

USVI Workforce Assessment and Laborshed Study

PREPARED BY
J&M Global Solutions

IN PARTNERSHIP WITH
The University of the Virgin Islands

FUNDED BY
**The Federal Emergency Management
Agency and supported by the
Economic Development
Administration/Economic Recovery
Support Function**

TABLE OF CONTENTS

INTRODUCTION	1
SECTION I: THE TALENT LANDSCAPE	3
Recent Economic Trends	3
Labor Market Trends	5
Population	7
Workforce Trends in Key Industries.....	11
Business Landscape	13
Training Provider Landscape	14
Students' Perspectives	15
SECTION II: TRENDS IN TARGET INDUSTRY SECTORS.....	18
1. Agribusiness.....	19
2. Coastal/Ocean Resources	23
3. Health Sciences	26
4. Light Manufacturing	29
5. Professional/Tech Services/Research and Development (R&D).....	32
6. Renewable Energy	39
7. VI-Style Tourism	42
High-Potential Career Opportunities	46
SECTION III: OBSERVATIONS AND RECOMMENDATIONS	50
1. Revitalize Existing Career and Technical Education (CTE) Programs	51
2. Expand Work-Readiness and Soft-Skills Training Programs.....	53
3. Improve Responsiveness to Business Needs	57
4. Expand the Local Talent Base	58
5. Bolster Workforce Development Capacity	58
6. Improve Labor Market Information Resources	59
7. Provide Specialized Industry Support.....	59
APPENDIX A: ANALYSIS OF JOBS BY SECTOR	
APPENDIX B: STUDENT INTEREST SURVEYS	
APPENDIX C: DATA TABLES	
APPENDIX D: COMPETENCY MODELS	

INTRODUCTION

Over the past five years, the U.S. Virgin Islands' economy has faced a series of unprecedented economic shocks. Historically severe hurricanes in 2017, followed by the COVID-19 pandemic and a host of other setbacks have contributed to business closures, out-migration, and severe economic hardship. (See Figure 1. The data table for this graph can be found in Appendix C.)

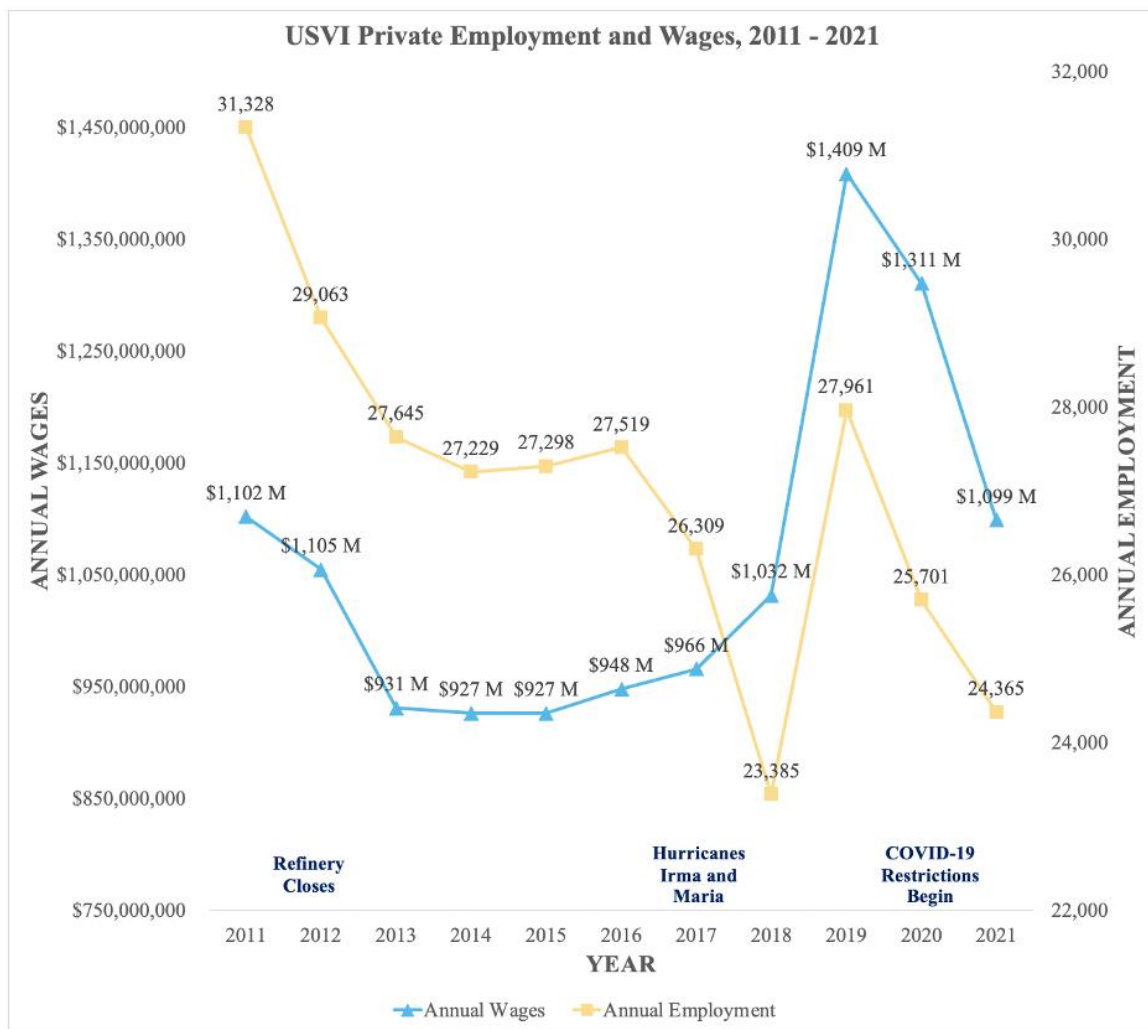


Figure 1: USVI private employment and wages 2011 – 2021. (Source: U.S. Bureau of Labor Statistics Quarterly Census of Employment and Wages)

Following this tumultuous period, the economic prospects for the USVI now appear more promising. The first two quarters of 2022 have shown economic improvement, as the local employment base is growing, albeit slightly, for the first time in many years. As recovery has



proceeded, the USVI’s business and community leaders have come together to develop numerous plans to guide future economic and workforce development investments and strategies. The USVI government, led by the Virgin Islands Economic Development Authority (VIDEA), has identified eight sectors in Vision 2040 as top priorities for future economic development investment and growth – Agribusiness, Coastal/Ocean Resources, Health Sciences, Light Manufacturing, Professional/Technical Services, Renewable Energy, Research and Development, and VI-Style Tourism.

This report builds on these foundations by focusing on the most important factor in economic development success today—talent. Current and future economic prosperity depends on a community’s ability to develop, retain, and attract talented people with skills that are aligned with the needs of local businesses and identified areas for economic growth.

The purpose of this report is to assess the current workforce and provide an analysis of the career pathways and training/education requirements associated with the Vision 2040 priority industry sectors and related plans. Through an analysis of industry research and plans, interviews with key business, education, and community leaders, and an assessment of new labor market information data on business and employment trends, 177 promising career opportunities were identified in the eight sectors identified in Vision 2040.

The first section of the report looks specifically at the USVI and its workforce and includes results from a survey of middle and high school students regarding their career aspirations. This is followed by an in-depth look at the target industry sectors and related career opportunities. The report also offers a series of recommendations to support economic development and workforce readiness.

This research effort was funded by the Federal Emergency Management Agency (FEMA) and supported by the U.S. Economic Development Administration (EDA)/Economic Recovery Support Function (RSF). It was led by J&M Global Solutions (J&M) in partnership with the University of the Virgin Islands (UVI).

SECTION I: THE TALENT LANDSCAPE

RECENT ECONOMIC TRENDS

The USVI economy has faced a very challenging decade of economic shocks. Between 2007 and 2019, the USVI saw an overall net job loss of 19%, and unemployment levels remain high.¹ (See Figure 2. The data table for this graph can be found in Appendix C.) Pandemic-related economic shocks further worsened an already challenging economic environment, given the USVI's heavy reliance on tourism spending. Between 2019 and 2020, the USVI's gross domestic product (GDP) declined by 2.2%, driven by declines in private spending and by a growing trade imbalance.² Additionally, total tourist visits declined by 58.5% over this period.

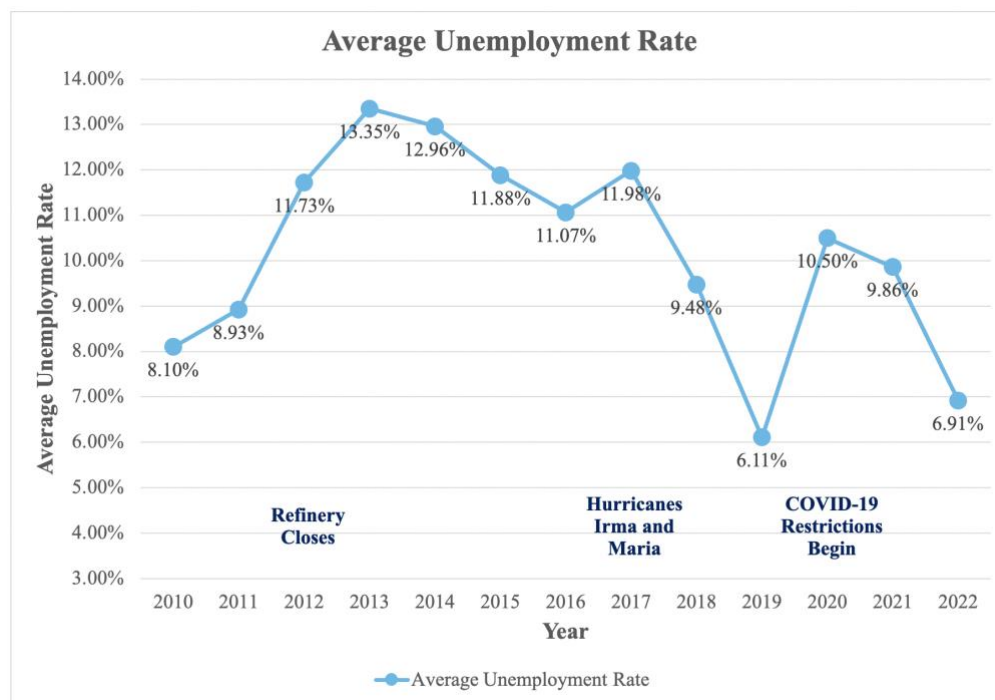


Figure 2: The USVI unemployment rate has been on a downward trend since a peak in 2013-14 immediately following the closure of the Hovensa refinery; however, unemployment remains persistently high. (Source: U.S. Bureau of Labor Statistics – Local Area Unemployment Statistics)

¹ Virgin Islands Economic Development Authority and Camoin Associates, “U.S. Virgin Islands Vision 2040,” 2021. Available at: <https://www.usvi2040.com/>. Hereafter referred to as Vision 2040, p. 4.

² U.S. Department of Commerce, Bureau of Economic Analysis, “Gross Domestic Product for the U.S. Virgin Islands,” March 4, 2022. Available at: <https://www.bea.gov/news/2022/gross-domestic-product-us-virgin-islands-2020>, U.S. national GDP declined by 3.5% over this same time period.



Current economic forecasts are more promising. Projected GDP growth as of March 2022 is above U.S. averages for the years 2023 and 2024.³ This growth is projected to be spurred by a significant uptick in tourism spending, which is a mainstay of the Territory's private economy, with leisure and hospitality sectors accounting for around 16% of total private sector employment.⁴ The projected GDP growth is also supported by several major capital projects across the Territory.

Other leading (non-agricultural) sectors include government (37% of total non-agricultural employment) and professional and business services (12%). The construction sector is growing rapidly and now accounts for about 9.4% of total employment.⁵ The construction industry concentration is nearly twice as high as the U.S. national average. In contrast, employment shares in higher-paying and faster-growing sectors such as information technology and manufacturing remain quite low. The current industry mix does present challenges to a smooth and rapid economic recovery after a disaster strikes. (See Figure 3. The data table for this graph can be found in Appendix C.)

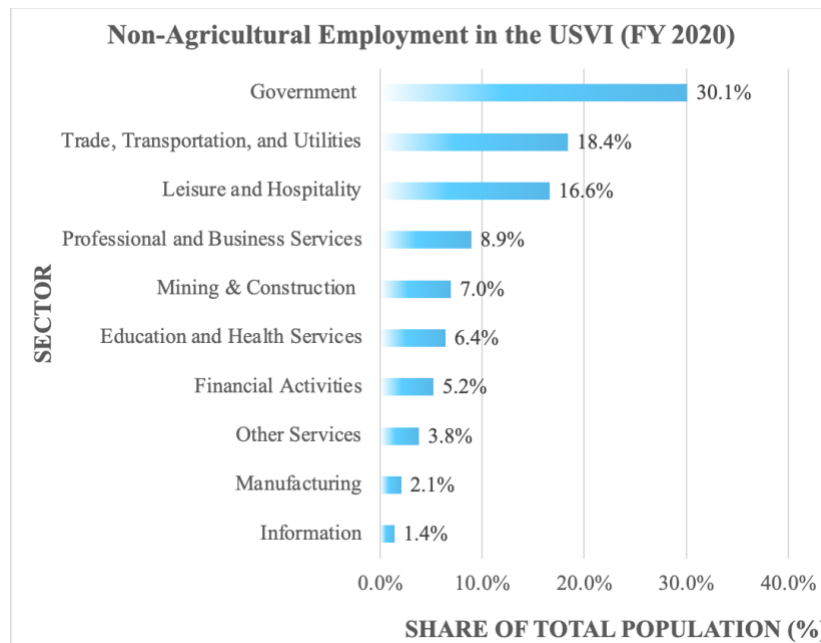


Figure 3: Percent of Non-Agricultural Jobs (Fiscal Year 2020). (Source: Vision 2040)

³ U.S. Virgin Islands, Office of Disaster Recovery, “Spring Revenue Estimating Conference Reports Positive Outlook,” March 28, 2022. Available at: <https://www.usviodr.com/spring-revenue-estimating-conference-reports-positive-outlook/>.

⁴ University of the Virgin Islands Center for Excellence in Leadership and Learning, *United States Virgin Islands Comprehensive Economic Development Strategy 2020-2025*, March 31, 2021, p. 22. Hereafter referred to as USVI CEDS.

⁵ U.S. Department of Labor, Bureau of Labor Statistics, “Occupational Employment and Wages in the US Virgin Islands, May 2020,” June 11, 2021. Available at: https://www.bls.gov/regions/new-york-new-jersey/news-release/occupationalemploymentandwages_virginislands.htm.



Faced with these circumstances, community leaders are prioritizing economic diversification. Economic diversification of industries in the USVI can be promoted by investments in new sectors and/or capacities to help complement its existing competitive advantages being made, especially in sectors related to tourism. This commitment to economic diversification has been a dominant economic message in public debates and in recent planning efforts such as Vision 2040, the Territory's most recent draft CEDS, and sector studies such as those focused on agriculture, solar energy, and tourism. This report's focus aligns with these objectives, especially the recommendations of Vision 2040, which identified eight industries with the greatest potential to spur long-term economic growth and prosperity.⁶ These eight target industry sectors include:

1. Agribusiness
2. Coastal/Ocean Resources
3. Health Sciences
4. Light Manufacturing
5. Professional/Tech Services
6. Renewable Energy
7. Research & Development
8. VI-Style Tourism

These sectors share several key characteristics. Most important, many of them are expected to enjoy significant national growth in coming years. In many cases, they offer access to many opportunity occupations – those “that pay above the national annual median wage (adjusted for regional price differences) and are generally accessible to those without a four-year college degree.”⁷

LABOR MARKET TRENDS

Also impacting the USVI's economy over the past decade is an overall picture of persistent decline in the workforce. Preliminary data for the 2020 Census reveals the overall USVI population, estimated at 87,146, has declined by 18.1% since 2010, representing the steepest decline among all U.S. territories.⁸

The pressures from decline in overall population are further reflected in other labor market trends. Overall employment levels in the USVI have declined steadily for a decade, with roughly 7,000 private jobs lost between 2011 and 2021, a 22% job loss rate (see Figure 1).⁹ In addition, labor force participation rates in the USVI have remained low over the past decade, far below U.S. national averages.¹⁰ (See Figure 4. The data table for this graph can be found in Appendix C.)

⁶ Vision 2040, p. 9.

⁷ Federal Reserve Bank of Cleveland, “Opportunity Occupations: A Way Ahead for People without a College Degree,” June 16, 2020. Available at: <https://www.clevelandfed.org>

⁸ https://viconsortium.com/vi-top_stories/virgin-islands-usvi-population-drops-a-stunning-18-1-percent-to-87146-from-106405

⁹ U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW)

¹⁰ Shelly Culbertson et al., *Recovery in the U.S. Virgin Islands: Progress, Challenges, and Options for the Future*, RAND Corporation, 2019, pp. 74-77.

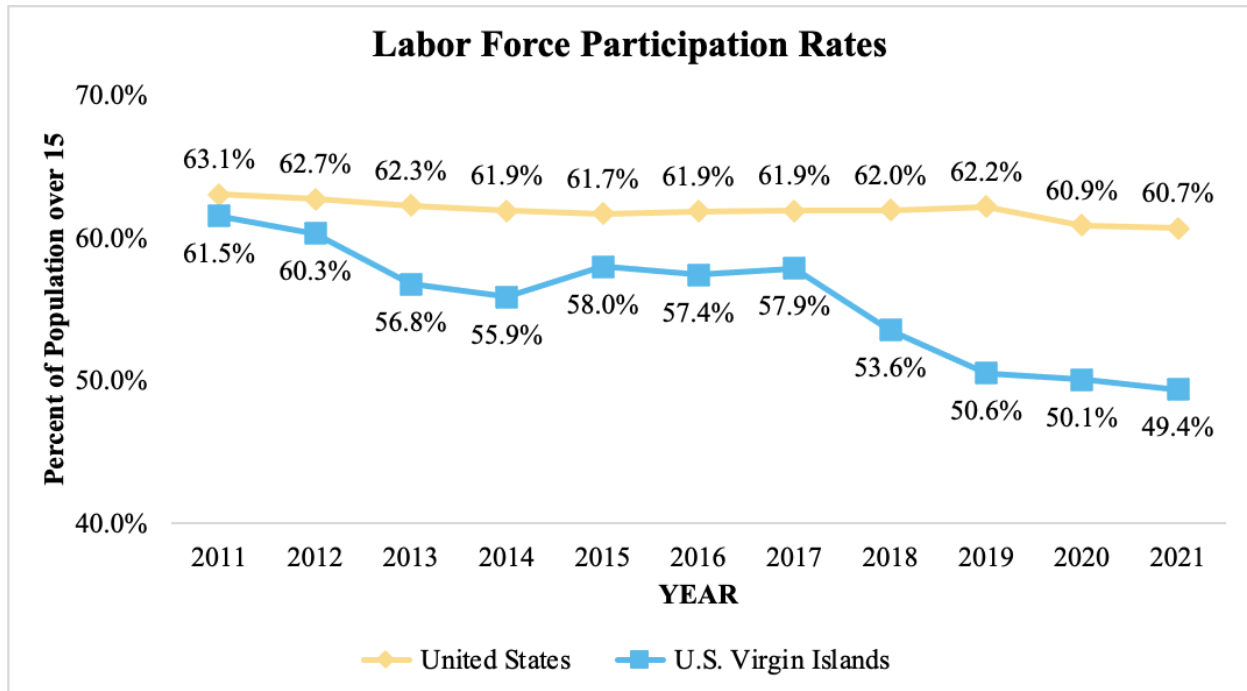


Figure 4: Labor force participation rates (2011-2021). (Source: World Development Indicators)

While long-term challenges persist like decline in overall population, recent labor market news has been more promising. Most leading industrial sectors grew, with government, trade, and leisure and hospitality showing the most rapid employment growth rates. March 2022 represented the start of the rebound from the pandemic, witnessing growth in the USVI non-farm labor force. Between May 2021 and May 2022, employment levels rose 1.8%, with total workforce levels reaching 35,300 people.¹¹ (See Figure 5. The data table for this graph can be found in Appendix C.)

¹¹ Data from US Bureau of Labor Statistics. See <https://www.bls.gov/eag/eag.vi.htm>.

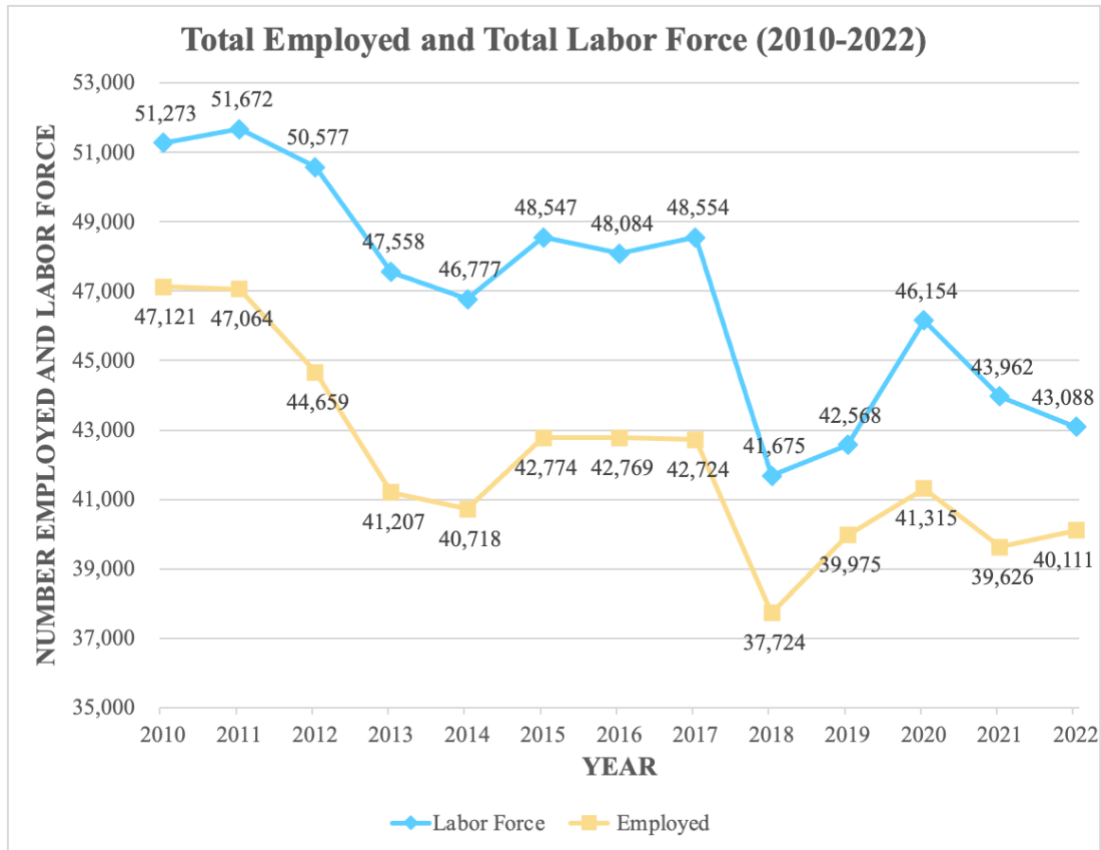


Figure 5: Total labor force and total employment 2010-2022. (Source: Source: VI Electronic Workforce System)

POPULATION

USVI's workforce demographics have shifted. In general, the workforce population has declined and aged at a faster rate than the U.S. national average. (See Figure 6 and Figure 7. Data tables for these graphs can be found in Appendix C.) Projections suggest that this pattern will persist into the next decade, creating significant workforce challenges. As the size of the new workforce shrinks, it becomes even more important that all students have access to the competencies and skills required for employers to sustain and grow.

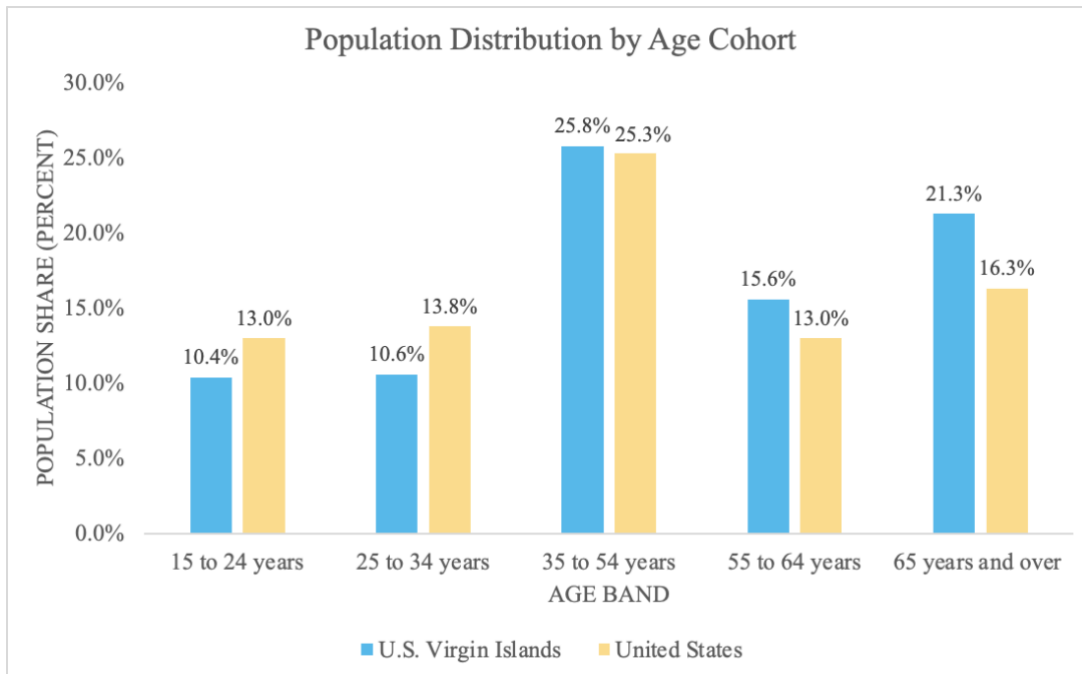


Figure 6: Population distribution by age cohort comparing the Virgin Islands to the United States. (Source: Source: United States Census)

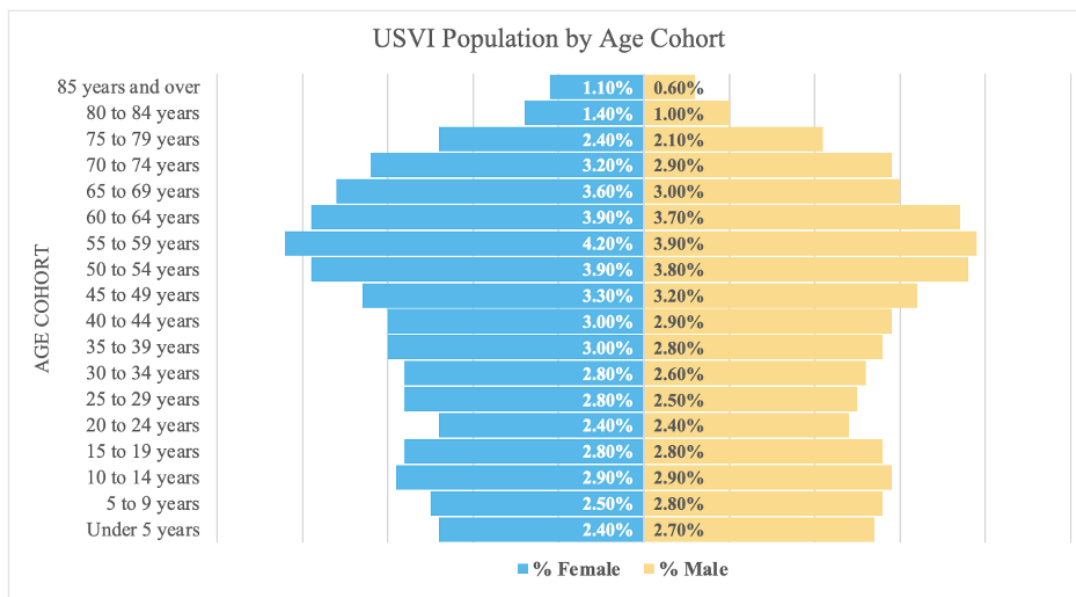


Figure 7: Population by age cohort (2020). (Source: U.S. Census Bureau & ESRI)¹²

¹² At the time of publication, the U.S. Census Bureau had not released the 2020 USVI population by age cohort. To estimate the total population by age cohort for 2020, we applied the estimated 2019 age cohort breakdown provided by ESRI to the total 2020 population as reported by the Census Bureau.



Educational Attainment

In general, USVI educational attainment performance lags U.S. national averages. (See Figure 8. The data table for this graph can be found in Appendix C.) Approximately 78% of local working-age residents have a high school degree or higher, but over 20% have not completed high school. These lower education attainment levels may create challenges for future workforce development efforts as a large share of growing industry sectors are seeking those with college degrees or other credentials.

The vast majority—97%—of USVI residents are fluent in English, with a sizable share of residents (25%) fluent in both English and Spanish.

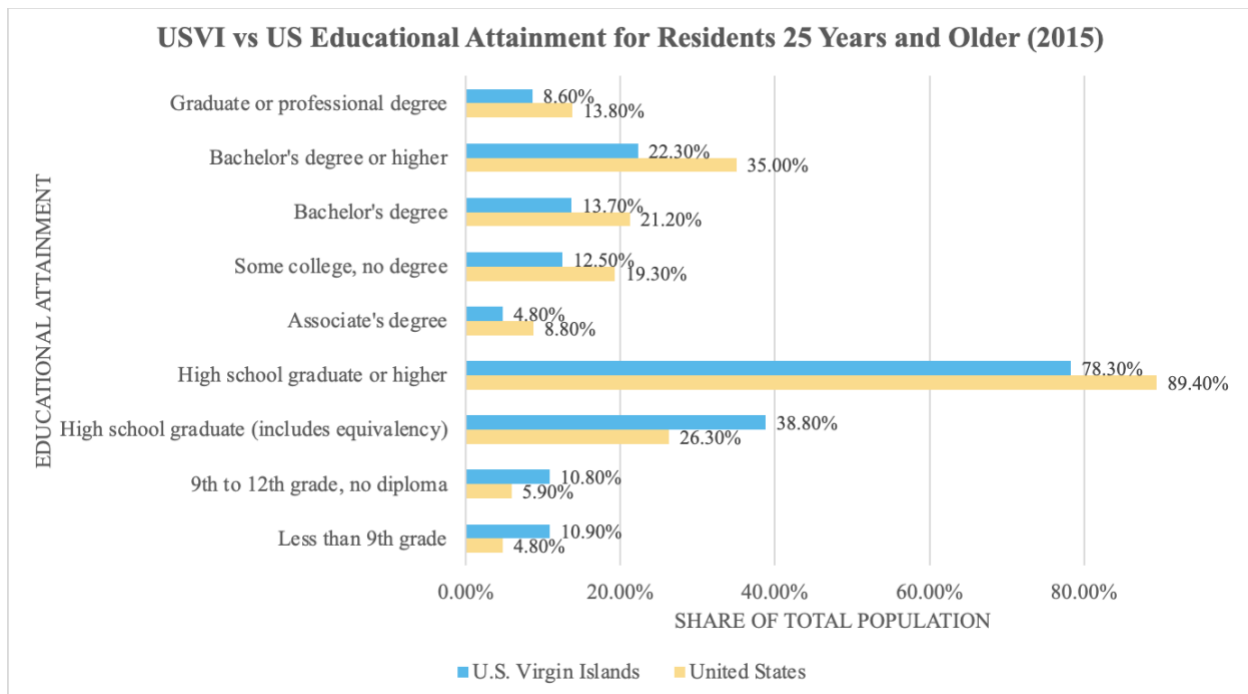


Figure 8: USVI's educational attainment for residents 25 years and older compared to the U.S. as a whole in 2015. (Source: VI Electronic Workforce System)

Poverty and Income

A decade of economic shocks has increased poverty and reduced incomes across the USVI. Median and per capita income levels fall far below U.S. averages.¹³ In 2010, median household income in the USVI was \$45,058, compared to the U.S. national average of \$61,544. Per capita income was \$21,362 in the USVI and \$39,937 across the U.S. Average wages also lag national

¹³ U.S. Department of Health and Human Services, Health Resources and Services Administration, "Overview of the State-Virgin Islands, 2020." Available at: <https://mchb.tvisdata.hrsa.gov/Narratives/Overview/b5798745-1ce4-45b6-a026-c00c6ddcb83c>.



averages. (See Figure 9.) In 2020, the USVI's median hourly wage was \$23.06, significantly lower than the U.S. national average of \$27.07.¹⁴ (See Figure 10.)

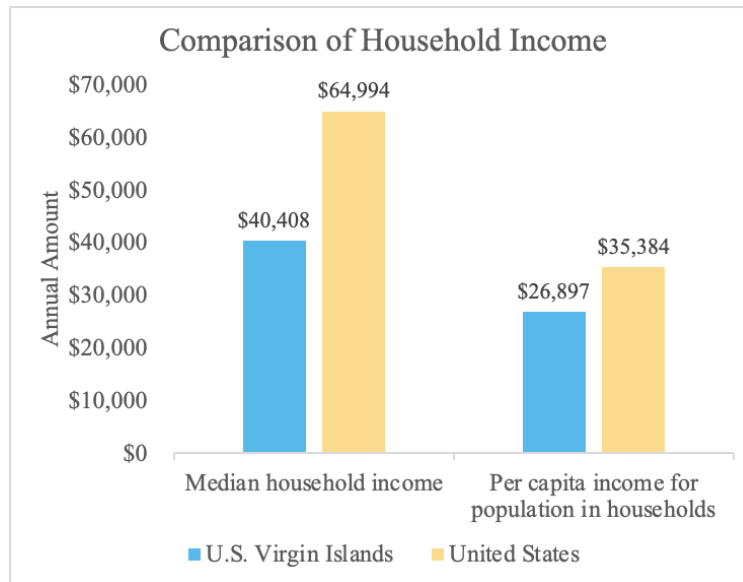


Figure 9: USVI median household income and per capita income compared to the U.S. In each case, the USVI lags behind the U.S. as a whole.

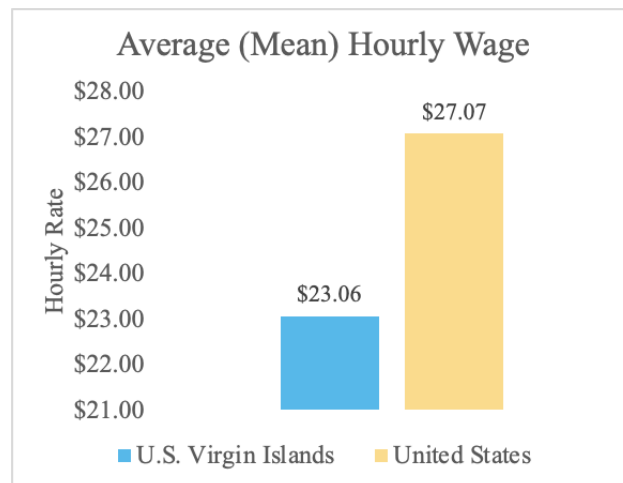


Figure 10: USVI mean hourly wage compared to the U.S. The USVI lags the U.S. as a whole.

Given the USVI's relatively high cost of living, these income and wealth differences are profound and reflected in poverty trends as well. The 2021 USVI Kids Count report finds that

¹⁴ BLS Brief, June 11, 2021



29.6% of local youth are living in poverty—compared to the U.S. national average of 18% (see Figure 11).¹⁵

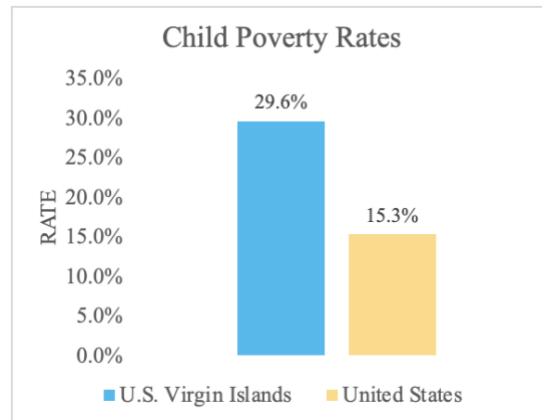


Figure 11: Almost 30% of children in the USVI live in poverty compared to the 18% in the U.S.

WORKFORCE TRENDS IN KEY INDUSTRIES

The USVI talent landscape is facing a series of pressing challenges: a volatile start-stop economic growth cycle, impacted by natural disasters, that complicates public and private investment decisions,¹⁶ a weakly diversified economy with a heavy concentration of lower paying, slower growing industries and occupations; and an aging and lower-skilled workforce.

Currently, the USVI economy is driven by tourism, retail trade, and administrative services, including government. Collectively, these three broad industry sectors account for approximately 38% of total USVI employment.

Recent economic trends have generated some optimism, however. Between 2018 and 2028, the USVI Department of Labor projects significant employment growth in several key sectors. The top five projected-growth sectors in the USVI are accommodation and food service, transportation and warehousing, retail trade, public administration, and construction. Several industries are poised to enjoy immediate growth, and construction jobs are in high demand as post-disaster recovery projects and new capital investments spur significant growth in new construction activity. Some estimates suggest more than 3,000 new construction workers are required to support ongoing disaster recovery efforts.¹⁷ While the shift to growth in these industries is encouraging, overall growth prospects remain modest. (See Figure 12. The data table for this graph can be found in Appendix C.)

¹⁵ St. Croix Foundation, *Kids Count USVI: 2021 Data Book*. Available at: <https://www.flipsnack.com/5A76ADFF8D6/2021-kids-count-usvi-data-book-h5sdl0fcjl/full-view.html>.

¹⁶ U.S. Virgin Islands, U.S. Virgin Islands, *WIOA Unified State Plan, 2020-2024*, p. 5. Hereafter referred to as USVI WIOA Plan.

¹⁷ Shelly Culbertson et al., *Recovery in the US Virgin Islands: Progress, Challenges, and Options for the Future*, RAND Corporation, 2019, p. 70.

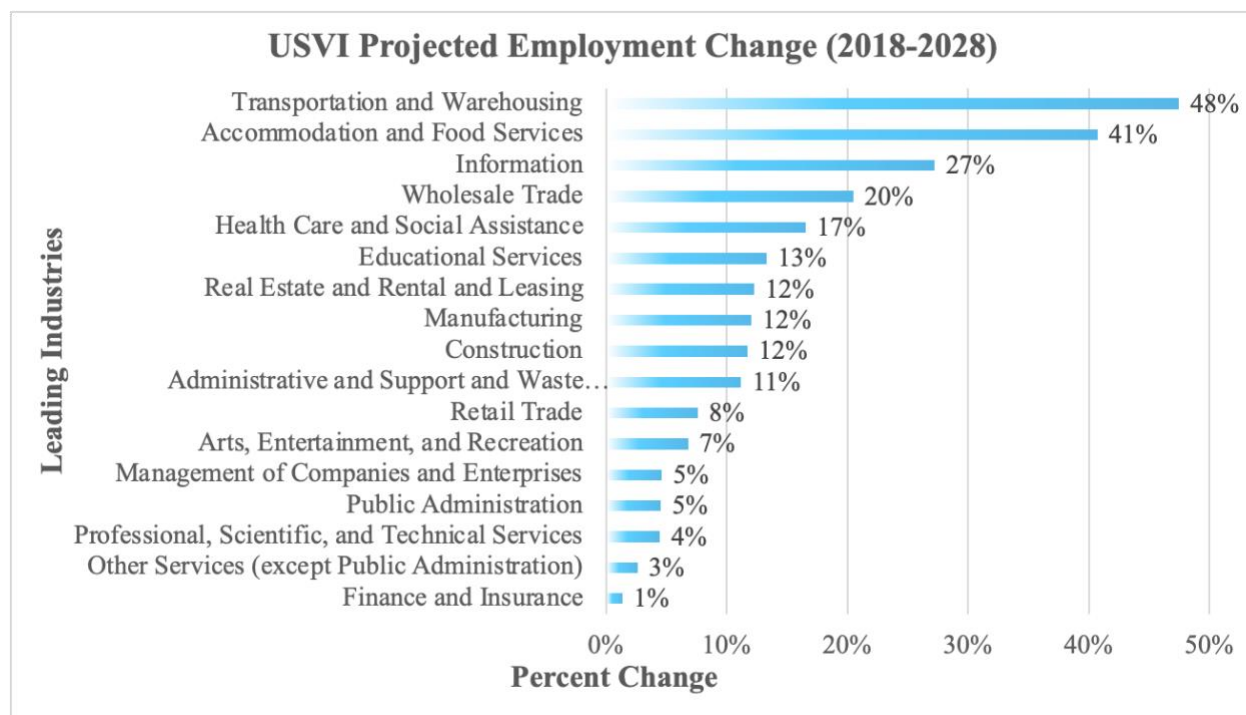


Figure 12: The USVI's Department of Labor's long-term industry projections as percent change between 2018-2028. (Source: VI Electronic Workforce System)

The USVI's leading employers tend to be concentrated in industries that offer low pay, limited career opportunities, and lower-growth potential. A large share (88%) of jobs in the USVI are based in service sectors, and, within those sectors, the most prevalent jobs were often lower paying. Among the most in-demand jobs are security guards, janitors and cleaners, hotel cleaning staff, groundskeepers, food servers, and service clerks.¹⁸ (See Figure 13. The data table for this graph can be found in Appendix C.)

Of the 22 most common occupations in the USVI, 15 have local average pay rates that are significantly lower than U.S. averages. This may contribute to out-migration, as some local workers opt for employment in the mainland U.S. where wage rates are higher, and the cost of living may be lower.

Pressing skills gaps are also impacting existing workers. A 2015 Virgin Islands Bureau of Economic Research (VIBER) employer survey found that a majority of local employers faced challenges in finding talent.¹⁹ Employers noted that critical technical skills, such as computer skills, basic reading, and mathematics, were among the skills in highest demand. In addition, soft skills (e.g., customer service competencies and time management) are also needed. Employers and those engaged in assisting employers in obtaining talent consistently pointed out the lack of basic interpersonal and basic education skills as noted.

¹⁸ USVI WIOA Plan, p. 12

¹⁹ USVI WIOA Plan, pp. 27-28.

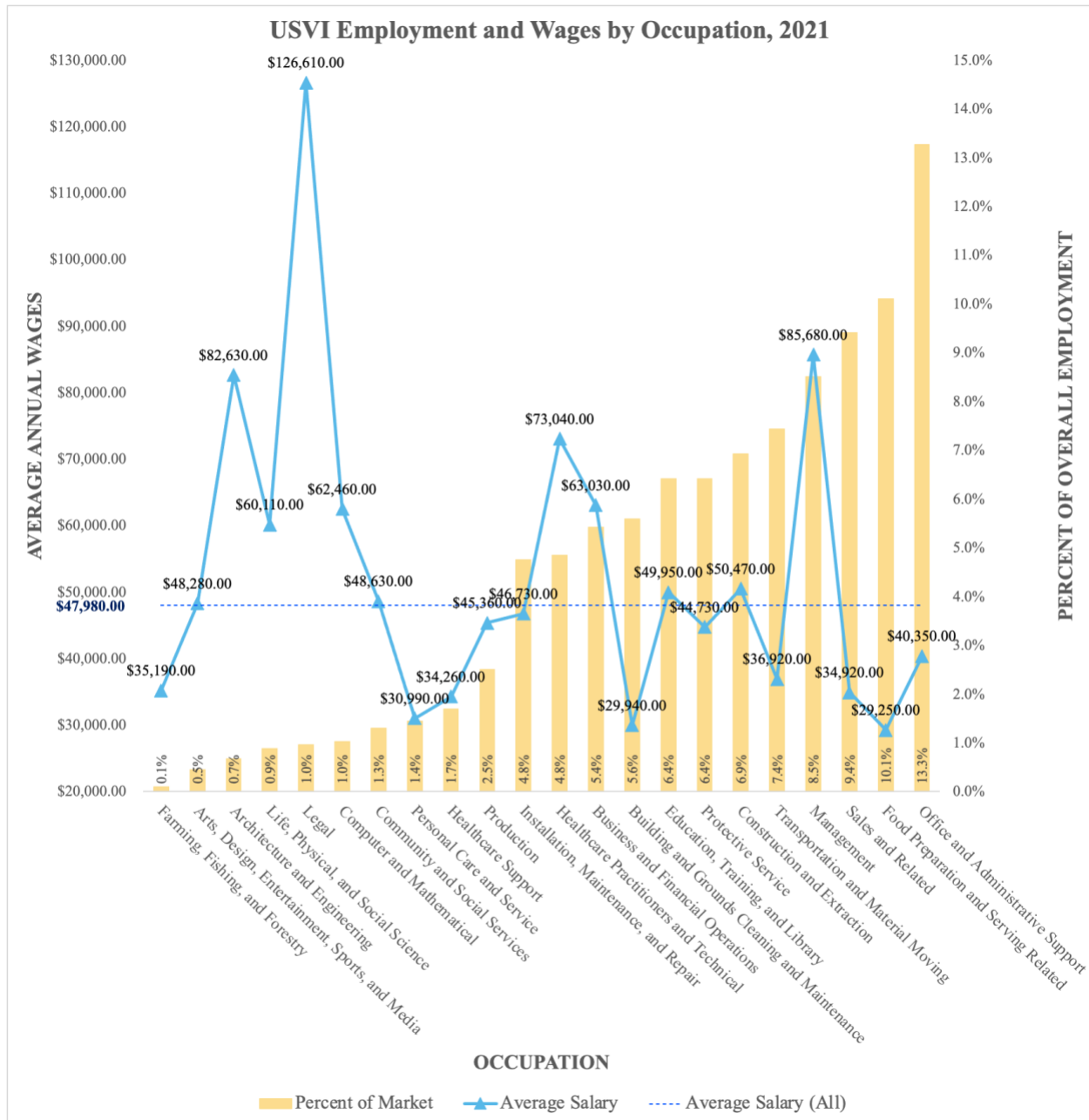


Figure 13: 2021 USVI occupational employment (as a percentage of the total) and average salary (Source: US Virgin Islands Department of Labor semiannual survey)

BUSINESS LANDSCAPE

Across the USVI, the economic landscape is dominated by three industry sectors: government, accommodation and tourism, and retail trade (see Figure 14). St. Croix's economic base is more diversified than that found in St. Thomas or St. John, with a higher share of workers in health care, energy, and manufacturing.

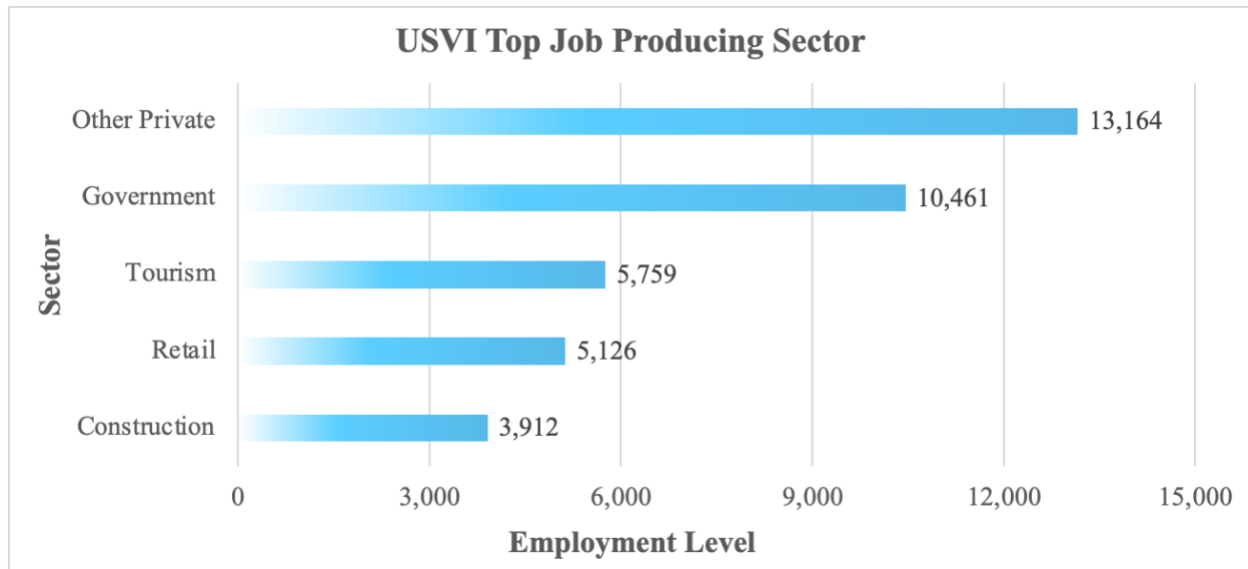


Figure 14: Top job producing sectors in the USVI in 2019. (Source: Vision 2040)

Many of these leading sectors are poised for growth in coming years. For example, several tourism-related sectors, such as scenic and sightseeing transportation, accommodation, and food and drinking establishments, are projected to be among the Territory's fastest-growing industries.

In terms of company size, the USVI economy is dominated by small businesses. 2020 data from the U.S. Small Business Administration (SBA) identify approximately 2,514 small businesses in the Territory.²⁰ Very small firms, with 2-9 employees, represent the largest share (74.6%) of these small business establishments.²¹

The USVI's business sectors have been declining or stagnating for much of the past decade. The total number of establishments and jobs has declined steadily since 2005, and the overall share of USVI employment provided by these firms has also declined. Today, these smaller firms account for about 41% of total employment, down from nearly 70% in 2013. Reversing these trends will require a significant uptick in new business starts, yet the most recent data suggest continued stagnation on this front. In 2020, all three islands saw a decline in new business licenses.²²

TRAINING PROVIDER LANDSCAPE

Existing education and workforce development services in the USVI are provided by a network of organizations anchored by three government departments:

- VI Department of Education—manages education for K-12 schools and adult learners;

²⁰ U.S. Small Business Administration, *County Business Patterns* 2020.

²¹ Data from youreconomy.org.

²² Vision 2040, p. 69.



- VI Department of Labor—oversees all training programs funded by the U.S. Department of Labor; and
- VI Department of Human Services—manages vocational rehabilitation programs.

The University of the Virgin Islands (UVI) offers degree programs at its campuses on St Thomas and St Croix. In addition, the UVI CELL (Center for Excellence in Leadership and Learning) offers professional development training and support to the community, businesses, and government agencies.

Beyond these public entities, the USVI's workforce training infrastructure remains quite limited. There are few private or non-profit training providers operating in the Territory. As a result, the VIDOL One-Stop Centers remain the primary access point for most USVI residents seeking employment assistance or other workforce development services. In addition, several larger private employers, such as the Ritz-Carlton Hotels and Gold Coast Yachts, operate their own training programs.

The VI Apprenticeship Council is seeking to expand apprenticeship programs and initiatives to new industries; however, because most USVI employers are quite small, they lack the capacity and resources to support in-house training. In fact, many firms lack the ability to fund specialized employee training, which may require travel to the mainland U.S.

Given the growing demand for talent, the USVI has been investing to bolster its workforce development capacity in recent years. The current Skills for Today program is one centerpiece of this work. Managed by ICF International, Skills for Today is a multi-year workforce project focused on attracting and developing talent for the construction industry and in supporting talent development in other fast-growing industries. The program is funded by Community Development Block Grants Disaster Recovery (CDBG-DR) and is available to low- to moderate-income individuals. Training efforts are already underway, and project leaders hope to place up to 400 new construction workers in the coming year.

These circumstances create significant challenges for the USVI's workforce development systems. There is a huge demand for new and better skilled workers, yet the base of potential new employees is limited, and they face many skills and learning gaps. As a result, workforce professionals are seeking to identify a large number of new workers and provide more intensive services to new and existing customers, while also facing significant budget and capacity constraints.

STUDENTS' PERSPECTIVES

In conjunction with the USVI Department of Labor, middle and high school students were surveyed on their career plans and the opportunity they see to pursue their plans in the USVI. The original survey was conducted in April 2022 and then reissued in August 2022 to increase participation.

There were a total of 125 high school and 111 middle school responses. While the overall response rate was limited, student input still offers some guidance on student career goals and aspirations. At a minimum, these early findings suggest that this survey tool should be deployed



to all schools on a regular basis as a means to better understand student career perspectives and program gaps and opportunities. The questions from the survey are in Appendix B.

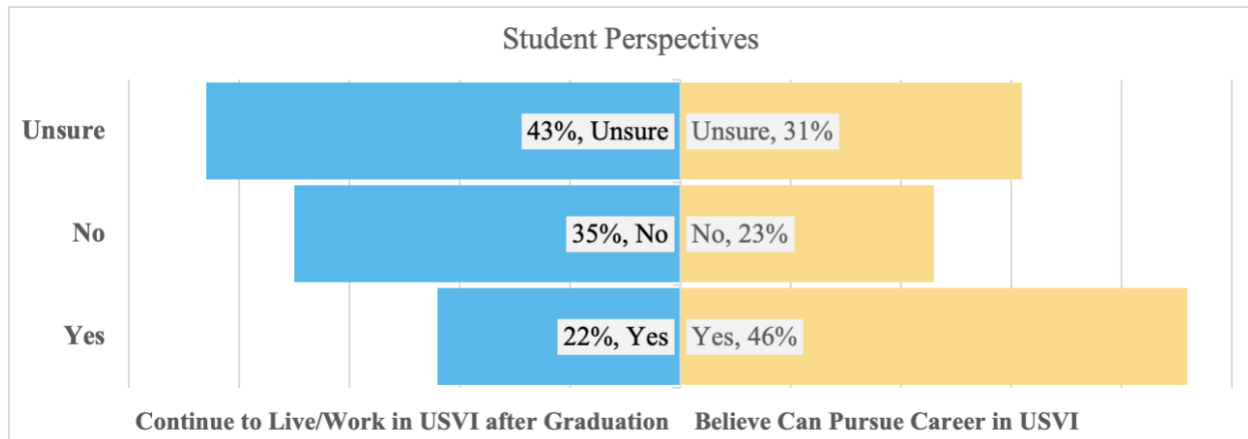


Figure 15: Student perspectives on whether they believe they will continue to live and work in the USVI.

The response from the high school students creates some cause for concern. More than 40% of respondents indicate they do not plan to continue to live and work in the USVI after graduation. By comparison, only 23% of respondents say they cannot pursue their career in the USVI, while 46% say that they can. This indicates that a significant number of students who say they plan to leave also think they can find career opportunities if they stay in the USVI. Additionally, the ‘unsure’ group presents an opportunity to work with students on their career options and opportunities to stay in the USVI. (See Figure 15.)

When looking at their “dream jobs,” medical careers (i.e., surgeon, pediatrician, doctor, nurse, medical technologist) as a whole were the most popular with both age groups. For Middle school students, the other most identified careers included artists (fine arts, graphic designers, digital artists, etc.), business and entrepreneur, athletes, and entertainers. Engineers and computer scientists, business and entrepreneur, artists, and lawyers/judges rounded out the top five most selected careers for high school students.

In considering their potential career options, students were asked what would encourage them to stay in the USVI. Overall, knowing a job or career is already present was noted as a reason to stay. Lack of opportunity for a career and / or no training for a preferred career were noted as negatives. These key comment trends, for pursuing a career in the USVI or not, are:

Negative

- Lack of opportunity
- No training/education offered locally
- Believe residents would not support the establishment of chosen field locally

Affirmative

- Existing presence of chosen industry/field



- Local need for chosen industry/field
- Self-reliance to make it happen

Within the high school responses, 88% noted they believe they will require more training to pursue their planned career, with the majority noting that a four-year college or university degree and vocational education would be required. For specific skills, students identified the need for communication skills and science, math, and engineering. Additional education/training in computer/IT, foreign languages, and project management was noted along with a desire for apprenticeships.

In general, student responses for career plans suggest they are looking at opportunities that align with the target industry sectors identified in the Vision 2040 report. Greater exposure to job and career opportunities as well as the broader types of companies on the islands will help expand their views of what opportunities they may have. Creating greater connections between schools and businesses will help them both. In creating connections, schools and businesses should seek opportunities not just at the high school level but at least into middle school and perhaps into elementary school. The greater the exposure to a variety of career paths, the more students can and will see a link to what they are learning.

SECTION II: TRENDS IN TARGET INDUSTRY SECTORS

USVI economic and workforce development leaders have targeted eight sectors as top priorities for growth in the U.S. Virgin Islands Vision 2040 plan (Vision 2040), other economic development plans (e.g., Draft 2020-2025 CEDS), and industry-specific master plans like those recently created for the agriculture, blue economy, and tourism sectors. Each of these sectors is analyzed below; however, Professional/Tech Services and Research and Development have been combined due to the substantial overlap between them in terms of workforce requirements. As part of this analysis, interviews and focus groups were conducted with business, government, education, and community leaders.

To better understand workforce needs, industry sub-sectors that are poised for rapid growth between 2022 and 2032 were identified. Because of data limitations, this assessment tracked U.S. national data, using data and tools from EMSI-Burning Glass (now Lightcast), a leading global provider of labor market information. In each case, leading industries were identified based on North American Industry Classification System (NAICS) codes that were projected for rapid growth and had a sizable presence or opportunity for growth in the USVI.

For consistency, occupations were identified by Standard Occupational Classification (SOC). The analysis focuses on those that are projected for rapid growth within each of the target NAICS codes.²³ These top occupations were generally defined as those that have a projected percentage growth above the median of all jobs in the NAICS code. Occupations selected within each industry sector were assessed in the U.S. Department of Labor's O*Net and the USVI V.I. Electronic Workforce System (VIEWS) to determine those occupations with highest projected growth over the next decade. These occupations are identified as "bright outlook" careers because they are "expected to grow rapidly in the next several years, will have large number of job openings, or are new and emerging occupations."²⁴ Some occupations were noted in two or more sectors; for example, General and Operations Manager is a top growth job in six of the sectors while Maintenance Workers, Machinery appears in five of the sectors. These cross-

Vision 2040 Target Industry Sectors

1. Agribusiness
2. Coastal/Ocean Resources
3. Health Sciences
4. Light Manufacturing
5. Professional/Tech Services
6. Renewable Energy
7. Research and Development
8. VI-Style Tourism

²³ According to the U.S. Bureau of Labor Statistics, the SOC system is "a federal statistical standard used by federal agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data. All workers are classified into one of 867 detailed occupations according to their occupational definition. To facilitate classification, detailed occupations are combined to form 459 broad occupations, 98 minor groups, and 23 major groups. Detailed occupations in the SOC with similar job duties, and in some cases skills, education, and/or training, are grouped together." Information is available at <https://www.bls.gov/soc/>.

²⁴ U.S. Department of Labor's O*Net occupational data system; available online at <https://www.onetonline.org/>.



cutting occupations can assist in prioritizing skills training efforts that will impact a number of economic growth sectors. (See Appendix A.)

While many in-demand occupations require a college or graduate degree, a majority of bright outlook occupations represent middle-skill careers that can be accessed by individuals who have not completed a four-year college degree program. These middle-skill occupations are open and available to a wider swath of workers and can provide promising careers for those unable to afford the growing cost of a college education. By promoting these sectors, the USVI can stimulate business growth and development and help more residents start on promising career pathways that offer rewarding work and family-supporting jobs.

1. AGRIBUSINESS

Agriculture production began to fade in the U.S. Virgin Islands in the mid-19th century.²⁵ Following the purchase of the Virgin Islands in 1917, the U.S. government invested in increasing agriculture production but failed to produce meaningful results. By the 1960s, agriculture in the USVI was primarily monoculture and export crops, namely sugar cane. The collapse of the sugar industry in the mid-1960s, combined with government investments prioritizing industry and tourism, caused the agriculture industry to nearly vanish.²⁶

Today, the USVI imports 97% of raw and manufactured food products consumed in the islands.²⁷ This dependence on imported foods creates many local challenges. Food insecurity is a major impediment to economic growth and a direct threat to the health and well-being of its residents. Hurricanes Irma and Maria in 2017, followed by the COVID-19 pandemic, have added additional stress to the food security of the islands with the loss and damage to infrastructure and disruptions to global food supply chains. The agriculture sector is a priority economic growth sector with the potential to increase local agriculture and food production to 35% of consumption and increase agriculture's share of GDP to from 2% to 5%.²⁸

To achieve these goals, the USVI will need to train a new generation of farmers and farm workers and invest in programs and infrastructure to encourage agriculture and value-added goods and services. Significant upgrades to existing infrastructure are needed.

In 2017, the agriculture sector's share of total jobs in the Virgin Islands was less than the national rate of 1% and, in 2019, there were an estimated 210 direct agriculture jobs.²⁹ Approximately 88% of Virgin Islands farmers are older than 45 years of age, and most farms are small (i.e., less than 10 acres). Despite the challenges, agriculture is a growing sector, with the total number of farms increasing between 2007-2018 by 158% (from 219 to 565 farms).³⁰

²⁵ U.S. Virgin Islands Department of Agriculture, *History of Agriculture in the USVI*, 2021, Accessed from <https://doa.vi.gov/our-history/>

²⁶ Ibid.

²⁷ Vision 2040, p. 204.

²⁸ Ibid.

²⁹ Vision 2040, p. 64.

³⁰ Ibid.



The agriculture industry can be subdivided into two primary categories—production of raw goods and value-added processing. There are 11 broad agribusiness industries within the NAICS industry classification system.

- 111: Crop Production
- 112: Animal Production & Aquaculture
- 1151: Support Activities for Crops
- 311: Food Manufacturing
- 3113: Sugar and Confectionery Product Manufacturing
- 3114: Fruit and Vegetable Preserving and Specialty Food Manufacturing
- 3115: Dairy Product Manufacturing
- 3116: Animal Slaughtering and Processing
- 3119: Other Food Manufacturing
- 113: Solar Electric Power Generation
- 22131: Water Supply and Irrigation

Challenges to the Industry and Workforce

- Infrastructure – The high cost of electricity and unreliability of the energy grid prohibits innovation and the installation of agriculture processing and storage facilities that are necessary to expand local, regional, and global marketing opportunities. The lack of adequate and reliable water infrastructure can suppress crop yields by reducing availability during drought times.
- Land – Few farmers own their land outright; the majority of USVI farmers lease their land either from the territorial government or private landowners. Combined with limited land suitable and available for agriculture, this poses a significant challenge to increasing agriculture production.
- Administrative Technical Assistance – Stakeholders have consistently identified a need for more administrative technical assistance programs to support farmers with completing crop yield reports, accessing financial assistance, and recordkeeping.
- Specialized Equipment – Modern farming practices are increasingly adopting more specialized equipment to operate, but this equipment is often expensive and requires specific training and maintenance requirements.
- Education and Workforce Readiness – Limited exposure to agriculture, in general, suppresses the potential for a new generation of students and workers in the agriculture and agri-business industries, and the lack of formal training programs or peer-to-peer training opportunities is a barrier to a viable career pathway in agriculture.

Industry Opportunities and Recent Trends

Despite the challenges facing the sector, the USVI has taken steps to expand the workforce and prepare a new generation of local farmers, grow new industries, and create strategic partnerships with other sectors of the VI economy to improve food security and increase their contribution to



the local and regional economies. With the growth of farm agrotourism, connecting agriculture to the USVI tourism economy would provide opportunities to grow the agriculture sector despite land and resource constraints.^{31,32}

The Virgin Islands Agricultural Plan Task Force released its strategic plan in December 2021, making several recommendations related to the agriculture workforce. The strategic plan provides a clear and strong direction to expand opportunities within the sector and increase food resiliency in the Territory. The recommendations provided in the strategic plan should be fully funded and implemented, and opportunities to connect with other economic sectors, such as light manufacturing and tourism, can contribute to the expansion of agribusiness through value-added products. Recommendations include:

- Create an Agriculture Business Center to “bring together the resources for assisting farmers with both the actual practices and skills that will facilitate improved farm productivity, as well as resources for assisting farmers with the 'business' of farming (e.g., bookkeeping, technical skills, grant writing, etc.).”³³
- Establish mechanisms for peer-to-peer training. The strategic plan recognizes a need for informal continuing education among the farming community and recommends establishing learning or training networks that leverage the knowledge of local industry leaders.
- Increase funding for farmer education and expand informal learning programs, especially in business aspects.³⁴
- Integrate the USDA’s *Agriculture in the Classroom* and P.E.A.C.E. International’s *The Virgin Islands Agricultural Education System Curriculum Frameworks* programs into K-12 schools to increase exposure to agriculture career pathways.

Leading Occupations

There were 44 unique top jobs identified across the agriculture sector in the 11 industries. Of these, Table 1 identifies those with a bright outlook. Three of the top jobs require specific degrees or credentials as a minimum training requirement, for example, heavy tractor-trailer truck drivers require a Commercial Driver’s License (CDL).

³¹ According to the USDA, in the U.S., farm agritourism revenue tripled between 2002-2017, from \$300 million to close to \$1 billion nationwide.

³² Christine Whitt, et. al. *Agritourism allows farms to diversify and has potential benefits to rural communities*, 2019 U.S. Department of Agriculture. Accessed from: <https://www.ers.usda.gov/amber-waves/2019/november/agritourism-allows-farms-to-diversify-and-has-potential-benefits-for-rural-communities/#:~:text=Farm%20agritourism%20revenue%20more%20than,almost%20%24950%20million%20in%202017.>

³³ 2021 Agricultural Plan Task Force, *Virgin Islands Agricultural Plan*, 2021.

³⁴ Nearly all stakeholders surveyed (96%) expressed interest in continuing education training programs in accounting and finance, financial counseling, legal counseling, and disaster resilience skills training.



Table 1: Leading occupations in agriculture-related industries.

SOC	Job Title	SOC	Job Title
39-2021	Animal Caretakers	49-9041	Industrial Machinery Mechanics
39-2011	Animal Trainers	49-9071	Maintenance and Repair Workers
43-3031	Bookkeeping and Accounting	43-9061	Office Clerks
53-3031	Drivers/Sales Workers	51-9111	Packaging and Filling Machine Operators
11-1021	General and Operations Managers	41-2031	Retail Salesperson
53-3032	Heavy Tractor-trailer Truck Drivers		

Training Needs

Progress toward expanding formal education programs at the University of the Virgin Islands is already underway. The School of Agriculture currently offers three certificate programs (Agricultural Business, Agrotourism, and Horticulture) and is rolling out five new certificate and degree programs with the long-term goal to provide six Associate of Applied Science degrees and six bachelor's degree programs.³⁵ Table 2 provides a list of the anticipated certificate and degree programs.

Table 2: Certificate and degree programs anticipated through the UVI's School of Agriculture.

Specialty	Certificate Offered	Certificate Planned	AAS Planned	BA Planned
Agricultural Business	X		X	
Agricultural Business/Economics				X
Agroecology				X
Agroforestry		X		
Agrotourism	X			
Animal Science		X	X	X
Aquaculture		X		

³⁵ University of the Virgin Islands School of Agriculture. <https://www.uvi.edu/academics/school-of-agriculture/programs/default.aspx>



Specialty	Certificate Offered	Certificate Planned	AAS Planned	BA Planned
Cannabis Biotechnology			X	
Cannabis Social Science		X	X	
General Agriculture		X	X	X
Horticulture	X			X
Regulatory Science			X	X

In addition to efforts already underway, the Department of Agriculture and UVI should consider expanding their technical assistance programs beyond the traditional soil and crop management activities to support farmers with managing their businesses, for example, assisting farmers with access to private capital and recordkeeping. Industry leaders have also identified a need for specific technical training in operating machinery and other common agriculture equipment. Programs may be offered as part of technical assistance or combined with other similar industry training academies; for example, commercial truck drivers require specialized training to operate heavy commercial transport trucks that are necessary to move products to/from farms to markets. Similarly, skills and experience gained in the construction industry have broad applicability to the daily operations on a farm and vice-versa.

2. COASTAL/OCEAN RESOURCES

Over the past decade, studies and economic development plans have identified the Blue Economy or Coastal/Ocean Resources sector as a key area for the U.S. Virgin Island economy.³⁶ Occupations within this sector overlap with others to include Tourism, Alternative Energy, Agriculture, Light Manufacturing, and Research & Development. These may include boat building and repair, fisheries, shipping, ports, marine biology, and conservation as well as elements of food processing and pharmaceutical production.

Most of these related industries indicate growth and are expected to support significant job creation in the future in the U.S. overall. For the purposes of this report, the key NAICS codes for Coastal/Ocean Resources are:

- 1124: Aquaculture
- 1141: Fishing Operations
- 2123: Mining, Quarrying, and Dredging
- 3117: Seafood Processing and Packaging
- 3254: Medicinal and Botanical Products Manufacturing
- 3366: Boat and Ship Building and Repair

³⁶Along with the Vision 2040 plan, information from the National Ocean Economics Program (NOEP) was used to better define key business areas within this sector. NOEP is the main research arm of the Center for the Blue Economy at the Middlebury Institute of International Studies at Monterey, CA. EG: Strategic Implementation Plan for Catalyzing a Blue Economy in the U.S. Caribbean; Vision 2040



- 4831: Sea and Coastal Water Transportation
- 4883: Support Activities for Water Transportation
- 4931 Warehousing and Storage

These industries include a growing number of middle-skills jobs that require a minimum of a high school education and some level of skills credentials. These include but are not limited to machine and information technology, first-line supervision, quality assurance, and customer service.

Challenges to the Industry and Workforce

- Capacity – While growth prospects are promising, interviewed employers remain concerned about their capacity to attract and retain needed workers, expressing skepticism about their ability to address current workforce gaps. More specifically, employers called out poor basic education skills and interpersonal (soft skills) as major gaps in workforce training.
- Lack of Training – Firms interviewed in boat building, ferry operations, and mining commented on the need for both basic and specific trade skills. Equipment repair and maintenance, diesel engine repair and maintenance, welding, and other skills were noted as key needs now and for the future. Prior to its closing in 2012, training for many of these skills was provided by the refinery. Since its closure, there has not been an organized, consistent training program for the trades, and smaller employees do not have capacity to train the small numbers of skilled employees they need. Increased focus on CTE programs for the skilled trades noted is critical.

Industry Opportunities and Recent Trends

The Coastal/Ocean Resources sector indicates average to strong growth as compared to the U.S. as a whole. This positions them to provide good job opportunities for the USVI. As an example, those that show a growth rate to 2030 that is equal to or above the national average are Transportation (12%), Aquaculture (11%), Fishing and Hunting (11%), Boat and Ship Building (8%), Warehousing (8%), and Seafood Processing (5%).³⁷ While some industries, such as quarrying and dredging, do not currently show significant growth, the aging population and increased retirement over the next 8-10 years may open a significant number of job positions in these sectors as well.

Leading Occupations

A total of 87 unique jobs were identified within the Coastal/Ocean Resources Sector. All of these occupations offer high-potential career opportunities. Within this group, there are 31 “bright futures” occupations (see Table 3). Two-thirds of these can be classified as “middle-skill,” and all of them require a minimum of a high school diploma. Some require additional training certification, such as a CDL for heavy-truck driving or training in machine operation. Formal post-secondary education is typically required for the remaining third. Many of these

³⁷ EMSI / Burning Glass www.economicmodeling.com



higher-skill positions require expertise in data analysis or business management. Typical positions include general managers, market analysts, medical managers, and logisticians. In some cases, these in-demand jobs can be filled by candidates with an associate's degree and on-the-job experience.

Table 3: Top jobs for the blue economy-related industries.

SOC	Occupation Title	SOC	Occupation Title
11-3031	Financial Managers	43-4051	Customer Service Representatives
11-1021	General & Operations Managers	43-5111	Weighers, Measurers, Checkers, Samplers, Recordkeeping
11-9111	Medical and Health Services Managers	43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive
13-1071	Human Resources Specialists	43-9061	Office Clerks, General
13-1081	Logisticians	49-3042	Mobile Heavy Equip Mechanics
13-1111	Management Analysts	49-9041	Industrial Machinery Mechanics
13-1161	Market Research Analysts	49-9043	Maintenance Workers, Machinery
13-2011	Accountants & Auditors	49-9044	Millwrights
15-1256	Software Developers	49-9071	Maintenance & Repair Workers-General
15-2098	Data Scientists and Mathematical Science Occupations, All Other	51-9111	Packaging and Filling Machine Operators and Tenders
17-2112	Industrial Engineers	53-3032	Heavy and Tractor-Trailer Truck Drivers
33-9011	Animal Control Workers	53-3033	Light Truck Driver
39-2011	Animal Trainers	53-5021	Captains, Mates, Pilots of water vessels
39-2021	Animal Caretakers	53-5022	Motorboat Operators
41-3091	Sales Representatives of Services	53-6061	Passenger Attendants
41-4012	Sales Representatives, Wholesale and Manufacturing		

Training Needs

Positions in the Coastal/Ocean Resources sector require a strong basic education, basic work readiness, and an openness to additional on-the-job training, with an emphasis on soft and



interpersonal skills. A strong K-12 system, along with enhancing and expanding CTE programs, can help address many of the above-needed skills. The University of the Virgin Islands offers curricula in business administration, which addresses the majority of those jobs above that require a bachelor's degree; however, for those jobs requiring specialized training and/or credentialing, a review indicates there is no formal skills training currently available in the USVI.³⁸

3. HEALTH SCIENCES

In 2017, the healthcare services industry was the fourth-largest employment sector in the USVI, employing about 8% of the workforce. This sector was also identified as a top-priority employer in the Vision 2040 strategy, which proposed that the USVI seek to grow the local health sciences industry's contribution to GDP from 7% to 15%. Specifically targeted sub-sectors include telemedicine, medical simulation, specialty care, and education.

Despite the fact that healthcare services is a top-five employment sector in the USVI, the Territory is still considered a medical professional shortage area by the U.S. Health Resources and Services Administration (HRSA). More than 40% of Territory-funded positions and 30% of the Department of Health's (DOH) federally funded positions are vacant. This workforce shortage contributes to the high rates of deferred medical care among residents and their overall disappointing views of the local healthcare system.^{39,40}

Current healthcare challenges create opportunities for reinvention, and these efforts should also create new job opportunities. At present, the health services sector is projected for rapid expansion, with jobs expected to grow at nearly double the national average between 2020 and 2030.⁴¹ As the population continues to age, demand for services will rise, creating opportunities for well-paying healthcare industry jobs. The analysis of the health sciences sector focused on four broad industries, using the NAICS industry classification system:

- 621: Ambulatory Health Care Services
- 622: Hospitals
- 623: Nursing and Residential Care Facilities
- 624: Social Assistance

Challenges to the Industry and Workforce

- Employee Recruitment and Retention – The combination of low wages and high cost of living presents challenges to private sector employers and the Virgin Islands DOH in retaining a qualified workforce. While cost of living could be considered a driving force behind the out-migration, the lack of training programs and difficulties finding job opportunities are also pushing people interested in the profession to leave the Territory.

³⁸ USVI Department of Labor VIeWS, June 2022

³⁹ Vision 2040, p. 101

⁴⁰ United States Virgin Islands Department of Health. (April 2020.) 2020 United States Virgin Islands Community Health Assessment. Christiansted, USVI.

⁴¹ Bureau of Labor Statistics.



The results are not only reflected in poor quality of the workforce but in poorer health outcomes across the population.⁴²

- A Lack of Accredited Training Programs – UVI is the primary organization providing medical training and schooling in the VI. While some organizations provide on-the-job training and certifications, there are limited opportunities for students to gain necessary qualifications to join the workforce as a healthcare professional. Many healthcare professionals from the USVI receive their education from accredited programs on the U.S. mainland. Many of these students do not return to the Virgin Islands, despite active efforts to bring residents back. The reasons often cited for staying stateside are higher wages, lower cost of living, and improved public school systems for their children.
- Public Health Workforce Shortages – Finding qualified applicants for public health jobs has been a particular challenge for the Department of Health and was identified as a threat to improving health outcomes in the Territory in the department’s recent strategic plan.⁴³
- A Complex and Murky Hiring Process – For many Virgin Islanders, seeking a job with DOH is often confusing and unclear. Those without personal connections to somebody knowledgeable of the system struggle to find and gain employment within the department.

Industry Opportunities and Recent Trends

National demographic shifts will drive industry growth throughout the decade. As the population continues to age, industry experts predict rising demand for healthcare services and expect the sector to add more jobs than any other occupational group.⁴⁴ The same trend is true for public health professionals. The BLS forecasts a 17% growth in employment between 2020 and 2030.

As technology and innovation continue to transform the healthcare services sector, exciting opportunities for the USVI are emerging. From tech startups to healthcare innovation centers to in-home healthcare delivery to telemedicine, the Territory is positioned to be a regional hub of the next generation of healthcare. In fact, the Territory has already seized one opportunity with a \$14 million grant from the Economic Development Administration (EDA) to build the Medical School Simulation Center, a state-of-the-art training center for medical professionals. Another EDA grant of \$18.6 million will fund the construction of a biomedical facility on St. Thomas.⁴⁵

As one of the leading employment sectors in the Virgin Islands, jobs in the healthcare sector are already available to qualified applicants. Registered nurses consistently rank as one of the most

⁴² United States Virgin Islands Department of Health. (April 2020.) 2020 United States Virgin Islands Community Health Assessment. Christiansted, USVI.

⁴³ United States Virgin Islands Department of Health. (September 2020.) United States Virgin Islands Department of Health Strategic Plan, 2020-2025. Christiansted, USVI.

⁴⁴ U.S. Bureau of Labor Statistics.

⁴⁵ Ernice Gilbert, *UVI Medical School suffers setback, with accrediting body citing insufficient funding to maintain operations*, March 21, 2022, Accessed from: <https://viconsortium.com/vi-business/virgin-islands-uvi-medical-school-suffers-setback-with-accrediting-body-citing-insufficient-funding-to-maintain-operations#:~:text=The%20LCME%20is%20recognized%20by,UVI%20President%20Dr.>



in-demand jobs in the Territory and frequently top the list of number of advertised job openings.⁴⁶

Leading Occupations

Thirty-seven (37) unique leading occupations were identified across the health sciences sector in the four industries as described above, with 10 identified as the top healthcare industry jobs (see Table 4). Of these, a majority require advanced technical training or education beyond an associate's degree.

Table 4 - Top healthcare industry-related jobs.

SOC	Job Title	SOC	Job Title
21-1021	Child, Family, and School Social Workers	29-1228	Physicians Except Pediatric
11-9031	Education and Childcare Administrators	29-1141	Registered Nurses
49-9071	Maintenance and Repair Workers	11-9151	Social and Community Service Managers
11-9111	Medical and Health Services Managers	25-2052	Special Education Teachers
25-2022	Middle School Teachers	21-1018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors
43-9061	Office Clerks		

Training Needs

Despite the high minimum education and technical certification requirements, there are a variety of jobs within the industry that do not require advanced training; for example, community health workers and administrative and facility support career pathways may only require a high school diploma and on-the-job training.⁴⁷ The Department of Health's recent strategic plan identifies staff development and engagement as a strategic priority. Currently, the University of the Virgin Islands is the only formal training provider for those pursuing a career in healthcare; however, the Department of Health and the major healthcare providers do have training programs to support current employees in maintaining certifications.

⁴⁶ USVI Department of Labor (VIEWS ONET, May 2022).

⁴⁷ U.S. Bureau of Labor Statistics



4. LIGHT MANUFACTURING

Light manufacturing operations make up only about 2% of all current USVI jobs, with beverage manufacturing and distilling, especially rum production, accounting for more than 60% of all jobs. Baking, wood cabinets, metal fabricators, and other small firms make up the rest of the sector.

Light manufacturing also crosses over into other economic sectors, for example, food processing in the agriculture sector and medicinal and botanical production in the Coastal/Ocean Resource sectors. Vision 2040 targets “regional” food production as an opportunity in Light Manufacturing. This section’s analysis assesses opportunities in supporting food processing sectors such as paper and plastic packaging for food products. Beverage manufacturing is included here as it dominates this sector, but other food processing activities are included in the agriculture industry discussion above.

For the purposes of this report, the key NAICS codes for the Light Manufacturing sector are:

- 3121: Beverage Manufacturing
- 3219: Wood Products Manufacturing
- 3222: Paper Products Manufacturing
- 3261: Plastics Products Manufacturing
- 3273: Cement and Concrete Manufacturing
- 3279: Non-Metallic Mineral Product Production
- 3329: Fabricated Metals Manufacturing
- 3344: Electronics Assembly

While these industries support some low-wage, non-skilled jobs, they also include a large and growing number of jobs that require at least a high school education and even some level of skills credentials. These include but are not limited to, industrial machinery mechanics, industrial maintenance and repair technicians, sales and customer service positions, first-line supervision, and quality assurance. These middle-skills jobs provide opportunities for better wages and benefits. They also provide a career path that, with additional training and/or education, can move employees into higher-level jobs requiring associate’s or bachelor’s degrees. Finally, most of these sectors are expected to support significant job creation over the next decade.

Challenges to the Industry and Workforce

- General Downward Trend – With the exception of food and beverage processing, manufacturing employment in the United States overall has been on a downward trend for several decades. Manufacturing in the USVI already is at a low base; comprising only 2% of all jobs as compared to 8% in the United States.⁴⁸ In addition, as noted above, about 60% of those jobs are in the beverage production sector.

⁴⁸ US Bureau of Labor Statistics. www.bls.gov; USVI VIEWS.



- Lack of Awareness – The low number of jobs in manufacturing overall and the dominance of one sector means that manufacturing as a job option is likely not “top of mind” for either students or for adults in or reentering the workforce. A greater effort will need to be made by companies in this sector as well as in the education and training systems to highlight job and career opportunities.
- Limited Workforce Skills Training – USVI is working on more CTE options, which can include basic manufacturing skills such as welding, industrial machinery maintenance, machining, and machine operations. However, the current low number of people, both students and adults, contemplating or in manufacturing makes it difficult to expand training options in this sector in a cost-effective manner.

Industry Opportunities and Recent Trends

Many of these NAICS sectors are expected to have average job growth rates over the next decade as compared to the U.S. overall.⁴⁹ Within this group, beverage manufacturing (projected for 9.9% growth) is poised for above-average growth rates. This sector includes Diageo (Captain Morgan) and smaller breweries and distilleries that have been established in the past few years. In addition, Fabricated Metals is anticipated to grow by nearly 5% and Non-Metallic Mineral products at just over 2% – both about double the overall U.S. growth rate in those sectors. Wood products indicates a 7% growth rate, similar to the U.S. overall.

Slower job growth rates in manufacturing sectors can be partially attributed to the impacts of increasing automation as opposed to slowing product demand. On the opportunity side, several areas with light manufacturing may be considered good candidates for overall growth.

There is strong local potential for producing alternative building materials, specifically hempcrete, which is produced by mixing lime and hemp fibers.⁵⁰ Hemp can also be used as a substitute for wood. The USVI already has a small wood products base, primarily cabinetmaking, but this could be expanded into more engineered hemp wood construction components, including flooring, furniture, and wall panels. The use of hemp wood components is new in construction, but it is a relatively simple production process that could be utilized locally.⁵¹

Electronics assembly and repair may offer strong potential. USVI’s large and growing water transportation sector requires radios, GPS units, navigation aids, and other electronics. This creates opportunity to expand in this sector. In addition, electronics assembly and development of related products such as tablets and laptop devices may also provide a base of products for export in the Caribbean region and beyond.

Some observers have identified fabricated metals production as another emerging manufacturing sub-sector. Fabricated metals are used in many fast-growing local sectors such as construction

⁴⁹ U.S. Bureau of Labor Statistics. www.bls.gov. USVI VIEWS ; EMSI (Lightcast) www.economicmodeling.com.

⁵⁰ Vision 2040.

⁵¹ Offsite Builder magazine. “Is Hemp In Your Home’s Future?” May 17, 2022.



(e.g., ductwork, window frames, railings) and as inputs to other manufacturing sectors, boat and ship building, food production lines, and warehousing.

Leading Occupations

All of these occupations offer high-potential opportunities for careers in industries poised for rapid growth over the next decade. Within these listed occupations, there are 20 of these “bright futures” occupations.⁵² Nearly two-thirds of these occupations (13 of the 20) can be classified as “middle-skill.” All of them require a minimum of a high school diploma, and a number of them also require additional training or certifications. See Table 5 for these 20 high growth jobs.)

Table 5: Top light manufacturing industry-related jobs.

SOC	Occupation Title	SOC	Occupation Title
11-1021	General and Operations Managers	49-9041	Industrial Machinery Mechanics
13-1081	Logisticians	49-9043	Maintenance Workers, Machinery
13-1161	Market Research Analysts and Marketing Specialists	49-9071	Maintenance and Repair Workers, General
13-2011	Accountants and Auditors	51-7099	Woodworkers, All Other
15-1212	Information Security Analysts	51-9111	Packaging and Filling Machine Operators and Tenders
15-1256	Software Developers and Software Quality Assurance Analysts and Testers	51-9162	Computer Numerically Controlled Tool Programmers
17-2112	Industrial Engineers	51-9195	Molders, Shapers, and Casters, Except Metal and Plastic
17-3026	Industrial Engineering Technologists and Technicians	53-3032	Heavy- and Tractor-Trailer Truck Drivers
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	53-3033	Light Truck Drivers
41-4012	Sales Representatives, Wholesale and Manufacturing	53-7065	Stockers and Order Fillers

⁵² USVI Department of Labor (VIEWS ONET, May 2022).



Training Needs

Within light manufacturing, the most promising career opportunities typically require some form of post-high-school training or certification. Fabricated Metals, for example, requires individuals with training in welding. Industrial machine maintenance and repair remains a high-demand occupation in nearly all manufacturing sectors. These well-compensated jobs typically require post-high-school training in fields such as mechatronics or an associate's degree in fields such as industrial or electrical technology.

More than one-third of these “bright outlook” jobs generally require a bachelor's degree. These higher-skill occupations, such as general managers, market analysts, or software developers often require competencies in data analysis or company management. It should be noted, however, that some of these jobs can be obtained with an associate's degree and on-the-job experience. For some of the higher-level jobs requiring a college degree, such as General Operations Manager, Accountants, and Data Analysts, the University of the Virgin Islands offers degrees in business and in mathematics, including data.

All of these manufacturing careers have strong emphasis on soft skills and work readiness, and these types of programs are beginning to gain traction. Beginning in 2021, the VI Department of Labor initiated a small program providing virtual work-readiness training using the U.S. DOL's Soft Skills to Pay the Bills curriculum. Several other similar efforts, such as a program offered by MedCerts in 2019 and the current Skills for Today program, also offer soft-skills training. Finally, a host of non-profit organizations, such as Junior Achievement and Community Action Now, also provide soft-skills and career readiness programs; however, these are limited programs in terms of current capacity.

These pilot projects offer great potential and should be available to all students in the USVI education system. In addition, the USVI DOL's current Summer Employment Program also plays an important role in providing essential work experience to youth across the Territory. In 2022, DOL leaders expect that these programs can provide work opportunities for up to 700 students.

5. PROFESSIONAL/TECH SERVICES/RESEARCH AND DEVELOPMENT (R&D)

Over the past decade, a number of studies and economic development plans have identified business, professional, and scientific services as a potential growth industry for future development in the USVI and a means to support economic diversification and job growth.^{53, 54}

R&D and professional/tech services touch on all of the six target industries. This section's analysis specifically focuses on nine broad industries, using the NAICS industry classification system:

- 5411: Legal Services

⁵³ For example, see TIP Strategies, *Targeted Competitive Industry Study: Prepared for the Government of the U.S. Virgin Islands*, 2014.

⁵⁴ Vision2040, p. 203.



- 5412: Accounting, Tax Preparation, Bookkeeping, and Payroll Services
- 5413: Architectural, Engineering, and Related Services
- 5414: Specialized Design Services
- 5415: Computer Systems Design and Related Services
- 5416: Management, Scientific, and Technical Consulting Services
- 5417: Scientific Research and Development Services
- 5418: Advertising, Public Relations, and Related Services
- 5419: Other Professional, Scientific, and Technical Services

This category includes a large share of jobs in information technology, consulting, project management, customer service, design, and research/technology management. These broad industry classifications share a number of characteristics. Firms in these sectors provide services (as opposed to goods) that typically require a special level of expertise and technical skill. Many jobs in these sectors require high levels of education, although a sizable number of middle-skills jobs and careers are available. Finally, most of these sectors are growing and are expected to support significant job creation in the future.

Challenges to the Industry and Workforce

- Infrastructure – In general, these sectors and occupations offer strong growth potential, and recent workplace trends further reinforce the overall positive outlook. As more companies and offices embrace remote or hybrid work, the USVI is well-situated to create new jobs in areas like customer service and information technology. Proximity to the U.S. mainland, U.S. Territory status, a desirable quality of life, and English proficiency are all advantages for USVI residents; however, existing problems with both power and broadband infrastructure must be addressed.
- Lack of Needed Skills – As in other high-priority industry sectors, workers seeking to obtain employment in the business and professional services sectors must obtain essential industry skills while also developing core work readiness competencies such as the ability to work in teams and interact with customers. These work-ready skills are particularly important in these industries where regular interaction with customers, suppliers, and business partners are common.
- Capacity – The relatively small size of the typical USVI employer in the business and professional services sector means there may be fewer job opportunities or fewer career advancement opportunities within a given company. Smaller firms may also lack resources, in terms of both money and management capacity, to invest in training programs or other types of career development activities, all of which impacts workers in this industry.

Industry Opportunities and Recent Trends

Industry analysts remain bullish on current and future growth trends for firms operating in the business and professional services sectors. The industry faced a sharp pandemic-driven



downturn in 2020, but that decline quickly reversed in 2021 and 2022.⁵⁵ Further sector growth is expected as the pandemic-related shutdowns end. Overall, the U.S. Bureau of Labor Statistics projects 8% growth in employment in these sectors between 2020 and 2030.⁵⁶

USVI firms operating in the professional and business service sector employ about 3% of USVI workers. Management and technical consulting services and offices of lawyers account for nearly half of this employment base.⁵⁷ (See Figure 16.) In effect, these sectors often represent the administrative arms or back offices of businesses. Some of these jobs, especially in information technology and health technology, are also tied to R&D activity. R&D-related positions are also common in other current USVI target sectors, including agriculture, the blue economy, health, and manufacturing.

As the industry continues its steady growth, emerging growth sectors, like cybersecurity and financial technology, will show the greatest appetite for new talent. Analysts also expect significant growth in traditional sectors, such as legal and accounting, which will likely continue their transformations to accommodate new ways of working. A growing reliance on gig workers and outside consultants is also expected. This latter shift suggests that entrepreneurial training should also be incorporated to prepare people for work in these industries.

Data from the USVI Department of Labor show that, in the second quarter of 2021, the professional/tech services sector included 383 business establishments employing about 1,299 people. As elsewhere in the U.S., firms in these sectors offer high wages and good career options. In 2021, the sector's average annual wage in the USVI exceeded \$75,000, far outpacing the USVI average wage of approximately \$47,000.⁵⁸

In recent years, the sector has grown, albeit slowly, at a pace below 1% per year. In 2020, at the height of the pandemic, the sector grew by 0.46% but more robust future growth—up 4.49% by 2028—is projected. These sectors warrant attention because the industry is growing and provides a diverse base of well-paying jobs.

⁵⁵ RSM, “Business Service Industry Trends, Summer 2022.” May 18, 2022 Issue Brief. Available at: <https://rsmus.com/insights/industries/business-services/business-services-trends.html>

⁵⁶ See <https://www.bls.gov/ooh/business-and-financial/home.htm>.

⁵⁷ USVI Vision 2040, p. 209.

⁵⁸ See https://www.bls.gov/oes/current/oes_vi.htm



Figure 16: USVI professional/technical services industry employment (2019).

Leading Occupations

The broad range of industries that fall within the business, professional, and scientific services classifications contain a dizzying array of occupations, ranging from CEOs, architects, and lawyers to landscaping workers, janitors, and office clerks. Many of the leading industries within this sector are projected to enjoy rapid growth over the next decade. Within these sectors, much of the most rapid job growth is centered in occupations that require advanced degrees and specialized training. For example, according to the USVI Department of Labor, the current highest-demand occupations in the USVI are accountants and auditors.⁵⁹ Other high-skill occupations projecting very rapid growth include data scientists, epidemiologists, information security analysts, and industrial production managers.

While many high-skill occupations are projecting rapid growth, a sizable number of middle-skill or opportunity occupations are also expected to grow rapidly in coming years. A review of U.S. national occupational data⁶⁰ for industry sectors with NAICS codes 5411-5419 identified 25 different occupations designated as middle-skills jobs requiring less than a bachelor's degree as a job entry requirement, employing a large number of people, and projected to grow rapidly between 2022 and 2032.

Table 6 lists the primary occupational categories, with a number of these occupations included in several sub-sectors; for example, office clerks and customer service representative positions are found in many different sub-sectors. While this list of high-potential middle-skill occupations is not exhaustive, it does offer useful guidance for occupations and careers that not only offer good career options for USVI residents, but which also can help support the economic development priorities identified in the Vision 2040 report and other recent planning efforts.

⁵⁹ USVIDOL data (June 9, 2022).

⁶⁰ Data from EMSI.



Table 6 - Top professional/tech services industry-related jobs.

SOC	Occupation Title	SOC	Occupation Title
11-1021	General and Operations Managers	49-9041	Industrial Machinery Mechanics
41-4051	Office Clerks, General	23-2011	Paralegals and Legal Assistants
43-4131	Loan Interviewers, Clerks	15-1254	Web Developers
15-1232	Computer Use Support Specialist	13-1071	Human Resource Specialist
43-3031	Bookkeeping/Accounting Clerks	17-3031	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel
47-4011	Construction/Building Inspectors	51-9162	Surveying/Mapping Technicians
17-3028	Calibrating/Engineering Technicians	17-3023	Electrical Technologists
41-2031	Retail Salespersons	51-5199	Production, Planning, Expediting Clerks
43-4011	First-Line Supervisors of Office and Administrative Workers	43-4051	Customer Service Representatives
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	53-7065	Stockers and Order Fillers
13-1161	Market Research Analysts	51-5112	Printing Press Operators
29-2056	Veterinary Technicians	31-9066	Veterinary Assistants/Lab Animal Caretakers
39-2021	Animal Caretakers		

All of the occupations noted in Table 6 offer high-potential opportunities for careers in industries poised for rapid growth over the next decade. A select group of 15 occupations, listed in Table 7 below, offers significant high-potential opportunities.



Table 7 – The following occupations offer significant high-potential opportunities.

SOC	Occupation Title	SOC	Occupation Title
11-1021	General and Operations Managers	49-9041	Industrial Machinery Mechanics
41-4051	Office Clerks, General	23-2011	Paralegals and Legal Assistants
31-9066	Veterinary Assistants/Lab Animal Caretakers	15-1254	Web Developers
15-1232	Computer Use Support Specialist	41-2031	Retail Salespersons
43-3031	Bookkeeping/Accounting Clerks	17-3031	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel
43-4011	First-Line Supervisors of Office and Administrative Workers	43-4051	Customer Service Representatives
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	39-2021	Animal Caretakers
29-2056	Veterinary Technicians		

All of these occupations can be classified as “middle-skills.” Most of these occupations are classified in the federal O*NET database as “Job Zone 2: Some Preparation Needed.” High-potential occupations in this category include Sales Representatives, Retail Salespersons, and Customer Service Representatives. These positions typically require a high school diploma and some level of limited experience.

Several of these occupations fall into “Job Zone 3: Medium Preparation Needed.” In some cases, these positions may ask for a completed bachelor’s degree, but they are typically open to those with an associate’s degree, other types of credentials, or several years of relevant experience. High-potential occupations in this category include Web Developers, Paralegals and Legal Clerks, Accounting Clerks, and First Line Supervisors, Office and Administrative Workers.

As middle-skills occupations, these priority careers typically require basic competencies and skills classified as Tiers 1 to 3 in the competency model framework utilized by the U.S. Department of Labor. These entry-level competencies include the following:



- Tier 1: Personal effectiveness competencies such as integrity, interpersonal skills, initiative, and professionalism.
- Tier 2: Basic academic competencies in areas such as reading, writing, and mathematics.
- Tier 3: Workplace competencies such as teamwork, creative thinking, and working with technology.

Beyond these initial competencies, additional skills in Tiers 4 and 5 relate to industry-specific competencies that may be accessed via formal education or learned on-the-job. Relevant examples include sales and human resources (for retail trade careers), database management and customer support (for information technology), and business operations and financial reporting (for careers in finance or insurance).⁶¹

Training Needs

In this sector, these high-priority occupations typically do not require completion of a college degree. In some career pathways, such as web developers or paralegals, many workers do possess high education credentials, but they are not a prerequisite for employment. However, these positions do require a strong basic education as well as basic work readiness and soft skills needed to operate in the modern office environment. For many jobs, several years of prior experience may be required.

These industry needs can potentially be met via strong education and training programs at the K-12 level. If students are well prepared, they can and should be ready to work in any of the highlighted occupations. However, many USVI residents are failing to complete high school or are graduating without strong basic competences in areas such as reading and math. In addition, employers regularly report that they face challenges in finding job candidates with essential soft skills or who are “ready to work.”

A review of training programs for these occupations finds that, at present, the USVI has, with one exception,⁶² no local training programs targeted at any of these specific career pathways; however, beginning in 2021, the VI Department of Labor has initiated a small program providing virtual work-readiness training using the U.S. DOL’s Soft Skills to Pay the Bills curriculum.⁶³ Several other similar efforts, such as a program offered by MedCerts in 2019 and the current Skills for Today program, also offer soft-skills training. Finally, a host of non-profit organizations, such as Junior Achievement and Community Action Now, also provide soft-skills and career readiness programs.

These pilot projects offer great potential and should be available to all students in the USVI education system. In addition, the USVI DOL’s current Summer Employment Program also plays an important role in providing essential work experience to youth across the Territory. In

⁶¹ <https://www.careeronestop.org/CompetencyModel/>

⁶² UVI currently offers associate’s and bachelor’s degree programs in computer science. These degrees are a common prerequisite for web developers.

⁶³ See <https://www.vidol.gov/news/usvi-department-of-human-services-department-of-labor-launch-virtual-work-readiness-program-for-at-risk-youth/>



2022, DOL leaders expect that these programs can provide work opportunities for up to 700 students.

6. RENEWABLE ENERGY

The unreliability and high cost of electricity in the Virgin Islands is consistently cited as a major impediment to quality of life and economic development on the islands.⁶⁴ In 2020, electricity rates in the USVI were nearly three times higher than the U.S. national average and 30% higher than the most expensive state, Hawaii.⁶⁵ For commercial customers, energy rates were even higher. When comparing energy rates across the Caribbean, electricity in the USVI remains the highest. A primary driver of high electricity rates is the over-reliance on the import of fossil fuels such as fuel oil and propane gas on which the power generation stations rely. Nearly all (98%) of the USVI's electricity is created by fuel oil and propane gas; 2% of the island's energy is generated by solar panels (either residential or utility-scale).⁶⁶

As with other physical infrastructure on the islands, the energy grid was severely damaged in 2017 by Hurricanes Irma and Maria, resulting in further instability and unreliability in electricity across the islands. The combination of high electricity costs and poor infrastructure has presented a significant opportunity to rebuild a more efficient and reliable energy grid, and it appears the USVI government is seizing the moment. Vision 2040 targets 75% of total energy consumed in the Territory will be from renewable sources and, in response to the global spike in energy prices in the summer of 2022, Governor Bryan announced that his administration would rapidly expand the availability of solar power in St. Croix.⁶⁷ While it remains to be seen whether these ambitious goals can be achieved, it illustrates the government's commitment to transition away from fossil fuels, re-imagine the electric grid, and bring well-paying jobs to the islands.

Technological advancements are driving the rapid growth in renewable energy and increasing the viability of micro-grids as a cost efficient, reliable, and resilient infrastructure as compared to traditional energy development. The USVI's geographic location makes the Territory ripe for solar energy, both rooftop and utility-scale projects.⁶⁸ Our analysis for the energy sector focuses on two broad industries, using the NAICS industry classification system.

- 221: Utilities
- 2211: Solar Electric Power Generation

⁶⁴ Vision 2040, p. 16.

⁶⁵ Vision 2040, p. 158.

⁶⁶ Ibid.

⁶⁷ Ernice Gilbert, *Bryan announces plan to make St. Croix 100% solar powered in months, saying rising cost of fuel threatens economy*, The Virgin Islands Consortium, March 14, 2022, Accessed from: https://viconsortium.com/vi-top_stories/virgin-islands-bryan-announces-plan-to-make-st-croix-100-percent-solar-powered-in-months-saying-rising-cost-of-fuel-threatens-economy

⁶⁸ Energy Development in Island Nations (EDIN), *USVI energy road map: Charting the course to a clean energy future*, National Renewable Energy Laboratory, 2011.



Challenges to the Industry and Workforce

- Rebuilding the Energy Grid – This remains a monumental challenge after the 2017 hurricane season, especially when considering a new, more resilient approach to development and a shift away from fossil fuels to renewable energy, smart grid technologies, and battery storage.
- Employee Retention – The combination of low wages and high cost of living presents challenges to public and private energy sector employers in retaining their workforce in the USVI.
- Loss of Local Trade Schools – Many important training programs that operated before 2017 have been closed, limiting access to these career pathways. Trade schools provide a direct conduit from education to related industries, providing the appropriate and specific skills required to be successful in the workforce. In the energy sector, this can include trades such as construction, electrician, plumbing, etc.⁶⁹
- Poor Infrastructure – Hurricanes Irma and Maria caused catastrophic damage to the energy infrastructure in 2017, and the Territory continues to rebuild. Major investment in the energy grid will be required to accommodate new energy sources such as wind and solar and battery storage technologies to guarantee energy reliability.
- Competition – Following the hurricanes in 2017, the federal government and contractors were brought to the Territory to support WAPA in rebuilding the electricity distribution infrastructure, due to the scale of restoration efforts and a lack of local qualified workers in the construction and energy sectors.⁷⁰ For those who were qualified, these private construction and utility companies were able to offer more competitive compensation than WAPA, and many workers have not returned, resulting in a workforce gap.

Industry Opportunities and Recent Trends

Despite these challenges, there is tremendous opportunity to build back a more efficient and resilient energy grid, relying on solar and wind power rather than continuing to import expensive fuel oil and propane. Moreover, a transition to cleaner and cheaper sources of energy has the potential to benefit widespread economic development and lower the cost of living for Virgin Islanders and reduce overhead costs for businesses. In fact, WAPA has already passed on energy cost savings to customers through the switch from expensive fuels to renewable energy through several utility-scale projects, including a 448 kW PV solar field at the airport on St. Thomas.⁷¹

Nationwide, solar photovoltaic installers are considered one of the fastest-growing jobs in the energy sector, with employment growth projected to be as high as 50% between 2019-2029, with

⁶⁹ According to those interviewed for this study, there were technical training programs through the Virgin Islands Water and Power Authority (WAPA) but they were either defunded or discontinued as part of shrinking government revenues following several major economic events beginning with the economic downturn in 2008-09, then followed by the closure of the Hovensa petroleum processing facility.

⁷⁰ U.S. Government Accountability Office (GAO), *2017 Hurricane season: Federal support for electricity grid restoration in the U.S. Virgin Islands and Puerto Rico*, 2019.

⁷¹ Vision 2040, p. 160.



a median annual wage of \$45,000.^{72,73} Wind energy development potential and the job outlook in the USVI is also high; however, wind energy development applications often face more scrutiny and can be more challenging projects than solar PV.

Leading Occupations

The research team identified 25 unique top jobs across the energy sector in the two industries described above. Of these, the following five jobs require a minimum training requirement of a high school diploma or equivalent and have bright outlooks. (See Table 8.) Jobs within the renewable energy sector typically require advanced technical training or education beyond an associate's degree; however, solar photovoltaic installers (47-2231), which do not require a high school diploma or equivalent, is the fastest-growing occupation in the industry.

While not listed in the following table because the minimum education requirements are less than a high school diploma, the solar photovoltaic installer occupation is expected to grow 50% this decade, making it one of the fastest-growing occupations in a rapidly growing sector of the economy.⁷⁴ The median salary for a solar photovoltaic installer is \$47,670. Sufficient technical skills can be acquired through on-the-job training or similar training programs offered in a trade or technical school.

Table 8 – Top energy-related industry jobs.

SOC	Job Title	SOC	Job Title
11-1021	General and Operations Managers	15-1257	Web Developers and GUI Designers
13-1081	Logisticians	49-9081	Wind Turbine Service Technicians
13-1161	Market Research Analysts and Marketing Specialists		

Training Needs

Jobs in the renewable energy sector are wide-ranging in the type of training and education required to qualify. As the industry moves further into smart and micro-grid technologies, advanced technology skills will be required; however, there is large demand for more traditional industry jobs like utility linemen and solar panel installers. The more traditional industry jobs require fewer formal certifications, and necessary skills can be acquired through on-the-job training programs or technical certification academies.

⁷² U.S. Bureau of Labor Statistics. Accessed from: <https://www.bls.gov/opub/btn/volume-10/solar-and-wind-generation-occupations-a-look-at-the-next-decade.htm>

⁷³ U.S. Department of Energy.

⁷⁴ U.S. Bureau of Labor Statistics. Accessed from: <https://www.bls.gov/ooh/construction-and-extraction/solar-photovoltaic-installers.htm>



The American Society for Engineering Education’s training pathway guidelines suggest that successful renewable energy workforce training programs be sufficiently nimble to accommodate the rapid pace of change in the industry while also focusing on core capabilities and fundamentals in math, physics, and economics.⁷⁵ With these core skills in hand, students can more easily learn the fundamental skills in trades such as electronics, HVAC, and construction.

7. VI-STYLE TOURISM

The tourism sector has long served as a major economic engine for the USVI. The USVI understands the importance of attracting tourists who want to spend time getting acquainted with the culture, history, foods, and crafts of the islands as well as enjoying the natural amenities of both ocean and land, and this is known as VI-Style Tourism. VI-Style Tourism as a target sector creates synergies with other priority industries such as agriculture and the blue economy; for example, efforts to develop ag-tourism will create job opportunities in both the tourism and agriculture sectors.

According to the NAICS codes, tourism includes a number of areas:

- 4831: Ocean Passenger Transportation
- 4872: Scenic and Sightseeing Transportation
- 488: Other Transportation Services
- 5615: Travel Agents and Tour Operators
- 71: Arts & Entertainment (includes recreation and amusement providers)
- 72: Accommodations and Food Services

All of these sectors could see larger-than-projected impact if USVI efforts to attract more longer-term visitors is successful. These NAICS areas have a number of jobs that do not require a high school education; in fact, many of them are available to students still in high school. However, they also include a large and growing number of jobs that require at least a high school education and even some level of skills credentials. These include, but are not limited to, first-line supervision; quality assurance and customer service managers and representatives; maintenance and repair for facilities and equipment; motorboat operators; and general management. These middle-skills jobs provide opportunities for better wages and benefits. They also provide a career path that, with additional training and/or education, can move employees into higher-level jobs requiring associate’s or bachelor’s degrees. Finally, most of these sectors indicate growth and are expected to support significant job creation in the future in the U.S. overall.

Challenges to the Industry and Workforce

- Dependence on Cruise Ship Traffic – The USVI tourism sector remains highly dependent on cruise ship traffic, creating both challenges and opportunities.⁷⁶ As the COVID-19 pandemic decimated the cruise ship industry, the local industry suffered greatly. These 2020 financial impacts hit just as the USVI was gaining momentum back from the

⁷⁵ Jill Davishahl and Joel Swisherl. *Advancing training pathways for the renewable energy workforce*, ASEE, 2016.

⁷⁶ USVI Tourism Master Plan.



destruction caused to hotel, restaurant, and dock facilities by the 2017 hurricanes. As the pandemic impact fades, it is anticipated more cruise tourism will return to the USVI. Cruise tourism, however, generates lower local economic impacts as compared to longer-term visits. According to the VIDOL, the cruise industry generated 80% of all visitors prior to the pandemic.⁷⁷ Because these travelers are day visitors, their economic impacts may be lesser. Consequently, while large in number, day visitors only account for 37% of tourism spending compared to the longer-term visitors (see Figure 17).

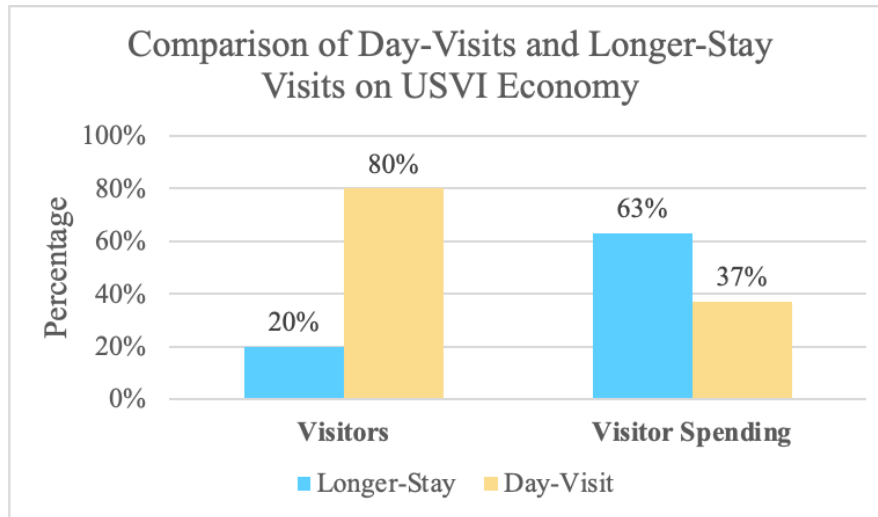


Figure 17: Four of five visitors to the USVI are there for the day, but visitors who spend more time on the islands contribute almost twice as much to visitor spending than day excursionists.

Industry Opportunities and Recent Trends

All of the sectors have job growth opportunities in the USVI. According to the VI Department of Labor's most recent projections, from 2018 to 2028, the growth for these 2-digit NAICS sectors is:⁷⁸

- Transportation (NAICS 48): 47.5%
- Administrative & Support services (NAICS 56): 11.2%
- Arts & Entertainment (NAICS 71): 6.8%
- Accommodations and Food Services (NAICS 72): 40.7%

These promising projections are welcome after years of challenge. The 2017 hurricanes and related property damage slammed the tourism sector in 2018. According to figures from the USVI Bureau of Economic Research, numbers improved in 2019, but progress was short-lived as the pandemic caused major drops in visitors in both 2020 and 2021. With the beginning of the pandemic in April 2020, cruise arrivals in the USVI stopped completely and did not resume until July 2021.

⁷⁷ USVI Department of Labor VIEWS.

⁷⁸ USVI Department of Labor VIEWS.



Efforts made by the USVI Department of Tourism to market the islands as a pandemic get-away location without the need for a passport (although testing was required) gained significant traction for air travel in 2021. Data from the USVI Bureau of Economic Research showed the volume of air travel nearly doubled from 2020 and, even more significantly, increased over 2019 (see Table 9).⁷⁹ The success in attracting air travel visitors resulted in a 24% growth in overall visitors to the island from 2020 to 2021. Data through May of 2022 indicates that even with the resumption of cruise travel in June the year before, air travel and cruise visitors were almost evenly split. If that trend continues, the USVI should have more than 1,800,00 visitors for all of 2022, a nearly 70% increase over 2021.

Table 9 – Visitors to USVI 2019 to May 2022: cruise and air.⁸⁰

Type of Arrival	2019	2020	2021	2022 (through May)
Cruise arrivals	1,433,122	442,027	245,000	376,343
Air arrivals	640,887	419,247	824,460	376,806
Total	2,074,009	861,247	1,069,460	753,149

Leading Occupations

As per the methodology earlier mentioned, top growth jobs were defined for each of the six NAICS Tourism sectors noted above. Although these are very diverse NAICS, there is significant crossover of jobs among them. Both crossover jobs and those specific to a NAICS area result in a total 46 unique jobs for the tourism sector. This group of 46 unique occupations may be found in Appendix A.

All of these occupations offer high-potential opportunities for careers in industries poised for rapid growth over the next decade. Within these listed occupations, there are 37 “bright futures” occupations, and most can be classified as “middle-skills.” All of them require a minimum of a high school diploma, and about 40% of the jobs require some form of post-secondary education or credentialing. These 37 high growth jobs are in Table 10.

Table 10 – High growth jobs in the tourism sector.

SOC	Occupation Title	SOC	Occupation Title
53-5011	Sailors and Marine Oilers	53-3032	Heavy Tractor-Trailer Drivers
53-7062	Laborers, and Freight Movers	11-1021	General and Operations Managers

⁷⁹ USVI Bureau of Economic Research.

⁸⁰ USVI Bureau of Economic Research: www.usviber.org/archived-data



SOC	Occupation Title	SOC	Occupation Title
37-3011	Landscapers and Groundskeepers	35-3032	Fast Food Workers
35-2014	Cooks, Restaurant	35-2021	Food Preparation Workers
37-2021	Maids and Housekeeping, Cleaners	43-4181	Reservation and Transportation Ticket Agents
53-5022	Motorboat Operators	41-3091	Sales Representatives of Services
13-1161	Market Research Analysts	43-4081	Hotel, Motel and Resort Desk Clerks
37-2011	Janitors and Cleaners, Except Maids	53-5021	Captains, Mates, Pilots of Water Vessels
53-6061	Passenger Attendants	43-4051	Customer Service Representatives
39-3091	Amusement and Recreation Attendants	35-3031	Waiters and Waitresses
43-4171	Receptionists and Information Clerks	35-1013	First-Line Supervisors of Food Prep and Serving Workers
35-3011	Bartenders	39-3011	Gambling Dealers
39-7012	Tour Guides	35-9031	Hosts and Hostesses, Restaurants
49-9071	Maintenance and Repair Workers	53-6098	Aircraft Service Attendants and Transportation Workers
39-9031	Exercise Trainers and Group Fitness Instructors	27-2023	Coaches and Scouts
41-2011	Cashiers	35-9021	Dishwashers
43-9061	Office Clerks	49-3011	Aircraft Mechanics and Service Technicians
43-3031	Bookkeeping, Accounting and Audits Clerks	35-9011	Dining Room and Cafeteria Attendants
53-2012	Commercial Pilots		

Training Needs

Many of these jobs require good interpersonal (soft) skills because of the customer service entailed. In tourism, even the best restaurant, attraction, lodging, or touring facilities will suffer if customer service is not good from bottom to top.



In addition, there are a number of occupations that require some post-secondary education or credentialing such as aircraft mechanics, heavy tractor-trailer drivers, boat captains and motorboat operators, and even bartenders. Some of the occupations, such as bookkeepers, office clerks, and first-line supervisors, may require an associate's or bachelor's degree. For some of the higher-level jobs requiring a bachelor's, such as general operations manager, accountants and market data analysts, the University of the Virgin Islands does provide degrees in business and applied mathematics.

Beginning in 2021, the VI Department of Labor initiated a small program providing virtual work-readiness training using the U.S. DOL's Soft Skills to Pay the Bills curriculum. Several other similar efforts, such as a program offered by MedCerts in 2019 and the current Skills for Today program, also offer soft-skills training. Finally, a host of non-profit organizations, such as Junior Achievement and Community Action Now, also provide soft-skills and career readiness programs; however, these are currently limited programs.

These pilot projects offer great potential and should be available to all students in the USVI education system. In addition, the USVI DOL's current Summer Employment Program also plays an important role in providing essential work experience to youth across the Territory. In 2022, DOL leaders expected that these programs could provide work opportunities for up to 700 students.

HIGH-POTENTIAL CAREER OPPORTUNITIES

The assessment of promising career opportunities in the targeted industry sectors highlights several important trends. First, good local opportunities for business and job growth abound. The Vision 2040 sectors are all poised for growth over the next decade, and more important, they offer exciting career opportunities for all USVI residents.

Second, many promising career opportunities are concentrated in opportunity occupations that offer well-paying jobs with lower barriers to entry for those without higher-education credentials. These jobs can be accessed without incurring extensive training costs and are thus accessible to a wider share of the local population.

Third, required skills tend to be relevant to multiple industries and career pathways. Skills such as customer service or managing front-line workers are needed in nearly all the industries highlighted here. These cross-cutting skill requirements should make it easier to develop relevant training programs and infrastructure. Instead of designing specialized programs to train a few individuals for work in a specific business or industry, workforce development leaders can instead invest in cross-cutting programs that help trainees pursue careers in multiple industries. These investments in skills-building will likely improve basic education across the USVI while also improving career preparation as well.

Finally, training in these cross-cutting skills, along with investments in work-readiness programs, can have wider economic impacts. Improving local talent pipelines will help employers in the Vision 2040 target industries, but this work should also help improve the overall USVI talent base too.



Overall, our industry-focused assessments identified a total of 177 career opportunities, 31 of which are identified as having a bright outlook, in the eight target industry sectors. These high-priority jobs are expected to grow rapidly over the next decade, with extensive demands for new talent in the USVI.

These jobs have varying skill demands. A sizable number require college or graduate degrees, but most are considered opportunity or middle-skills occupations that can be accessed by those with some post-high school training and education, typically in the form of credential or certificate.

A sizable number of these occupations are in high demand across multiple fast-growing sectors. These “cross-cutting” jobs deserve priority attention, as training and credentials for these positions can prepare local people for multiple job and career opportunities. In addition to expanding their range of job options, this focus should also ensure that limited training dollars can be used in the most efficient fashion. There are 17 occupations that cut across three or more sectors (see Table 11). See Appendix A for a full list of occupations and the sectors in which they are found.

Table 11: Top cross-cutting jobs.

SOC	Job	Agriculture	Coastal/Ocean Resources	Health Sciences	Light Manufacturing	Professional/Tech Services	Research and Development	Renewable Energy	Tourism
43-3031	Bookkeeping and Accounting	√			√				√
43-4051	Customer Service Representatives	√	√					√	√
33-1021 35-3011 45-1011 49-1011 43-4011	First-line Supervisors	√	√	√	√	√	√	√	√
11-1021	General and Operations Managers	√	√		√			√	√
53-3032	Heavy Tractor-trailer Truck Drivers	√	√		√				√
49-9041	Industrial Machinery Mechanics	√	√		√				
37-2011	Janitors and Cleaners	√						√	√
53-3033	Light Truck Drivers	√	√		√				
13-1081	Logisticians		√		√			√	
49-9071	Maintenance and Repair Workers	√	√	√	√				√



SOC	Job	Agriculture	Coastal/Ocean Resources	Health Sciences	Light Manufacturing	Professional/Tech Services	Research and Development	Renewable Energy	Tourism
13-1161	Market Research Analysts and Marketing Specialists				√			√	√
43-9061 43-9061 41-4051	Office Clerks	√	√	√	√	√	√		√
13-1198	Project Management Specialists and Business Operations Specialists		√		√			√	
41-9099 41-3091 41-4011	Sales		√		√			√	√
41-4012	Sales Reps, Wholesale & Mfg.				√	√	√		
11-3071	Transportation, Storage, and Distribution Managers		√		√				√
31-9066	Veterinary Assistants	√				√	√		

The majority of these top cross-cutting jobs have a “bright outlook” indicating substantial growth in the key sectors in Vision 2040 as well as emerging company opportunities. In addition, many of these occupations do not require advanced training for entry (see Table 12).

Table 12: Top cross-cutting jobs with a bright outlook.

SOC	Job	Bright Outlook	Advanced Training
43-3031	Bookkeeping and Accounting	Yes	Yes
43-4051	Customer Service Representatives	Yes	
33-1021 35-3011 45-1011 49-1011 43-4011	First-line Supervisors	Yes	
11-1021	General and Operations Managers	Yes	Yes
53-3032	Heavy Tractor-trailer Truck Drivers	Yes	Yes
49-9041	Industrial Machinery Mechanics	Yes	



SOC	Job	Bright Outlook	Advanced Training
37-2011	Janitors and Cleaners	Yes	
53-3033	Light-Truck Drivers	Yes	
13-1081	Logisticians	Yes	Yes
49-9071	Maintenance and Repair Workers	Yes	
13-1161	Market Research Analysts and Marketing Specialists	Yes	Yes
43-9061 43-9061 41-4051	Office Clerks	Yes	
13-1198	Project Management Specialists and Business Operations Specialists		Yes
41-9099 41-3091 41-4011	Sales		
41-4012	Sales Reps, Wholesale & Manufacturing	Yes	
11-3071	Transportation, Storage, and Distribution Managers		
31-9066	Veterinary Assistants	Yes	

SECTION III: OBSERVATIONS & RECOMMENDATIONS

There is a shared consensus on the industry sectors that are likely to drive current and future economic prosperity in the USVI. This study built upon work found in previous assessments by identifying specific occupations slated for extensive growth over the next decade, focusing on those with promising career ladders where workers could gain essential skills and have paths to advancement, that were open to a large share of the current USVI workforce, and that would make important contributions to the USVI's long-term prosperity.

Following these guidelines, 177 careers were identified that offer rewarding opportunities for workers and serve as foundational occupations in existing future-oriented industries such as alternative energy, health technology, advanced manufacturing, and professional services. (See Appendix A.) Most of these occupations are in high demand across multiple industry sectors, and, as such, residents with relevant skills and training should have multiple opportunities for promising careers in multiple industry sectors.

While these careers offer promising potential, these opportunities cannot be realized without significant investments in expanding and enhancing the USVI's current infrastructure and training programs to support workforce development. These new programs and investments should be accompanied by continued efforts to improve the quality of K-12 education and to enhance the local business climate to make it easier for residents to start new businesses and to reduce the regulatory burdens facing existing companies.

Below, we offer a series of policy and program recommendations that seek to advance the following objectives:

- Support the development and growth of emerging industry sectors that are expected to drive economic recovery and long-term prosperity in the USVI;
- Offer rewarding career opportunities to all USVI residents;
- Enhance existing USVI workforce development capacities to capture and benefit from existing and future talent development opportunities; and
- Support Territory-wide efforts that seek to address major structural challenges, such as improving K-12 education resources and addressing local housing shortages, that also limit workforce participation and development opportunities.

The seven recommendations presented below align closely with strategies developed and supported by current planning initiatives, to include the USVI Workforce Development Board Unified State Plan, that notes that “the Virgin Islands Workforce System has to focus its talent development in the short-term around high school diploma attainment, workforce preparedness



and work-based training activities, on-the-job training and apprenticeship opportunities to meet the work experience deficit and be able to source the labor market with dynamic candidates.”⁸¹

1. REVITALIZE EXISTING CAREER AND TECHNICAL EDUCATION (CTE) PROGRAMS

At present, VIDE, via its Board of Career and Technical Education, oversees a host of CTE programs at locations in St. Croix (C-TECH) and St. Thomas. Most observers recognize that these programs are underfunded and that existing facilities are in poor condition.

Significant efforts to address program challenges are now underway, and this work remains critical to promoting new jobs in the careers and industries identified in this analysis. These efforts include Bill No. 33-0267, passed in 2020, which expresses support for expanded vocational education, and ongoing efforts by the CTE Board to expand local programming. In addition, new funding from the American Rescue Plan Act will also be used to revitalize CTE programs at the St. Croix C-TECH facility.

These efforts must continue, along with additional support to other key partners such as My Brother’s Workshop, the Raphael O. Wheatley Skills Center, UVI CELL, and other private CTE providers. The ongoing Skills for Today initiative also trains local residents in many of these disciplines. These partners are well-suited to support and deliver one-time programs or specialized credentialing efforts. For example, UVI CELL currently hosts training in a number of unique industry credentials, such as Google Analytics and Six Sigma Training, while also hosting impressive distance learning and testing capabilities. Efforts to provide virtual training opportunities—akin to current UVI CELL offerings — should be expanded as well.

- In addition to the broad coordination above, USVI education and workforce leaders should support C-TECH’s current plans to pursue technical college accreditation to become St. Croix Career and Technical Education College. In developing curricula to attain accreditation, C-TECH should also work closely with UVI to ensure that education/training credits received by students attending the Career and Technical College, where appropriate, are aligned with and fully transfer to the University. This creates a seamless way, as well as an incentive, for career and technical students to further their education. This effort will likely take several years but could play an important role in further solidifying the Territory’s commitment to robust CTE capabilities.
- Many of the current CTE programs of study do align with the priority occupations outlined in this analysis. However, program leaders should increase their emphasis on skill sets and competencies tied to important cross-cutting career opportunities. Examples include customer-facing skills, soft skills, and basic English and math, as well as written communications. High-demand positions in multiple industries include first-line supervisors, sales representatives, and customer service representatives.

⁸¹ WIOA Plan 2021, p. 30.



- As investment in CTE programs expands, the existing program mix should be revised and upgraded on a continuing basis. New programs of study should be developed in cooperation with industry partners, with all programs of study supported and advised by an outside business advisory board of key employers and industry experts. These advisors will help to design and improve programming and serve as mentors and instructors to students. At the same time, these business partnerships can provide important customer feedback to VIDE and also ensure that emerging training needs can be more easily identified and addressed.
- In an effort to encourage closer ties to industry, VIDE should develop a program that encourages and enables industry professionals to serve as instructors in various CTE programs. This effort will require additional funding to pay these outside instructors, provide some additional training in classroom management, and support other professional development as needed.
- The new and improved CTE programs should be accompanied by a scholarship fund that finances students seeking training that might not be available in the USVI. While many introductory programs can be accessed here, more specialized programs, especially those using state-of-the-art equipment, may only be available on the mainland. These courses may require many months of onsite training, so support for courses and living expenses can improve access to these opportunities. Students utilizing these resources should be required to sign some type of commitment to return to the USVI and work for a prescribed period that aligns with the cost and time requirements of their training programs. There are a number of programs in universities and community colleges around the U.S., as well as in some privately developed company-led programs, that are models for this approach.
- This expanded mission for CTE training at the high school and college levels should also be aligned with other USVI workforce initiatives. The newly chartered Virgin Islands State Apprenticeship Council (VISAC) has been leading an effort to expand local apprenticeship programs. At present, four programs are in place, with two initiatives—in boat building and healthcare—directly tied to the USVI’s current priority industries. These promising efforts should be supported and expanded.
- The USVI’s workforce systems should also work to ease access for adult learners to enter into these new and expanded training programs. Several interviewed workforce development professionals pointed out that some adult learners face challenges in accessing existing service centers due to a lack of transportation or other factors. Increasing the number of potential access points could improve abilities to reach these customers. Improved access could take many forms, from adding additional service centers, embracing partnerships with other organizations serving at-risk populations, or by expanding the use and availability of online service options.



2. EXPAND WORK-READINESS AND SOFT-SKILLS TRAINING PROGRAMS

Foundational Skills

Interviews with business owners and managers, government representatives, and workforce partners highlighted, without exception, a lack of soft and basic skills that sometimes impedes residents from obtaining and retaining higher-quality jobs. Soft-skills deficits affect workers as they first enter the workforce, but also limit their ability to move to higher-skilled and higher-paying occupations. Several of the larger firms interviewed noted they provide training in soft and basic skills for their employees as a means to assist them as they move to more job-oriented skills training.

To better define the soft and basic skills needed for gainful employment that benefit both the employee and the employer, the U.S. Department of Labor, Employment and Training Administration has developed a set of competency models to track skills development and acquisition. (See Appendix D.) The foundational skills, Tiers 1-3, are the most critical to ensure a person can obtain and maintain a job. Foundational skills are often learned at home but are also imparted via public school systems. The K-12 education typically focuses on Tier 2 skills.

Youth

A robust and resilient K-12 education system is key to providing the basic hard skills (reading, math, communications) and soft skills (interpersonal, motivation, and ethics) employers are seeking. In addition, these systems should support training in direct occupation skills, especially in priority industry sectors. Schools can and should leverage these employer partnerships to help their students prepare for the world of work. Some potential program reforms include:

- Enhance K-12 education by adding to basic education with integrated soft-skills training and basic direct occupation skills. Some school districts on the mainland have developed an “employability” scorecard that tracks class attendance, on-time completion of assignments, and overall school and class participation, as developed by faculty with business input.
- Establish basic-skills and soft-skills assessments for students. Assessments identify gaps in education and/or soft skills that may be addressed in school or with on-the-job training.
- Better link employers to students to make the connection on what school is teaching and the job opportunities and business needs.
- Establish basic skilled trade training tied to high-demand occupations, such as general maintenance and repair, industrial machinery maintenance, and heavy tractor-trailer driving.
- Develop basic customer services and food safety training programs at the high school level.
- Enhance outreach from UVI to high schools to show students the array of job opportunities available with a bachelor’s degree. This outreach should occur in tandem with employers to help students make connections from high school to UVI to job/career.



- Enhance and expand internships and apprenticeships for students to be engaged in “real-world” opportunities with business and organizations. More overall funding is needed to encourage businesses to provide more slots for internships and apprenticeships and to encourage greater participation by students.
- Identify/create a more flexible, localized pool of funds for apprenticeships, especially for students who are seeking post-secondary skills based training. Anecdotally, business interviews pointed out the difficulty, especially in paperwork, of U.S. Department of Labor apprenticeships.

Adults

Interviewees engaged with existing programs (e.g., Skills for Today) are seeking to impart knowledge on basic skills, soft skills, and direct job-related skills, such as welding or food preparation. The core programs are relatively short-term for some jobs (e.g., basic construction), although they do offer longer-term training for higher-skilled jobs in healthcare. Those interviewed noted that while they believe training in foundational skills is a critical need, trainees consistently say they want only the direct skills so they can go to a job as soon as possible. This reluctance stems in part from financial constraints as program attendees are not paid during the training phase. A modest pay-to-train stipend could help encourage people in these programs to also take soft- and basic-skills training.

Some larger employers are doing foundational training with their employees to ensure they can be productive workers. In some cases, this remediation includes life skills, such as handling credit cards or creating a savings account. While large employers may have the resources to do this level of training, small employers do not, limiting their ability to hire those who have not yet acquired these skills.

Where possible, training programs, whether provided by employers or educators, should provide a more holistic set of skills and competencies that train individuals for a specific job and for the wider world of work.

- Though the Workforce Investment Board, public sector and private sector training providers, and with support of businesses, establish a standardized basic and soft-skills assessment to identify skills incumbent and entering adult workers already have and identify gaps to address. (See assessment section.)
- Establish standardized soft- and basic-skills training that is focused on filling identified gaps for individuals as well as enhancing overall skills that support occupations in the Vision 2040 sectors.
- Identify facilities that are easy to access, based on both location and extended operating hours, to conduct above-mentioned training. In addition, also ensure training is available online.
- Identify resources to provide at least a modest level of support in a “pay-to-train” approach to encourage people to be engaged in the basic and soft-skills training needed to obtain and/or retain entry and foundation jobs. Grow to also enhance participation in those programs that offer longer-term training for the higher-skills, higher-paying jobs.



- Develop life-skills training, especially for those in poverty, to enable them to better address issues that hinder their participation in the workforce (e.g., transportation, childcare, housing). Bridges Out of Poverty and Circles are two successful programs in mainland U.S. communities.

Work-readiness Assessment and Soft-Skills Training Programs

As employers noted, potential recruits and existing employees often lack essential workplace skills such as collaboration, customer service, timeliness, work ethic, and responding to feedback. USVI employers are not alone in raising concerns related to work readiness. Similar issues are regularly highlighted by employers across the U.S. A recent Gallup survey found that less than 5% of Americans believe that high school and college graduates are well prepared for the world of work.⁸² Employers and students themselves share these concerns. A 2017 Gallup survey of more than 32,000 U.S. college students found that only one-third felt confident that they had learned the skills needed for success in the modern workplace.⁸³

Building a more “work-ready” talent base will provide significant benefits to USVI employers, but it will have other upsides as well. Improved work-readiness skills will help students be better prepared for further education and should reduce time and costs related to remedial education at UVI and other higher-education institutions. Some USVI schools and youth-serving programs do offer career readiness training. For example, the USVI Departments of Labor and Human Services jointly manage a virtual work-readiness training program for at-risk youth, and the VIDOL’s Summer LIFT program also contains a large dose of career readiness training.

These successful pilot projects highlight the fact that students, employers, and the wider community benefit when young people better understand potential career opportunities and have learned key skills and competencies for workplace success. These training programs should be made available to all students enrolled in USVI education programs and to adults seeking employment assistance from VIDOL or other partners.

A host of potential training and certification programs are now available in the marketplace from state and local and governments, non-profit organizations, and trade associations such as the Council for Chief State School Officers.⁸⁴ In the mainland U.S., many regions and workforce development programs have adopted the ACT’s Work Keys certification as a tool to help prepare students for future careers. This program is used to determine the key basic skills of incumbent workers, as a means of addressing skills gaps or additional training needed for advancement and for adults entering or coming back into the workforce. In addition, across the U.S., more than

⁸² Brandon Busteed, “Americans Have Little Confidence in Grads’ Reading For Work, College,” Gallup, April 25, 2018. Available at: <https://news.gallup.com/opinion/gallup/233153/americans-little-confidence-grads-readiness-work-college.aspx>.

⁸³ Strada Center for Education Consumer Insights, “New Survey Reveals Crisis of Confidence in Workforce Readiness among College Students,” February 20, 2018. Available at: <https://cci.stradaeducation.org/press-release/new-survey-reveals-crisis-of-confidence-in-workforce-readiness-among-college-students/>.

⁸⁴ See <https://ccsso.org/topics/career-readiness>.



5.4 million students have received a Work-Ready Community certification, helping to assure employers they have key basic skills along with a high school diploma.⁸⁵

Community leaders using this tool contend that the Work-Ready Community certification can have a positive effect in terms of economic development.⁸⁶ The certification can send an important message that the community is committed to nurturing a strong local talent base.

- VIDE should introduce work-readiness assessment, training, and certification into all USVI schools, with the ultimate requirement of providing such training to all students. This effort will likely take several years and may require a gradual roll-out; for example, work-readiness assessment and training could first be introduced to students in career-technical education programs and later expanded for all students. This recommendation also aligns with similar proposals recently advanced by the VIDE’s CTE Board and the VI Workforce Development Board.⁸⁷
- Life-skills and soft-skills education should be introduced in all USVI schools. Some of the employers interviewed suggested implementation as early as middle school. Elements that emphasize attendance, turning in work on time, and personal communications—such as an “employability” scorecard—supported by employers, reinforce soft skills and increase employability.
- An assessment program that validates current key skills and identifies gaps to be addressed should be established through DOL and/or the Workforce Investment Board (WIB) for incumbent workers and those adults reentering the workplace. Programs such as ACT’s WorkKeys and WorkReady can validate a person’s skills for a specific job (WorkKeys) or basic skills for multiple cross-sector jobs (WorkReady). Such an assessment also identifies gaps in skills and/or knowledge to be addressed.
- DOL and/or WIB should develop multiple soft-skills and basic-skills training outreach opportunities for those seeking to upgrade skills or return to the workforce. These outreach opportunities should consider limitations on transportation, childcare, and finances. This approach could build on successful programs, such as Skills for Today, creating pilots to determine best approaches before rolling out a larger program.
- As part of the recommendations above, VIDOL and/or the WIB should find ways to provide at least a modest level of support in a “pay-to-train” approach that will encourage people to be engaged in the soft-skills and basic-skills training. This could also enhance participation in those programs that offer longer-term training for the higher-skills, higher-pay jobs.

Entrepreneurship

Career preparation programs need not require that all students or adult learners “take a job.” They may want to “make a job” by starting a business or operating in the gig economy.

⁸⁵ See <https://www.workreadycommunities.org/>.

⁸⁶ See https://www.workreadycommunities.org/resources/WRC_Eco_Devo_2021-2022.pdf

⁸⁷ WIOA Plan, p. 37



Supporting these residents may require an expansion of the Territory’s entrepreneurship education programs. At present, the USVI is home to a few youth-serving entrepreneurship programs (i.e., Junior Achievement USVI, Youth Arise, Young Entrepreneurs Foundation, and Community Action Now). In addition, programs like 4H and FFA help young people get started with farming and agriculture-related businesses. UVI also offers a certificate and minor-degree program in entrepreneurship.

Numerous other small business and entrepreneurship support efforts are also underway. The Small Business Development Center network and the RT Park’s Accelerate VI are among the best-known initiatives.

Continued investment and support for these entrepreneurship programs will not only help seed new local startups but will also contribute to better career and work-readiness outcomes. Extensive research suggests that students who are taught the “entrepreneurial mindset” are better prepared to succeed in school and in the world of work as well.⁸⁸ Among the key skills associated with the entrepreneurial mindset are critical thinking, flexibility and adaptability, creativity and innovation, and initiative and self-reliance.

This focus on entrepreneurship education also responds to market demand, as students, parents, teachers, and employers have shown growing interest in such programming during the pandemic.⁸⁹ Demand has been especially strong among minority youth.

3. IMPROVE RESPONSIVENESS TO BUSINESS NEEDS

Employers interviewed for this project uniformly described a challenging local business climate that adversely affected their ability to start, sustain, and grow their businesses. When asked to rate the local business climate on a scale of 1-5, only 13% of surveyed business owners offered a high score of 4 or 5.⁹⁰ The regulatory climate was specifically pointed out as cumbersome and lengthy.

- In an effort to address business concerns over the local business climate, key agencies should undertake a formal review of existing rules and regulations to identify leading bottlenecks and areas where regulatory reform efforts could be undertaken. This effort should be done with businesses across size and sectors providing input.
- VIEDA and other key partners should create advisory bodies, composed of business, workforce, and education leaders, for each of target industry. These bodies would support regulatory review and also provide a venue for shared discussion of key industry challenges, priority talent needs, and education and training opportunities.

⁸⁸ Network for Teaching Entrepreneurship, *Entrepreneurship Education in 2022: Powering Inclusive Growth*, March 28, 2022. Available at: <https://www.nfte.com/wp-content/uploads/2022/03/2022-NFTE-Entrepreneurship-Trends-Report.pdf>.

⁸⁹ Ibid, p. 4.

⁹⁰ Vision 2040, p. 139.



4. EXPAND THE LOCAL TALENT BASE

Due to recent population declines and other economic shocks, the USVI simply lacks sufficient workers to meet many of its current and future needs. Efforts to expand the workforce and to increase labor force participation rates must be a top priority in the years ahead. A number of actions can also support these objectives.

- Continue efforts to link with diaspora communities in the U.S. Surveys undertaken during the Vision 2040 suggest that many in the diaspora would consider returning home or engaging more closely to support local economic development. VIEDA and other key agencies should develop a more formalized diaspora outreach and engagement effort that publicizes local economic development efforts and seeks to build connections between local residents and businesses and the diaspora community.
- Continue and expand investment in essential infrastructure. As noted above, residents and the diaspora community point to local infrastructure gaps, such as high energy and housing costs and poor transportation options, as factors that prevent them from returning to work in the USVI. Addressing these long-standing challenges will improve the quality of life for USVI residents, and it will also help to improve and expand the local talent base as well.
- Actively support and promote new ways of working, such as remote work and gig work. A large number of local people already work in the gig economy, especially in leading sectors such as tourism. Continued efforts to support these workers with training and business assistance services and to connect them to business opportunities are needed.

5. BOLSTER WORKFORCE DEVELOPMENT CAPACITY

As a small and heavily rural location, the USVI faces many challenges in accessing the financial, technological, and human capital resources needed to support a robust set of new education and workforce development-related programs and activities. While money alone cannot “fix” the many challenges, additional financial resources are clearly needed. Philanthropy and corporate giving will play important roles, but federal grant programs likely offer the best opportunity to attract new investments for workforce training.

Key USVI government agencies have succeeded in attracting federal funds to support several recent planning efforts, such as UVI’s recent designation as an EDA University Center. Additional efforts to attract federal funds as well as private and philanthropic investments are needed:

- Expand grant writing and fundraising capacity in key agencies such as VIEDA and VIDOL;
- Provide additional Territory funding and expand efforts to obtain Federal DOL and other funding for the Workforce Investment Board; and
- Develop a non-government, not-for-profit 501(c)(3) entity under the WIB that can obtain private, charitable, and philanthropic funding to support specific programs such as skills



assessment, basic- and soft-skills training, and entrepreneurship. In some cases, these non-profit organizations can also be recipients of federal funds from EDA and USDA, among others.

6. IMPROVE LABOR MARKET INFORMATION RESOURCES

In recent years, the USVI Department of Labor has significantly upgraded its labor market information services. The department's VIEWS web portal is an excellent resource that lists job openings, provides guidance on accessing services, and offers real-time data on existing and future market trends. Thanks to VIEWS, local leaders can obtain a comprehensive assessment of the local labor market.

These resources are largely focused on adult workers, and additional information is needed on trends facing youth in the USVI. At present, education and business leaders have limited information on the career goals and needs of young people in the USVI. An annual student survey should be completed every year.

7. PROVIDE SPECIALIZED INDUSTRY SUPPORT

Industry-specific reforms may assist with workforce issues. These include:

- **Basic manufacturing skills.** The Manufacturing Institute⁹¹ offers a broad array of basic and advanced skill training and certifications. The Institute offers curricula that can be taught in the classroom, online, or as a hybrid. Programs are designed for students and adults. Utilizing the Manufacturing Institute or similar national programs can also enhance CTE training and allow cost-effective training for smaller classes. Starting with the most basic-skills modules that are cross-cutting in light manufacturing and food processing, for example, will support a number of the eight key sectors defined in the Vision 2040 plan. A good example of linking manufacturing companies with education is the Central Minnesota Manufacturers Association K-12 Navigator program.⁹²
- **Food safety training.** ServSafe⁹³ is one of several organizations that offer basic training in food and alcohol safety training. ServSafe has a number of modules and related materials that can be used in a classroom setting or online. Training is geared for both students and adults. Basic food safety and handling training supports the tourism sector, but is also an applicable basic skill for food processing.
- **Customer service training.** UVI's current customer skills training offers an opportunity to leverage materials and faculty into a basic customer skills program for high school students and for adults in or returning to the workforce. In expanding its reach, UVI may also find opportunities to utilize national customer service training programs online (such as Salesforce and Dale Carnegie) to minimize staffing costs. There are customer/client-facing occupations in every one of the eight Vision 2040 plan sectors. Basic-skills

⁹¹ <https://www.the.manufacturinginstitute.org>

⁹² <https://k12navigator.org>

⁹³ <https://www.servsafe.com>



training prior to employment helps people obtain jobs, alleviates in-house training needs (especially for smaller employees), and improves business success.

CONCLUSION

Following difficult years and economic downturn from Hurricanes Irma and Maria and the COVID-19 pandemic, the economic prospects for the USVI now appear more promising. The first two quarters of 2022 have shown economic improvement, as the local employment base is growing, for the first time in many years. The target industry sectors identified by the VIEDA through its Vision 2040 plan provided a framework against which to assess the workforce status.

This study was made possible with the support and funding from EDA and the Federal Emergency Management Agency (FEMA). The participation and insights gained from USVI Administration and agency leadership participation, industry representatives, community leaders, and private and non-profit organizations proved valuable in understanding the current status of the workforce as well as identifying recommendations to continue to develop and retain a skilled workforce now and in the future.

APPENDIX A: ANALYSIS OF JOBS BY SECTOR

This appendix includes a listing of all of the jobs by SOC that fall within each of the eight target industry sectors. In this case Professional/Tech Services and Research and Development are addressed separately. Of the 177 jobs listed, many cut across multiple economic sectors, with first line supervisors (eight of eight) and office clerk (seven of eight) crossing the most. The Light Manufacturing sector is represented by the most jobs (53 of 177). Figure 18 summarizes the total number of jobs identified for each of the eight economic sectors.

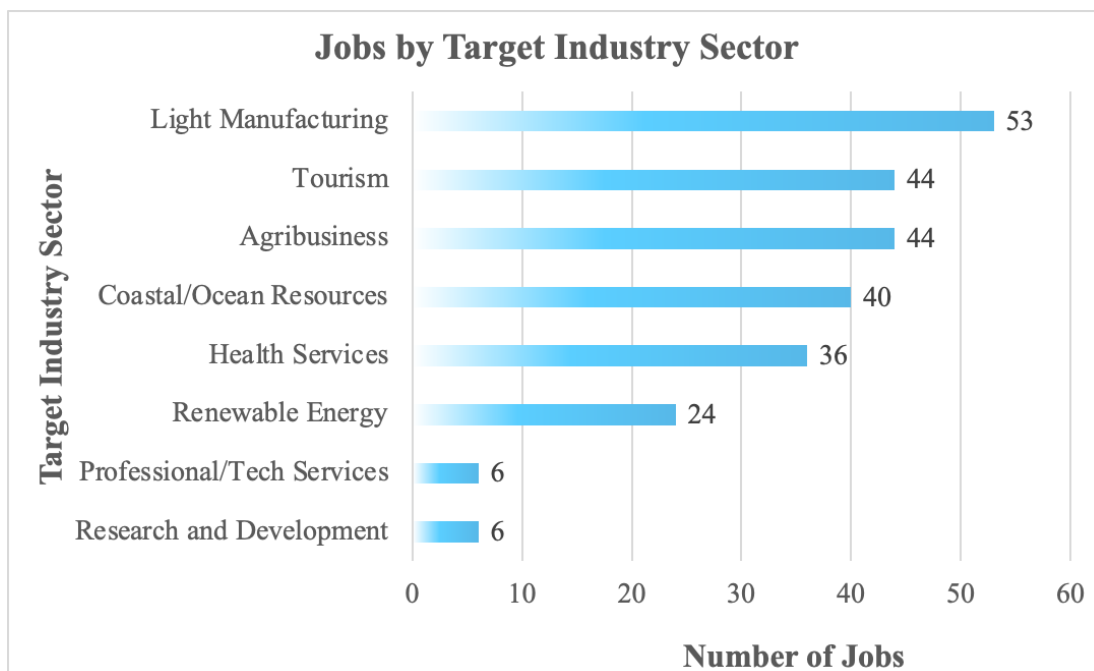


Figure 18: Number of jobs by economic sector (Note that jobs may be reflected in more than one sector.)

Thirty-one (17.5%) of the 177 jobs have been identified as having a “bright outlook” by the U.S. Department of Labor in its Occupational Information Network (O*NET). O*NET is a database of occupations that includes sample job functions, skill sets, and salaries that can be customized by geographic location. Those identified as having a bright outlook are expected to grow rapidly in the next several years, anticipate large numbers of job openings, or are emerging occupations.

Of the 177 jobs listed, advanced training is required for 24 (13.6%).

The table below summarizes the jobs and includes the O*NET Standard Occupation Classification (SOC) number and job titles, identifies if the job is a “bright outlook” or requires advanced training, and notes under which of the eight economic sectors these jobs are commonly



found. The eight sectors include Agriculture (Ag.), Coastal/Ocean Resources (Coast. Ocean), Health Sciences (Health Sci.), Light Manufacturing (Mfg.), Professional/Tech Services (Prof. Tech.), Research and Development (R&D), Renewable Energy (Renew. Energy), and Tourism (Tour.).

SOC	Job	Bright Outlook	Advanced Training	Agriculture	Coastal/Ocean Resources	Health Sciences	Light Manufacturing	Professional/Tech Services	Research and Development	Renewable Energy	Tourism
13-2011	Accountants and Auditors				√		√				
11-3032	Administrative Services and Facilities Managers				√						
45-2091	Ag Equipment Operators	Yes		√							
19-4011	Agricultural and Food Science Technicians						√				
45-2099	Agriculture Workers / Other			√							
49-3011	Aircraft Mechanics and Service Technicians										√
53-6098	Aircraft Service Attendants and Transportation Workers										
39-3091	Amusement and Recreation Attendants										√
39-2021	Animal Caretakers	Yes		√							
39-2011	Animal Trainers	Yes		√							
17-3011	Architectural and Civil Drafters						√				
11-9041	Architectural and Engineering Managers				√						
51-3011	Bakers			√							
35-3011	Bartenders	Yes		√							√
43-3031	Bookkeeping and Accounting	Yes	Yes	√			√				√
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists				√						
51-7011	Cabinetmakers and Bench Carpenters						√				



SOC	Job	Bright Outlook	Advanced Training	Agriculture	Coastal/Ocean Resources	Health Sciences	Light Manufacturing	Professional/Tech Services	Research and Development	Renewable Energy	Tourism
53-5021	Captains, Mates, and Pilots of Water Vessels				√						√
43-5011	Cargo and Freight Agents				√					√	
47-2031	Carpenters									√	
41-2011	Cashiers										√
21-1021	Child, Family, and School Social Workers		Yes			√					
39-9011	Childcare Workers					√					
53-7061	Cleaners of Vehicles and Equipment			√							
29-2018	Clinical Laboratory Technologists and Technicians					√					
27-2022	Coaches and Scouts		Yes								√
53-2012	Commercial Pilots										√
47-2061	Construction Laborers	Yes		√							
49-9012	Control and Valve Installers and Repairers									√	
35-2014	Cooks										√
35-2011	Cooks, Fast Food										√
35-2012	Cooks, Institution and Cafeteria					√					
43-4051	Customer Service Representatives	Yes		√	√					√	√
51-9032	Cutting and Slicing Machine Setters, Operators, and Tenders				√		√				
15-1245	Database Administrators and Architects		Yes							√	
41-9011	Demonstrators and Product Promoters			√							
31-9091	Dental Assistants					√					
29-1292	Dental Hygienists					√					



SOC	Job	Bright Outlook	Advanced Training	Agriculture	Coastal/Ocean Resources	Health Sciences	Light Manufacturing	Professional/Tech Services	Research and Development	Renewable Energy	Tourism
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers										√
35-9021	Dishwashers										√
43-5032	Dispatchers, Non-Emergency										√
53-3031	Drivers/Sales Workers	Yes		√							
11-9031	Education and Childcare Administrators		Yes			√					
49-2095	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay		Yes							√	
17-2071	Electrical Engineers		Yes							√	
49-9051	Electrical Power-Line Installers and Repairers									√	
47-2111	Electricians									√	
39-9031	Exercise Trainers and Group Fitness Instructors										√
51-4021	Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic						√				
51-9041	Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders				√		√				
11-9013	Farm Managers			√							
45-2092	Farmworkers and Laborers / Crops			√							
45-2093	Farmworkers and Laborers / Ranch & Aquaculture			√							



SOC	Job	Bright Outlook	Advanced Training	Agriculture	Coastal/Ocean Resources	Health Sciences	Light Manufacturing	Professional/Tech Services	Research and Development	Renewable Energy	Tourism
35-3023	Fast Food and Counter Workers										√
11-3031	Financial Managers				√						
33-1021 35-3011 45-1011 49-1011 43-4011	First Line Supervisors	Yes		√	√	√	√	√	√	√	√
51-3092	Food Batchmakers			√			√				
51-3093	Food Cooking Machine Operators and Tenders			√			√				
35-2021	Food Preparation Workers	Yes		√							√
51-3099	Food Processing Workers			√							
19-1012	Food Scientists and Technologists						√				
35-3041	Food Servers Non-Restaurant					√					
51-9051	Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders				√		√				
39-3011	Gambling Dealers										√
11-1021	General and Operations Managers	Yes	Yes	√	√		√			√	√
45-2041	Graders and Sorters			√							
27-1024	Graphic Designers						√				
53-3032	Heavy Tractor-trailer Truck Drivers	Yes	Yes	√	√		√				√
51-9198	Helpers - Production Workers			√			√				
31-1128	Home Health and Personal Care Aides					√					
35-9031	Hosts and Hostesses										√
43-4081	Hotel, Motel, and Resort Desk Clerks										√



SOC	Job	Bright Outlook	Advanced Training	Agriculture	Coastal/Ocean Resources	Health Sciences	Light Manufacturing	Professional/Tech Services	Research and Development	Renewable Energy	Tourism
13-1071	Human Resources Specialists				√		√				
17-3026	Industrial Engineering Technologists and Technicians						√				
17-2112	Industrial Engineers				√		√				
49-9041	Industrial Machinery Mechanics	Yes		√	√		√				
11-3051	Industrial Production Managers						√				
53-7051	Industrial Truck and Tractor Operators			√							√
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers			√			√				
37-2011	Janitors and Cleaners	Yes		√						√	√
53-7062	Laborers and Freight, Stock, and Material Movers	Yes		√							√
37-3011	Landscaping and Groundskeeping Workers										√
51-6011	Laundry and Dry-Cleaning Workers										√
29-2061	Licensed Practical and Licensed Vocational Nurses					√					
53-3033	Light Truck Drivers	Yes		√	√		√				
11-9081	Lodging Managers										√
13-1081	Logisticians	Yes	Yes		√		√			√	
53-7063	Machine Feeders				√		√				
37-2012	Maids and Housekeeping Cleaners					√					√
49-9071	Maintenance and Repair Workers	Yes		√	√	√	√				√
13-1111	Management Analysts				√		√				



SOC	Job	Bright Outlook	Advanced Training	Agriculture	Coastal/Ocean Resources	Health Sciences	Light Manufacturing	Professional/Tech Services	Research and Development	Renewable Energy	Tourism
13-1161	Market Research Analysts and Marketing Specialists	Yes	Yes				√			√	√
51-3022	Meat, Poultry, and Fish Cutters and Trimmers			√							
11-9111	Medical and Health Services Managers		Yes			√					
31-9092	Medical Assistants					√					
29-2098	Medical Records Specialists					√					
43-6013	Medical Secretaries and Administrative Assistants					√					
27-1026	Merchandise Displayers and Window Trimmers						√				
43-5041	Meter Readers			√							
25-2022	Middle School Teachers		Yes			√					
51-2098	Miscellaneous Assemblers and Fabricators						√				
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders				√		√				
49-3042	Mobile Heavy Equipment Mechanics				√						
51-9195	Molders, Shapers, and Casters, Except Metal and Plastic				√		√				
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic						√				
53-5022	Motorboat Operators				√						√



SOC	Job	Bright Outlook	Advanced Training	Agriculture	Coastal/Ocean Resources	Health Sciences	Light Manufacturing	Professional/Tech Services	Research and Development	Renewable Energy	Tourism
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic						√				
31-1131	Nursing Assistants					√					
31-2011	Occupational Therapy Assistants					√					
43-9061 43-9061 41-4051	Office Clerks	Yes		√	√	√	√	√	√		√
43-4151	Order Clerks				√		√				
51-9111	Packaging and Filling Machine Operators	Yes		√							
53-7064	Packers and Packagers			√							
51-9196	Paper Goods Machine Setters, Operators, and Tenders						√				
23-2011	Paralegals and Legal Assistants	Yes	Yes					√	√		
53-6061	Passenger Attendants				√						√
41-9198	Personal Service Managers				√						
31-2021	Physical Therapist Assistants					√					
29-1228	Physicians Except Pediatric		Yes			√					
51-8013	Power Plant Operators									√	
25-2011	Preschool Teachers					√					
51-5112	Printing Press Operators						√				
51-9199	Production Workers, All Other						√				
43-5061	Production, Planning Clerks				√		√				



SOC	Job	Bright Outlook	Advanced Training	Agriculture	Coastal/Ocean Resources	Health Sciences	Light Manufacturing	Professional/Tech Services	Research and Development	Renewable Energy	Tourism
13-1198	Project Management Specialists and Business Operations Specialists		Yes		√		√			√	
11-9141	Property, Real Estate, and Community Association Managers									√	
11-3061	Purchasing Managers				√		√				
29-2034	Radiologic Technologists and Technicians					√					
41-9021	Real Estate Brokers									√	
43-4171	Receptionists and Information Clerks					√					√
39-9032	Recreation Workers					√					
29-1141	Registered Nurses		Yes			√					
43-4181	Reservation and Transportation Ticket Agents										√
29-1126	Respiratory Therapists					√					
41-2031	Retail Salesperson	Yes		√							
53-5011	Sailors and Marine Oilers										√
41-9099 41-3091 41-4011	Sales		Yes		√		√			√	√
41-4012	Sales Reps, Wholesale & Mfg.	Yes					√	√	√		
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood						√				
43-6014	Secretaries and Administrative Assistants	Yes		√		√					



SOC	Job	Bright Outlook	Advanced Training	Agriculture	Coastal/Ocean Resources	Health Sciences	Light Manufacturing	Professional/Tech Services	Research and Development	Renewable Energy	Tourism
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders			√							
53-5031	Ship Engineers				√						√
43-5071	Shipping, Receiving, and Inventory Clerks						√				
51-3023	Slaughters and Meat Packers			√							
11-9151	Social and Community Service Managers		Yes			√					
21-1093	Social and Human Service Assistants					√					
15-1256	Software Developers				√		√				
47-2231	Solar Photovoltaic Installers	Yes								√	
25-2052	Special Education Teachers		Yes			√					
53-7065	Stockers and Order Fillers						√				
21-1018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors		Yes			√					
25-9045	Teaching Assistants					√					
23-2093	Title Examiners, Abstractors, and Searchers									√	
39-7018	Tour and Travel Guides										√
53-6051	Transportation Inspectors				√						
11-3071	Transportation, Storage, and Distribution Managers				√		√				√
41-3041	Travel Agents										√



SOC	Job	Bright Outlook	Advanced Training	Agriculture	Coastal/Ocean Resources	Health Sciences	Light Manufacturing	Professional/Tech Services	Research and Development	Renewable Energy	Tourism
31-9066	Veterinary Assistants	Yes		√				√	√		
29-2056	Veterinary Technicians					√					
35-3031	Waiters and Waitresses	Yes		√							√
51-8031	Water and Wastewater Treatment Plant Systems Operators			√						√	
15-1254	Web Developers	Yes	Yes					√	√		
15-1257	Web Developers and GUI Designers	Yes	Yes							√	
43-5111	Weighers, Measures, Checkers and Samplers, Recordkeeping				√		√				
51-4121	Welders, Cutters, Soldiers				√						
41-4012	Wholesale and Manufacturing Sales Reps			√							
49-9081	Wind Turbine Service Technicians	Yes	Yes							√	
51-7099	Woodworkers, Other						√				
51-7042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing						√				

APPENDIX B: STUDENT INTEREST SURVEYS

MIDDLE SCHOOL STUDENT CAREER INTEREST SURVEY

1. What grade are you in? *(Select your answer)*
 - 7
 - 8
2. What is your age? *(Select your answer)*
 - 10
 - 11
 - 12
 - 13
 - 14+
3. School District *(Multiple choice)*
 - St. Croix District
 - St. Thomas-St. John District
4. What school do you attend? *(Select your answer)*
 - Addelita Cancryn (7-8)
 - Bertha Boschulte (7-8)
 - Eulalie R. Rivera K-8 School (7-8)
 - John H. Woodson (7-8)
 - Juanita Gardine K-8 School (7-8)
 - Julius Sprauve School (7-8)
 - Pearl B Larsen PreK-8 School (7-8)
5. What do you want to be when you grow up? What is your dream job? *(Enter your answer)*
6. What interests you the most about this job? *(Enter your answer)*
7. Would you like to continue to live and work in the USVI after you graduate? *(Select your answer)*
 - Yes
 - No
 - Unsure
8. Why would you like/not like to continue to live and work in the USVI after you graduate? *(Enter your answer)*
9. What skills do you have that will help you in this job? *(Select all that apply)*



- Building and fixing things
- Solving problems/puzzles
- Singing, dancing, acting, playing music
- Speaking or performing in front of others
- Helping people feel better
- Leading projects and people
- Being organized
- Working with machines and tools
- Studying/Academics
- Working with computers/technology
- Being creative (writing, art, etc.)
- Teaching others how to do things
- Selling/Marketing
- Working with numbers
- Working with hands/manual labor
- Caring for others
- Athletics/Sports
- Other (Enter your answer)

10. What other types of jobs are you interested in? *(Enter your answer)*

11. What is your gender? *(Select your answer)*

- Male
- Female
- Prefer not to say

12. Are you Hispanic? *(Select your answer)*

- Yes
- No

13. What is your race? *(Select your answer)*

- Asian
- American Indian/Alaska Native
- Black/African American
- Native Hawaiian/Pacific Islander
- White

HIGH SCHOOL STUDENT CAREER INTEREST SURVEY

14. What grade are you in? *(Select your answer)*

- 9
- 10
- 11
- 12



15. What is your age? (*Select your answer*)

- 14
- 15
- 16
- 17
- 18+

16. School District (*Multiple choice*)

- St. Croix District
- St. Thomas-St. John District

17. What school do you attend? (*Select your answer*)

- Central High School (9-12)
- Charlotte Amalie (9-12)
- Educational Complex (9-12)
- Ivanna Eudora Kean High School (9-12)

18. What is your dream job/career? (*Enter your answer*)

19. What area best represents your dream job? (*Multiple choice*)

- Agriculture, Food, & Natural Resources.
- Architecture & Construction
- Arts, A/V Technology, & Communications
- Business Management & Administration
- Education & Training
- Finance
- Government & Public Administration
- Healthcare
- Hospitality & Tourism
- Human Services & Social Services
- Information Technology
- Law, Public Safety, Corrections, & Security
- Manufacturing
- Marketing
- Science, Technology, Engineering, & Mathematics
- Science, Technology, Engineering, & Mathematics
- Other (Enter your answer)

20. What interests you the most about this job/career area? (*Enter your answer*)

21. Would you like to continue to live and work in the USVI after you graduate? (*Select your answer*)

- Yes
- No



- Unsure
22. Why would you like/not like to continue to live and work in the USVI after you graduate? *(Enter your answer)*
23. Do you believe that you can pursue this career in the USVI? *(Select your answer)*
- Yes
 - No
 - Unsure
24. Why do you believe (or not believe) that you can pursue this career in the USVI? *(Enter your answer)*
25. What skills do you have that will help you get a job in this career area? *(Select all that apply)*
- Building and fixing things
 - Solving problems/puzzles
 - Singing, dancing, acting, playing music
 - Speaking or performing in front of others
 - Helping people feel better
 - Leading projects and people
 - Being organized
 - Working with machines and tools
 - Studying/Academics
 - Working with computers/technology
 - Being creative (writing, art, etc.)
 - Teaching others how to do things
 - Selling/Marketing
 - Working with numbers
 - Working with hands/manual labor
 - Caring for others
 - Athletics/Sports
 - Other (Enter your answer)
26. Do you think you will need additional training to pursue this career path? *(Multiple choice)*
- Yes
 - No
 - Unsure
27. If you answered yes, what type of training do you think you will need? *(Select all that apply)*
- Higher education (college/university)
 - Vocational education (hands-on learning)
 - Computer/Technology (IT, programming, specialized software)
 - Communication skills (writing, speaking in public, etc.)
 - Science, math, and/or engineering



- Project management
- Practicum/apprenticeship opportunities
- Foreign language
- Other (Enter your answer)

28. What other career/job areas are you considering? (*Select up to 3*)

- Agriculture, Food, & Natural Resources.
- Architecture & Construction
- Arts, A/V Technology, & Communications
- Business Management & Administration
- Education & Training
- Finance
- Government & Public Administration
- Healthcare
- Hospitality & Tourism
- Human Services & Social Services
- Information Technology
- Law, Public Safety, Corrections, & Security
- Manufacturing
- Marketing
- Science, Technology, Engineering, & Mathematics
- Transportation, Distribution, & Logistics
- Other (Enter your answer)

29. Who has influenced your thoughts about your career choice? (*Select all that apply*)

- Parents
- Other Family Member
- Teachers/School Counselors
- Friends
- Business Owners/Workers in the Community
- Church Members
- Coaches/Club Sponsors
- Other (Select your answer)

30. How have these individuals influenced your decisions? (*Enter your answer*)

31. What is your gender? (*Select your answer*)

- Male
- Female
- Prefer not to say

32. Are you Hispanic? (*Select your answer*)

- Yes
- No



33. What is your race? (*Select your answer*)

- Asian
- American Indian/Alaska Native
- Black/African American
- Native Hawaiian/Pacific Islander
- White

APPENDIX C: DATA TABLES

This appendix includes data tables used to create some of the graphs and figures used throughout this report.

Data table for Figure 1 showing USVI private sector employment and wages for 2011-2021

Year	Annual Wages (Private Sector)	Annual Employment (Private Sector)
2011	\$1,102,142,114	31,328
2012	\$1,054,994,247	29,063
2013	\$931,370,268	27,645
2014	\$926,757,913	27,229
2015	\$926,522,763	27,298
2016	\$948,010,134	27,519
2017	\$966,053,556	26,309
2018	\$1,032,017,213	23,385
2019	\$1,408,689,794	27,961
2020	\$1,310,578,871	25,701
2021	\$1,099,162,339	24,365

Data table for Figure 2 showing USVI average unemployment rate 2010-2022

Year	Average Unemployment
2010	8.10%
2011	8.93%
2012	11.73%
2013	13.35%
2014	12.96%
2015	11.88%
2016	11.07%
2017	11.98%
2018	9.48%
2019	6.11%
2020	10.50%
2021	9.86%
2022	6.91%

Note that the information provided for 2022 only represents data through August 2022.

**Data table for Figure 3: Percent of Non-Agricultural Jobs (Fiscal Year 2020).**

Sector	Percentage
Information	1.4%
Manufacturing	2.1%
Other Services	3.8%
Financial Activities	5.2%
Education and Health Services	6.4%
Mining & Construction	7.0%
Professional and Business Services	8.9%
Leisure and Hospitality	16.6%
Trade, Transportation, and Utilities	18.4%
Government	30.1%
Information	1.4%
Manufacturing	2.1%
Other Services	3.8%

Data table for Figure 4: Total labor force and total employment 2010-2022

Year	Labor Force	Employed
2010	51,273	47,121
2011	51,672	47,064
2012	50,577	44,659
2013	47,558	41,207
2014	46,777	40,718
2015	48,547	42,774
2016	48,084	42,769
2017	48,554	42,724
2018	41,675	37,724
2019	42,568	39,975
2020	46,154	41,315
2021	43,962	39,626
2022	43,088	40,111

Note that the information provided for 2022 only represents data through August 2022.

Data table for Figure 5: Labor force participation rates by as a percent of the total population ages 15+ as of June 2022 (Source: World Bank, International Labour Organization, ILOSTAT Database)

Year	US	USVA
2011	63.1%	61.5%
2012	62.7%	60.3%
2013	62.3%	56.8%
2014	61.9%	55.9%



Year	US	USVA
2015	61.7%	58.0%
2016	61.9%	57.4%
2017	61.9%	57.9%
2018	62.0%	53.6%
2019	62.2%	50.6%
2020	60.9%	50.1%
2021	60.7%	49.4%

Data table for Figure 6: Population distribution by age cohort comparing the Virgin Islands to the United States. (Source: Source: United States Census)

Age Bands	U.S. Virgin Islands	United States
15 to 24 years	10.4%	13.0%
25 to 34 years	10.6%	13.8%
35 to 54 years	25.8%	25.3%
55 to 64 years	15.6%	13.0%
65 years and over	21.3%	16.3%

Data table for Figure 7: Population by age cohort (2020). (Source: U.S. Census Bureau & ESRI)⁹⁴

Age Bands	% Female	% Male
85 years and over	1.10%	0.60%
80 to 84 years	1.40%	1.00%
75 to 79 years	2.40%	2.10%
70 to 74 years	3.20%	2.90%
65 to 69 years	3.60%	3.00%
60 to 64 years	3.90%	3.70%
55 to 59 years	4.20%	3.90%
50 to 54 years	3.90%	3.80%
45 to 49 years	3.30%	3.20%
40 to 44 years	3.00%	2.90%
35 to 39 years	3.00%	2.80%
30 to 34 years	2.80%	2.60%
25 to 29 years	2.80%	2.50%
20 to 24 years	2.40%	2.40%
15 to 19 years	2.80%	2.80%
10 to 14 years	2.90%	2.90%
5 to 9 years	2.50%	2.80%

⁹⁴ At the time of publication, the U.S. Census Bureau had not released the 2020 USVI population by age cohort. To estimate the total population by age cohort for 2020, we applied the estimated 2019 age cohort breakdown provided by ESRI to the total 2020 population as reported by the Census Bureau.



Age Bands	% Female	% Male
Under 5 years	2.40%	2.70%

Data table for Figure 8: USVI's educational attainment for residents 25 years and older compared to the U.S. as a whole in 2015. (Source: VI Electronic Workforce System)

Educational Attainment Level	U.S. Virgin Islands	United States
Less than 9th grade	10.90%	4.80%
9th to 12th grade, no diploma	10.80%	5.90%
High school graduate (includes equivalency)	38.80%	26.30%
High school graduate or higher	78.30%	89.40%
Associate's degree	4.80%	8.80%
Some college, no degree	12.50%	19.30%
Bachelor's degree	13.70%	21.20%
Bachelor's degree or higher	22.30%	35.00%
Graduate or professional degree	8.60%	13.80%

Data table for Figure 12: USVI's Department of Labor's long-term industry projections as percent change between 2018-2028. (Source: VI Electronic Workforce System)

Leading Industries	Percent Change	Number
Management of Companies and Enterprises	5%	5
Finance and Insurance	1%	11
Manufacturing	12%	26
Other Services (except Public Administration)	3%	29
Arts, Entertainment, and Recreation	7%	29
Professional, Scientific, and Technical Services	4%	62
Educational Services	13%	84
Real Estate and Rental and Leasing	12%	102
Wholesale Trade	20%	111
Information	27%	118
Administrative and Support and Waste Management and Remediation Services	11%	188
Health Care and Social Assistance	17%	247
Construction	12%	264
Public Administration	5%	347
Retail Trade	8%	364
Transportation and Warehousing	48%	418
Accommodation and Food Services	41%	1,525



Data table for Figure 13: 2021 USVI occupational employment (as a percentage of the total) and average salary

Occupation	Percent of Market	Average Salary
Farming, Fishing, and Forestry	0.1%	\$35,190.00
Arts, Design, Entertainment, Sports, and Media	0.5%	\$48,280.00
Architecture and Engineering	0.7%	\$82,630.00
Life, Physical, and Social Science	0.9%	\$60,110.00
Legal	1.0%	\$126,610.00
Computer and Mathematical	1.0%	\$62,460.00
Community and Social Services	1.3%	\$48,630.00
Personal Care and Service	1.4%	\$30,990.00
Healthcare Support	1.7%	\$34,260.00
Production	2.5%	\$45,360.00
Installation, Maintenance, and Repair	4.8%	\$46,730.00
Healthcare Practitioners and Technical	4.8%	\$73,040.00
Business and Financial Operations	5.4%	\$63,030.00
Building and Grounds Cleaning and Maintenance	5.6%	\$29,940.00
Education, Training, and Library	6.4%	\$49,950.00
Protective Service	6.4%	\$44,730.00
Construction and Extraction	6.9%	\$50,470.00
Transportation and Material Moving	7.4%	\$36,920.00
Management	8.5%	\$85,680.00
Sales and Related	9.4%	\$34,920.00
Food Preparation and Serving Related	10.1%	\$29,250.00
Office and Administrative Support	13.3%	\$40,350.00

APPENDIX D: COMPETENCY MODELS

To better define the soft and basic skills needed for gainful employment that benefit both the employee and the employer, the U.S. Department of Labor (DOL), Employment and Training Administration has developed a set of competency models to track skills development and acquisition.⁹⁵ Tiers 1 through 3 are Foundational competencies; Tiers 4 and 5 are Industry competencies; and Tiers 6 through 9 are Occupational Competencies.⁹⁶ Soft skills and workforce readiness skills are considered foundational competencies.

- Tier 1: Personal Effectiveness Competencies (Foundational)
 - ⇒ Interpersonal Skills
 - ⇒ Integrity
 - ⇒ Professionalism
 - ⇒ Initiative
 - ⇒ Dependability & Reliability
 - ⇒ Adaptability & Flexibility
 - ⇒ Lifelong Learning
- Tier 2: Academic Competencies (Foundational)
 - ⇒ Reading
 - ⇒ Writing
 - ⇒ Mathematics
 - ⇒ Science & Technology
 - ⇒ Communication
 - ⇒ Critical & Analytical Thinking
 - ⇒ Basic Computer Skills
- Tier 3: Workplace Competencies (Foundational)
 - ⇒ Teamwork
 - ⇒ Customer Focus
 - ⇒ Planning & Organizing
 - ⇒ Creative Thinking
 - ⇒ Problem Solving & Decision Making
 - ⇒ Writing with Tools & Technology
 - ⇒ Scheduling & Coordinating
 - ⇒ Checking, Examining, & Recording
 - ⇒ Business Fundamentals

⁹⁵ <https://www.careeronestop.org/CompetencyModel/competency-model.aspx>

⁹⁶ Employment and Training Administration, United States Department of Labor, Competency Model Clearinghouse, “Building Blocks for Competency Models Foundational Competencies,” available online: <https://www.careeronestop.org/CompetencyModel/competency-models/pyramid-download.aspx?industry=building-blocks>.



- ⇒ Sustainable Practices
- ⇒ Health & Safety
- Tier 4: Industry-Wide Technical Competencies (Industry)
- Tier 5: Industry-Sector Technical Competencies (Industry)
- Tier 6: Occupation-Specific Knowledge Areas (Occupational)
- Tier 7: Occupation-Specific Technical Competencies (user-defined) (Occupational)
- Tier 8: Occupation-Specific Requirements (user-defined) (Occupational)
- Tier 9: Management Competencies (Occupational)