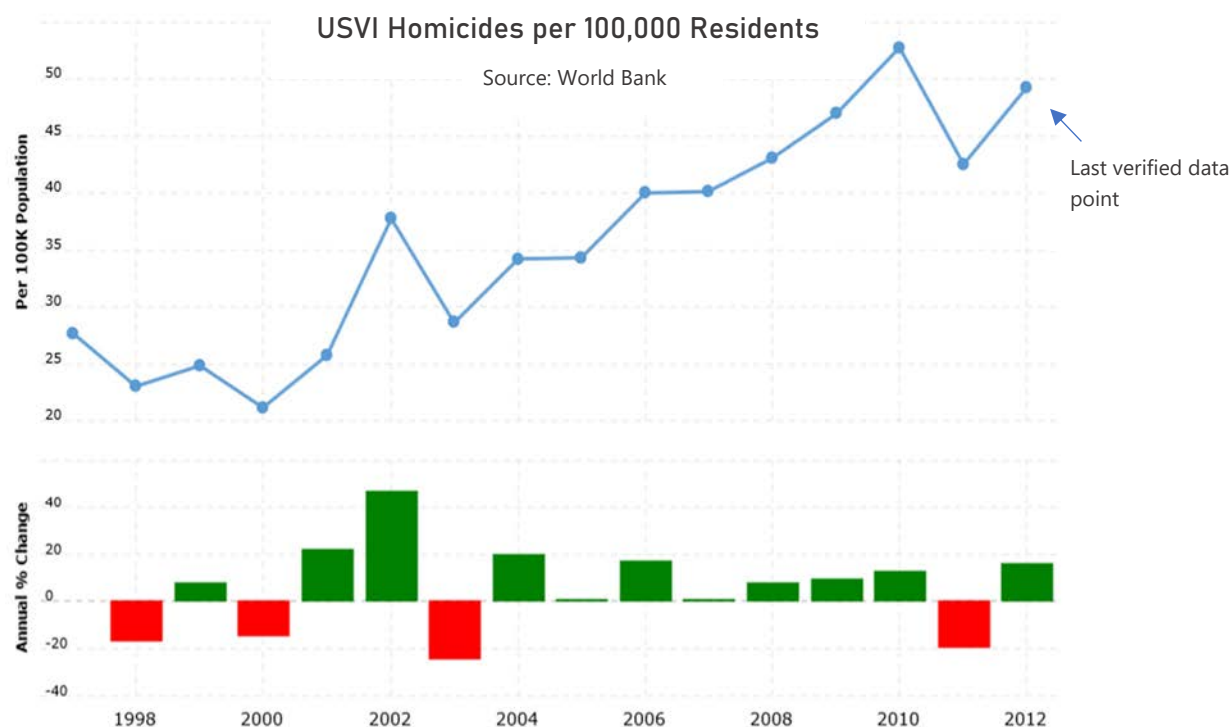
The implications of crime on economic development for the U.S. Virgin Islands is very much of concern to businesses, residents, and members of the diaspora thinking of returning. The topics of crime, crime rate, and crime prevention were cited frequently in the information collection methods cited in Volume 4. Of the 1,921 Vision 2040 surveys completed by residents, public safety was ranked 1.4 on a 4-point scale (with 4 being “Excellent”—residents feel safe.) The 1.4 measure is between “Poor” and “Fair”. Crime is a problem that requires immediate attention if the Territory is to realize the aspirational goals of Vision 2040.

Each year *Area Development* magazine, an economic development trade publication, conducts a survey of corporate executives and site selection consultants, asking them the rank nearly 30 factors related to choosing a location. Until 2015, when nine quality of life factors were merged into a single category, Low Crime Rate was ranked each year as the most important quality of life factor for corporate executives and was usually first or second for site selection consultants.

Compared with most of North America, crime, and especially violent crime, is high not just in the Virgin Islands but throughout the Caribbean and Central

America, which has the reputation for prevalent illegal guns and illegal drugs.

The United Nations Office on Drugs and Crime (UNODC) tracks statistics worldwide and publishes a Global Study on Homicide. The United Nations last updated information on crime statistics for the U.S. Virgin Islands was in 2012. At that time, intentional homicide rates reported by the UN showed that in 2012 the USVI ranked highest in the Caribbean for homicides per 100,000 residents and third in the Central America and Caribbean, just behind El Salvador and Honduras.



Similar Country Ranking	
Country Name	Per 100K Population
Virgin Islands (U.S.)	49.28
St. Kitts and Nevis	36.09
Bahamas	30.53
Puerto Rico	28.70
Trinidad and Tobago	28.26
Panama	16.89
Greenland	14.17
Antigua and Barbuda	11.06
Bermuda	9.50
Uruguay	7.90
Barbados	7.75
Lithuania	6.63
Argentina	6.34
St. Martin (French part)	5.40
Estonia	4.76
United States	4.73

Source: World Bank, 2013

The World Bank tracks crime statistics throughout the globe as well. As of 2020, it also could not report updated figures for the U.S. Virgin Islands for comparison with other locations. In 2013, the World Bank reported for 2012 that at 49.28 intentional homicides per 100,000 residents, the U.S. Virgin Islands ranked top of similar country rankings (see chart on prior page.)

No comparable data can be found from the U.S. Virgin Islands Police Department website nor could Vision 2040 researchers find such data from the USVI Bureau of Economic Research or the Virgin Islands Department of Health. The *2018 Annual Report of the U.S. Virgin Islands Judiciary and Court System* contains no crime statistics and a search of the Court System website for “crime statistics” found nothing.

The United States Attorney’s Office, District of the Virgin Islands, released a press release on October 13, 2020 headlined, “United States Attorney Shappert Announces USVI Efforts to Address Violent Crime: Project Guardian and Project Safe Neighborhoods.” The press release read:

“In September, the Federal Bureau of Investigation (FBI) released its 2019 edition of Crime in the United States, which showed that violent crime decreased nationwide for the third consecutive year,” Shappert said. “After decreases in both 2017 and 2018, the violent crime rate dropped an additional one percent during the year and the property crime rate decreased 4.5 percent. In 2019, there were an estimated 1,203,808 violent crimes and an estimated violent crime rate of 366.7 violent crimes per 100,000 inhabitants. This represents a one percent decrease from the prior year. The

FBI’s Uniform Crime Report (UCR) data indicates that the violent crime rate dropped 0.7 percent in 2017 and 3.5 percent in 2018 from the prior years.”

“In the U.S. Virgin Islands, however, violent, gun-related crime continues to threaten public safety.” Shappert noted that the U.S. Virgin Islands, with a population of roughly 103,000 people, has averaged 40 homicides a year during the past several years, and has already exceeded that number for 2020. “We are continuing to work closely with our federal and local partners to help turn this situation around. Some of what we do is known to the public, and some of what we do must remain confidential until prosecutions are initiated. We are encouraged by increased levels of coordination among law enforcement agencies and by intelligence information provided to us by citizens in our community.”

Eight years after the UNODC Homicide Report was issued, the numbers and ranking for the USVI remains disturbingly high.

On January 4, 2021, the Virgin Islands Daily News reported 49 homicides in the U.S. Virgin Islands, 27 on St. Croix, 20 on St. Thomas, and 2 on St. John. The article provides names, places, and circumstances for each of the deaths. A similar article published by The Source a week earlier provided consistent information, citing Police Department records. The Virgin Islands Free Press published articles with similar data, one in which Police Commissioner Trevor A. Velinor was quoted as saying “the statistical homicide numbers for the territory first reported by the Virgin Islands Free Press are factually accurate.”

Therefore, if the local count of 49 is compared with currently available 2020 UNODC reported figures for other locations, it would place the U.S. Virgin Islands again at the top of rankings for all Caribbean locations for homicides.

As part of the research conducted for Vision 2040, corporate site selection consultants and business executives reported to Camoin 310 that the lack of transparency with crime statistics for the U.S. Virgin Islands presents a problem. In the absence of such reliable data, executives considering the U.S. Virgin Islands as a place to do business, will reference last known official and third-party credible records (such as the UNODC noted above) in addition to local news reports to ascertain probable safety for themselves, their employees, and property/facility investments.

Most law-abiding Virgin Islanders who are not involved in the drug trade and other illegal activities are unlikely to be killed or need to worry about being killed. That is even more the case with tourists and other visitors.

The implications of crime on economic development for the U.S. Virgin Islands is very much of concern to businesses. It is a problem that needs immediate attention if the Territory is to come close to realizing the aspirational goals of Vision 2040.

But there are other crimes that concern residents, visitors, and would-be visitors, and with justification. Updated figures on non-homicidal crimes against people and property are difficult to obtain. Yet anecdotes, news reports and a drive around the islands indicate that crime is a significant concern. Many homes, condo complexes, and businesses are heavily fortified with gates, other hardware, and guard dogs.

Among the resident surveys, respondents on St. Croix rated crime third among the island's "negatives." St. Thomians ranked it fourth. On St. John, residents rated the lower incidence of crime on their island, presumably relative to St. Croix and St. Thomas, as the number one positive attribute of living there.

Among the diaspora (former Virgin Islanders now living elsewhere), more than 700 respondents to the Vision 2040 survey said that a "crime prevention initiative" should be the Territory's second highest priority, just behind a modern and resilient energy system and ahead of healthcare. This is significant given that 80 percent of these expats say they would consider returning to live, work and invest – under the right circumstances.



DIVERSIFYING THE ISLAND ECONOMY

Business Creation and Expansion

TRANSITIONING TO A KNOWLEDGE-BASED ECONOMY

We are two decades into what many have called the knowledge economy. Regions, states, and nations have positioned themselves to prosper in this new economy. The U.S. Virgin Islands has not yet made the transition and is far behind in developing an innovation ecosystem that adequately supports entrepreneurship and establishes the Territory as a healthy business climate to support fast growing businesses.

Traditional economic development was premised on building out industry clusters by recruiting firms, making public investments in infrastructure projects, and targeting investments to help existing businesses create more jobs. This is largely the approach that holds firm throughout the Territory.

Changes to the economic development profession across the globe began in the late twentieth century. It first took root among a small community, often linked with research universities, that concerned itself with advancing 'technology-based economic development.' Advocates focused on supporting research and commercialization of products from laboratories and technology-oriented firms into the marketplace, a complex process that involved

multiple steps and could take many years to produce results.

Today's economic development does not abandon traditional approaches, nor has it replaced them with tech-centric approaches; rather, it has now evolved into a blended approach with community-based practices to establish the next generation of economic development. The focus is integrated. It fosters business growth from within regions to ensure that businesses in all sectors succeed by scaling up operations to sustain growth. It does this through a complex ecosystem of education, research, collaborative partnerships, creative endeavors, transfers of information and knowledge, entrepreneurship, capital formation, and supportive systems to encourage new ventures.

Economic development flourishes in places where talent is abundant. An important factor in ensuring economic growth in a region is its quality of education, from pre-K through 12th grade education and post-secondary education that prepares graduates for the world of work. Employers are drawn to locations with schools that emphasize the core STEM subjects (science, technology, engineering, and math), higher level cognitive reasoning, and team-based problem solving. In such places, higher education and research institutions produce a well-educated local workforce, where creative thinking and innovations are celebrated and incubated, and where the economic development focus is on new start-ups, spin-offs, and support for high-growth firms. These are critical aspects of the business climate.

It is said that most jobs are created by small businesses. This is true. It is also true that most jobs are lost by small businesses. Communities that have healthy economic ecosystems create more jobs than they lose. Research conducted by the Institute for Exceptional Growth and numerous state studies (Pennsylvania, Maryland, Virginia, and others) has concluded that less than one percent of high growth firms are responsible for creating approximately two-thirds of all net new jobs. For this reason, regions must focus on building an environment conducive for firms to succeed and that sustains high growth businesses.

USVI ECOSYSTEM FOR INNOVATION AND GROWTH

Entrepreneurship and innovation can provide a pathway for higher earnings in a territory whose median household income is nearly half of the United States mainland. Entrepreneurship and innovation have both direct and indirect effects on income. Entrepreneurship offers the opportunity to make a higher income than working in the tourism, government, and service industries.

While there are supportive organizations in the Territory that encourage entrepreneurship, the ecosystem has not been fully fleshed out. Significant gaps in financing for riskier ventures are one major hurdle. Another hurdle is the burdensome regulatory process that causes small business registration to take longer and cost more than many would-be entrepreneurs can stomach. The USVIEDA, University of the Virgin Islands, the local Small Business Development Center, and the Research and

Technology Park, are beginning to add programming and capacity and building partnerships to provide a larger network to support small businesses.

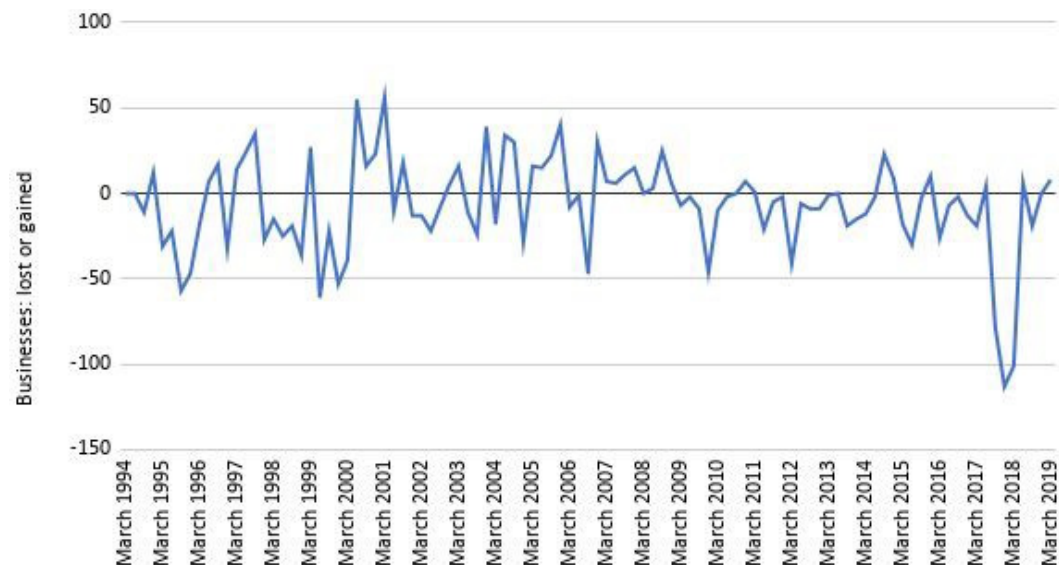
BUSINESS STARTS

Trends on business births and deaths in the USVI show a significant amount of churn year to year. The years 2000 and 2001 saw the most positive results for business starts, while 2018 saw the most business deaths. Over 100 businesses did not survive the aftermath of the hurricanes of 2017. The decline in net business gain between 2007 and 2013 follows a similar pattern as the United States mainland, with businesses being impacted by the Great Recession and now the Covid-19 pandemic.

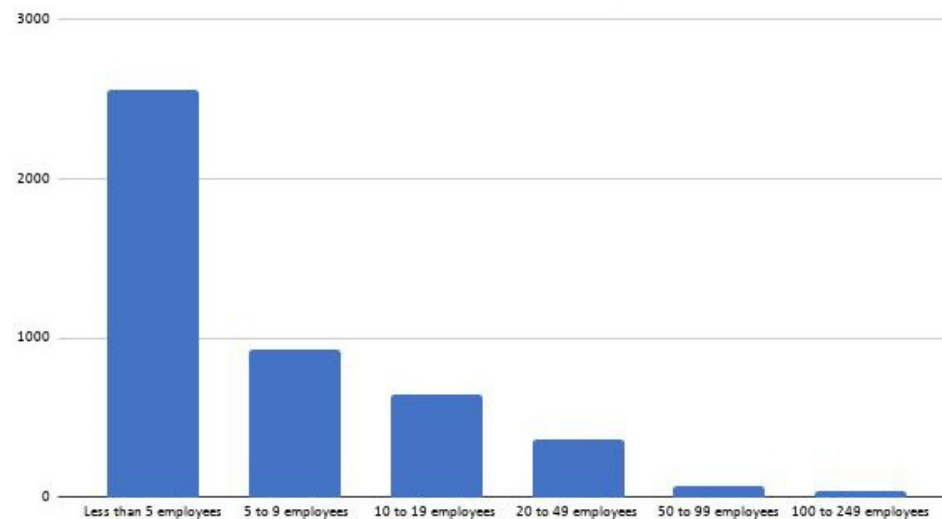
FIRM SIZE

The majority of firms in the USVI have less than 5 employees.

NET BUSINESS BIRTHS AND DEATHS



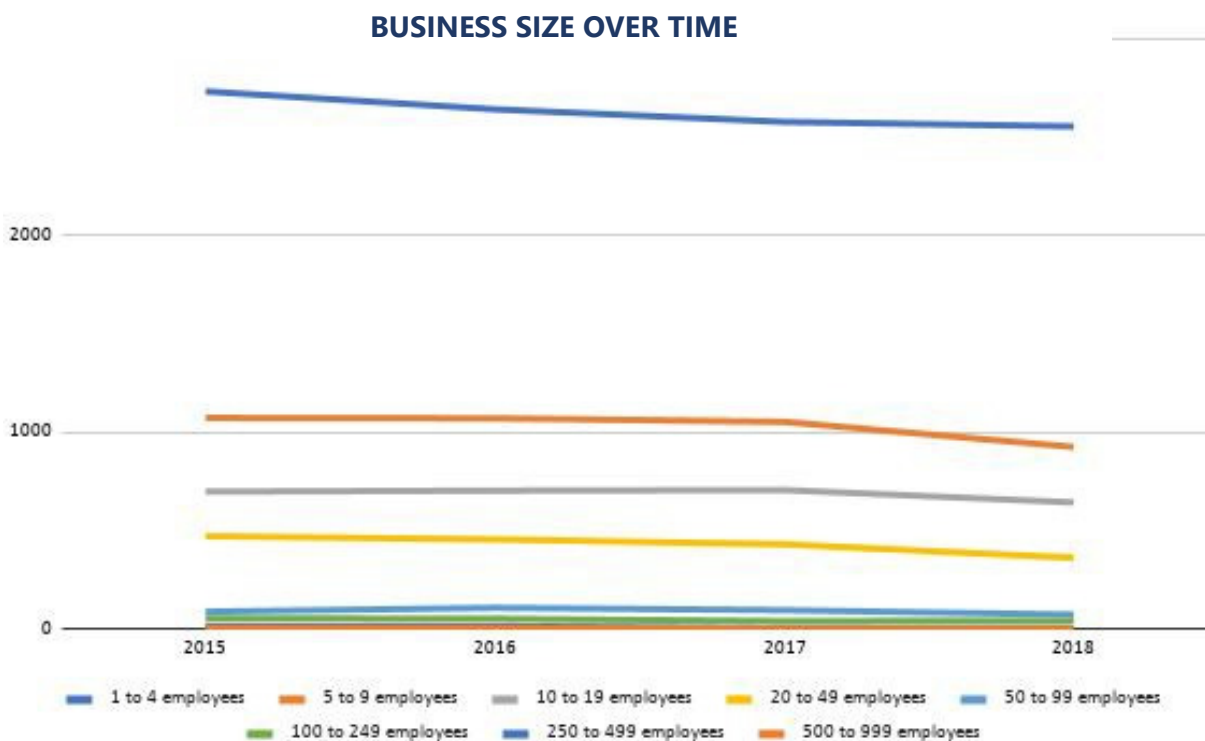
U.S. VIRGIN ISLANDS FIRM SIZES BY NUMBER OF EMPLOYEES



Source: Business Employment Dynamics Data by States, Private sector establishment births and deaths, seasonally adjusted, 1993 - 2019.

BUSINESS SIZE OVER TIME

From the data available, it seems that small businesses are not growing into larger businesses with time. There has been a decline across most firms from 2015 onward, which could be due in part to the effects of the hurricanes in 2017.



Source: Bureau of the Census, Annual Business Survey, 2015 - 2018

IMPACT OF SOLE PROPRIETORS

As can be seen in the table to the right, there are a total of 2,362 establishments in the Territory. C-corporations and other corporate legal forms of organization are the most common, but individual proprietorships are the second most common. Individual proprietorships' annual payroll is nearly \$2 million.

TYPES OF ESTABLISHMENTS AND PAYROLL IN U.S. VIRGIN ISLANDS

Type of Establishment	Number of Establishments	Annual Payroll	Annual Payroll Per Establishment
All Establishments	2,362	\$ 1,015,528,000	\$ 429,944
C-corporations and other corporate legal forms of organization	732	\$ 414,556,000	\$ 566,333
Individual proprietorships	521	\$ 199,837,000	\$ 383,564
S-corporations	488	\$ 161,002,000	\$ 329,922
Partnerships	443	\$ 161,205,000	\$ 363,894

Source: Bureau of the Census, Annual Business Survey, 2018

Support System

ENTREPRENEUR SUPPORT ORGANIZATIONS

According to the Ewing Marion Kauffman Foundation, entrepreneurship support organizations are groups that support, train, and sometimes fund entrepreneurs. They are based in local colleges and universities, government agencies, independent for- and nonprofit organizations, and sometimes in other public-serving institutions such as libraries or healthcare facilities. Their job is to help current or aspiring entrepreneurs move closer to starting or growing a viable business.

The USVI has several groups that provide support to entrepreneurs, with varying degrees of effectiveness. There is a gap in collaboration among these groups, and entrepreneurs could be better served if the different organizations defined their roles and the types of entrepreneur they serve. However, much progress has been made in expanding programs for entrepreneurs in the last decade.

USVIEDA

The United States Virgin Islands Economic Development Administration (USVIEDA) supports entrepreneurs in a number of ways, through programs such as those listed below, and through financing via low interest loans.

EntrepreNow

In July 2016, EntrepreNow was created by the Enterprise Zone Commission (EZC), a division of the

USVI Economic Development Administration, in partnership with the Office of the Territorial Public Defender of the USVI, the USVI Department of Human Services and Youth Arise Inc. The EZC is responsible for the revitalization of distressed neighborhoods that were once vibrant centers of economic activity in the territory. This program was created to address violence and fighting in neighborhoods, and to bring young people together in an inspiring environment.

Since 2016, there have been a total of 42 graduates and the program has expanded from a pilot in St. Thomas to an additional program in St. Croix. Interested candidates fill out an application, and if they are chosen, go through a 6-week program. The program has three components to it: breakfast and lunch daily, goal setting around life issues, and business planning including writing a business plan, working through financials and presenting to a panel.

Made in the USVI

USVIEDA has been involved in promoting small scale manufacturing and artisans in the USVI through an initiative called Made in the USVI. In December 2019 through January 2020 USVIEDA and the Virgin Islands Council on the Arts (VICA) sponsor a Made in the USVI Pop-Up store to provide business opportunities for artists and encourage local residents and visitors to buy local.

Additionally, through a grant from the U.S. Small Business Administration's State Trade Expansion Program (STEP), USVIEDA facilitated a trip for eleven small manufacturing entrepreneurs to attend the NY

NOW Summer 2018 trade show for home and lifestyle products in New York City.

USVIEDA Incubator

The Economic Development Authority houses a Business Incubator Program to support up to 15 entrepreneurs. Aspiring business owners receive an EDA-sponsored home base including computers, telephones, fax machines and rent-free offices to launch their company. The incubator program also offers participants professional consulting services in areas such as accounting and marketing.

Stakeholders involved with entrepreneurship in the territory pointed out that USVIEDA's incubator program lacked a service component, and that there was no formal agreement with other entities to provide services in mentoring, coaching, or business training.

The USVIEDA also supports small businesses with Weekly Small Business Webinars, a Business to Business Event, as well as an Accelerator Program and the USVI Business Hub powered by Startup Space.

University of the Virgin Islands

The University of the Virgin Islands (UVI) is a Land Grant University and a Historically Black University and College. Enrollment is just over 2000, and overall, six-year graduation rate is 32%. UVI has five schools and colleges, six associate programs, thirty-two bachelor programs, eleven graduate programs and four certificate programs.

The University ranked 315th in R&D expenditures of all American institutions in 2017. Federal research money has been invested in the university, including a series of Research Infrastructure Improvement (RII) grants from the National Science Foundation, the latest totaling \$20 million. In 2019, the United States Economic Development Administration (EDA) announced a grant of \$28.6 million for the University of the Virgin Islands to support efforts to diversify and strengthen the resiliency of the economy by helping to grow the medical sector, primarily by investing in the medical school project and the medical simulation center.

Research monies have not resulted in university-led spinoff companies; no evidence of patents being filed through the university were found, and discussion with professors indicated that this was not a primary function of their work. Interviewees indicated that there had been discussion of working with UVI to apply for the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs but there was ultimately no movement.

School of Business

The University of the Virgin Islands School of Business has, in recent years, focused on entrepreneurship through a series of events and by establishing spaces for entrepreneurs to gather and brainstorm. These efforts are led by Dr. Tim Faley and supported by the University of the Virgin Islands (UVI).

Innovation Centers

Innovation Centers were launched in January 2016 to encourage a place for students to meet and discuss ideas; they have equipment to help students collaborate and create prototypes including computers, a 3D imaging camera, and white boards. Innovation centers have been established at the St. Thomas Campus and on the Albert A. Sheen campus on St. Croix.

13D Entrepreneurship Competition

The 13D Entrepreneurship Competition is a marquee program of innovation and entrepreneurship initiatives at UVI. The competition is open to any student enrolled in the university in any capacity, from full to part time. Contestants pitch potentially profitable business plans that lack the funds necessary to launch. Through a series of workshops and feedback sessions, the program operationalizes these business concepts. The competition culminates in the distribution of \$60,000 in business seed money to the three winning teams: \$30,000 to the first-place team, \$20,000 to the second-place team and \$10,000 to the third-place team. The program is funded in the form of a \$5 million grant from Kiril Sokoloff, the founder of the Research and Technology Park company, 13D Research (USVI) LLC.

The program has been running for 5 years, and UVI estimates that nearly 80% of businesses funded through the program are still in operation.

HackFest

HackFest 2015 and 2016 were weekend-long events in which students worked together to find technology-based solutions to real-world problems, mostly in the form of website development or mobile phone apps. The goal of the program is to promote a culture of creative problem solving among young people in the territory. Cash prizes totaling \$900 were awarded for the best hack, the most innovative hack, the most impactful hack and the most sustainability focused hack.

Health Design Slam

The Slam brings together students from across both UVI campuses to conceptualize, design, build, demo and test health-promoting digital apps, devices, and games that address critical and well-articulated problems in healthcare delivery or public/population health and wellness. Teams can win both cash prizes and a chance to compete in a national challenge.

Business Design Grant Program

The Business Design Grants are designed to guide entrepreneurs through the qualitative steps to a completely designed business, including fleshing out a business concept, interviewing potential customers to determine a firm's value proposition to them, developing a supply chain for the firm, articulating the revenue model, and assessing the feasibility of the proposed firm. Teams that successfully complete the deliverables of the Business Design Grant Program earn the grant.

RTPark

RTPark was established in 2002 and secured its first client in 2006. It was created through a vision of leaders at the University of the Virgin Islands (UVI), working closely with members of the legislature and the private sector. Their aim was to create a platform for diversifying the USVI economy and for stimulating growth and development of the islands. The RTPark program headquarters is located on the island of St Croix.

The program has enjoyed a period of rapid growth, almost doubling in size since 2015. In 2014 the number of clients was 27, accelerating to 52 at the end of January 2018. As of January 2021, there were sixty-nine (69) active or in process clients in the program, with operations representing all three islands. Of the 69 firms affiliated with the RTPark, 65 are not started by residents born and raised in the USVI. None of the companies are women-owned, and three entrepreneurs are non-Caucasian.

Nearly all RTP companies are mirror operations of U.S. mainland firms, existing business owners prior to starting up new or expanding their business to the Territory. In the past several years, 30 new entrepreneurs have been added to the RTPark portfolio.

The Park, headquartered on St. Croix, has been operating more as a virtual park since recently reopening after extensive hurricane damage. It can accommodate space for one or two firms. The proposed Tech Village would have 12,000 square feet of space which will allow for some companies

(entrepreneurs and researchers.) The RTPark is independent of the University of the Virgin Islands.

The RTPark aims to attract and grow businesses in the fields of financial technology, health and medicine, energy research and system development, business process outsourcing, and others. It does this through offering tax incentives and services for businesses. Companies have a five-year term for support.

One service that is offered is ACCELERATE VI, a structured three-month pre-accelerator program designed to help early-stage companies grow and scale their businesses in the U.S. Virgin Islands. The program accepts two classes of startups each year. In 2019, the program accepted seven startups, and in 2020, it accepted another seven. The goal of the program is for companies to grow and become formal RTPark clients supporting long term economic development.

The pre-accelerator program offers a community of like-minded entrepreneurs, access to capital, mentorship and advisory services, specialized entrepreneurship curriculum, perks and partnership credits, technical assistance, access to national and international markets, and grant funding to fuel growth. Startups must meet the following standards, but they do not have to be based in the USVI:

- are registered or willing to be registered to do business in the U.S. Virgin Islands
- have a working Minimum Viable Product (MVP)

- have the ability to scale into national / global markets
- have not generated more than \$500,000 in annual revenue
- have received less than \$2,000,000 in total investment (e.g., equity, convertible notes, government grants, academic grants)
- agree to a Code of Conduct and Attendance Policy

The leader of the RTPark is interested in diversifying offerings through real estate acquisitions and developing lending programs to help bridge the gap that exists due to low engagement of commercial lenders in the marketplace.

Virgin Islands Small Business Development Center (VISBDC)

The Virgin Islands SBDC's mission is to grow the Virgin Island's economy by providing the tools, training and guidance that help the Territory's small businesses succeed. They offer workshops, tools, and advising. The SBDC has locations on all three islands and a staff of eight. The VI SBDC is one of only two Lead Centers in the United States within the America's Small Business Development Centers Program that is hosted by a Historically Black College and University (HBCU).

Since the advent of Covid-19, the SBDC has hosted 2-3 virtual events per week, and has continued to provide coaching to small businesses, including a four-part series on how to use Quickbooks.

A new leader of the organization hopes to raise the profile of the SBDC, expand community

engagement, increase collaboration with local partners, and establish a strategic plan for the organization. He noted that entrepreneurs often are sent to him from the USVIEDA, an indicator that they had not heard of the SBDC before approaching USVIEDA. He also notes there is an opportunity to work with UVI's School of Business to support business owners and entrepreneurs graduating from their programs.

FINANCING FOR SMALL BUSINESS

Other plans have addressed challenges with financing entrepreneurs in the U.S. Virgin Islands. A 2018 report from the USVI Hurricane Recovery and Resilience Task Force, prepared by Bloomberg Associates, explains the financing difficulties, especially in light of recent hurricanes.

"Following storms, businesses' capital needs are particularly urgent—but there currently are no microlenders, community development banks, rural lending intermediaries, or similar institutions serving the USVI. This especially affects financing available for start-ups, new entrepreneurs, and businesses seeking small loans of \$10,000-30,000.

The Governor's Office will work with federal agencies in the Economic Recovery Support Function to identify policy measures that may assist USVI businesses with securing capital, credit, insurance, bonding, and related financial capacity to meet the needs of the recovery economy. Any measures taken would be coupled with steps to promote financial literacy among prospective borrowers."

Since the time of writing this report, there does not seem to have been any new entrepreneur-friendly financing organizations established.

USVIEDA

USVIEDA has some products that address financing gaps, including Post-Disaster Relief Loans and Micro-Credit Loan Program. The USVIEDA programs are categorized lenders of last resort.

- **State Small Business Credit Initiative:** The State Small Business Credit Initiative Program was established by the 2010 Small Business Jobs Act as a means of supporting financing options for small businesses and encouraging financial institutions to do their part in funding more of these ventures. Proceeds of the loan can be used for start-up costs, working capital, franchise fees, business equipment, inventory, construction, renovation, business procurement, tenant improvements and more.

Maximum Enhancement Amounts:

- Collateral Support Program – Up to 50% limited to \$500,000 per borrower
- Credit Guarantee Program – Up to 50% of loan or project cost
- Payment, Performance, Surety Bond Program – Up to 30%

- **Frederiksted Loan Program:** Any businesses located in Frederiksted (St. Croix) that have the potential to generate new business activity in that city will get first priority for receiving loans through this program. Those loans have very reasonable interest rates to help encourage business owners to apply and keep growing their businesses in the local area.
- **Micro-Credit Loan Program:** The territory's Micro-Credit Loan Program offers secured loans subject to the creditworthiness of the applicant and/or guarantor. These loans can be anywhere from \$5,000 to \$50,000—smaller amounts—with loan terms available for up to five years.
- **Farmers and Fishermen Loan Program:** The Farmers and Fishermen Loan Program gives loans to commercial farmers and fishermen, with all loans being secured by "acceptable" collateral.
- **Intermediary Relending Program:** This program exists for anyone in need of funding for community development projects, or for creating new businesses/expanding on existing ones. The program looks especially kindly on business owners seeking to hire low-income people or to save existing jobs.
- **Economic Development Bank (EDB):** Serves to provide business loans and offer technical and managerial assistance to small and medium-sized local businesses to enhance employment opportunities and

economic growth in the U.S. Virgin Islands. According to the last available report (2017), in fiscal year (FY) 2016, loan payments totaled \$975,816.31. At the close of the FY on September 30, 2017, the EDB collected loan payments totaling \$1,347,688.23. The FY 2017 payments increased by 38 percent, or \$371,871.92, over FY 2016. The increase in payments was due to EDB staff concentrating their efforts on loan restructuring, modifications, and reclassifications which contributed to the significant reduction in the loan delinquency rate in 2017 to 47.0 percent when compared to the rate of 77.0 percent in 2016. The report explains that the EDB staff increased its effort to enforce payment of delinquent loans with the strong support of external legal counsel and collection agencies and, in 2017, realized on real estate collateral and exercised its first priority position over business assets in support of delinquent debt. There is also some suggestion that EDB loan conditions were stricter, as in 2017, loan transactions totaled \$875,000 compared to \$1,625,762 in FY 2016.

Revolving Loan Programs

Oftentimes, in the wake of a natural disaster, economic development organizations will implement a Revolving Loan Fund to provide small businesses credit to repair and recover. It appears the EDB has not had success with federal funding for these programs in the past, as the 2017 Annual

report explains that USVIEDA ended its contract with the U.S. Economic Development Administration in June 2017 concerning the Post-Disaster Relief Revolving Loan Fund which sought to assist small-business owners affected by Tropical Storms Otto and Tomas in 2010.

The report explains that the contract was not consummated until three years after the storms and efforts to identify and qualify businesses proved fruitless. Currently, the organization is offering a Post-Disaster Relief Revolving Loan Fund from a 2013 award for \$2 million from U.S. EDA. The lending limit for this program is \$75,000 and is designed to help businesses affected by 2010 disasters. It is unclear whether this fund is the same as the one referenced in the 2017 report. Nevertheless, the more pressing need is for businesses impacted by the 2017 hurricanes,

Bank Financing

According to interviews with entrepreneur support organization stakeholders, the main banks on the islands are conservative in lending to entrepreneurs and have not embraced federal government - backed programs to increase lending. Materials from USVIEDA list four banks participating in the State Small Business Credit Initiative (SSBCI) Guarantee Program, a financing program of the Small Business Jobs Act of 2010. These banks are Merchants Commercial Bank, First Bank, Bank of Nova Scotia, and Banco Popular de Puerto Rico. Further research shows that Bank of Nova Scotia (Scotia Bank) is currently in the process of downsizing activities in the area.

Two federal government backed programs that banks are guaranteed through are the SSBCI, and the SBA 7(a) guaranteed loan program. The former has a target amount of \$5 million, while loans from the latter program typically range from \$25,000 to \$5 million and are repaid in monthly installments. As of 2017, \$25,411,390 had been loaned through the SSBCI program.

Opinions from stakeholders regarding bank financing are not rosy. Interviewees speculated that local banks did not want to participate in SBA-backed loans for fear of opening their books to regulation. This opinion echoes a theme of suspected corruption throughout governments and institutions. There was also a suggestion that banks did not have the knowledge or capacity to process SBA loans. Another complaint about banks in the territory is that their processes are onerous and outdated. Bank customers are frustrated by processes to withdraw funds or even set up accounts, reporting three-hour appointment times to start banking. Online banking services also are lacking. Furthermore, receiving a loan is difficult even without government involvement, due to a general risk adverseness among financial institutions.

Micro-Financing

Microfinance is a term used to describe financial services, such as loans, savings, insurance and fund transfers to entrepreneurs, small businesses and individuals who lack access to traditional banking services. Microfinance has proven to be a helpful way to provide early support to entrepreneurs,

especially very small businesses and sole proprietorships in developing countries or among disadvantaged groups that lack access to other means of financing. In the USVI, USVIEDA offers small loans through the Micro-Credit Loan Program. This program offers a secured loan from \$1,000 to \$50,000. The maximum loan term is 5 years.

According to interviews with stakeholders in the entrepreneurship space, microloans and microfinance are less effective in the Virgin Islands due to the burdensome regulatory requirements which result in small businesses needing to pay nearly \$1,000 in fees in order to start their business, much less invest in it.

OTHER NEEDS AND CHALLENGES

Internet

Internet connectivity is an essential aspect of entrepreneurship, necessary for marketing, communication, and shipping. Strong internet connections facilitate the growth of the professional and technical services sector which includes high paying industries like consulting, software development, and other digital services. In fact, growth in these services accounts for 80 percent of U.S. economic growth.

The USVI is uniquely positioned to benefit from internet connectivity, as it is home to the second largest concentration of bandwidth in the Western Hemisphere. Fiber networks that run on and around the island provide 100 Mbp speed internet and have the potential to kickstart economic growth. Internet connectivity is facilitated by Virgin Islands Next

Generation Network, a public corporation and a wholly owned subsidiary of the Virgin Islands Public Finance Authority. viNGN was primarily funded by grants from the Department of Commerce with a charter to provide wholesale broadband middle mile service to providers and to promote local economic growth, innovation and global competitiveness.

Interviews with stakeholders indicate that the promise of internet connectivity has not yet come to fruition, reporting that internet service is unreliable and expensive. Broadband VI, currently working on final approval from the FCC, is intended to fix this problem. Unreliability for digital connection is increased by power outages in the WAPA system. Furthermore, costs of electricity preclude large scale investments in computer and internet businesses.

Culture

There is a culture of skirting regulation - which goes hand in hand with reports of burdensome regulations especially for small businesses. Research and stakeholders report a relatively high level of informal, non-registered businesses, especially in automotive, construction, and service industries. According to stakeholders, many small businesses operate in a cash economy.

Additionally, interviewees report that many legitimate businesses do not pay the full amount of taxes owed. This is due to the feeling among many small businesses that taxes and other costs of doing business are very high and they would not survive if they paid the full amount. Furthermore, there is a lack of coordination between businesses and taxing agencies; one interviewee shared the story of a

retailer who was renewing his license and was denied because records showed that he had not paid taxes. He had to produce his own records to show that he had paid taxes.

Interviewees indicated that the business and organizational culture in the USVI tended toward individualism. There is little interest in partnering, which leads to hampering business growth. This trend is reflected in the number of very small businesses and sole proprietorships shown in data above. Additionally, several of those interviewed cited the "Wrongful Discharge Act" as an example of policy that discourages small business formation. This policy makes it difficult to fire an employee once companies grow beyond five employees. For companies under five employees, their employees work "at will." They can be fired or quit to move to another business at any time. For companies five employees and over, after a short trial period, it is very difficult to fire an employee. Interviewees suggest that this is another reason for companies to skirt regulation and have cash only employees.

There is a lack of collaboration between organizations as well. For example, USVIEDA entrepreneurship programs could be strengthened by increased collaboration with UVI and the SBDC, but there is not currently a framework for sharing resources. RTPark has an agreement with the university to have students work in the companies they attract, but there is a lack of specialized training that would facilitate a strong workforce in RTPark's key sectors. For example, one of these sectors is Financial Technology, but there is no corresponding program at the university to train these workers.

RTPark also encourages companies that are recruited to provide funding to the university, but this engagement is not strategic - one interviewee suggested that a one-time donation from a company was not enough to sustain even one professor.

Interviewees also noted a lack of knowledge and capacity among potential entrepreneurs. There is a skills gap in the population, exacerbated by an exodus of high achieving individuals, who are easily able to move to the United States mainland. Lack of knowledge was most concerning regarding management of companies and abilities to collaborate and scale. Furthermore, data services which can inform aspiring entrepreneurs of industry trends are not applicable in the Territory - data services like IBISWorld do not cover this geography, and data from the federal government is incomplete.

Regulatory Barriers

Every businessperson interviewed for this project named burdensome regulations as a large barrier to starting a business. As one person explained, "difficulty in starting a business is 60 percent regulatory, and 40 percent everything else." Going through the process of obtaining a business license is a multi-step process that can take up to three months and cost up to \$1000. Compared to other jurisdictions, in which businesses licenses can be obtained online in a few days, this is a large hurdle. The steps for obtaining include a background check, a fire inspection, a business address, and potentially other materials (i.e., licenses etc). To interviewees,

these seemed redundant - for example, if a building is up to code, why would a fire inspection be necessary?

The cost of doing business is also expensive. Rent can be \$30 per square foot, and most landlords require first and last month's rent in advance. Insurance is expensive primarily due to the cost of the hurricane or windstorm coverage. Electricity and internet are also expenses that burden small businesses.

The overall opportunity for entrepreneurship and innovation in the Virgin Islands are in professional and business services, if the physical and workforce infrastructure can support it. Additional investment in internet and power generation is needed to sustain connectivity and investment.

Growing the entrepreneurial ecosystem will require closer alignment of professional and technical services from multiple entities including UVI, RTPark, the SBDC and USVIEDA. The example of this would be for the RTPark to be supported with a concentrated attraction campaign for companies in the financial services and technology industry (also known as "FinTech"), as well as attracting or enhancing financing options for this industry among local banks. On the UVI side, it would include increased research dollars and faculty focused on this issue and pivoting or beginning startup programs in the industry. USVIEDA could be the convenor of a task force on the topic and offer financing specifically for financial technology firms. SBDC could be recruited to support and mentor these companies. Funding for a FinTech startup

culture could be leveraged through the federal government, banks, and foundations.

Export Opportunities

When businesses sell products to customers outside of their local communities, additional capital is brought to the local economy, rather than just circulating money among local businesses. Professional and technical services is a weak but growing cluster that has the potential to be an export sector, with companies abroad hiring firms in the USVI to complete projects. Tourism is an export sector, and there are multiple opportunities to increase different types of tourism in the USVI beyond the cruise tourism industry that existed pre-Covid. Another export sector for the USVI includes manufacturing.

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Regional Comparison: Entrepreneurship in the Caribbean

Within the Caribbean region, the USVI and Puerto Rico are unique in that they are territories of the United States, which provides some advantages and some disadvantages. Regarding entrepreneurship, disadvantages seem to be that successful or innovative programs by worldwide groups such as the World Bank do not engage the USVI. Furthermore, the USVI is not integrated into the larger regional organizations representing the Caribbean's economic interests. As such, the territory is missing out on key resources for economic development.

ENTREPRENEURSHIP PROGRAMS

Entrepreneurship programs in the Caribbean have seen a boost from international groups such as the World Bank and the Inter-American Development Bank. The USVI is not engaged in either of the two programs profiled.

Entrepreneurship Program for Innovation in the Caribbean

One key initiative of the World Bank over the last decade has been the Entrepreneurship Program for Innovation in the Caribbean (EPIC.) This seven-year program was started in 2011 and is headed by the World Bank's infoDev group. It is funded at CAD\$20M by the Government of Canada which seeks to build an enabling ecosystem to foster high growth and sustainable enterprises throughout the Caribbean. The program had three core activity pillars: digital innovation, climate technology, and

women-led entrepreneurship, and also offered access to finance and skills upgrading and capacity development for all ecosystem stakeholders including entrepreneurs, business enablers, policy makers, universities, seed and early stage investors, and other private sector partners.

The EPIC program covers all CARICOM countries except Haiti: Antigua and Barbuda, the Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Montserrat, Saint Lucia, Saint Kitts and Nevis, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago. The Caribbean Community (CARICOM) is an organization of fifteen states and dependencies throughout the Caribbean having primary objectives to promote economic integration and cooperation among its members, to ensure that the benefits of integration are equitably shared, and to coordinate foreign policy.

Another aspect of infoDev's programming is the Climate Technology Program (CTP) focused on the growing opportunities of the clean technology sector in developing countries. The Caribbean Climate Innovation Center (CCIC) was launched in 2013 and is jointly managed by two leading scientific institutions in the Caribbean, the Scientific Research Council (SRC) based in Kingston, Jamaica and the Caribbean Industrial Research Institute (CARIRI) located in Trinidad and Tobago.

CCIC offers programming in the form of short bootcamps, an accelerator, and an incubator. They also offer a mentoring program. The World Bank publication, *Lessons Learned: Seeding Climate Opportunities for Entrepreneurs in Nascent*

Ecosystems, shares some findings from the work of the CCIC, which can be applied to starting a clean energy cluster in the USVI.

Strengthening Entrepreneurship and Innovation Ecosystems in the OECS

In June of 2020, the Organisation of Eastern Caribbean States Commission (OECS Commission), with the support of Compete Caribbean, hosted a kick-off meeting for a project that seeks to strengthen the entrepreneurship and innovation ecosystems in the OECS.

The project will be implemented by the OECS Commission, with support from the Compete Caribbean Partnership Facility, funded by the Inter-American Development Bank (IDB). The initiative seeks to strengthen the ecosystem for entrepreneurship and innovation in the OECS member states of, Antigua and Barbuda, Dominica, Grenada, St. Kitts and Nevis, St. Lucia and St. Vincent and the Grenadines.

According to the website for the project, the implementation phase will be comprised of three components, the first of which will be the development of a Hybrid Business Incubator and secondly the development of a regional Hybrid Accelerator Programme for high-potential firms. Component three of the project will focus on Increasing access to digital financial services to SMEs in the OECS.

Financing in the Caribbean

Two financing organizations to connect angel investors with fledgling entrepreneurs have grown

from the World Bank and infoDev's involvement in entrepreneurship in the region. LINK Caribbean awarded early-stage startup funding, and First Angels JA is an angel investing group. LINK Caribbean was designed as a two-year joint program between the World Bank and the Caribbean Export Development Agency, and was funded with \$1.6 million USD. Fourteen companies are included in their online portfolio. The website also has significant resources, including webinars, presentations, and financing information that is specific to the products offered by LINK.²⁶ LINK does not seem to be operating as a funding agency currently.

First Angels JA is an active angel investor network based in Jamaica. According to their website, the network has 30 angel investors who have made 16 investments. The group is focused on potential investments in digital applications, digital media, the creative industries and other innovative businesses. Throughout the pandemic, FAJ has been holding Virtual Founders Meetups on topics such as using Google to optimize searches, and managing people and culture.

Regional Caribbean Organizations

Due in part to the status of the USVI as a territory of the United States, engagement with regional Caribbean groups has been limited. Working with these groups could open the door to more collaboration within the Caribbean, such as participation in the entrepreneurship programs listed above; furthermore, increased collaboration

could lead to further exposure and investment from international markets beyond the U.S.

International Groups

CARICOM or Caribbean Community - Caribbean Community (CARICOM or CC) is an organization of fifteen states and dependencies throughout the Caribbean having primary objectives to promote economic integration and cooperation among its members, to ensure that the benefits of integration are equitably shared, and to coordinate foreign policy.

Caribbean Forum (CARIFORUM) - a subgroup of the Organisation of African, Caribbean and Pacific States serves as a base for economic dialogue with the European Union. It was established in 1992 and serves its 15-member states; Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Dominican Republic, Haiti, Grenada, Guyana, Jamaica, Saint Lucia, St. Kitts and Nevis, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago.

Caribbean Export - Established in 1996 by an Inter-Governmental Agreement as the regional trade and investment promotion agency, serves the 15 States of the Caribbean Forum (CARIFORUM).

Organisation of Eastern Caribbean States (OECS) is an international inter-governmental organization dedicated to regional integration in the Eastern Caribbean. The goal of this organization is creating a single financial and economic space where goods, people and capital move freely, and allowing alignment of monetary and governmental policies

relating to taxes and revenue. The countries of this economic union adopt a common approach to trade, health, education and the environment, as well as the development of critical sectors such as agriculture, tourism and energy.

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Targeted Industries

Targeted industries were selected based on their potential to contribute to economic diversification through growth and job creation in the U.S. Virgin Islands.



Agribusiness



- Aquaponics, aquaculture, hemp farming
- Specialty foods, farm-to-table



Professional/Tech Services



- Financial, IT, customer service centers/back office
- Remote work, consulting, diaspora co-ventures



Coastal/Ocean Resources



- Marine/maritime, biology, sustainable harvesting
- Medicinal, nutritional, alternative energy



Renewable Energy



- Solar, wind, tidal, wave, biomass, waste
- New sustainable technologies



Health Sciences



- Telemedicine, medical simulation
- Specialty care and education



Research & Development



- Agri-tech, ocean, climate change
- Healthcare, academic partnerships



Light Manufacturing



- Regional foods, co-manufacturing
- Resilient building materials



VI-Style Tourism



- Heritage, culture, sports, adventure, wellness
- Small conferences, casual-elegant lodging, dining



"Blue Economy" Sector

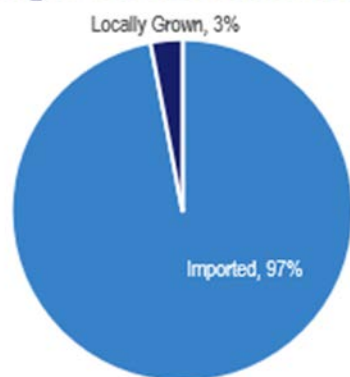


Services Technology Energy Agriculture Manufacturing

AGRIBUSINESS

Currently, the U.S. Virgin Islands import over 97% of their food, leaving the islands vulnerable to shocks in global food systems.¹² Agriculture in the U.S. Virgin Islands should be developed to both mitigate food security issues and to be a critical component of the future of the U.S. Virgin Islands Tourism industry with new farm to table establishments, authentic visitor lodging experiences, and unique value-added food products.

US Virgin Islands Food Sourcing



Source: Hakai Magazine

Historically, agriculture in the U.S. Virgin Islands has faced its share of challenges. Once one of the top-producing sugar cane nations in the world, farms are now much smaller than they previously were; farms with less than 10 acres of land make up nearly three quarters of all farms in the Territory.¹³ Available land for agriculture is limited, and government or private



UVI Commercial Aquaponic System

land ownership often makes farmland use costly for tenant farmers. Furthermore, antiquated and costly island infrastructure have presented challenges to farmers looking to make advancements in agricultural technology. Processes like cold storage for example are cost prohibitive due to the territory's expensive electric rates. Limited water and poor soil have further compounded the challenges faced by the U.S. Virgin Islands' farmers.¹⁴

Despite these challenges, farmers in the U.S. Virgin Islands have continued to press forward and have begun exploring sustainable agriculture practices such as the use of solar panels and cover crops.

Coupled with the Territory's need to reduce import dependency, this has paved the way for the U.S. Virgin Islands to be a leader in technology-based agriculture in the Caribbean.

Given the U.S. Virgin Islands' location, aquaponics and aquaculture are natural fits for the future of the territory's agriculture industry and food security. Both aquaculture, or the farming of fish, and aquaponics, which combines aquaculture with growing plants in water, build upon the region's existing natural assets and remediate some of

¹² Guo, Eileen. *Feeding the Virgins*. Hakai Magazine, 17 July 2017.

¹³ USDA 2018 Census of Agriculture

¹⁴ *Agriculture in the U.S. Virgin Islands Challenging, but Prevailing with Sustainable Agriculture Practices*.

Sustainable Agriculture Research and Education, 26 June 2018.

agriculture's existing challenges (such as soil quality).

Although aquaponics and aquaculture are a natural fit for the region, the U.S. Virgin Islands has only just begun to tap into the vast aquaponics and aquaculture opportunities that exist, indicating that there is much untapped opportunity for growth. In 2020 ground broke on the St. Croix (STX) Aquaponics Center, which will be an agribusiness center for aquaponic farming. The University of the Virgin Islands also developed a commercial-scale aquaponic system for tilapia. In accelerating these trends, agribusiness has the potential to reduce the U.S. Virgin Islands' dependency on agricultural imports.

Growth in local food systems will support demand from grocery stores, restaurants, and hotels. This connection will create additional opportunities for niche local products, including crops like dragon fruit (pitaya) and value-added products such as coconut oil, hot sauces, and soaps.¹⁵

Agriculture in the U.S. Virgin Islands should be developed to both mitigate food security issues and to be a critical component of the future of the U.S. Virgin Islands Tourism industry with new farm to table establishments, authentic visitor lodging experiences, and unique value-added food products.



University of the Virgin Islands has a stellar marine biology program with a respected reputation.

BLUE ECONOMY

According to the World Bank, the "blue economy" is the sustainable use of ocean resources for economic growth, improved livelihood and jobs, and ocean ecosystem health. Globally, the blue economy encompasses many activities including:

- **Renewable energy;**
- **Tourism;**
- **Climate change;**
- **Fisheries;**
- **Waste management; and**
- **Maritime transport.**

These industries are spread amongst many traditional industry classifications developed for land-based economies. If these industries were segregated, their impact to the island economy of the Territory might be conservatively estimated to account for nearly one-third of the total economic output of the U.S. Virgin Islands. The blue economy is uniquely vital to the Territory not only because of its location in the Caribbean, but because businesses in this industry support nine times more jobs in the U.S. Virgin Islands than in the mainland United States.¹⁶

By 2040, these industries and related emerging jobs will be at the global forefront of a booming blue

¹⁵ (Sustainable Agriculture Research and Education, 2018).

¹⁶ *A Snapshot of Sustainability in the USVI*. RTPark, 5 Aug. 2020.

economy. For the USVI, they could account for the largest share of GDP, replacing government and redefining tourism as the most significant contributors to economic growth. Currently blue economy industries include boat building and repair, fisheries, shipping, ports, marine biology and conservation, dredging, transport, and related businesses.

The United Nations and World Bank expect enormous global growth in emerging industries, "such as offshore renewable energy, aquaculture, seabed extractive activities, and marine biotechnology and bioprospecting." They add that "...a number of services provided by ocean ecosystems, and for which markets do not exist, also contribute significantly to economic and other human activity such as carbon sequestration, coastal protection, waste disposal [water management] and the existence of biodiversity."

Over the last several years the University of the Virgin Islands (UVI) has expanded the scope of its coastal/ocean resource research through its Center for Marine and Environmental Studies. The VI-EPSCoR program, funded through a 5-year \$20-million grant, for example, supported the expansion of its coral reef research program and the integration of oceanography, watershed dynamics, and climate change into this research. Grants from other sources such as the USGS, NOAA, and EPA

have helped the institution attract researchers from around the world to the Territory and publish 20-25 papers per year.

Continuing to grow the industry will require promotion of this work so that the U.S. Virgin Islands is recognized as a leader in ocean-based research. This is necessary to attract additional resources, including funding and workforce, to the Territory. To give credence to the research that is being undertaken, these efforts should be complemented by the establishment of a sustainable blue economy.

HEALTH SCIENCES

Currently, health care represents 8% of all U.S. Virgin Island jobs and 7% of GDP. Within the U.S. Virgin Islands, there are two hospitals, Schneider Regional Medical Center on St. Thomas and the Governor Juan F. Luis Hospital and Medical Center on St. Croix. Additionally, there are two Federally Qualified Health Centers (the St. Thomas East End Medical Center Corporation on St. Thomas and the Frederiksted Health Center on St. Croix). The Schneider Regional Medical System operates the Myrah Keating Smith Community Health Center on St. John, and there is also a network of private providers, although the territory faces difficulties attracting and retaining providers.¹⁷ While there is



¹⁷ Artiga, Samantha, et al. *Health Care in Puerto Rico and the U.S. Virgin Islands: A Six-Month Check-Up After the Storms*. KFF, 24 April 2018.

generally a good availability of regular medical, dental and pharmacy services in the Virgin Islands, a shortage or lack of specialty medical care does require resident travel outside of the Territory for treatment. A focus on building up the health sciences industry and expertise will benefit the Territory not only economically, but also in terms of quality of life for residents.

The overall health of residents and healthcare options in the Territory compares poorly to that of most Americans living on the mainland and research has begun to understand and address these challenges. In response to an application submitted by the Division of Nursing at the University of the Virgin Islands, in 2004 the National Institutes of Health, National Center on Minority Health and Health Disparities (NIH/NCMHD) awarded a three-year grant to establish “The Caribbean EXPORT Center for Research and Education in Health Disparities.” The Export Center provided support for UVI faculty to develop the capacity and infrastructure to begin to investigate and address health issues and disparities in the U.S. Virgin Islands. Later, in October 2007, a five-year NCMHD grant was awarded to establish the “Caribbean Exploratory Research Center” and continue and expand this work.¹⁸

As a result of this research, barriers to good healthcare were found to include insufficient

training for health professionals, lack of enforcement of rules protecting confidentiality, confusion about where to go to receive specific health services, and concerns about the limitations of services provided by the Department of Health. Fiscally, the provision of healthcare is a challenge for the Territory. Unlike the U.S. mainland, federal Medicaid funds are capped for the U.S. Virgin Islands, and they have a fixed federal Medicaid match rate that is lower than the rate they would receive if they were states.

The 2017 hurricanes exacerbated pre-existing fiscal and health challenges in the U.S. Virgin Islands. Additionally, the storms accelerated migration trends, particularly among young professionals and health care providers. Additionally, with the economic hardships that have been caused by the hurricanes, and more recently Covid-19, the territory’s uninsured populations have grown due to increases in unemployment, which is in turn putting a financial strain on hospitals and clinics.

Outside of these local challenges, the healthcare industry is undergoing a digital transformation. Technology advancements, including data driven patient care and telehealth care delivery are requiring today’s healthcare providers to possess skillsets beyond that of traditional medicine.

The fast pace of transformation represents an opportunity for the U.S. Virgin Islands to build on

previous efforts, including those by UVI, to transform the Territory’s health system. More opportunities in health science occupations, along with improvements to the healthcare system, will help retain and attract residents. The existing Healthier Horizons initiative and forthcoming U.S. Virgin Islands Territorial Health Plan will provide the foundation for new investment in this sector. As the health sciences sector continues to advance technologically, there are opportunities for the U.S. Virgin Islands to undertake research and development in, and become a center of excellence for, telemedicine, medical simulation, and specialty care and education.

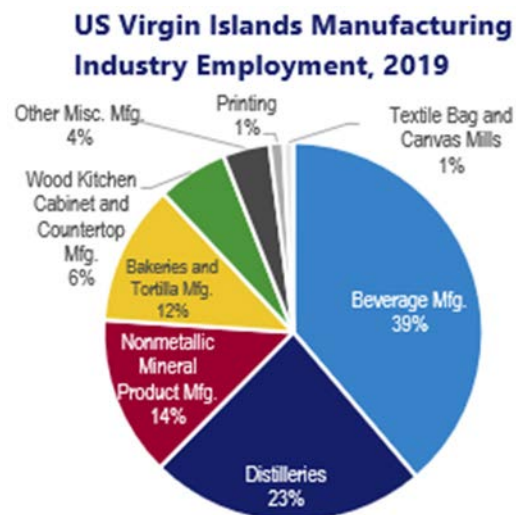
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¹⁸ Callwood, Gloria B. et al. *Health and Health Care in the U.S. Virgin Islands: Challenges and Perceptions*. The ABNF Journal: Official Journal of the Association of

Black Nursing Faculty in Higher Education, Inc. 2012; 23(1):4-7.

LIGHT MANUFACTURING

Manufacturing currently accounts for 1.5% of U.S. Virgin Island jobs. Today, manufacturing in the U.S. Virgin Islands is dominated by rum production, which accounted for 41% of total exports in 2018.



Source: US Virgin Islands Department of Labor Quarterly Census of Employment and Wages

The need to diversify the U.S. Virgin Island's economy, and in particular the manufacturing sector, was made clear by the closure of the Hovensa refinery, which resulted in a loss of over 2,000 jobs. The most promising opportunities for manufacturing diversification exist in the manufacturing of regional foods and resilient building materials.



Beverage manufacturing in the U.S. Virgin Islands

Regional Foods

Building upon the agri-business targeted industry sector, there are small-scale opportunities in food processing that will allow locally sourced food products to be consumed within the territory or exported regionally throughout the Caribbean. In addition to reducing the territory's dependence on food imports, such manufacturing can capitalize on the locally grown food movement in which global consumers perceive locally grown, produced, and sourced foods to be of higher quality and desirability. The benefits associated with buying locally sourced products include:

- Fresher products
- Supports local business and farms
- Creates jobs
- Strengthens the community
- Safer to the consumer due to fewer touch points and contamination risks
- Improves overall food safety
- Healthier products for consumers
- Better for the environment due to reduced transportation.

Locally-sourced food products are also appealing to tourists who seek out authentic experiences during their visits. Food is a large component of this authenticity, and locally sourced food products help tourists feel that they are truly immersed in the vibrant local culture.

Resilient Building Materials.

Another emerging manufacturing opportunity that is also related to agriculture is the production of hemp based resilient building materials. Hempcrete blocks and hempwood are increasing in popularity as building materials.

Hemp shives (the woody hurds of the inner hemp stem) are strong enough that they can be used in building. Hemp grows quickly—it is ready for harvest in 4-6 months—and may be a sustainable crop and building material option. While growing, hemp roots grow densely so that weeds aren't a problem, and hemp adds to the vegetation and thus increases the absorption of carbon in the Territory.

The U.S. Virgin Islands is an opportune location to manufacture these building materials given the potential demands that will arise within the Territory as well as from nearby islands in the wake of hurricanes or other natural disasters.

Hempcrete is an infill material made from hemp hurds mixed with a lime-based binder and water. Hempcrete is less dense than concrete and a good insulator for both heat and noise.

PROFESSIONAL/TECHNICAL SERVICES

Currently, the professional/technical services sector represents 3% of all U.S. Virgin Islands jobs. Professional/technical services is a broad targeted industry sector that encompasses financial organizations, IT, customer service and back office centers, remote work, independent consultants, and diaspora co-ventures.

US Virgin Islands Professional/Technical Services Industry Employment, 2019



Source: US Virgin Islands Department of Labor Quarterly Census of Employment and Wages

As of 2019, there were just over 1,400 professional/technical services jobs in the U.S. Virgin Islands. Half of these jobs were in St. Thomas, 46% were in St. Croix, and the remainder were in St. John.

The industry is growing; since 2014, nearly 300 jobs have been added to this industry, an increase of 25% for the U.S. Virgin Islands. In total, there are 382 professional/technical services establishments in the Virgin Islands. Total wages in this industry equal over \$31.1 million.



The breadth of this sector means that expansion across each of these areas will create new job opportunities that will in turn help to retain residents and attract more professionals to the U.S. Virgin Islands. Some opportunities within this sector, such as remote work, independent consultants, and some financial organizations are targeted towards individuals who have the ability to work from anywhere. Others, such as targeted customer service and back office centers and IT will require small offices to house operations.

A 2014 competitive industry study prepared for the U.S. Virgin Islands by TIP Strategies found that being a U.S. territory with an English-speaking population works in the USVI's favor for attracting business process outsourcing. Roles in this sector represent opportunities for unemployed or underemployed residents of the territory. Given labor market and office space constraints, the biggest opportunity is for the USVI to attract small to medium-size companies. Development of this sector will be curtailed without reliable electric and broadband services

RENEWABLE ENERGY

Renewable energy is generally considered to be carbon neutral, non-fossil fuel, useful "natural" energy that comes from replenishable sources such as sunlight, wind, waves, tides, rivers, and geothermal sources. U.S. investment in renewable energy is strong and growing. From 2004 to 2019



Solar installation in the U.S. Virgin Islands

the value of annual U.S. investments in renewable energy increased from \$6.0 billion to \$59.0 billion. The Biden administration has also signaled that energy policy will be part of its agenda.

Given these trends and the U.S. Virgin Islands' numerous natural assets, there is significant economic potential for the Territory in the renewable energy space. Historically, most electricity generation in the Territory was powered by imported petroleum. Fuel surcharges have typically

resulted in U.S. Virgin Islands electricity rates up to five times higher than the average price for electricity in the mainland U.S.¹⁹

In terms of renewable energy, about 20% of the territory's electricity generation capacity comes from renewables. The local government has worked with federal agencies and local industries to begin to develop the island's renewable energy potential, including solar, wind, and biomass technologies.

¹⁹ *US Virgin Islands Territory Energy Profile*. U.S. Energy Information Administration, 15 Oct. 2020.

There is strong solar power potential on all of the territory's islands, and more than 8 megawatts of

large-scale solar power generating capacity have been installed. Additionally, some commercial and wind energy potential has been identified on the high ridges and exposed capes of the islands.²⁰

This targeted industry builds upon these and other efforts that are already underway in the islands. WAPA's Strategic Transformation Plan issued in June 2020, for example, includes the planned increase in use of solar and wind to replace oil and propane generation, with the future goal of 50% electric energy from renewable sources. WAPA is also considering a 10-megawatt wind energy farm on St. Thomas, which would be the first large-scale wind project in the Territory.²¹

The benefit of a transition to renewable energy is two-fold. First, there are immediate improvements to the territory's quality of place and life. Renewables are a primary ingredient in WAPA's plans to reduce its reliance on costly fuel oil and propane, thereby reducing residential energy costs. Similarly, by reducing these costs, businesses will benefit from a lower cost of doing business and the territory's cost competitiveness for attracting new businesses will be improved.

Second, renewable energy presents an opportunity as a business development target. In the past, development of a world-wide and world-class

location for research and development and production in a variety of renewable energy industries was considered for St. Croix. This included solar energy, solar heating, solar powered equipment and items, desalination technologies, waste-to-energy technologies, and other related products and services.²² Many of these opportunities still exist and are applicable not just to St. Croix, but to the entire Territory. In addition to these, new opportunities continue to emerge, including floating solar, wave generation, geothermal, biomass/biofuels, fuel cells, small-scale waste-to-energy facilities, methane recapture, electric charging, and microgrids and related equipment. Business development opportunities for the U.S. Virgin Islands in these areas include research and development, prototyping, and full-fledged production.

Renewable and Alternative Energy is a strong target for the USVI, which is blessed with many of the "raw materials" necessary for research and development, production and deployment across a wide range of applications. With the right preparation work, programs and services, and marketing, the USVI can become and be recognized as a highly desirable, world-class location for research and development and production in Renewable and Alternative Energy and benefit from the deployment of these technologies to modernize its electric power

infrastructure, reduce its electric costs and improve the reliability of its electric system.

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²⁰ (U.S. Energy Information Administration, 2020).

²¹ (U.S. Energy Information Administration, 2020).

²² *St. Croix Economic Development Action Agenda*. Triad Associates, Nov. 2001.



Historic sites are an important component of a “VI-Style” tourism approach.

VI-STYLE TOURISM

Historically, tourism has been a critical driver of the territory's economy. Recent disruptions, including the 2017 hurricanes and the Covid-19 pandemic have highlighted the need to adapt and strengthen this industry, concurrent with efforts for economic diversification.

Tourism as a targeted industry sector is focused on promoting the unique heritage and culture of the U.S. Virgin Islands, along with Virgin Islands specific experiences and adventures. Tourism is already an established sector and economic driver for the Virgin Islands. In 2018 over 1.9 million people visited the Virgin Islands, spending over \$1.0 billion. Of this,

day-visit excursionists (both cruise ship and air excursionists) represented 80% of visitation but only 37% of expenditures. Longer-stay tourists on the other hand accounted for 20% of visitors and 63% of expenditures.²³

To further bolster the economic contribution and sustainability of the tourism industry, returning to

²³ US Virgin Islands Bureau of Economic Research.

pre-Covid levels of cruise ship visitation while attracting more longer-stay visitors is important. Longer-stay visitors who stay on the islands spend more money at local businesses and have a greater economic impact on the Territory. Even a small increase in the number of these tourists can have a measurable impact on the level of tourism-related spending in the U.S. Virgin Islands.

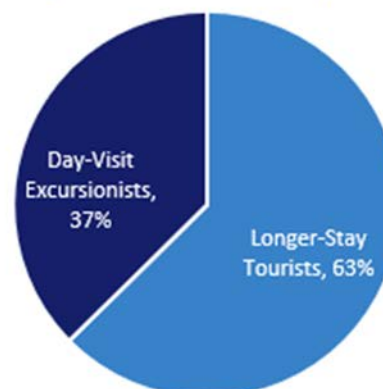
Today, tourists seek out destinations where they can experience authentic local lifestyles, customs, and culture. People seek out travel experiences where they can interact with the local community and travelers prefer to spend money on activities rather than things. Given the territory's rich history and cultural heritage, the U.S. Virgin Islands are in a prime position to promote and support VI-style experiential tourism. Visitors of this type are attracted to casual-elegant boutique lodging, dining options, wellness focused amenities, cultural experiences, and adventurous activities.

In shifting the focus of tourism to attract visitors who are interested in authentic experiences, the Virgin Islands will be able to benefit from higher levels of visitor spending from tourists who spend longer amounts of time on the islands and participate more fully in all of the activities that the islands have to offer. This will create a more sustainable tourism industry and brand for the Territory that will help to support and grow a more diverse U.S. Virgin Islands economy.

% of US Virgin Island Visitors, 2018



% of US Virgin Island Visitor Spending, 2018



Source: US Virgin Islands Bureau of Economic Research

Tourism as a targeted industry sector is focused on promoting the unique heritage and culture of the U.S. Virgin Islands, along with Virgin Islands specific experiences and adventures.

RESEARCH AND DEVELOPMENT

Research and development (R&D) will be one of the critical elements of the world's future economy. Investopedia defines R&D as "activities that companies undertake to innovate and introduce new products and services. It is often the first stage in the development process. The goal is typically to take new products and services to market and add to the company's bottom line."

R&D is big business. Worldwide corporate and government R&D spending totaled \$1.978 trillion and accounted for about 2% of GDP globally as of December 2018. Emerging markets – which could include the USVI in the future – accounted for \$767 billion of the total.²⁴

The Congressional Research Service's April 29, 2020 report *Global Research and Development: Fact Sheet* states that total global R&D expenditures more than tripled between 2000 and 2018. On March 19, 2020, it was estimated global R&D spending in 2020 would increase to \$2.4 trillion, a monetary increase of 2.7% from 2019.²⁵ While estimates of future growth in R&D spending may vary, they all project future growth.

Where does the USVI fit in? On a global basis, it will probably remain a miniscule amount. In terms of the

Territory's economic prosperity and Gross Domestic Product, it has the potential to grow significantly and perhaps exponentially over the next 20 years.

Research and development opportunities intersect many of the other targeted industry sectors recommended in Vision 2040. A few simple examples – definitely not an all-inclusive list – clearly demonstrate how the USVI is uniquely positioned to, and could benefit from, research and development activities across the following potential areas:

Agri-tech for Agri-Business

Research and development around adaptation strategies to combat rising global temperatures is of increasing importance globally, as well as in the Virgin Islands, to support the agri-business targeted industry sector.

QuantumRun Foresight's website "Predictions for 2030" predicts aquaculture will provide the nearly two thirds of the world's seafood.²⁶ On July 10, 2020, an article in the *Hindu Business Times* was headlined "R&D is the way forward for a robust agricultural sector."²⁷

As part of the USVI's renewed focus on agriculture, the Territory has the opportunity to be a worldwide leader in developing new technologies, processes

and products (for instance, seeds for export) applicable to other islands and countries in tropical climates, as well as countries whose agriculture is or will be impacted by global warming.



Griffith Hill School third grader and GHS Head of School plant sprouts in a new aquaponic system. Source: Daily News.

Coastal/Ocean Resources

Opportunities for research and development related to ocean resources are vast, including the opportunities for use as renewable energy. The

²⁴ <https://www.msci.com/research/global-investing-trends/global-research-and-development-spending-gdp-percentage>,

²⁵ <https://www.rdworldonline.com/global-rd-investments-unabated-in-spending-growth/>

²⁶ <https://www.quantumrun.com/future-timeline/2030>

²⁷ <https://www.thehindubusinessline.com/economy/agri-business/rd-is-the-way-forward-for-a-robust-agriculture-sector/article32042502.ece0>

QuantumRun Foresight projection on aquaculture cited above is equally pertinent to the Coastal/Ocean Resources target sector.

In January 2019 the U.S. Department of Energy invested \$25 million in multiple “marine energy projects”.²⁸ We expect this type of alternative energy research to dramatically increase in the future as the world combats climate change.

Sargassum is an increasing problem for the USVI and many other places. The May 14, 2019 issue of Travel Weekly: “There are several proposals for recycling sargassum, including using the plant to make shoes, bricks, fertilizer and biodiesel. The biggest challenge in processing sargassum is to desalinate it -- the rootless plant lives (and reproduces) as it drifts, its capillaries filled with saltwater.”²⁹



Sargassum on St. John

As a nation comprised of three small islands, the USVI must be greatly concerned about the impacts

of climate change. Building upon existing climate change related efforts, there are opportunities for the Territory to become a leader in R&D focused on sea level rise, marine resiliency, freshwater preservation, adaptive planning and many other areas. On September 26, 2019, Fekitamoeloa Katoa 'Utoikamanu, the UN High Representative for Small Island Developing States of the United Nations said “Small island nations are “not sitting idly by” but are emerging as “frontrunners” in the fight against climate change....”³⁰

Health Sciences

This is an exploding field and an unintended benefit of Covid-19 was the “discovery” that a lot more of healthcare could be provided remotely.

Research and development in new health technologies and techniques, such as telemedicine, simulation, 3-D printing, medical records storage and others will support and contribute to the success of the health sciences cluster as well as improve the quality of healthcare in the Territory. In 2018, KPMG International published *R&D 2030*, which focused on the life sciences field, of which Health Sciences is a part. The preamble to the document says “...Life Sciences executives should fundamentally revisit their approach to R&D. By 2030, these companies will be adopting methods that focus on outsourcing, resource sharing and advanced technologies.” (Google KPMG R&D 2030)

As part of the Healthier Horizons initiative, in January 2020, the first meeting of the Virgin Islands Telehealth Workgroup was convened to begin the planning and implementation of telehealth services in the U.S. Virgin Islands. Telemedicine will increasingly take advantage of telehealth tools – increasingly more sophisticated devices and applications that provide health providers with better information about patient conditions. The USVI can be a consumer of increased telehealth services, and also the developer and provider of such services.

Rapidly changing Health Sciences operations will require specialty education – not just for “entry level” jobs but as part of required continuing education. UVI can be a leader in researching needs and developing/delivering new curricula, especially through on-line distance learning.

Renewable/Alternative Energy

This topic was covered in great detail in the Electricity section of the Infrastructure analysis. The USVI is blessed with the “raw materials” for multiple renewable and alternative energy applications – solar, wind, wave, tidal, biomass, waste-to-energy and others – and new forms should be expected in the future. Application of these will help address the Territory’s electricity cost problem. Furthermore, USVI businesses can develop them and become a world-class renewable energy R&D center.

²⁸ <https://www.energy.gov/articles/us-department-energy-awards-25-million-next-generation-marine-energy-research-projects>

²⁹ <https://www.travelweekly.com/Mexico-Travel/What-to-do-with-that-stinky-sargassum>reported

³⁰ <https://news.un.org/en/story/2019/09/1047652>

Light Manufacturing

As diversification of the Territory's economy progresses, we expect small, light manufacturing to play an important role.

Production and processing of regional foods are cited as examples. The Territory's renewed emphasis on agriculture should result in the growing of new products (or the return of old ones), which will require new forms of processing to generate the greatest value. Research and development for use in the USVI can be exported to other warm weather climates, and perhaps even to more temperate climates – for instance, new methods of disease control.

Global warming has been resulting in more and stronger tropical storms and hurricanes in the islands, fires in the western U.S, tornados in the Midwest. The USVI is a perfect place for R&D, and then production of resilient building materials. The composite poles being installed across the Territory is one example. But increasingly, there is a focus on both residential and commercial building materials.³¹

As an increasing number of businesses avail themselves of the services and assistance programs of the USVIEDA, RTPark, and other providers. It is expected that some of these companies will be



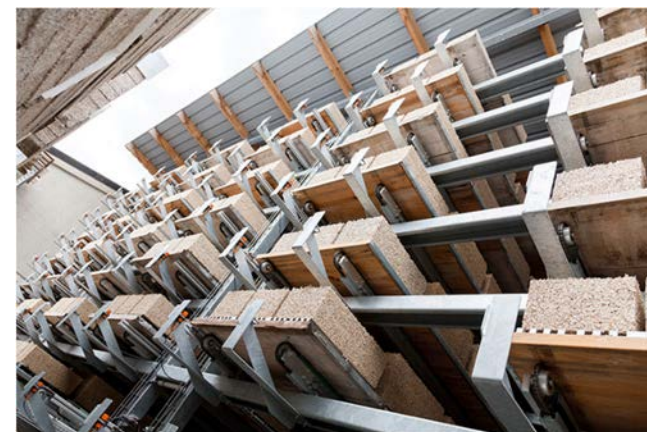
Examples of hemp building materials ("hempcrete"). Research into manufacturing applications of hemp can support research, agriculture, manufacturing, and construction industry jobs in the Territory.

manufacturing operations, whose business success will be dependent on targeted R&D.

Important Resources

The USVI is not starting from scratch in the R&D arena. Rather there are already existing resources that can be capitalized on, expanded, or otherwise used to meet R&D needs. These include:

- USVIEDA can assist eligible companies with incentives or develop new incentive programs to support research and development across multiple target sectors. Google "R&D incentives" for many examples of relevant programs. USVIEDA also has a Small Business



Incubator that can play an important role in the R&D process.

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³¹ <https://www.greenbuildermedia.com/resilient-housing/disaster-resilient-homes-2018s-top-green-building-trends> and

<https://www.resilientdesign.org/resilient-design-strategies/>

- The UVI can play an essential role in supporting R&D through the expertise of its faculty either in the classroom or as “consultants” to companies, its ability to successfully obtain grants, providing vocationally focused training and education, and other ways that will emerge in the future.
- The RTPark’s mission is “to establish the USVI as the premier business destination of choice for firms in knowledge and technology-intensive sectors.” Working with both new and young businesses, the RTPark can use its services and expertise and leverage its UVI connection to provide R&D services.
- The USVI Diaspora, scattered around the globe but concentrated in the U.S., includes many people with high levels of education, technical skills, innovation, and success as entrepreneurs. These can be tapped to assist in the R&D process, and with the right conditions in the USVI, may return there to live and continue to develop new ideas and businesses.
- There is already an unknown number of U.S. Virgin Islands businesses conducting R&D and others that can. These and the other resources noted above can be brought together into a USVI R&D Consortium to stimulate ideas that will increase the market share for this sector.



Guiding Impact by Island

The three (primary) islands of the Territory are inherently unique with their own individual identities, assets, workforce, businesses, infrastructure, challenges, community vision, and economic potential.

While it is critical to plan for equal economic prosperity across all islands, it is equally as critical to identify the target industries that are best to achieve

that economic prosperity on each island. The following matrix aligns the target industries with each island based on their “strength of fit.”

The matrix is intended to serve as a guide and should not preclude businesses in any industry from operating where they believe they can be most successful. Rather, it is intended to help guide and prioritize economic development initiatives and resources.

TARGET INDUSTRIES	ST. THOMAS	ST. CROIX	ST. JOHN
Agribusiness			
Coastal/Ocean Resources			
Health Sciences			
Light Manufacturing			
Professional/Tech Services			
Renewable Energy			
Research & Development			
VI-Style Tourism			

Strength of Fit

Strong Opportunity

Moderate Opportunity

Limited Opportunity

Not Recommended